

Segment TV = Teacher Interest + Student Learning

By Richard F. Lewis

Despite increased evidence that television is very effective in communicating messages to students, there is still limited classroom usage of television in an instructional form. In Nova Scotia, television is not widely used, even by teachers who have videotape recorders accessible to them. There are many reasons for this lack of use. This article explores some of the reasons for lack of use and suggests a model for increasing the utilization of instructional television in the classroom.

Why teachers do not use television

Teachers do not use television for many reasons: equipment failure, equipment inaccessibility, unsuitable programming, lack of knowledge of the medium. However, often when the equipment does work and is accessible, when the programming is suitable to the subject and the teacher has some knowledge of the medium, television is underused. Why?

Perhaps part of the underlying reasons for lack of use involve the nature of television as a self-contained information source. In television, the producer, designers, cameramen and directors are in direct control of the televised show and in indirect control of the viewer. The teacher surrenders control in the television-viewer interaction.

By contrast in the classroom, the teacher, by convention at least, is in control. All classroom aids must therefore be adaptable to teacher control.

The most used resources in the classroom are probably the blackboard and the duplicating machine. These devices are used extensively because the teacher controls the content and the rate of presentation. The teacher can place information on the blackboard in small units or in large blocks. The duplicating machine allows the teacher to reproduce a very large variety of print and visual information to students. The rate of presentation and the amount of information can be precisely and easily controlled.

However, when it comes to television, the teacher has no such control. The

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teacher can only turn the machine on and off. If the program being viewed is an on-air program, once the television is turned off the rest of the program is lost to the teacher. The teacher then becomes locked into the rigid format of the television program and viewers watch from start-to-finish. Even videotaped programs are designed to be viewed in totality. As a result, conventions of television viewing make it difficult for a teacher to integrate teaching styles and television programs. Also, teachers use educational television as recreational television.

An analysis of attitude among non-users of television found that teachers were concerned about the suitability of the segments to their classrooms. Either the materials did not cover the same program or they simply were not at the right level (Lewis and Fisher, 1977). A study by Lamerand and Tracy (1976) also supported this finding and indicated that in some cases teachers would like to have some control over the production of the television program so that they could dictate vocabulary level and content type variables. Chin and Downing (1973), noted that compatibility to existing activities and ego involvement may play a key role in the process of adopting an innovation.

Goal of the study

This study attempted to provide television programming to teachers in a different manner; one in which teachers would have more control over the content of the programs. Thus, it was hoped that the process used would encourage teachers to use television for teaching.

The preschool program *Sesame Street*, developed in the United States, has had particular success in teaching children (See Palmer, 1974, Ball and Bogatz, 1970). Since 1970, the Canadian Broadcasting Corporation has produced a number of segments each year for insertion into the CBC *Sesame Street* program. The short duration and simple messages of the segments made them an ideal choice for stimulus materials to be used in the study. Approximately three hundred of the segments were available for use in experimental situations. The segments, although all aimed at the preschool market, were thought to be useful in the later and upper elementary grades. Many of the CBC segments were presented in French. These segments were selected for use in this study.

The benefits of a segment type program

The average television program lasts ten to twelve minutes before it is interrupted by a message from your sponsor. By contrast, most educational television programs last 20-30 minutes. Most research on television, particularly second language television, indicates that students are not prepared to watch twenty minutes of programming. (Lewis and Fisher, 1977). They have been conditioned to shorter breaks while watching television so that the viewing period extends from ten to twelve minutes. A program of longer duration may have been long for them to negotiate.

By contrast, the segment technique allows breaks to occur at any time. Because segments are organized in short sequences, the teacher can stop the tape at a logical point to explain something or to replay that particular segment. The flexibility of segment television also allows segments to be interspersed with a short signal pattern or a black picture so that segments can be easily found but also so that segments can be played right through without interruption.

PROCEDURES

The program

The Canadian Broadcasting Corporation produces approximately one hundred segments a year. These segments present French material, bilingual and bicultural material and interpret the realities of the Canadian situation while attempting to achieve the curriculum goals of *Sesame Street*. The curriculum goals of *Sesame Street* deal with symbolic representation, cognitive organization, reasoning and problem solving, and the child in his world.

