

**TECHNOLOGY AND EDUCATIONAL REFORM
LEARNING FROM EDUCATIONAL TELEVISION AS
A MEDIUM FOR EDUCATIONAL REFORM**

by

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I. INTRODUCTION

The Continuous processes of technology have influenced human culture by affecting the nature of people's efforts to earn a living. Furthermore, the accelerating pace of technological change has been able to produce complete changes in the nature of occupation within a few years. In this case, technological advances cause present jobs to disappear and also result in the emergence of previously unknown occupations. Often the persons who performed the old jobs are not capable of undertaking the new ones because they require further education and retraining.

As a result of the rate of technological changes, so a major responsibility of education is to develop a readiness and capacity for a lifetime of learning and relearning. In education we find two main types of technology: (a) audio-visual technology such as radio, television, still pictures, motion pictures, and video; and (b) information technology, particularly computers. In this case the use of television as a medium for instructional programs will be a part of important of the educational reforms. Therefore, fundamental changes in schooling will require fundamental changes in the content of instructional experiences. It is important, because Levin has reminded that the creation of better society can be achieved through educational changes and that educational reform requires only the best intentions and imagination of educated men (Levin, 1976: 47).

In relation to instructional experiences at school, Gerlach and Ely (1980:6) also remind if teacher is to play the role of a learning coordinator successfully in today's school, he or she must possess the basic knowledge and concepts of a subject matter field and must know what he or she wants to teach; that is, the teacher must be able to select content (Gerlach and Ely, 1980:6). In other words, teaching must be designed on the basis of what it is that the learner is to do or produce or become. If media are to be used to facilitate teaching and learning, they must be selected and used because they have a facilitating potential (Gerlach and Ely, 1980:ix).

As a medium of the educational reform, the use of television emerges some questions. Those questions will be described in this paper, i.e.: (1) What are two basic categories television used in educational programs? (2) What roles does television play in learning? (3) What are the contributions of television to the education reforms? (4) What factors affecting appeal and comprehensibility in using television as a medium for educational reform? (5) What patterns are used?

II. TELEVISION AS A MEDIUM FOR EDUCATIONAL REFORM

A fundamental issue faced throughout the development of the instructional experiences is the presentation of those instructional programs in ways that would maximise its appeal with students. As Jean Thomas says the attitude of the teaching profession is what ultimately determines the success or failure of an innovation (Rassekh and Vaideanu, 1987: 106). That is why what is to be done is to improve the learning environment that shapes our students learn how to learn. In this case in order to change the educational system,

the type of education it offers, the human relation it fosters, and the type of attitudes and capabilities it helps produce. We must change the ways we plan, control, and improve our program. The ways we plan, control, and improve our programs should be on the basis quality plan, quality control, and quality improvement continuously so that we are able to accelerate the pace at which we improve education in those ways. It is important, because Bates (1983) has reminded that students do not automatically know how to use instructional television the best advantage, so students need the more help to develop the necessary skills to benefit from such program.

As a medium in the learning process television has two functions, i.e.: (a) providing a broader based of "knowing" - knowing "what" in different ways, and (b) developing certain mental skills in using knowledge - knowing "how" in different ways. In this context, there are two basic categories television used in educational programs, i.e broadcast and closed-circuit. Broadcast television refers to commercial and educational programs that are transmitted through the air (without wires). Whereas closed-circuit television refers to television frequencies which are carried by wire/cable. Closed-circuit television systems are often used in schools and colleges (Berlach and Ely, 1980: 355-356).

III. WHAT ROLES DOES TELEVISION PLAY IN LEARNING AND WHAT ARE THE CONTRIBUTIONS OF TELEVISION TO THE EDUCATIONAL REFORM?

Roles does television play in learning can be looked at the purposes of the use of television. In this case, Bates (1980) notes for the following purposes:

- (a) the presentation of abstract mathematical concepts

- through silent animation;
- (b) the construction of physical models to represent abstract ideas;
- (c) the illustration, through a location visit, of industrial applications of chemical processes;
- (d) the use dramatisation for enriching students' interpretation of a novel;
- (e) the reinforcement of techniques and concepts dealt with in other components;
- (f) the development of skills in using television as part of Open University studies;
- (g) the use of television for presenting case-study material;
- (h) the effect of co-production on the learning effectiveness of programs for Open University student.

As Bates mentioned the fact that the programs were being used in that way did not itself guarantee that the required learning would take place. For nearly every different teaching function examined have been found that examples where strategy of using television has been successful and unsuccessful. In other words, there are other conditions which have to be met as well. According to Bates, conditions affect learning from television are:

- (a) Delivery of material - The first condition that has to be met in a distance learning system.
- (b) Relevance - One the main reason given by students for not watching to Open University - or not treating them seriously - is their perceived lack of "relevance". The lack of relevance will dealt with assessment policy, integration of broadcast with text, timing of broadcast in relation to other component, scheduling of print and program production, and inappropriate program material.
- (c) Individual differences - There appear to be strong

individual differences between students in their ability to learn from different media. In other words there is an indication of strong individual preferences for learning from specific media.

