

How to do it . . .

Construct an audiovisual programme

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Advances in audiovisual technology have provided powerful and varied methods of communication. Events, people, places, and ideas may be presented without delay to a large and widely distributed audience through such media as radio, public or closed circuit television, or even the telephone. Alternatively, by recording a programme on audiotape, slide, videotape, or film such information may be brought to a viewer or listener at a convenient time and place.

The range of audiovisual communication available makes it important for you, the author, to consider what each method may accomplish, and select the most suitable medium for your purpose. Is it your primary aim to motivate, excite, change attitudes, inform, or teach? Is your audience to be widespread and varied, or is it a group with narrowly defined objectives? Audiovisual experts will be available to help if you are working with a broadcasting company or a television network, but in education they may not be. There are several aspects to consider in making an audiovisual programme; message, medium, script, visual display, audio track, text, and package.

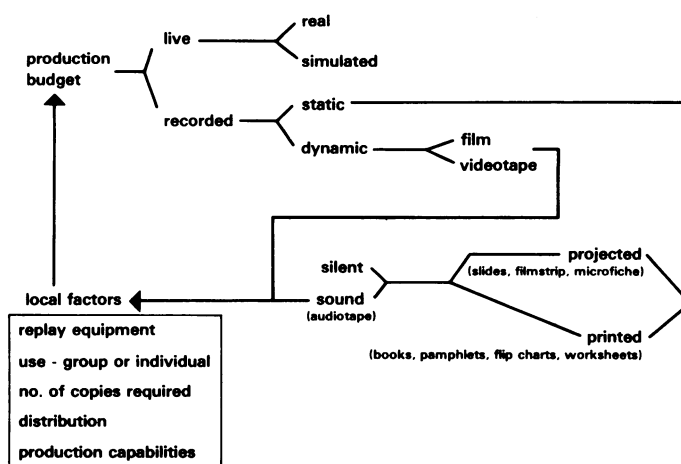
The message

As the author of an audiovisual programme you are the subject expert. You should therefore take pains to formulate your message accurately. Audiovisual technology has the power either to enhance or to distort your message, but no audiovisual technique can create it. The form of the message will depend on your knowledge of your audience and of your subject. Will you be addressing nurses, medical students, the lay public, or practising health professionals? What prerequisite knowledge, skills, or attitudes should your students have? What is the quality and quantity of learning that you wish them to achieve?

The medium

The choice of medium may be determined by factors beyond your control. If the decision has not already been made you should ask yourself some questions (see figure 1). Is movement

MEDIA DECISION TREE



A media decision tree—illustrates the factors which must be considered in deciding on an appropriate medium.

required? Is colour important? Should the visuals be projected, or may they be printed? Is sound essential, or can the message be conveyed with visuals or text alone? What local factors will affect your decision and what is your production budget?

Your choice of medium will depend on all these considerations. We will use the slide/tape show as a model for the approach which may be followed for any medium that includes a combination of visual material and recorded sound.

The script

Your next step is to prepare a script which accurately sets out your message, bearing in mind that it will be illustrated and recorded. The script for an audiovisual production grows and changes and does not become final until the programme is finished. Nevertheless, you must commit your message to paper early on, so that it is your message which dictates the production and not the reverse. Aim at making a 15-20 minute programme unless otherwise specified. Remember you are not writing a paper: you will be heard, not read. Imagine you are talking to an individual or a small group. You should be direct, positive, active not passive, and conversational. To achieve a spoken approach it helps to dictate your initial script. Have your script typed on the right half of the page using double spacing, starting a new paragraph for each new idea or step, and leaving additional space between paragraphs for inserting editorial changes. The other half of the page should be used for notes about the visuals and other technical instructions. Try to think visually and plan your illustrations, diagrams, or models in relation to your script, but if you cannot visualise a relevant

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illustration at this stage, do not panic, but proceed with your script logically.

