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The construction and administration of a questionnaire on children's reaction to educational television

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Thesis

THE CONSTRUCTION AND ADMINISTRATION
OF A QUESTIONNAIRE ON CHILDREN'S REACTIONS
TO EDUCATIONAL TELEVISION

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CHAPTER I
INTRODUCTION

Description of the Study

This study has been designed to survey teachers' and children's reactions to the educational programs at the grade levels of second through sixth in the Boston area. Only after watching these programs for six weeks, studying methods which other surveys had used, and after gathering data from all the programs watched, were the questionnaires written. The writers tried to build questions which would bring out specific answers and feelings towards all or part of each program.

It is hoped that the answers which the writers received will be objective and helpful both to them and to any others interested in the future of educational television.

Justification of the Study

Today we stand on the threshold of a new era. The marvels of this atomic age are many but with them come an equal number of problems. Perhaps one of the greatest is that of raising the level of education so that the general public can learn to live more profitably in this new age.
In our democratic way of life, Americans have always realized the importance of mass enlightenment. This idea is part of the American dream that all men shall be treated equally, given equal chances to succeed, equal chances to find a way of life beneficial to them and to their community. Mass education has always presented a great problem to the educator because of the varied levels of ability and diverse environments of the learner. Today, however, with an acute shortage of teachers and classrooms, the difficulties are insurmountable when the traditional methods of teaching are used.

The advent of television in this new age was hailed as one of the most exciting contributions this century has produced. When one realizes the impact it has made upon our society, how it has changed the leisure time patterns of many, and how it has introduced vast areas of knowledge to those who otherwise would never have had such opportunities, one becomes aware of the vital role of television in our lives.

It is felt by many that by bringing television into the classroom and introducing the students to the benefits of the best teachers, most of the above cited problems can be eliminated. By surveying the reactions of the people to whom this new way of education will be most important--children and teachers--the writers hope to discover the extent to which television should be used in the classroom.
CHAPTER II

REVIEW OF THE LITERATURE

Development of Educational Television

The public's interest in the possibilities of educational television was first aroused in the late 1940's. As Mably states: "A tremendous movement for educational television developed across the country. It was sparked by parents, educators, Parents Teachers Associations and clubs."

For a period of time, educational television faced a difficult situation. School principals were unwilling to invest in expensive equipment because there were very few educational programs. This situation was partially alleviated by the local businessmen, who supplied some schools with television sets for a period of several months when a series of programs was planned for classroom reception. Chicago schools in 1945-1946, Philadelphia and Baltimore schools in 1949, took part in such experiments. In these


programs, the schools presented to the public the educational activities and subjects taught at several levels in the schools. New York City also presented similar programs such as "This is Your City."

One of the first universities to present adult level telecourses was the University of Michigan. Its experiment in television teaching was based on three years of preliminary planning. The telecourse included "Understanding the Child Growth and Development, at Home and School," "Man in His World," a science series, "Understanding Music," "Understanding Our Natural Resources," "Lands and People of the Far East," "Democracy in Action: Political Parties," "Living in the Later Years: Hobbies Put to Work," "Exploring the Universe: The Solar System." These courses were hour long weekly programs which ran from seven to fifteen weeks. At the close of the course, an examination was sent to the registrants. Cordial letters were sent along with the examinations, explaining that: "the questions in the examination are based upon the supplementary materials and the telecast, but some of them are designed to test your ability to apply your knowledge. Take as much time as you like and feel free to refer to your supplementary material or other references." These letters were designed to arouse students' personal curiosity about how much he has learned in the course. Upon satisfactory completion of the written...
examination, a student is entitled to a "certificate of participation" in that particular course. This official recognition had brought about increased enrollments. In February of 1950, Iowa State College at Ames developed both general and specific telecourses stressing the fields of home economics and agriculture. The University of California Extension Division Department of Correspondence Instructions developed the first telecourse on the West Coast. A course in "Child Psychology" was presented in two fifteen minute telecasts weekly for thirteen weeks. The University of Washington also offers credit courses with syllabuses and a reading list. Other pioneers included University of Utah, The Municipal University of Omaha, and University of Houston.  

Telecourses were also offered by private institutions of higher learning. Western Reserve University began experimenting with telecourses in the academic year of 1950-1951. The University of Miami has offered at least two telecourses in one semester since the spring of 1951. St. Louis University; Bryant College of Providence, Rhode Island; Hood College in Frederick, Maryland; and Columbia University were among the many other private colleges that turned to television teaching to expand their services to

the nearby communities.

In 1949, the educational programs which had been previously presented in the evening in the Philadelphia and Baltimore areas were programmed during the day. Some of the programs included were "Music Through Rhythm," "Visit to Storyland," and "Your Books Come to Life." These programs were presented for the first to third grades. There were also series given for the fourth to sixth grades: "We Visit Italy," "Let's Make Musical Instruments," and "What Makes the Weather." Other courses, including guidance, transportation and city planning were given the junior and senior high schools.