- (d) Broadcast notes - It can be seen that unless programs are tightly integrated with texts, courses will usually need some form of broadcast notes.

The contribution of television to educational reform can be looked at the reasons to adopt television as a medium for instructional programs. In this relation, Rockman and Burke (1991) note one or more of the following reasons:

- (a) Improvement of quality - Ideally, the television programs represent the best educational efforts of curriculum specialists, program designers, audio-visual artists, and broadcasting specialists; the program incorporate the best, most up-to date thinking in the field; and the content is presented in an attractive and stimulating format.
- (b) Television as a catalyst - Television can stimulate educators to reconsider curricular options, to evaluate methods of pedagogy, and to see new relationship among discrete curricular areas. It provides a source of ideas for teachers and can catalyze their development of more varied, more motivating, and more contemporary practices. In this case, television help to facilitate the rapid dissemination of new curricular ideas.
- (c) Television as a means of extending student's experience - Television programs allow students to transcend the boundaries of space and time, and to see society in new and diverse ways. For example, the rural child sees life in the city, and the urban child sees life in the country.
- (d) Television as a means of introducing affective

education - Television has been instrumental in introducing affective education into elementary school. For example, television programs that provide shared, universal experiences have given teachers and students the opportunity to examine their feeling about themselves and their environment. Concerning developing a national identity, television can also be used to encourage and strengthen diverse cultural and religious traditions.

- (e) Television as a means of equalizing educational opportunity - Educational inequality is a persistent problem in most countries, from both economic and sociocultural viewpoints. In this context, television can do best in equalizing educational opportunity is to provide instructional presentation regardless of sex, race, ethnic background, or economic condition.
- (f) Television as a means of improving efficiency and productivity - Productivity in education means significantly more than the ability of fewer teachers to teach more students. It means better prepared students to be effective and fulfilled members of the community at large. When television adds to the number of possible approaches to instruction, stimulates improved class interactions, initiates and reinforces cognitive learning, or motivates better classroom behavior, it is providing better, more efficient education. To increase productivity requires finding the right mixture of school television and classroom teaching. By using school television economically - that is, by examining the variety of available utilization and programming options and by choosing wisely - educators can effect improvement in

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the patterns and results of instruction with minimal increase in cost.

- (g) Television-based instructional systems - In several countries, the main vehicle for achieving some of these goals has been a television-based instructional system. Such systems are distinguished not by their format or purpose but by their mode of development.

IV. PATTERNS OF USE

The ideas of the patterns of the use of television as a medium of educational reforms must be promoted so that all students should benefit from the resources which can facilitate their learning. Educational activities must be designed to ensure the fulfilment of the individual and remain independent of this process and are aimed at educating and training the individual as a citizen who will contribute to his or her country's development whatever his or her qualifications and his or her jobs. In this relation Rockman dan Burke (1991) pointed out that classroom television must be seen as more than a television program. It is because of a complex interaction between the program, people, and their environment all contribute to instruction. To describe the process, it is perhaps easiest to begin with utilization as follows.

1. Viewing Condition

In some cases, the unit of instruction is the television program alone. Individual viewers learn by themselves. But in most cases, the instructional unit is the television lesson. A teacher spends a few minutes preparing the class, with a series of questions for discussion.

sion or independent thought, or a review of previously taught concepts, or other advance organizers. Then the class attends to the television set and views the program with the teacher. Teachers viewing prerecorded tapes on the classroom playback equipment are able to stop and start the tape, illustrating and reinforcing teaching points throughout the viewing period. After the viewing, teachers use a variety of techniques, for instance, structured discussion, the teaching of related content, written exercises and tests - to continue the lesson. Any activity that reinforces and extends the content will be valuable to students. Sometimes homework, testing, or long-term period project is part of the lesson. Nevertheless, the classroom environment influences the use and the effectiveness of school television. In this relation, the television receiver must be visible to all students and in good working order; the conditions for transmission and reception or playback must provide a usable signal. To use classroom television successfully, one must take into account the nature of the interacting variables, the personal characteristics of teachers and students, the interpersonal relationship within the school and the class, the program itself as designed and produced, and the environmental conditions under which it is viewed (Rockman and Burke, 1991:95-96).

2. Teacher.

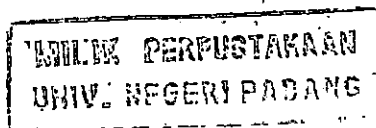
As we know teacher vary greatly in their ability and willingness to develop comprehen-

sive lesson from a television program; and often they depend on teacher's guide for the program. Often they take cues from their students and form opinions about the program based on students' reaction to it. That is why a program that holds the attention of the students may be seen as successful even if its content is weak. Besides that, teacher vary also in their attitudes towards television and other technologies in the classroom. In this case, Rockman and Burke note if television is presented to teachers as a means of replacing them or reducing their autonomy, they will use it with great reluctance. But if television lessons are designed to help meet the learning goals of the classroom, teachers will be quick to adopt and use the (Rockman and Burke, 1991:96).