The Canadian segments attempt to achieve many of these goals while introducing French material into the segments. Some segments introduce simple words in French using a great deal of pictorial embellishment. Still other segments use French in a natural form. Catchy music and powerful visuals are used to communicate the message. Cartoon animation, and live action are used to convey the message of a particular segment. The segments vary in length from ten seconds to three or four minutes. In every case, a segment deals with one or two concepts.

As in the American *Sesame Street* series, there is a program of research in Canada. Each year, some of the segments

are subjected to laboratory type testing to determine their effectiveness in achieving their objectives (Bouchard, 1980a, 1980b). However, this testing has been restricted to preschool children.

At the time of the study, very little use, outside of the broadcasting situation, had been made of *Sesame Street* segments. By and large, the only time the segments had been seen was on the air as part of the regular *Sesame Street* offering by the CBC. Although there had been some experiments at McGill University in Montreal, there was very little use of the segments outside the area (Heroux and Goldberg 1980, Goldberg and Gorn, 1979). As a result, very little information regarding the effectiveness of segments with an older population was available.

The teachers

Fourteen teachers responsible for grades primary (kindergarten) to grade six participated in the study. Ten teachers taught all subjects while one teacher was a French specialist. All the teachers wanted to experiment with a new method of teaching French. Some teachers were bilingual; some spoke almost no French.

The students

The 149 students who participated in the study were enrolled in grades primary to six in four schools. Some students had not studied any French while others had one to five years of French before participation in the study.

The test population consisted of one grade primary, two grade one classes and one class from grades two, three, five and six.

Segment selection

The teachers viewed the segments produced in 1978 and 1979. They noted the grade levels in which the segments were usable and also the way in which segments could be combined. When viewing the segments, teachers seemed to be attending to factors like the vocabulary level of the segment, the content level of the segment and also the type of production technique used, whether it be cartoon animation or real life material. During the viewing procedures, it was evident that some teachers preferred the cartoon segments to other segments available.

After viewing, teachers prepared a segment list indicating which television segments should be assembled in a program. It was interesting to note that some

teachers followed a single topic approach while they put the programs together; while for other teachers, the smorgasbord approach used by *Sesame Street* was much more popular. The segments were assembled by the principal investigator and staff on three-quarter inch videotape and then dubbed to other machines.

Instruments

Before the viewing took place, all students completed a baseline questionnaire dealing with television. The pretest information determined the students' level on the content which was to be presented in several of the programs.

After viewing, students completed a post-test indicating what they had gained from the program. In many cases, the format of the testing, during both the pre and post test, had to be altered because the method in which the questions were asked was not particularly suited to the students.

While using the program, teachers were asked to keep records on what they did in the viewing session and also whether they covered other content which was similar to the viewed material. If a teacher was showing segments on body parts, she was asked to indicate what other activity she performed related to body parts was used so that the student achievement results could be related to one or the other stimulus.

RESULTS

How teachers used the segments

All teachers did not use the segments in the same manner. There was variation in the way that teachers and students prepared for viewing, viewed the segments and concluded the session. The variation in usage pattern, preparation and follow-up seemed to be related to the teacher and not to the grade level. It appeared that teachers' expectations of the segments and their objectives dictated how they used segments.

One teacher used the segments from grades one to three. Before viewing, she asked the students to look for certain kinds of stimuli in the segments. For instance, she told the students to see if they could find out what the words "aller," "arreter" and "brosse" meant. This teacher used the segments one at a time. Although the segments were placed in a program, the teacher used only one segment having the students do something before and after viewing. After the "aller/arreter" segment the students had

to pretend they were cars in the gym. They had to go on the command "aller" and stop on the command "arreter." In other cases, this teacher used blackboard games to follow the segments or counting exercises in French to follow segments in which French numbers were being taught. In all cases, this teacher always prepared the students then showed one or two segments and then followed with other activities. The teacher did not use the program as a complete unit at any time.

At grades five/six, one of the teachers had the students watch and then review the materials. In this case the students were not prepared for the viewing but were merely told to watch the program. After the program, the teacher reviewed words or other information presented. In the "Montrez moi" segment the students acted out the part of Josephine who showed her body parts and the alligator who showed his teeth.