From 1951 to 1952, the children in the public schools of Philadelphia saw thirteen telecast programs a week. These programs were under the direction of Martha Gable and proved most successful. One series was called "Science is Fun" and it inspired the children to carry on scientific activities outside of school.

On October 16, 1950 the president of the National Association of Educational Broadcasters convened a meeting of educational groups which had expressed their interest in the Federal Communications Commission's television allo-

1/Callahan, op. cit., pp. 170-179.


3/Ibid.
ocation procedures. A joint committee on Educational Television was formed which included the N A E B, The American Council on Education, the Association of Land Grant Colleges and Universities, the National Council of Chief State School Officers and the National Education Association of the United States. The committee was financed by contributions from the member groups and donations of interested citizens.

"The Joint Council on Educational Television was organized for the purpose of presenting to the Federal Communications Commission the case for the reservation of television channels for educational stations in 1951. Since that time the J C E T has represented educational institutions in protecting these reservations and encouraging and assisting the establishment of educational stations."  

In April, 1952 the F C C had reserved 242 channels for non-commercial activities. Educators were confronted with the financial problem of building television stations and of producing programs. Some of the sources of income have been the Fund for Adult Education established by the Ford Foundation; The Payne Fund, and the Alfred P. Sloan Foundation fund. The National Citizens Committee for Educational Television has been most effective in organizing and supporting public fund drives in many different


cities. Since the plans for state legislatures to support educational channels had not been received enthusiastically, educators preferred public fund drives. 1/

The first educational television station, WOITV was started at Iowa State College in 1950. KUHT at the University of Houston was the second station to begin broadcasts in June, 1953. KTHE at Los Angeles, owned by the University of Southern California, was the third educational station. 2/

In 1954, the seven educational stations in operation were in San Francisco, Los Angeles, Houston, Cincinnati, Pittsburgh, Madison, Wisconsin and East Lansing, Michigan. 3/

WQED, channel 13, Pittsburgh established as a non-profit corporation, guided by a board of twenty-four directors representing a cross section of the community, went on the air on April 1, 1954. Construction was financed by contribution of $150,555.00 from the Ford Foundation; $100,000.00 from the Mellon Foundation. The station, receiving cooperation from thirteen neighboring colleges, the University of Pittsburgh and the Carnegie Institute of


Technology, was on the air seventeen hours a week. The schedule included daily in-school children's and adult's programs.

K T H E in Los Angeles went on the air in January, 1954, financed by the Allan Hancock Foundation. This ultra high frequency station has developed several successful local programs, such as "Your Public Library" and "Music Room." However, many of the attractions were supplied by the headquarters of Educational Television and Radio Center in Ann Arbor, Michigan. The center's job is to provide films and kinescope recordings to educational television stations strengthening their programs with material which individual stations cannot afford. The center itself produces a few of these items, but most of the new material comes from experimental programs of educational and commercial stations all over the country.

Universities in the San Francisco area are behind the noncommercial nonprofit organization known as the Bay Area Educational Television Association which began operation over K Q E D - T V station on June 10, 1954. All college presidents are members of B A E T A. The financial support was given by the Ford Foundation, organizations, contri-


2/Ibid., p. 9
butions, and individual membership fund.

On May 25, 1953, K U H T - T V in Houston began telecasting. The financial support for the station came from the university royalty annual income available for television of $250,000.00. The public schools were also willing to spend a portion of their annual income. The programs included a piano class and a course in elementary psychology. A survey made in Houston reported that 700,000 persons watch one or more educational programs per week.

K E T C - T V in St. Louis, Missouri began operation on September 20, 1954. The Ford Foundation contributed $150,000.00 for construction. The commission of Educational Television was made up of local business, professional and religious leaders.

Aside from the development of educational stations, the in-school programs were making progress in different cities. Most of these programs were on an experimental basis for the purpose of enrichment or as a supplement to teaching. Series of programs included subject matter such as science, foreign language, music, art, health and safety, and social studies. In 1952-1953 there were thirteen in-school programs a week in many fields in Philadelphia. Programs included "Storytime" series for the fourth, fifth and

2/Callahan, op. cit., p. 20-21.
sixth grades, and "R for Reading" series for the second and third grades.

In Baltimore, "Reading is Fun" was presented for grade school viewing. Spanish lessons were offered to the elementary grades in Los Angeles. Music programs including singing, instruments of orchestra, the making of instruments and the performances by famous musicians were also offered. The science program began with the kindergarten level, which was introduced to animals and pets. There were also different series for each grade, such as plants and gardens for the first grade, marine life for the second grade and museums for the third grade. A series of programs of nutrition and health were offered in Los Angeles. In 1954, the "Schooltime" program produced by WOI-TV in Ames, Iowa includes the following subjects: health for junior high classes; elementary science; social studies for grades five, six and seven; guidance for high school students; the history of Iowa for fifth grade students; and elementary arts.

