TOWARDS A BETTER FRAMEWORK FOR EVALUATING THE EFFECTIVENESS OF EDUCATIONAL TELEVISION: PROSPECTS AND CHALLENGES

By

Dr. Syed Abdul Siraj

ABSTRACT

Selection of relevant media in distance education is a fact-finding job. The majority of earlier studies in the West indicate that television is beneficial for learning. Traver (1964-66) found that auditory method of learning has not that much impact as compare to the audio-video method of learning. So far as the distance education institutions are located in all parts of the world, television is being used as an instruction medium. Though, in Pakistan, at the Allama Iqbal Open University, television is not extensively used for learning purposes. Only few courses are supported by television. Textbooks are the main sources for presenting knowledge to the students. Whatever, television programmes are available to the AIOU's students, they have not yet been properly looked into in terms of effectiveness on the points of view of contents, format, presentation, motivational capacity, students' exposure to these programmes, their integration with other teaching aids etc. Research in television for distance education is a new phenomenon for development. The issue is of high consideration, particularly in the developing countries where resources are scared, and population is unmanageable. With the growth of research in distance education, Alistair Morgan (1984) observed that a number of writers have lamented at the apparent lack of a clearly defined paradigm for research and the few empirical findings relating to studying at a distance. In this regard, Ba ath (1982) commented that "there is a severe lack of scientifically validated knowledge-someone would perform a very great service indeed if he/she would carry out a major empirical research study on the learning strategies of distance students--if possible including intensive studies by mean of interview and even observations of actual learner behaviour."

Evaluation of educational television is basically required to serve the purpose of value judgment, assessment of students' achievement, continuation, and termination or modification of an existing programme or adoption of new programme. In this context, Chiam Tah Wen (1977) explained that there are two

* The writer is working as Head, Department of Mass Communication, AIOU.

types of evaluation, the 'Summative' and the 'Formative' evaluation. Formative evaluation is conducted for the development of new educational television programmes. In the formative evaluation, student learning needs, his readiness for learning and problems he encounters while learning are assessed. Its purpose is to assist the teacher and student to re-programme the teaching aid. Summative evaluation is used to ascertain, or assess how for the effectiveness of the existing programme in the context of teaching and learning. Its main purpose is to assist in certification or validation and in future selection. For effective production of educational TV programmes, there is a need of collaboration between the researcher and producer and our aim should be to find out whether the system of analysis followed in the West are applicable in our situation. If not, what are the modifications that need to be done before any strategy is developed?

EARLY RESEARCH ON EDUCATIONAL TELEVISION

The development of research in broadcasting stemmed from 1971. Early research studies established valuable principles and hypothesis for research into broadcasting. Tony Bates and Margaret Gallagher (1976) have gathered the following findings from the research in broadcasting carried out in 1971 and 1973.

1. Result unless high response rate was obtained, results were biased towards the responses of very highly motivated students.
2. It was important to use a verity of methods of data collection—postal questionnaire, telephone interview, group discussion, CMA feedback, course unit report forms—and a mix of quantitative and qualitative data, if insight into how students were using and reacting to broadcasts was to be gained.
3. It was necessary to understand the basic structure and organization of a unit, and the relationship of the programmes to each other and to the text, before a broadcast itself could be evaluated.
4. It was also necessary to understand the purpose of a programme
5. The high strike rate of 300 programmes from one studio left insufficient time for pre-testing of programmes before transmission, and small budget available for remarks meant that necessary changes to a programmes as a result of evaluation might not be possible.
6. A 'blunderbuss' approach to data collection (i.e. collecting data on a wide front in the hope that some of it will turn out to be important) was unhelpful, in that the information was not always available in the most useful form of decision-making, or because more commonly the right manpower was not available to interpret the data meaningfully.

7. It was important to distinguish between levels and types of decision-making, and gear the studies accordingly. For instance, information collected at an individual programme level may not be automatically suitable for decision-making across or between courses, such as broadcast allocation.
8. Perhaps most importantly, feedback was considered to be the most valuable when the producers and academics themselves were engaged in the design, implementation, and interpretation of the evaluation studies, working in conjunction with the researcher.
9. These activities, however, all require a large investment of research time in studying an individual programme.

