

# Video Presentations that have to Teach

T. EARL

*University of Utrecht*

& KATHARINA MEYER-HARTWIG

*Arbeits Kreative Teamarbeit, Gottingen*

Tony Earl is a course designer in the Department of Research and Development in Education, the University of Utrecht's central teaching services department. He was formerly a designer with two instructional production companies in the USA and has published widely on instructional design. Katharina Meyer-Hartwig, Dipl.-Ing., worked initially in biomedical engineering at the University of Aachen, specialising in creating teamwork and improving teaching, and then moved into teaching-film design at the University of Gottingen. Currently an independent consultant, her main interest is in improving human interaction through 'film and video, pen and paper, silence and talking'.

**ABSTRACT** *To be successful, an instructional video presentation needs to be effective, valued, liked and efficient, and educationalists and designers should strive (explicitly and implicitly) to satisfy these criteria. In the interests of optimum teaching effect, a didactical distinction is recommended between video presentations that have to 'instruct', 'explain', 'tell' and 'let encounter'. A schema or frame of reference is proposed, the use of which (it is claimed) can help to optimise communication between video producer, teacher and instructional designer.*

## **Introduction**

A video presentation which has to teach is effective when the learning goal is met. It is valued when the viewer has found his or her viewing time and activity worthwhile. It is liked when the viewer enjoyed the learning experience. It is efficient when the time and energy spent in learning what had to be learned is minimal. A positive rating on these four criteria—'effective', 'valued', 'liked' and 'efficient'—is the goal of every maker of every teaching film. Few video presentations get a top rating on all four. All of us have viewed presentations which we found effective but did not particularly like, and most have also seen some which we valued but which we found not efficient. Ironically, achieving success against one criterion can have a negative effect on achievement of success against one of the other three. The art of

the didactical designer and members of the production team is to effect a balance between all four criteria while attaining a high rating on each. Something to help this happen is what this article is all about.

### Optimising Didactical Design Decisions

In our workshop *Gestaltung von LeInfilmen* we recommend use of a schema for optimising design decisions when creating video presentations or interactive video learning systems that have to teach. The schema is given in Fig. 1. Together, its seven elements (described below) provide a *frame of reference* in which the didactical designer and production specialists can think, exchange points of view and make decisions. As a reminder that the schema is intended as a tool for optimising the quality of a video production, we have given the schema the form of a test-card on a T.V. screen.

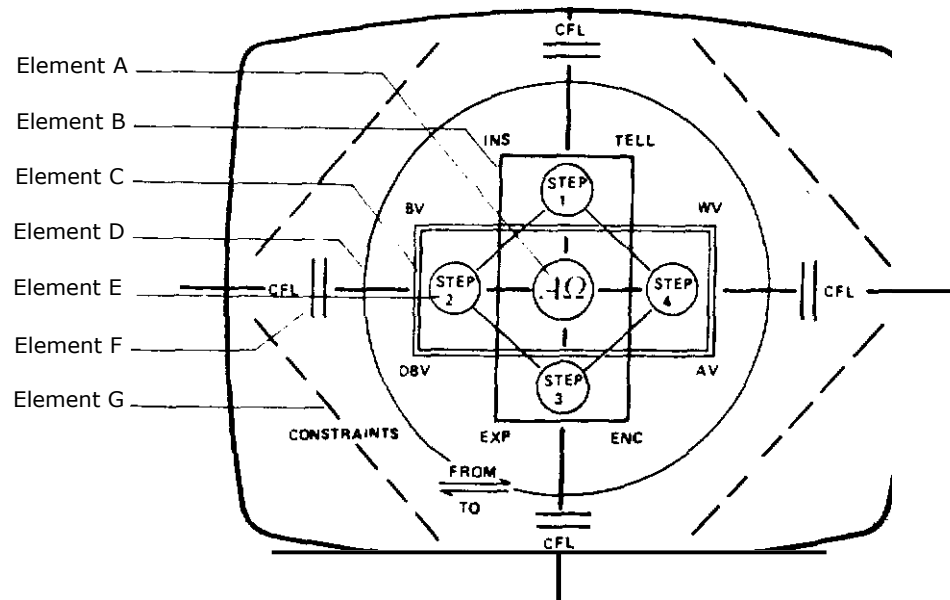


FIG. 1.