By the end of 1955, there were ten new non-commercial stations on the air, making a total of seventeen stations. The stations developed in 1954-1955 were located in Lincoln, Nebraska; Seattle, Washington; Munford, Alabama; Chapel Hill, North Carolina; Birmingham, Alabama; Boston, Massa-

1/Callahan, op. cit., pp. 140-149.
2/Loc. cit.
chusetts; Champaign-Ubana, Illinois; Miami, Florida; Chicago, Illinois; and Detroit, Michigan.

In Boston, the Lowell Institute Cooperative Broadcasting Council was organized in 1946. The Council was made up of Boston College, Boston University, Harvard University, Lowell Institute, Massachusetts Institute of Technology, Northeastern University, Tufts College, the Boston Symphony Orchestra, the Museum of Fine Arts, and the New England Conservatory of Music. This group worked on the development of WGBH - Channel Two of Boston, which began telecasting in March, 1955.

For the year 1955, a survey reported that schools in 150 cities in the United States used television in the school program. One hundred and twenty superintendents reported that their schools were broadcasting television programs, most of them regularly. Thirty school systems did not broadcast, but used television receivers in schools to supplement the school program. At least ten school systems had access to one or more non-commercial educational television stations and four systems used both commercial and educational stations. In 1954-1955, The Chicago Public School broadcasted 100 television hours over commercial stations. The Philadelphia Public School System reported

that more than 93,000 pupils in 265 public schools viewed these telecasts weekly on a regular basis.

Pittsburgh has had more time on the air than any other school system. A total of about 200 hours were telecasted through the WQED educational station and a commercial station. Other cities with large amounts of hours were Macon, Georgia; Brooklyn, New York; and Baltimore, Maryland. The first school system to run and operate an educational television station was in Dade County, Florida on August 12, 1955. Programs of telecasting by public school systems included public information, cultural interest, music, art, drama, and special events. Forty-two school systems used broadcasts for curriculum enrichment and twenty-seven for regular classroom activities.

Pittsburgh's experiment in 1955 attracted nationwide interest. Teaching by television was conducted daily in fifth grade reading, arithmetic and history-geography. Twenty-eight classes in twenty-three different school buildings were involved. Expert teachers gave twenty minute lessons on television, with periods for follow up by teachers in the classroom. Another experiment was an introductory course in physics offered to high school students in eleven separate buildings. Dr. Harvey White,

\[1/\text{Robert C. Anderson, "TV in Schools," School Executive (January, 1956), pp. 87-88, reprint.}\]

\[2/\text{Ibid., p.88.}\]
professor of physics at the University of California in Berkeley, conducted the course.

In St. Louis, community television station KETC was used for experimental teaching of ninth grade general science, English composition and second grade spelling. No supplementary teaching was used. For two semesters daily, thirty minute instructions were offered in ninth grade science, and twenty minutes were offered in second grade spelling. The results showed equivalent degrees of achievement.

In 1956, the first city-wide public school closed-circuit TV system began operation in Pocatello, Idaho. The first schools to use closed circuit television were the medical and dental schools. Albany Medical College and Loyola University Dental School were among the many schools telecasting close range views of experiments and operations. More than 150 educational institutions in the United States reported having close-circuit TV facilities by June, 1957.

A special closed circuit report in March, 1958 reported


3/"Education Television for Your Community," published by The Educational Television and Radio Center, the Joint Council on Educational Television and the National Association of Educational Broadcasters, 1785 Massachusetts Avenue, Northwest, Washington 6, D. C., March, 1958, pp. 52-59.
that closed circuit television is in operation in over a
dozen public school systems, including New York City; Los
Angeles, California; Fulton County, Georgia; Evanston,
ilinois; Snyder, Texas; Baltimore, Maryland; Port Chester,
New York; and Hagerstown, Maryland. More than 100 colleges,
universities and school systems are engaged in experimental
TV in three dozen states.

A five-year experiment in teaching by closed circuit
Television began in September, 1957 in Hagerstown, Maryland.
In operation with public schools, the Ford Foundation are
supplying equipment, skill, and money to develop teaching
techniques. Courses including music, English, art, arith-
metic, science, reading, geometry and history were given to
two high schools and six elementary schools. There were
6000 students in all eight schools.

There were approximately twelve television teachers in
the system. Each teacher may have had as many as five
classes each day, totalling 270 students. The teacher gave
all five classes instructions at once for exactly one half
hour each day. The remaining twenty minutes of class period
was for the other half of the teaching team—the classroom
instructor. The classes involved were larger than normal,
ranging from 50 to 75 students in each room. The classroom
instructor took charge of the discussion period, gave and

1/Philip Lewis, "Closed Circuit Roundup," Educational
Screen (October, 1957), 36: 472-477.
checked homework and proceeded with the suggested follow up or review. Once a month, classroom and TV teachers conferred for discussion of previous month's work and planned the following months'.