Organise your presentation so that the student can follow where you are going: outline what you intend to say, say it, and then summarise what you have said. Your script should be simple, clear, concise, and convey one concept at a time. Use lists, numbers, or headings to clarify your material. Key words should be heard early in a sentence or paragraph and may be emphasised in the visual display. New terms and difficult words may also be reinforced visually. But try to use simple words, short sentences, and avoid jargon. In a teaching programme you may include the student by questioning him as you might in a tutorial, or by asking him to apply what you have told him to a relevant problem; learning is more effective if active. But if you ask questions, always provide some answers; do not leave him intellectually stranded.

You will no doubt wish to revise or edit your draft script, possibly with experienced help, to clarify the message, rectify grammatical faults (often introduced in dictation), and respond to changes as they occur in production. Care in the preparation of your original script should ensure the accuracy of your message.

The visual display

You should now plan the visuals that will best convey your message. In any audiovisual programme, the visuals tend to be the primary stimulus, and should therefore make an impact. You should have a new slide for each point; two to four slide changes a minute are not too many. Keep the slides simple, lucid, and varied. Colour should be used for effect and to co-ordinate the material but should not be distracting. The visual style should be consistent, and care should be taken that the sequence and juxtaposition of slides is appropriate. Try to establish a visual model. Key words, technical and unfamiliar terms should be emphasised visually. Ensure that the narrative is relevant to the slide on the screen; a slide which is retained for too long rapidly loses impact. You can use several slides to focus on details of an original diagram and thus avoid having too many details on one slide. Complicated schemes or diagrams may be built up sequentially by using overlays on a basic drawing. Changing slides frequently will prevent you from presenting too much detail in the visuals. Graphs or tables used in textbooks or journals often contain too much information, and should be simplified. Always find a key word or a heading to use even if your argument does not seem to be usefully illustrated. Blank

slides are distracting or dazzling and should not be used. Eliminate as much written material as possible from the visuals; sentences need not be complete, and, in fact, key words alone may best make the point. A slide should display not more than eight lines with a total of 15 to 20 words, with space at least the height of a capital letter between lines. Lower-case script is usually easier to read than upper-case script, though capital letters, as well as colour, may be used for emphasis. If used with discretion cartoons and humour may be helpful.

Careful planning of the text and visuals on paper is called a storyboard. This may take several forms, varying from one produced on specially prepared paper, a series of cards displaying each visual and text, to little more than the annotated script (see figure 2). The importance of a storyboard is threefold. Firstly, it enables you to balance the slides and text and see that the message is conveyed correctly. Secondly, your draft programme may be shown to colleagues or students for their opinions before any major production has started. You may find it helpful to read your script while your colleague follows the visuals. Thirdly, it enables the artist to understand the points you are making and thus to execute the illustrations accurately.

The audio track

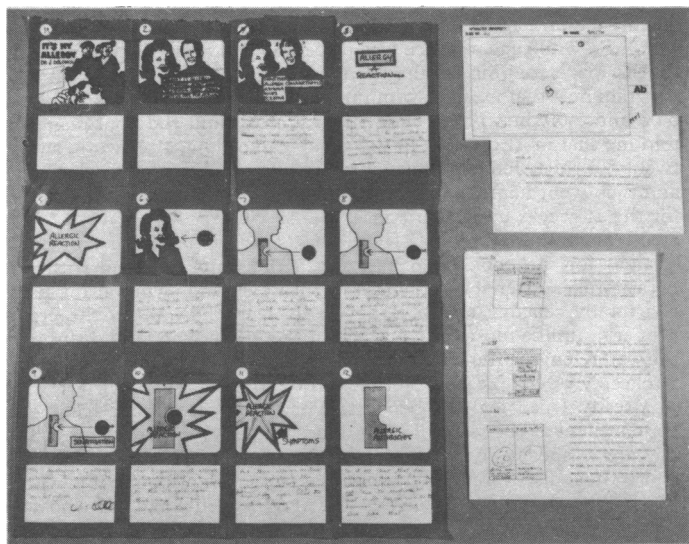
The audio portion of an audiovisual is where you can least afford to cut corners. A student will excuse homemade slides if they are relevant, but if he has to strain to hear what you are saying, is distracted by extraneous noise, bored by slow delivery, or cannot understand because of an accent, you will soon lose his attention. For this reason, many people feel that a professional narrator should be used, but, although professionals will provide a smooth sound track, they often lack conviction and tend to sound remote. Provided that you do not have a heavy accent, a speech impediment, or a monotonous voice, you can impart enthusiasm for your subject, and emphasise and pronounce certain words in a way that a professional cannot. If you are doubtful about your abilities, make a trial tape, and if necessary enlist the help of a colleague to narrate for you.