In a grade one class it appeared that television was used as stimulus, providing the teacher with ideas for activity to follow the television viewing. After the segment on "pieds/mains", containing a clapping exercise, the teacher taught the patterns to the students. To teach colors, the teacher used workbook activities to reinforce the content of the segment.

One teacher used the program at grades one and two. She reviewed the previous material before the students watched the program. The students were encouraged to participate during the viewing by singing along or clapping in the segment. The activities seen in the television program were reinforced by classroom teachers.

The analysis of how teachers used the program yielded some very interesting information. For instance, it was thought that teachers would use the program as units simply emphasizing one or two aspects of each program. In some cases this was very true where a teacher screened one program and concentrated on the information in one of the segments. However, in other cases the teacher seemed to vary the pattern based on the activity being conducted in the classroom and also based on the students' particular need and interest. In one segment which was supposed to teach dental hygiene the teacher decided to capitalize on the making of a peanut butter sandwich. As a result, the students not only learned something about dental hygiene but also enjoyed making a peanut butter sandwich. The same teacher used a segment on fruits to teach the colors presented in

the segment.

These findings indicate that teachers wanted to use the segments in the ways that were compatible with their teaching style and the interest and needs of their students. They were glad to have a resource which could be adapted to their particular style and not one which imposed a format of usage.

Student results

All the classes involved in the study made significant gains from pre to post test on the various tests used (See Table I). Complete tests results are available in another paper (Lewis, 1981). The primary students had a pre test score of 1.17 compared to a post test score of 3.90. These students learned words such as mouth, teeth, hair, shoulders, feet, hands, ears, eyes and neck in French as a result of the program and its associated activities.

The grade one level pre test score was 2.55 while the post test score was 7.09. These students learned the French words for nose, mouth, teeth, hair, shoulders, feet, hands, ears and eyes and neck between the pre and post tests.

Another grade one sample scored 1.19 on the pre test and 5.0 on the post test. These students learned the French words for hands, feet, neck, teeth, hair and eyes between the pre and post tests.

At the grade two level students were given one test on body parts and another test on fruits and vegetables. The students did significantly better on both post tests. For fruits and vegetables, the students learned the French words for orange, banana, apple, potato, lemon, onion, grapes, carrot, tomato, pineapple, peach, and corn between the pre and post tests. In terms of body parts the students learned the words for eyes, mouth, nose, feet, hair, teeth and eyes between the pre and post tests.

At the grade three level the students also had two tests; one on body parts and one on fruits and vegetables. In both cases the post test score was significantly higher than the pre test score. The grade three students learned the words for ears, mouth, nose, hands, feet, hair, teeth, eyes and neck over the duration of the project. In terms of fruits and vegetables the students learned the words for orange, cherry, banana, apple, grape and carrot between the pre and post tests.

The grade five students had a test based on articles of clothing. On the pre test none of the students knew the words for shoes, shirt, pants and socks. However, by the end of the study between nine and sixteen of the students had learned the words for socks, shoes, shirt and pants. There were significant gains on all the articles of clothing. At the grade six level the articles of clothing test was also given. At this level some of the students knew more of the parts of clothing than the

grade fives did. Nevertheless, the post test results were still significant in terms of how much the students learned. The grade six students also learned the words for shoes, shirt, pants and socks as a result of the experiment.

Teacher use and enthusiasm

One of the most exciting aspects of the project was the enthusiasm exhibited by the participating teachers. In two cases, teachers managed to exert enough pressure on their schools and the school board to purchase additional videotape units. During the project itself, teachers continually demonstrated their interest and enthusiasm in the project and what it was doing for their schools. Often, the teachers had to make more than the normal effort required to teach a class using the videotape units in the classroom. During the project, there was no need to encourage teachers to do the tasks required of them. They seemed to have a great deal of interest in performing their required work. In all cases, the teachers wanted more information and more of the program segments than could possibly be provided during the year.

Curriculum integration

One of the strengths of the project was that the programs themselves did not have to completely focus on learning and teaching of French. It was just as easy to include a segment dealing with social studies, health or personal development along with segments on French. During the study, teachers included segments to reinforce areas of interest. As a result, French was integrated into other classroom activities.