The preliminary evaluations gave several indications of success. A few highlights included were as follow:

"Tenth grade plane geometry students have shown considerable improvement over regular classroom teaching. These classes were more than one month ahead in the first six months of school compared to students of other years who received classroom instruction. Also there were less failures than had been experienced in the previous years.

In fifth grade arithmetic, the Iowa basic skills test was given after the first six weeks of regular classroom teaching and before teaching by TV was started in this subject. It was found that the median achievement on the subject was below normal. At the end of the year, and after five and one-half months of teaching by television, the median for this same group was a number of months ahead. In other words, the group achieved a standing from below normal to above grade level.

"Better inservice training of new teachers than ever before possible was accomplished. Daily observation of the teaching methods of the more experienced teachers helped the new ones to become adjusted more rapidly."

In 1958, twenty-three schools with a total of 12,000 pupils were being taught by television. Plans to include 18,000 students in all the forty-eight schools were made for 1959.


2/"ETV: 5 Years and $60 Millions Later," Broadcasting (November 11, 1957), 53:3.
By the end of 1956, five more non-commercial stations began operating: KET A in Oklahoma City, WKT A in Memphis, Tennessee, WAIQ in Andalusia, Alabama, KRM A in Denver, Colorado, and WOSU in Columbus, Ohio.

The first three-station state network was already in operation in Alabama. In 1957, this network broadcast 1,057 programs in forty-nine subject areas. The network consisted of WAIQ Andalusia, WTIQ Munford, and WBITQ Birmingham. Programs are microwaved by the University of Alabama, Polytechnic Institute and Greater Birmingham Area ETV Association, with three-fourths of the state within range of the very high frequency signals. Georgia, Florida and Oklahoma were also planning for similar state wide network.

In August, 1957, educators from sixteen southern states attended a meeting sponsored by the Southern Regional Educational Board. This group recommended a long range microwave that would link the colleges and universities of the South. The sixteen state southern hookup planned to seek foundation money for basic research.

During the year of 1957 six more new non-commercial stations began operation, KLS E in Louisiana; WYES in New Orleans; KTCPA in Minneapolis-St. Paul, Minnesota;

1/Educational Television Status Report, op. cit.
2/"ETV: 5 Years and $60 Million Later," op. cit., p. 3.
3/"ETV: 5 Years and $60 Million Later," op. cit., p. 3.
W H Y Y in Philadelphia, Pennsylvania; I O A C in Corvallis, Oregon; and W M V S in Milwaukee, Wisconsin.  

Ralph Steetle states: "In terms of the numbers of new E T V stations on the air, 1958 was the most productive single year since the Federal Communication Commission reserved channels for education in 1952." Twelve stations went on the air in 1958, making the total of thirty-nine stations serving an area with a total population of well over fifty million people. Among the stations that began operation were San Juan's W I P R; K U E D in Salt Lake City, Utah; W E T V in Atlanta, Georgia, K N M E in Albuquerque, New Mexico; W F P K in Louisiville, Kentucky; W J C T in Jacksonville, Florida; and W E D U in Tampa-St. Petersburg and W U F T in Gainesville, Florida.

A survey on educational stations by Educational Television and Radio Center indicated that nearly 400 more hours of programming were shown in the E T V stations during one test week in 1958 than in 1957. Michigan State University's survey of telecourses reported that from 1957 to 1958, 464 educational television courses were offered during the school year. On the air courses increased 112 per cent over the total from 1956 to 1957. These courses were offered by fifty-three universities, thirty-four colleges, twenty

1/Educational Television Status Report, ed. cit.
public school systems, three network and two state department of public instructions. In school telecasting also increased greatly. In 1958, the number of elementary school teaching programs via television were increased four times and secondary school teaching programs increased five times over 1957. The J C E T V's 1958 survey on closed circuit television reported that there were nearly 200 closed circuit installations in colleges and schools in the United States.

Twenty-five legislatures have taken action which has directly affected the continued development of educational television. Provision of 18 million dollars was included under Title of VII of the National Defense Educational Act of 1958 for the research and experimentation on more effective utilization of television and other related media for education.

Ralph Steetle estimated that this year approximately 20 million people in this country will receive some formal education via television. However, aside from the rapid progress it is important to note that there is not yet an educational TV station in New York City, Los Angeles, Cleveland and Washington, D. C. A total of more than 26 million people in these large centers of population now

2/Ralph Steetle, ibid. p. 615.
3/Ralph Steetle p. 615.
lack the advantages of an educational television broadcasting facility, even though there are commercial stations in different cities. The most important factor blocking the construction and operation of an educational television station in these cities is that an ultra high frequency channel has been reserved for education. Educators in these cities were against the idea of investing in stations because of the difficulties of operating a UHF station in an all VHF area. Television Allocations Study Organization is under intensive study of characteristics of UHF and VHF broadcasting and reception. It is hoped that from studies of this nature information beneficial to the further development of educational television will be discovered.