### The Schema and its Elements

*Element A* The alpha-omega **at the screen's centre** symbolises the four criteria (effective, valued, liked and efficient) which have been mentioned **earlier. From beginning to end, the decision making of everyone involved—designer, \_ subject matter expert, producer, cameraman—is focused on a product that will be rated highly on these four criteria. The criteria are there to constantly monitor the design decision making process.**

Element A

Trn

→ *Element B* The abbreviations *INS, TELL, EXP, ENC* in this I, element stand respectively for 'to instruct', 'to explain', 'to tell' ; and 'to let encounter'. Video presentations which have to teach fall into one or other of these four categories; knowing which category of video one is making is essential knowledge. An

Element B

instructional video presentation has a behavioural objective. Its pictures, dialogue, sounds and silences must generate responses in the viewing audience that lead to acquisition of some demonstrable skill or knowledge by the time it (and any related activity) ends. A video production which has to 'instruct' must shape the viewer to some pre-specified end performance. One which has to 'explain' has the responsibility to give meaning to something. One which has to 'tell' has the responsibility of informing the viewer of something in a way that is effective, valued etc. 'To let encounter' is to permit experience. An 'encounter' presentation, in direct contrast to one which must instruct, has an expressive or evocative objective (Eisner, 1969); a behavioural objective is prescriptive. Successful video presentations that have to teach (whatever their main objective may be, i.e. to instruct or to explain or to tell or to let encounter) will have some elements of 'instructing', 'explaining', 'telling' and 'encountering' in them. It is this which brings them to score highly on the alpha-omega criteria.

I

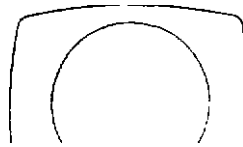
*Element C* The abbreviations *BV, WV, DBW, AV* in this element stand for 'Before Viewing', 'While Viewing', 'During a Break in Viewing' and 'After Viewing'. They refer to the

timing of activities that the designer (with his or her main

teaching intention in mind) can build into the learning experi-

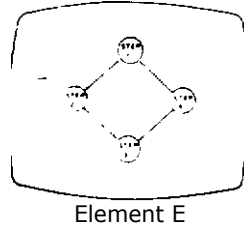
Element c

ence surrounding the presentation. Such an activity may be, for example, to study or read something, to work with some instrument, to practise something, to answer a question or to discuss what has been seen. Such extra-video activity, if any, is dictated by the production's objective, subject, and resources available i.e. money, time and materials. The activity may be conventional or non-conventional. The test for use of a particular activity is the answer to the question "Would this particular activity, at the time it is called for, contribute to satisfaction of the alpha-omega criteria: Yes or No?"



Element D

*Element D* This is a very elementary element, but it is also one that is frequently not given enough attention in the design process. Element D reminds the designer and the production team to make their decisions with details in **mind** of from where the viewer has come into the learning programme and of to where he or she will move after the session is over. This is especially important for assuring that the learning experience **is an** 'efficient' learning experience. A video production that has to teach is not *an* island!



*Element E* These are the four steps which we see as being involved in an important transition in the design decision making process. This is the transition from the *idea* for a scenario (a more or less abstract concept in the designer's mind) to a concrete scenario. The activities that this transition calls for are indicated in the descriptions of steps 1 to 4 in Fig. 2.