In the earlier studies on educational television in UK (Himmelweit, Oppenheim & Vine, 1958), the USA (Schramm, Lyle & Parker, 1977), Japan (Furu, (1962), and Australia (Compbell, 1962) tended to focus on the effect of television on homework, school performance, family life, and reading habit etc. They attempted to compare viewers with non-viewers in a way, which perhaps tended to overlook the fact that non-possession of television set could be linked with various factors (e.g. poverty or unfavourable attitudes to the medium) which make comparison unreliable. Response to ETV is affected by many learner variables. B Wade & R.A. Poole (1983) analysed that amongst these are social class, intelligence, sex, personality, and learning style. Apart from this, the nature of response itself causes difficulty. It might be supposed that television influences a viewer's attitude most strongly when dealing with subjects remote from his direct personal experience, but evidence suggests that this is not always so. Roshier, N. (1969) explained in this regard that "our images of crime, for example, very much reflect its social reality rather than what we see of it via the media" and Nunnally J, C. (1961) viewed "the same is true of our attitudes to mental illness". In research among children, television has not been proved to be of any great importance in influencing attitudes to violence (Howitt, 1973), to race (Hartmann & Husband, 1974), and to the social behaviour among children lacking older siblings (Howitt & Cumberbatach, 1971). However, Kemelfield, (1972) has pointed out that findings have sometimes contradictory. For example, he found that "children living in high-density immigrant areas became far less certain of their pro-Pakistani feeling after viewing the programme 'Our neighbor', which had the unintended effect of emphasizing differences rather than extolling uniqueness".

The literature reveals that there is a great criticism on the experimental methods of research. As Bates, etal (1981) commented on the failure of experimental research by comparing the effectiveness of various media used in education particularly to provide any guidelines for the use of educational television and radio.

He is of the view that experimental studies are lacking both in the theoretical framework of students learns from television, and in the requirements of experimental control, with control of variables, take the students completely outside any real learning context. Parlett and Hamilton (1976) criticized the experimental methods of research in education by referring to the agricultural botany paradigm that the students react to different educational treatment as constantly as plants react to fertilizers. They compared the method of physical science with the social anthropological paradigm. Parlett and Hamilton (1976) used the term illuminative evaluation, which aimed to know what is really going on in an educational setting. The emphases is on the holistic studies carried out in the natural settings, rather than in the laboratory conditions, using qualitative methods of interview and observational techniques with less prominence on quantitative methods and statistical manipulation of survey data.

The skill and job of evaluating educational television is required repeatedly in order to achieve maximum result and better output in terms producing quality of educational television. For that the media practitioners have to adapt themselves to new situation and keep abreast of innovations and harness the technology to the interest and needs of the students. In Pakistan, where TV is geared to social, developmental and educational purposes, there is a major constraint with regard to the use of modern media techniques. In this background, the researcher/practitioner who is learning to master the technique of Western oriented mass media, has almost become stranger at home. Our own attitudes have been found irrelevant when communicating with the rural people. It is very necessary to get familiar with other development communication agencies, their structure and methods of instruction and thus develop an integrated approach of communication strategies.

Edward B. Lasher (1975) has presented a scale for evaluating educational television programmes which he divided into three section: The first section contains the bibliographic or identifying information such as the title, format of material, the producer, the distributor, length of the programme, cost, and the year the programme was produced. This section also contains information on content area, the specific audience, and objective of the programme. The second section is about the description of the title, key concepts, and the skills used. The third section can be the evaluation itself. Edward B. Lasher (1975) has suggested the following checklist:

1. APPROPRIATE TO PURPOSE

Contents and material used in the TV programme should achieve objectives. Objectives may be in the cognitive, psychomotor or attitude area.

2. APPROPRIATE TO USERS

The TV programme must be according to the level/backgrounds of the students. Factors regarding level/backgrounds may include:

a. Cultural and tradition,
b. Age,
c. Sex,
d. Ethnicity of the students,
e. Intelligence
f. Past experience –academic and non-academic.