In summary, educational television is a relatively new medium. The pioneers in this field had to face the problems of insufficient funds due to the unawareness of the general public as to the merits of the new undertaking. It was not until the beginning of the fifties that the Joint Council on Educational Television was organized and non-commercial stations began operating. There was rapid progress in the past two years. At present the ETV offers a wealth of varied experiences for both adults and children. As it stands today, the general public, as well as the federal government, have contributed much in the way of funds and enthusiasm toward the further development of ETV.
Administration

With the school system full to overflowing and qualified teachers in short supply, the school administrator is faced with finding a way to remedy this situation. As a partial answer to the problem, the possibilities of television should not be overlooked. The use of television in the classroom will alleviate the pressures of numbers and space without diminishing quality or quantity of bonafide educational experiences.

Some educational institutions own their own stations, some participate in one way or another in a community owned station, others use limited time available on a commercial station, and still others are engaged in closed circuit television. In some sections of the country, where no educational channels are allocated, education will remain entirely dependent on cooperation with commercial stations. However, as to broadcasts direct into the school classrooms it will be a rare station that will be ready to meet the educator's needs for assured hours of broadcasting over a long period. Thus, one can understand, despite the fact


3/Charles A. Siepmann, TV and Our School Crisis, Dodd, Mead and Company, New York, 1958, p. 43.
that commercial networks can afford expenditures greater than those at the disposal of educators, that provisions should be made for independent means of transmitting the programs.

The Federal Communications Commission compiled and issued an order reserving 258 frequencies for exclusive use by non-profit organizations dedicated to the furtherance of education. Free access to the wavelengths of the air is all very fine, but to use them transmitters have to be built and programs have to be prepared. This all costs money. Siepman has the following to say concerning this:

"Two hurdles have to be surmounted—the cost involved in capital outlay and maintenance costs. Educational television stations might never have got a start but for generous grants from the foundations, and notably the various funds of the Ford Foundation. Capital outlay has thus far been met in many instances. But for outgoing costs, stations must look elsewhere, to two sources in particular: to private donors and to boards of education and institutions of higher learning. If the needs of our schools and colleges for television are even remotely what we hope to prove they are, income from this latter source should be assured. Private contributions will depend on quality of services rendered and on growth in the public awareness that without further education we are doomed."

Carroll Newsom states that capital and operating costs can be discussed only in reference to specific communities and specific operating plans. Published articles

1/Charles A. Siepman, op. cit., p. 32.
2/Ibid., p. 35.
about costs cannot recognize all the variables which affect the cost picture in every locality. According to Newsom, some of the factors which make each area a unique problem are:

1. Presence or absence of other TV stations in the community. An education station in an area with little TV competition may find and hold an audience with less time on the air and a less ambitious program schedule than a new station in Boston, New York, Chicago and such metropolitan areas.

2. Relevant experience with radio, commercial or closed circuit television, films, and other communication media.

3. Adaptability of existing buildings or other physical or organizational facilities.

4. Terrain. Transmitter and tower costs may be greatly affected by this factor.

5. Local availability of program resources—number of educational agencies in the area with program materials which can be made available.

6. Operating personnel (technical and programmatic) available or adaptable from existing agencies.

7. Possibility of cooperation with other educational stations for program sharing purposes."

It must be made clear that the educator has the choice of two types of broadcasting systems: closed circuit and open circuit. The open circuit broadcasting is essentially the system which has been discussed up to this point. The advantages of this system are twofold. "While you teach children you, at the same time, promote good will in the community."1/ However, this type of broadcasting does have

1/Charles A. Siepmann, op. cit., p. 47.
its limitations: (1) A single station can transmit only one program at a time; and (2) The program is subject to static or ether interference.

Least widely known, but most numerous is the closed circuit system. There are 140 such systems currently in operation now. The programs do not go out over the air at all. A studio is set up with standard camera equipment linked by coaxial cable to as many rooms and buildings over as large an area as one deems necessary. Programs are thus transmitted by line only. Garman states that there are two methods for closed circuit television available to the educational institution:

"...The choice depends upon the school's facilities, size and nature of the program to be undertaken, and of course the funds available.

1. The simplest system uses vidicon equipment, low in cost, portable, can be operated and maintained by the faculty. $1000 - $5000.

2. Image orthicon. (If the teacher is to be located in a formal studio without presence of a class). $40,000 - $60,000. Need more space and trained personnel. With such a system, however, the scope of education television is enormously enlarged. If the institution is planning eventually to telecast to the surrounding area in addition to the closed circuit this system represents a good investment."

The advantages of the closed circuit system are many.

1/Charles A. Stepmann, op. cit., p. 47.
2/Ibid., p. 30.
Those which Siepmann considers important are:

"1. Less costly to install and maintain
2. More economical where limited audiences are aimed at
3. Better adapted to experimental work providing a laboratory situation
4. Static eliminated
5. Multiple programs can be transmitted simultaneously."