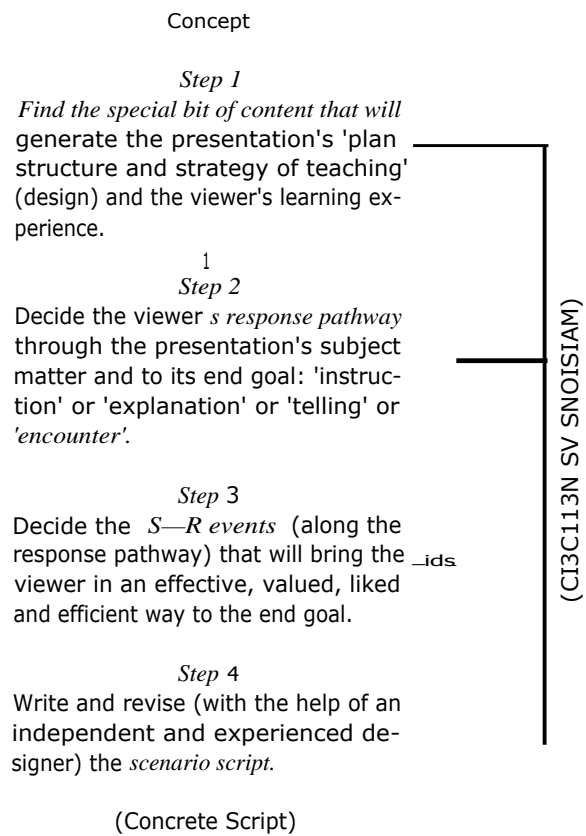


FIG. 2.

'A curious medical symptom', 'a set of symbols', a 'piece of sculpture' and 'the remark of a politician' are examples of things that have served the imaginative scenario writer as the 'special bit of content' referred to under step 1. Such systems of stimuli give the writer a clear picture of the stimulus-response (S-R) events that will bring the viewer to the state of learning that is wanted. This same 'special bit of content' will be *the Leitmotiv* around which, in which or through which the viewer's learning experience will be woven. The use of the term 'response pathway' (step 2) is a reminder that the viewer learns through the content and sequence of the

responses that the video presentation gets him or her to make. A given response may be relatively long or relatively short, covert (a private, mental response) or overt (an open, measurable one). The S-R (stimulus-response) events referred to at step 3 are the picture/sound/dialogue events to which the viewer is exposed and to which he or she reacts. Each discrete, identifiable event Span of the presentation's critical content. The 'experienced designer' at step 4 is preferably one who has *not* been involved in thinking up the design (plan, structure and strategy of teaching) of the production. He or she will need the experience and skill to 'image' in video form what is read in the scenario script. A well designed teaching video production can be broken down quite easily into discrete S-R events.

The arrows in Fig. 2 indicate that decisions made at one step must be open to revision as the result of decisions made at succeeding steps. Flexibility and openness to change is a *sine qua non* for a good designer.

Element F In planning a video production that has to teach, it is helpful to have some *criteria for learning* to help optimise one's design decisions. These are what the letters 'CFL' in element F of the schema in Fig. 1 stand for. These criteria are especially important when deciding the composition of the S-R events at step 3 of Fig. 2 during creation of the concrete scenario. What might such criteria be? There are many to choose from. Those which we prefer and recommend in our workshop *Gestaltung von Lehrfilmen* are given in Table I. They can also usefully be kept in mind when thinking up the design of a presentation, and when revising a video production that has to teach.

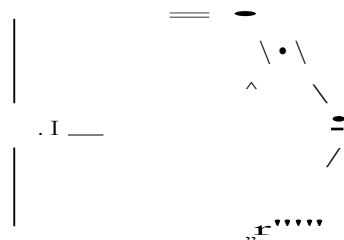
TABLE I.

Criteria for learning
1. Viewing must be <i>active</i> .
2. The invited and spontaneous responses of the viewer must be didactically <i>meaningful</i> .
3. <b>Feedback (knowledge of results/progress) should</b> be provided.
4. The content of the presentation must be technically <i>accurate</i> .
5. People and situations in the presentation <b>must</b> be <i>credible</i> .
6. The knowledge/skill/experience <i>profile</i> of the learner—viewer should be known.
7. The use of the medium (video) must be <i>critical</i> .
8. Teaching presentations must be <i>clean, clear</i> and <i>uncluttered</i> .