To ensure the best quality recording, try to have the services of an audio technician who will attend to the technical details, such as the position of microphones, and the voice levels, and who can edit out coughs, page noises, unnecessary pauses, and so on. Master recordings should be made on reel-to-reel tapes for easy editing and from which audiocassette tapes may be duplicated. You should make your tape by reading from the final script, which has been checked with the finished illustrations. If you have originally dictated your script you will have a good spoken approach. Use a conversational manner, sound interested, and even excited; your students cannot see you, they have to hear you. Pace is important. Allow time for the student to take in the visuals and direct him if you wish him to study a slide without further narration. Nevertheless, students complain more often that tapes are too slow than too fast. They can stop a tape, but cannot speed up the narration. The tapes should be checked with the slides after recording and before duplicating. It is preferable to add any slide change signals (audible or electronic) at this point, when the exact timing can be assessed.

A short musical introduction over title and credit slides allows time for the student to settle down, adjust the volume, and focus the visuals. Beware of copyright, however, and try to use music which is in the public domain. Music may set the mood, but familiar melodies can also distract the listener's attention from the message.

The text

Many audiovisual programmes have an accompanying handbook which greatly enhances their convenience and flexibility. It is difficult to scan an audiovisual resource as one can a book, and so it is helpful to have certain information available in



Three forms of storyboard.

printed form. The text may contain such items as educational objectives, a content outline and cataloguing information, including a summary, target audience and audience level, as well as technical information.

A transcript of the audiotape may be printed for preview, review, or as an alternative to the audiotape. In addition, references, test questions and answers, problems, and detailed diagrams or tables, which may be too complicated for a slide but which require further study, may also be included in the text.

The package

When you have completed the components, assemble them into a package. Slides should be numbered, and boxes and texts labelled. Keep a master set of all materials in case of accident or for further copying, and never circulate the masters. In putting the package together remember the user, and the individuals responsible for its care and distribution. If it is easy for them to use, they will be more inclined to do so.

MATERIA NON MEDICA

Kittens on keys

In the 1920s "Kitten on the Keys" was a must for all jazz pianists. Experimentally it was all wrong: I have put hundreds of kittens on keys and they all jumped straight off. When I retired it got around that I was thought to be musical so I was ordered to take on stints on the village organ. The one in question had two manuals, a pedal board, and lots of stops. I had some organ lessons and practised daily.

In the bleak midwinter I opened the organ and observed that a sequence of keys was raised about a quarter of an inch. This only happens if some object is resting on them at the opposite end to where the fingers go. I shoved the keys down whereupon a neighbouring batch raised itself. Not believing in paranormal phenomena I tried the effect of a violent blast with all the stops out. The keys went down to normal. Spot diagnosis—cat in the organ. This went on for some days, until the vicar produced a plate of cat food and a tabby walked out and consumed it with the panache of an advertisement for cat food on television. But it then hopped back before the vicar could capture it. Some days later I found it mousing at the other end of the church and managed to chase it out. The organ now behaves in a normal manner, but I expect the church mouse population has increased.—J C HAWKSLEY (retired consultant physician, Wiltshire).

Le mot juste

How often have we woken up in the early hours with the perfect reply to some barb received in the day? Take comfort from Plutarch, who assures us in his *Lives* that at least some gifted individuals were able to deliver the answer on time. Plutarch was born in Chaeronea, northern Greece, in about AD 45, towards the end of Claudius's reign, and lived into the next century into Trajan's time. He wrote about the lives of the illustrious from Theseus, 1200 BC, to his own day. Henry II and Elizabeth I were among those who read his work, and he was one of Shakespeare's main sources.