According to Hunter, one of the first problems to face the administrator in the preparation and planning of educational programs for television broadcast is the selection of the programs (content and material) and of the staff who will participate in the presentation. Hunter lists several facts which affect the selection and influence the decisions:

"1. The station's program structure
2. The time of the broadcast
3. The nature of the probable audience
4. The intent or purpose of the school
5. The particular nature of the individual institution
6. The nature of the content field or subject matter
7. The availability of staff
8. The teaching ability of the staff

1/Charles A. Siepmann, op. cit., p. 50.
9. The duration of the program

10. The costs involved."

Siepmann mentions that the lack of a centralized program source has been a major handicap to classroom television. However, to alleviate the situation, the Educational Television and Radio Center at Ann Arbor, Michigan has selected (from the output of stations) programs of exceptional merit, and made them available to subscribers on Kinescope (filmed recording of a telecast). Therefore, more hours of better broadcasting are made possible.

The standards of Educational Television broadcasting are not as high as they should be. Competent technicians and engineers are hard to find. McKune says, in relation to this:

"These technicians may be trained students, permanent engineering personnel or members of the teaching staff. Whoever they are, by the very nature of TV communication, they are essential to whatever lessons the teacher will telecast. Teaching is not done by the teacher alone on television. His best teaching can be accomplished only when harmony and understanding in the teaching team prevails."

This brings us up against the problem of the role of the television teacher. "In and out of TV we have everything to learn about effective teaching methods for large

2/Charles A. Siepmann, ibid., p. 38.
classes. We know that TV has an important part to play here. The problem is how the players can best speak their lines in their new distinctive role." McKune offers some suggestions in this area:

1. Voice - The teacher should speak in normal conversational tones.

2. Vocab - A simple vocab which enables the performer to express himself clearly and concisely should be used.

3. Questions - All questions should be direct. Questions should not be prefaced with such statements as 'I would like to ask,' or 'Would you tell me,' etc. Complex questions should not be asked.

4. Errors - Correct errors naturally. If the performer has trouble with a dry throat, fuzzy tone or similar irregularity, he should correct it naturally by clearing his throat, taking a drink of water, or in any other natural way. Attack neither more or less importance to errors than they deserve.

5. Habitual Speech Patterns - Some people have developed speech patterns such as a rising inflection at the end of each thought, over-emphasizing the same words, the first or the last, in each thought, etc. These patterns tend toward monotony."

"Most of the experience gained from television teaching points up the need for fresh presentation techniques and very carefully planned lessons." In relation to this,

1/Charles A. Siepmann, op. cit., p. 144.
2/Lawrence E. McKune, op. cit., p. 362.
McKune has prepared what may be termed a manual for the television teacher:

1. The teacher should arrive before class in time to check 'on camera' the materials he wishes to use for the lesson.

2. He should prepare a 'run down' or sequence of the elements to be used, indicating the pattern of movement, the close-ups of detailed work, charts, graphs, or other material. These are necessary arrangements for a smooth technical operation.

3. He should indicate approximate time required for each segment of the lesson and arrange the cues necessary for easy transition.

4. The emphasis needed for the lesson should be clearly interpreted with a technical crew enabling them to provide the proper emphasis for direct camera work.

5. The teacher should determine with the help of the technicians the necessary time intervals for effective camera use on visual materials.
   a. Teach the camera as a student at close range and with direct eye-contact, turning to demonstrate as needed.
   b. Explain as you demonstrate. The showing and explaining are simultaneous.
   c. Demonstrate or show only important elements, in well ordered fashion, avoiding clutter or too much material at one time.
   d. Use only well motivated visual materials, movements, film clips, slides, or special effects.
   e. Pace your lesson for the viewer. Use silent intervals for emphasis and relief. Learn to 'teach as a viewer.'

One must realize that television should not be intended

I-op. cit., p. 363.
to do the complete job, nor is it intended merely to entertain; it should be regarded as an aid to classroom instruction. It is the good teacher who will adapt it from day to day to the needs of the children. Wetter states the issue very clearly:

"There seemed to be an assumption in some cases that there would be no preparation and no follow-up of TV instruction with classroom instruction. Throughout the years in which we have been experimenting in Philadelphia, we have definitely made both of those procedures a part of our program. Nothing goes on television that is not followed-up by the teacher and tied in with other text materials very closely; it isn't just a bit of entertainment."

It is a known fact that the present classrooms are poorly designed for the use of television; i.e., lighting, acoustics, ventilation, and furniture have all proved handicaps. Thus, it is not hard to understand the plight of the classroom teacher. There has been continual experimentation and research to alleviate some of the problems. Some schools have been using large screen projections which throw pictures up to nine by twelve feet and larger on wall size screens, thus providing all with a close-up view.


2/Allen Wetter, op. cit., p. 97. (panel discussion).

3/Charles A. Siepman, op. cit., p. 75.

Allen DuMent of DuMent Laboratories adds this encouraging note:

"We are doing experimental work on a tube 72 inches in diameter. What we would like to do is take out one of your (teacher) blackboards and put in a picture that size. Then we think you would have something that you really should have in the classroom. Now, that is not going to be ready tomorrow; but if you look ahead I am certain that a very excellent picture - bright, clear, and so forth - of about the same size as a normal blackboard will be available."