3. CONTENT

a. Accuracy of up to date facts and figures and statements in the programme must be taken care of.
b. Biased material should be avoided.
c. The Concepts and their details given in the programme should be appropriate and relevant to the objectives and needs.
d. The language used in the program should be understandable and common to the frame of reference to the students. But should not be that simple to produce boredom or the feeling on the part of students that the material is too simple or "childish." The balance between the use of too much subtlety where communication breaks down, and too little where the message is too obvious, is an important achievement.
e. The treatment to the contents must be suited to the students.

2. MODE

Edward B. Lasher (1975) explained that "the chosen medium of the material is an important factor. For example the questions, is movement in the programme necessary? Sometimes motion is not only not needed, but may even interfere with the learning of specific concepts. In many situation the information presented in the TV programme would have been communicated to more number of students, where each students would have more time to study the material from a selected still image. Sound track is sometimes is an unnecessary expense, and may even interfere with the communication intent by taking away from visual information".

3. TECHNIQUES

Techniques used in the programme must contribute to the achievement of the objective of the programme

a. ***Editing***

Editing of the programme should be done in such a way that sequence of different events/aspects and the audio-visual effects, used, give a logical order of flow. The programme must be in a proper length and in a controlled pace.

b. ***Field of view***

Edward B. Lasher (1975) in this regard pointed out that " 1. Content where each element in view contributes to the purpose and where no irrelevant elements to detract from purpose would exist. 2. Composition of these elements seems to be orderly and logical, achieving unity and contributing to the desirable effect of holding attention. 3. The distance to the subject (long, short, medium, or close up) used to direct close examination or attention or indicate mood. 4. The angle of the view often communicates meaning and mood."

c. ***Chart, sketches and illustrations***

They can help organize concepts for understanding or they are used in conjunction with other concepts.

d. ***Animation***

Where movement is given to inanimate objects for many of the same reasons cited for the use of charts, sketches, and illustrations.

e. ***Microphotography***

It is required when extreme close-up of a very small subject is included in the programme, such as insect.

f. ***Photomicrography***

Combination of the camera and microscope so that the elements or microorganisms on the stage of the microscope may be photographed.

g. ***Time lapse***

When the action of an event, such as a plant growing, is speeded up so that the growth is observed.

h. ***Slow motion***

When the action of an event is slowed down to enable closer

examination.

i. *Freezer frame*
When the image of a motion picture is frozen for further study.

J. *Telephotography*
Combine the camera and telescope.

1. PHYSICAL AND TECHNICAL CONSIDERATIONS

a. Clear sound. b. Visual clarity of picture in terms of focus, exposure and Colour
b. Condition of material. D. Equipment necessary to use the materials.
c. Cost of material.

2. UTILIZATION

This includes consideration of the appropriate time for use, discussion, field trips, the service of resource persons and the presentation of other materials. A fundamental concern of research in education is what students actually learn from studying and the different ways in which learning is conceptualized. Alistair Morgam, (1984) is of the view that "learning is seen as the acquisition of pieces of knowledge and information. In contrast, learning can be seen as change in one's way of conceptualizing an idea, or aspect of reality." He further explained that to, 'really understand' a set of ideas, concepts or subject area, it seems that the learner must engage in a de-structuring of the knowledge or subject material, followed by a re-structuring of the material in relation to the learner's existing conceptual framework.

Findings from the studies of Margret Gallagher (1977) provided important insights into the frames of reference with which students approach particular teaching materials and into their attitudes to and expectations of certain media. It has provided information as to why students respond to particular programme contents and formats in particular ways, and has indicated that individual affective preferences may sometimes be as important as specific cognitive difficulties in determining the extent to which a programme achieves its intended purpose. This latter relationship has been observed to work in a number of conflicting ways: while we have found that students antipathetic to a particular programme format, for example dramatic presentation, have mentally 'switched off' and missed the entire educational message of the programme, we have also found that some students who are particularly attracted to specific formats, such as 'actuality' recordings of real events, may be so