We are told that Alexander the Great once captured a group of Indian philosophers and threatened them with death if they failed to answer his questions satisfactorily. These included such daunting things as "Which are more numerous, the living or the dead?" to which the reply, "The living, for the dead no longer exist," neatly begs the question. "Which is the craftiest of all animals?" received the clever, "That with which man is not yet acquainted." The question "Which is stronger, life or death?" brought forth, "Life, because it bears so many evils." Alexander, who himself had been a pupil of Aristotle and had a love of philosophy, dismissed them loaded with gifts. When offered terms for peace by the great Persian King Darius, Parmenio advised Alexander "If I were Alexander, I would accept them." Alexander replied, "So would I, if I were Parmenio."

Plutarch describes a famous though ugly king who arrived at a banquet before the rest of his court. The lady in charge, not realising

Finally, allow plenty of time for preparing a programme: it may take longer than you expect. Nevertheless, it may relieve you of much repetitious lecturing and allow you time to have more useful and rewarding contact with your students.

And as a postscript; take a look at your programme from time to time and make sure it is up to date, and still able to achieve the objectives with which you set out.

Suggested reading

- Baker, S, *Practical Stylist* (3rd Edn). New York, T Y Crowell, 1973.
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 Engel, C E, *Medical & Biological Illustration*, 1971, 21, 14.
 Evans, E M, and Eldridge, W S, *Journal of Audiovisual Media in Medicine*, 1978, 1, 140.
 Gunning, R, *Techniques of Clear Writing*. New York, McGraw-Hill, 1968.
 Harden, R McG, Wayne, E J and Donald, G, *Medical & Biological Illustration*, 1968, 18, 29.
 Johnson, R B, and Johnson, S R, *Assuring Learning with Self-Instructional Packages, or Up the Up Staircase*. Chapel Hill, Self Instructional Packages Inc, 1971.

who he was, told him not to hang about wasting time, but to make the fire and help with the chores. When his court arrived they were horrified to see the king thus engaged and asked him what was happening. "I am paying the price for my face," was the sad reply.

A famous philosopher, Stilpo, when rescued from marauders was asked if they had taken anything of value from him. "I found none that wanted to steal any knowledge," he replied.

No wonder the great Montaigne himself extols us to read Plutarch and quotes the poet Persius:

"Old and young, let these your thought engage,
 They give the mind support, and cheer old age."

—R E GOODMAN (general practitioner, Northenden, Manchester).

The tranquillising effect of swimming

For those of us who have reached the ripe old age of 40 years and want to get fit swimming is probably the ideal activity. I have never relished jogging and only discovered after buying an exercise bike just how boring this activity can be.

As a worth-while form of exercise swimming is overlooked by middle-aged professionals. But a regular routine has to be established—simply splashing around in a pool for ten or fifteen minutes is not good enough. For the past two or three years my son and I have been to the local swimming pool on Saturdays and Sundays. Usually lane swimming has not been possible because of the crowds of children cavorting in the shallow end, so I have had to content myself with pottering about the deep end and racing my son across the pool when we found an open stretch of water.

A little while ago a notice was placed on the board at the entrance to the pool inviting adults to take part in a swimming fitness programme—that is, lane swimming—three evenings a week between 6.00 and 7.00 pm. There were still vacancies and the pool manager told me that most of those in the group came along after work, swam twenty or thirty lengths (crawl, breaststroke, backstroke, or whatever) and then went home for supper. The price was right and I registered for the 15 weeks up to Christmas.

On swimming evenings I leave work shortly after 6 pm and head straight for the pool. By 6.30 I am in the water, starting with the breaststroke. After several lengths I turn over and swim on my back—a totally relaxing stroke. I never did learn how to do the crawl properly, unlike most of the others in the group who pound through the water, length after length, using this most powerful of all swimming strokes. My New Year resolution will be to learn the crawl.

Already I can feel the benefits. There is a pleasurable feeling of contentment as the water flows around the body; the problems of the day are washed away. I learnt to control my breathing and within a short time discovered that swimming was conditioning my whole body. Regular activity promotes a feeling of wellbeing and who will deny that exercise is a form of tranquillisation? This is particularly true of swimming. It also greatly improves the appetite.—GEOFFREY DAWRANT (general practitioner, Edmonton, Alberta).