In summation, Siepman has some poignant words to offer:

"Even at its best the use of television in our schools thus far represents little more than crude experimentation. Our pioneer TV teachers have had to learn a new trade on the job. They have done their best, but it has inevitably been only a beginner's best. Cooperating classroom teachers have similarly had to adjust themselves to a quite unfamiliar situation, as have the children too. Even the technical competence of transmission has on occasion been far short of perfect. Thus, a general atmosphere of inexperience pervades all the work that has been done."

Present and Potential Uses of Educational Television

"What will we do with educational television? We will use it for the benefit of every child and grown-up in America." Let us consider first of all a teacher's use of


2/Charles A. Siepman, op. cit., p. 141.

television. The Christian Science Monitor once stated that: "A good television program can help a good teacher teach better." Not only does it offer its timeliness, its ability to bridge gaps and the sense of vicarious participation it gives us to watch a live experience, but it also provides an inexpensive and relatively efficient means of viewing films pertaining to the subject matter you are teaching.

Both Siepmann and Stoddard feel that educational television will help relieve the teacher shortage. Although they agree in principle on this, they differ in their methods of solving this situation. Siepmann's main concern is for the growth of team teaching, a system in which a master teacher, a sub-teacher and a series of guidance personnel and programming experts all work to achieve the most efficient and effective method of instruction. Stoddard, however, from the studies that he has made, is more interested in the actual increase in the students in each classroom and in the construction of schools which will permit

2/Giraud Chester and Garnet Garrison, op. cit., p. 492.
3/George Ingham, "Use Radio and TV for Better Teaching," The Grade Teacher (September, 1956), 74:63.
4/Charles A. Siepmann, Television and our School Crisis, op. cit., p. 60.
Thoughts like these, however, lead many people to believe that television will replace the teacher. However, the American Federation of Teachers states that: "Education is a process of interrelation of human beings in many kinds of associations. Every channel of contact between teacher and pupil is a part of this process." Therefore, in their book Radio and Television, Chester and Garrison remark that it is hard to imagine that radio, television, films, slides or even textbooks could ever replace the teacher because the teacher: "leads and inspires and guides the youngsters so they may learn to deal successfully on their own initiative with the problems that arise in life situations."

Lehr, former president of the National Broadcasting System comments:

"Television can never supply the vital give and take relationships between students and teacher, nor can it improve the discipline that is so necessary a part of school life. But as a tool to supplement the individual teacher, television has a place in the school."

Thus, in concluding this discussion, the American Federation


2/American Federation of Teachers, Television: Tool for Education or Substitute, Chicago 4, Illinois, p. 2.


of Teachers warn that although television certainly has an
important role in American education: "...it should be used
wherever more important human values are not sacrificed to
obtain its help."

Let us turn now to more specific ways in which a teach-
er can use television to benefit her students. The National
Educational Association says that:

"Television cannot be evaluated in terms of sub-
jects....history, science, etc. To do so would be to
misrepresent both the learning process and television
as a means of communication.... Fundamentally the
frame of reference should be the broad elements of
learning, regardless of subject being taught. Tele-
vision can bring to the classroom a variety of learning
situations in every subject area."

For example, it provides motivation and stimulation.
It transmits new experiences to both teacher and pupil which
open new doors for them and interest them in fields in which
they would otherwise not have come in contact with. Second-
ly, it provides concrete experiences in order to meld con-
structive attitudes such as good citizenship, teamwork, etc.
Thirdly, it helps develop intellectual skills. It teaches
the child to analyze the component parts of a problem. It
gives several view points on leading issues and attempts to
teach the child to discern truth from distortion. As a
demonstrating process it can provide closeups to let the

1/American Federation of Teachers, op. cit., p. 19.
2/Department of Audio-Visual Instruction, Television in
Instruction: an Appraisal, National Educational Associ-
ation, Washington, D. C., 1958, p. 11.
viewer follow a specific operation step by step. Things which previously were too expensive, too far away, or, in the case of a medical operation too distant for proper viewing, can now be seen equally well by all viewers.

Thus educational television provides both information and experiences. It challenges pupils to assume more responsibility for their own learning and provides the impetus to push them forward on their own. And as Callahan adds:

"The effective use of teachers' time and abilities should make it possible for a student to move ahead at a pace in keeping with his ability."

In his book *The Future of Television*, Dunlap writes that television will break the routine of the classroom by bringing in noted lecturers and fresh ideas. It can be used wherever there is poor or inadequate teaching.

Garry in his pamphlet on television for children remarks that television should help the teacher instruct the child because of the influence it has on the child. "The young child has a language of feeling, but a limited language of words, of ideas, of concepts, and of understandings."