3. Instructional Design

The attributes of television programs that contribute to their appeal, salience, interest, and educational value must be insured in the design and production of the programs. The instructional design of school television programs must also take viewing conditions into account. If the program is to require no follow-up from the teacher, it should factors that promote immediate student learning. However, if the teacher is to be an integral part of the lesson, Rockman and Burke (1991:96) emphasize that the role of the program can be:

- (a) to introduce the content for the teacher to elaborate later and to drill the students

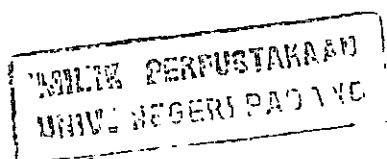


- on;
- (b) to provide background material for a lesson the teacher will deliver;
 - (c) to reinforce and review ideas already covered in class;
 - (d) to provide salient illustrations that will stimulate class discussion and discovery;

Those pedagogical functions should be taken into account in the design and production of school television programs. As Bryant, Alexander, and Brown said, the successful teaching by these programs was largely due to careful planning and evaluation. The outcomes were not the result of chance nor merely of the blend of creativity with opportunity. Instead, the combined efforts of educators and television producers produced the desired ends; frequently, for different audiences, for both genders, and covering many topics (Bryant, Alexander, and Brown, 1983:27).

Concerning factors affecting appeal and comprehensibility, Mielke and Chen (1983:53-54) note there are seven factors, i.e.:

- (a) Format preference - The format where a problem is posed and resolved through relations between various recurring character is a powerful device for attracting and holding viewers.
- (b) Documentary storyline - The appeal of plotted drama can be translated into documentary film segments as well. Often the dramatic development of a problem and its resolution can help motivate the need for a scientific approach or piece of information.



- (c) Active visual - The Appearance to process from television predominantly from the visual channel and secondarily from the audio.
- (d) Explicit connection between segments - When connective material was not present, viewers did not perceive any unifying theme and viewed the format as an assortment of "just a lot of different things".
- (e) Appropriate humor - Television programs that possess sense of humor will attract students to be active to give their comments.
- (f) Competence - In their reactions to something, students consistently favored those who "did the most", "knew what to do", or "knew the answers".
- (g) Presentation of scientists - Responses to specific television portrayals, students held both positive and negative perceptions of scientists. On the positive side, our target audience respected scientists for their expertise. However many students did not see science as a personal or career interest. They saw it as intellectually difficult, requiring long training, and physically dangerous. Scientists were viewed as narrow human beings who spend their lives in laboratories and have little family or social life.

V. CONCLUSION

Technological change means that school must teach their student learn how to learn. That is why present teaching methods must be

altered accordingly and greater emphasis must be placed on a capacity for self-instruction, on instruction in the use of documentation sources, facilitating the development of life-long education.

It is clear from experience the use of television as a medium for educational reform is not simply another audiovisual teaching device. Nevertheless, the technology that supports it can, if desired, be used to support distance learning systems, the promotion of national identity, and the fostering of national culture. Besides that undoubtedly, educational television serves education best when planners, curriculum specialists, teachers, and television programmers work together to capitalize on the strengths of the medium and to diminish its weaknesses. This means that school must be able to live with change and prepare students for change.

It is to remember and think as Bates says that ten years' research at the Open University into students' learning from television indicates very clearly that the extent to which students will learn from television depends entirely on the conditions surrounding the use of television (Bates, 1993:57). In order to succeed, all students should learn by a variety of methods, situations and techniques appropriate to the goals pursued and to their individual characteristics.

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REFERENCES

- Bates, Anthony W. (1983). "Adult Learning from Educational Television: The Open University Experience" in Michael J. A. Howe. *Learning from Television Psychological and Educational Research*. London: Academic Press.
- Bryant, Jennings, Alexander, Alison G. and Brown, Dan. (1983). "Learning from Educational Television Programs" in Michael J. A. Howe. *Learning from Television Psychological and Educational Research*. London: Academic Press
- Gerlach, Vernon S and Ely, Donald P. (1980). *Teaching & Media A Systematic Approach*. 2nd. ed. Englewood Cliffs, New Jersey: Prentice Hall.
- Levin, Henry M. (1976). "Education Reform: Its Meaning?" in Martin Carnoy and Henry M Levin. *The Limits of Educational Reforms*. New York: David McKay Company, Inc.
- Mielke, Keith and Chen, Milton. (1983). "Formative Research for 3-2-1 Contact: Methods and Insight" in Michael J. A. Howe. *Learning from Television Psychological and Educational Research*. London: Academic Press.
- Rassekh S. and Vaideanu G. (1987). *The Contents of Education A Worldwide View of Their Development from the Present to the Year 2000*. Paris: UNESCO.
- Rockman S. and Burke R. (1991). "Television: Classroom Use" in Ed. Arieh Lewy. *The International Encyclopedia of Curriculum*. Oxford: Pergamon Press.