In this matter, television probably became another one of the learning aids

available to the teachers and students as opposed to merely a tool for teaching and learning French. As the program continues to develop, it is possible that a number of different approaches and subjects could be merged into a single program. As a result, students and teachers could have a wide range of subject matters and content styles included in one program. Although testing would be much more difficult, it is thus possible to see a wider range of materials used.

Implications

The study demonstrated that teachers enjoyed the process of planning programs which were directly suited to their needs. However, the available segments still did not meet the precise needs of teachers. Long term success of the segment approach for television means that a wide range of segments need to be made accessible to teachers. Most provincial departments of education now make copies of television programs they have produced available to all teachers in the province usually for the price of a blank cassette. Segments of these television programs could easily be integrated into the type of program described in the study.

To extend the teacher control even further, it would be possible for groups of teachers to produce short television segments on particular aspects of their teaching. These segments could then be exchanged by teachers similar topics so that a bank of segments could be built up. The teacher resource centre of the Halifax city schools has proposed a system to teach teachers to produce one minute teaching segments which could then be housed in the library and used as the need arises. This development means that there could be a wide range of segments

available.

In addition, students could be taught to produce short instructional segments thus teaching them the skills of visual literacy while at the same time providing instructional material for the classroom.

The segment approach has proven its usefulness in children's television programs. With the success of *Sesame Street*, *The Electric Company* followed. *Passe Partout*, a French language program for francophones uses the segment technique to communicate its information to the students. It is possible then that the segment technique is widely applicable in the education system.

The segment technique will also be enhanced when videodiscs become available. Videodisc technology will allow a teacher to access any segment in a program quickly and easily. As a result, replay and immediate access will be available.

The study has demonstrated the need for wider testing of the concept of segment type television programs. Expansion will allow many more questions regarding the use of segments in educational applications to be discussed.

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AMTEC ideas booklet in the works

AMTEC is in the process of organizing a series of *Ideas* booklets. The booklets are to be practical in nature and will focus upon using media in instruction. It is envisioned that each booklet will be written from a personal point of view, with emphasis placed on the practical rather than the theoretical.

Anyone interested in sharing their ideas should send manuscripts covering the how, when, where, why and what of specific educational media. Length is to be from 1-10 pages.

Manuscripts and/or inquiries should be addressed to John Morrow
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Table I
Pre and Post Test Means for all Grades

Grade	Test	Pre Test	Post Test	T-Score	df
		Mean	Mean		
Primary	Body Parts	1.17	3.90	6.34*	29
Grade One (1)	Body Parts	2.55	7.09	7.29*	21
Grade One (2)	Body Parts	1.19	5.00	8.46*	20
Grade Two	Body Parts	2.88	5.44	5.45*	24
	Fruits & Vegetables	1.36	6.80	11.50*	24
Grade Three	Body Parts	1.19	6.75	7.50*	15
	Fruits & Vegetables	0.13	4.19	6.83*	15
Grade Five	Clothing	0.00	2.50	8.50*	17
Grade Six	Clothing	0.59	2.65	6.80*	16

*p > .05

Can Technology Revive This Classroom Simulation Update: Seldom Used Instructional Technique?

By Walt Buehning & Erv Schieman

Development of the Current Project

The Learning Technology Unit in the Faculty of Education at the University of Calgary, over an eight year period, has been actively involved in designing and

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developing a variety of experimental instructional simulators. As well, varying designs for software formats and configurations have been tried with the materials experiencing a wide range of effectiveness. While many problems still exist, the experimenters have gained a great deal of experience and have developed expertise in an instructional technique which has yet to be exploited in education and training. Through all the many trials utilizing the experimental simulation packages, the intent of the investigators has been to demonstrate that

simulation can be a powerful vehicle for training teachers, and other professionals, in the area of inter-personal communication and problem solving strategies. When targeted for teacher training programmes, these materials, wisely designed, can provide instruction in the most problematic area in schools today, namely classroom management.

In the current project, a design team, including content specialists, production personnel, design/development specialists and evaluators has developed three prototype instructional packages intended