Most of the criteria in Table I are self explanatory. The need to constantly engage the viewer in an active role (criterion 1) has been hinted at earlier. The term 'meaningful' (criterion 2), tells the designer that the responses s/he uses to reach

the learning objective must satisfy a certain test. This test (Earl, 1978) is that the responses, whether overt or covert, subtle or explicit, simple or complex, are: a. *relevant* for the presentation objective, b. *necessary* in respect of this objective and the stage of learning reached, c. *possible* in respect to the conditions of learning that have been set up and d. *effective*. 'Effective' in this context means that the response, whatever it may be, results in some increment of learning or the strengthening of some learning that has already taken place. An example of a covert, *invited response* in this context is the response to an invitation to the viewer: "Watch the following demonstration of the five steps in procedure XYZ. As you do so, discriminate in your mind between the steps". An example of a short *overt, spontaneous response* of this viewer would be his or her own initiative to make notes on the steps in demonstration XYZ. The satisfaction of the 'meaningful response' criterion (criterion 2) is an important test for activities before, during and after viewing of the presentation. *Non-meaningful* responses are frequently the reason for the failure of video presentations that have to instruct or to explain or to tell or to let encounter. The 'critical use of the medium' (criterion 7) is easy to check: if the learning result would be the same without the use of video then its use is non critical. Superfluous music on the sound track of a teaching presentation is an example of what can make it 'unclean' and 'cluttered' (criterion 8).

Element G The word 'constraints' refers to the 'givens' in the system—things which, in principle, cannot be changed. What the designer must do is to use his/her craft and ingenuity in outwitting them. Constraints in the system could include: production schedules, money available for production, materials available, expert help available and time. Outwitting constraints calls for didactical cunning!



Elements A, B, C, D, E, F, G.

### Discussion

The seven-element schema which is presented in Fig. 1 and which we have described above is a *tool*. As a tool it must work for you and not you for it. To think

of it otherwise would be supporting the idea that designing and producing a teaching videotape is a bit of careful 'systems engineering', it is, of course, far more than this.

The ideas in this article reflect the premise that making a video production or interactive video system that has to teach is as much an art as a science. From the 'science' side we find that the *stimulus—response (S-R) paradigm* (from the world of programmed learning) contains the prescription for the design of *any* teaching production. The designer and producer must provide the appropriate 'stimuli' to which the viewer will 'respond' and thereby learn. If both are willing to think and exchange views in terms of stimuli, responses and the association between them, the design task is a more concrete and manageable one. We must emphasize, however, that its use does not mean that the S-R paradigm provides a satisfactory explanation of *how* people learn. As Kendler (1961) has pointed out "to use S-R language does not mean that complex behaviour actually consists of S-R connections" and "the concept of the S-R association, therefore, must be judged not in terms of its ability to provide a clear image of behaviour, but rather its capacity to represent the facts of behaviour".

From the 'art' side, it is the personal creativity of the designer and production team that will make the combination of 'instruction', 'explanation', 'telling' and 'letting encounter' a success. Making a teaching video production requires as much 'magic' (Hill, 1970) as the making of those films for cinema and television audiences that grip the intellectual, emotional and spiritual being of the audience. The designer of video presentations and interactive video systems that have to teach needs to be an instructional scientist and a bit of a magician!

*Correspondence:* Tony Earl, Rijksuniversiteit te Utrecht, Afdeling Onderzoek en Ontwikkeling van Onderwijs, Heidelberglaan 8, 3584 CS Utrecht, Netherlands.

## REFERENCES

- EAXt., F. A. (1978) *The Four Referents: a concept of design to assist teachers improve their decision making as instructional designers. Internal Memorandum 24* (Utrecht, Rijksuniversiteit, Mdeling Onderzoek en Ontwikkeling van Onderwijs).
- EISNER, E. W. (1969) Instructional and expressive objectives; their formulation and use in curriculum, in J. POPHAM (Ed.) *Instructional Objectives: an analysis of emerging issues*, pp. 13-18 (Chicago, Rand McNally).
- HILL, R. (1970) *Teach YourseV Film Making* (London, English Universities Press).
- KENDLER, H. H. (1961) in W. C. MEIRHENRY, Learning theory and AV utilization, *A.V. Communication Review*, 9 (5), Supplement 4.