seduced by the format that they, too, miss the point of the programme. We have found problems caused by the actual intrusion of a specific production technique for instance, a highly successful and interesting demonstration of a mechanical model on students understanding of the overall purpose of the programme. Reactions to particular programmes have been found to be deeply influenced by the type of assessment procedures used in the course and the relationship of these to broadcasts; for instance, students were found in general to ignore the work related to a pair of programmes in a science course and to under value the programmes themselves until they discovered later in the course that they would be required to complete an assignment based on the programmes. The constraints of a study schedule can radically affect students' ability to make the most of broadcast material: for example, when students pace their work to meet assignment deadlines and when these assignments are unrelated to broadcasts, students have been found to be inadequately prepared for programmes or to skip them altogether. Other important constraints on the value obtained from specific broadcasts are posed by the workload and difficulty of a course as a whole, as well as of the particular units to which any one programme is related. Within this general framework, a wide range of individual differences, in terms of student response to specific programmes, has been identified. While some students have problems within the media with particular formats or teaching styles.

A seminar held in Poona (India) in 1975 on educational television concluded that "children programmes should be devoted to experimenting traditional formats, including the use of realistic documentary, animation, puppetry, fantasy, etc. greased to the problem of developing self-awareness among children, with the longer term aim of developing models of programmes founded in indigenous condition. It was agreed, "television-viewing children will develop through vicarious experiences the necessary positive and co-operative character traits help to meet the rural needs." S.K. Mullick (1977) viewed that "no universal models could apply in media decision because the response of audience, local culture condition and the availability of infrastructure have to be reckoned." He further emphasized that "television often descends to sheer entertainment. In communication the target audience has to be constantly borne in mind---it social, economic, and cultural profile---so that decision-making for media programmes is relevant to the consumers. After all TV is show business and its prime aim is to hold the interest of the audience, to make the audience believe that it is getting its money's worth. The switch-off knob is a nightmare those who are in the entertainment trade. That way content becomes secondary. What we have to do is face this great challenge of subtly combining entertainment with content, if we want to bring in social change-which is the major objective of TV."

Learning from television is a psychological process which involves perception, selection, interpreting both visual and aural information, relating that information to prior learning or experience, and possible converting visual and aural perceptions into other mental modes, such as imaginary or words, Tony Bates, (1983). Since learning from television is our concern in the present discussion, it is therefore, required to take into account the theories concerned with the unique nature of learning from television as a crucial relevance to the production of television programmes for educational purposes. Some of the key features of Piaget's theories regarding the development of intelligence in relation to television programme production are explained briefly below.

PIAGET'S THEORY FOR INTELLIGENCE DEVELOPMENT

The main feature of the Piaget Theory of development of intelligence. Piaget sees intelligence as an adaptation. It means that individual organizes the interaction between himself and the environment, thus creating adaptation. Piaget's intelligence has two aspects—functional and developing. Functional aspect of intelligence is composed of two complementary processes: assimilation and accommodation. During the process of assimilation the individual tries to incorporate the external reality into his way of thinking. In other words, in this process the individual transforms the newness of the outside world into his field of experiences. Piaget says that individual is also facing environmental constraints and he tries to adjust his thoughts and action accordingly so as to cope with the difficulties imposed by outside world. When the assimilation and accommodation is balanced the individual has adapted to the outside world. In the Piaget theories, children's thinking is different at different times of their development. Piaget describes these different structures of thinking of children in terms of four stages.

THE SENSORI-MOTOR PERIOD

This stage deals with children from birth to 18 months. During this stage the children accumulate knowledge through his senses and actions. Children of this stage develop language and internal thought slowly.

THE PRE-OPERATIONAL STAGE

This stage starts from one and a half years to about seven years. During the first quarter of this stage the child can think about his actions but does not always have to do them. However, during this stage the child can gradually build up a mental picture of the external world. He can think and see how shapes fit together and visualize the physical attribution of objects. He learns about the world through

language, plays, and imitates with or without a model and drawing. Nevertheless, the child during this stage finds it difficult to reason in terms of any kind of generalization. Piaget says that the pre-conceptual ways of understanding the world by the child at this stage is the product of assimilation which is distorted as it is centered on individual elements which interest the child uniquely. From about 4 years age, Joan Bliss, (1983) commented that the child enters into the intuitive sub-stage. During this stage it is almost as through the wheels of thought are being oiled but not quit properly working; there are the beginnings of coherent thought although with definite hitches here and there. It is very difficult for the television producers to understand and make educative films for the children of pre-operational stage because their reasoning process do not resemblance to the mind of adult.

THE CONCRETE OPERATIONAL STAGE

This mental stage starts from the age between 6 or 7 to 13 or 15. During this age the child mental system become integrated and coherent with which he can now easily cope with the environment around him. However, he cannot yet cope with the abstract ideas and situations. He can only understand from the actual situation.

FORMAL OPERATIONAL THINKING

In this mental capacity stage, a child can talk, discuss, and act reasonably and rationally. He can make hypotheses and draw conclusion.

TELEVISION BEYOND THE PIAGET'S THEORIES

To see whether the Piagetarian's theories of intelligence development can fit in the framework of instructional television, Christopher Jones, (1983) in this regard commented that television screen offers only two dimensions in space, but also incorporates a number of other realistic elements: colour, sound, movement and a semiotic grammar enabling the viewers to make connection between visual ideas. He says how does this relate to the work of Piaget's hypotheses. Christopher Jones believes that ultimately this will depend on the quality of actions realistically described in the TV programme. The screen is, in the first instance, simply a window on to an assumed reality. The screen has drawbacks; producers with a sympathetic eye for children need to provide: the third spatial division (perhaps even by something as simple as turning an object to be see through two planes, so that viewing children can perceive its proportion in three dimensions), sensory information (such as weight, temperature, smell) and some honesty in maintaining a sense that a child's environment is a controlled one (of course fantasy depends on moving from an acceptance of the norm). Christopher Jones believes that educational television is

merely an informed and careful exploitation of a medium that is dominant in a much wider and more general sense, and must turn the language to good use. There is an hypothesis to be explored that perhaps prolonged exposure of children to television creates its own order of understanding; necessarily different from Piaget's because it is dealing with a particular medium, rather than real experimental situation.

FEATURES UNIQUE TO TELEVISION COMMUNICATION

Television communication differs from ordinary face-to-face communication. Following is a brief outline regarding features unique to television communication:

1. Heterogeneous Audiences

The audience of television is usually more heterogeneous (varied in outlook and demographic composition) than in other forms of communication. Television communicator seldom has complete control over who watch the programme unless, of course, he owns all the equipment and guard the on -off switch.

2. Mediated Communication

Television is a mediated event. No matter how informal or intimate the conversation might be, a boundary still exists between speaker and listener: The electronic components of television keep presenter and the audience apart.

3. Time Constraints

Television presenter whether of commercial or educational must always require to adjust to the clock. Time is even an issue when using videotape in a private presentation. Once the tape runs out, you are off the screen whether you are finished or not.

4. Collaboration

When communicating on television, the presenter is generally involved in a collaborative effort. Before he can be seen or heard on the screen he uses the time, energy, and resources of other people. Even the finest hand-held units are best operated by pairs or groups of people. The more elaborate the programme, the more people are needed to operate the equipment and cooperate in the presentation.

5. Action

You will notice as you watch television that most programmes change camera shots quite often, and that they employ a variety of visual effects. These two activities are not by chance rather television obtains and holds attention mostly by action.

6. Control.

Since television is an electronic medium, it involves a collaborative effort. The message appears to a viewer can be controlled and manipulated. By means of audio and visual techniques presentation can be altered. Editing devices can also affect presentation. Learning about television techniques and devices will enable communicator to present message in greater effective way. By working with the directors, engineers, and camera and audio personnel, presenter can add to the impact of the message.

7. Power

There is a power associated with being on television that is not found in most other communication situations. Such importance and power often adds to the speaker's credibility. Television communication is powerful! Care must be taken since lot of people may be watching.

Tony Bates, (1983) argues that once we are examining television in terms of the way it effects our thinking, a vast, fathomless pit opens up. Our ignorance here is frightening. Programmes are made day in, day out, with no idea on any one's part of how they are affecting the way the people think. It is not that television is necessarily 'bad' or harmful –it may not matter in general broadcasting that we are ignorant of its effects. But surely in educational television, we ought to care, not only about the content of programmes, but also about the processes of thinking that the programmes stimulate or develop.

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