1/Department of Audio-Visual Instruction, op. cit., pp. 12-13
2/Jennie Callahan, op. cit., p. 6.
4/American Federation of Teachers, op. cit., p. 1.
therefore, must learn from his parents and from his contacts with both children and adults. "Television, with its vivid, dramatic, emotion providing techniques, can be an important influence in shaping the child's attitudes and understandings of social ideas and concepts." Television can provide experiences comparable to the ones in his own life so that he can identify himself with the characters and understand his actions. He can learn values through this sharing of experiences.

Many specific uses have been devised for this new medium, some of which have already been used by commercial television, and some which are new to the field.

In areas of curriculum which the school offers the child, much could be done to enrich the present program. In social studies, literature, and fine arts, etc. all these would have new meaning and life. For example, the St. Louis Committee on Elementary and Secondary School Programming reports that:

"The field of English literature offers much for the development of television programs which can invigorate the curriculum....presentations of the great dramas by competent performers, interpretations of literary selections by highly skilled performers, book reviews and introductions to children's literature, storytelling....and similar activities can enrich and supplement the basic learning program profitably.... Dramatic demonstrations by technical experts of speech skills and skills in oral language and public speaking,....demonstrations of effective instruction in

1/Jennie Callahan, op. cit., p. 136.
2/Ibid., p. 143.
reading, spelling and writing....and library skills offer further opportunities."

Other subjects such as science, the effective teaching of which frequently becomes too costly for a school, could be handled by television. For example, special laboratory equipment could be utilized to present experiments which would be watched by numerous schools with the same financial problem. Close-ups would reveal the step by step processes. All in all the more visual a subject is, the more effective the television presentation of it.

Field trips to museums, planetariums, industrial plants, places of historic interest, zoos, etc. could all be covered at less time and expense for the schools via television. Demonstrations by musicians, painters, farmers, mechanics, etc. could also be profitably utilized. In fact, almost any previously inaccessible resource can now be brought into the classroom. Only the salient points in all of these would be brought out, bringing more efficiency and economy into the school program.

Such things as language, Driver Education, typing, and even music lessons could be broadcast by television. The

2/Department of Audio-Visual Instruction, op. cit., p. 15.
4/Charles A. Siepmann, Television and our School Crisis, op. cit., p. 140.
play school programs for young children which have been so popular could be more widespread. Television films called kinescopes could be rented for those programs which cannot be seen during school time. Both kinescopes and video tapes are being made of many of the programs.

One further use of television in the children's curriculum is that of intra-school viewing and participation. Quiz shows could be given in which pupils from different schools and even different school systems could participate.

Not only in children's education does television have a place, but also it plays an important role in adult education. Two kinds of programs are presented for their viewing pleasure. Their hobbies, such as photography, cooking, sports, etc. are discussed. Perhaps more important, however, is the second type—a series of cultural programs which allows them to further their education and even, if they so desire, receive credit for the courses they have taken. Thus high schools and colleges of the air will provide another use for educational television.

Also of interest to them would be programs on health,

1/Jennie Callahan, op. cit., p. 121.
2/George Ingham, op. cit., p. 63.
3/Charles Siepmann, Television and our School Crisis, op. cit., p. 140.
civil defense and other such programs put on for their benefit and information in public affairs. International conferences, visits to research centers, first hand looks at moon and stars through giant telescopes, lectures by famous people; all these will be theirs at little cost and for all of them they will have a front row seat.

"Television gives the schools a new way to reach adults, both to build their understanding of the educator's problems and to draw them into educational pursuits." As parents they will benefit from the inter-school viewing system by which they may watch their own children participating in classes and realize the difficulties which face both child and teacher. Lehmann states that:

"Television reaches many parents. Through television the school has a chance to demonstrate what actually takes place in the classroom and to accompany this demonstration with explanations designed to interpret school and classroom procedures and needs to the parents and the community."

This step is essential towards the betterment of relations of school and community.

Professional people will also profit from this relatively new medium. Doctors can watch operations performed.


2/Educational Television and Radio Center, Educational Television and the Schools, Ann Arbor, Michigan, 1958, p. 4.

Lawyers can hear many more cases argued. Teachers can be taught new methods of teaching and especially new ways to use television effectively.

Further uses for television might be programs for handicapped students, summer courses for those who failed during the school year, or programs for anyone with a limited background experience who could profit from the understandings which pictures could convey to them.

No matter what age level or for what teaching purpose: "Television's job is to raise the sights of its home audience." Through many different kinds of programs it is to be hoped that regional misunderstandings, prejudices and provincialism will be reduced. This job can be done by direct teaching where material is sent out in advance and there are definite assignments, or by supplementary teaching which will enrich and amplify any learning being given.

By bringing variety to teaching and a broad choice of

1/Franklin Dunham and Ronald Loudermilk, op. cit., p. 33.
2/Department of Audio-Visual Instruction, op. cit., p. 18.
4/Franklin Dunham and Ronald Loudermilk, op. cit., p. 4.
7/Giraud Chester and Garnet Garrison, op. cit., p. 492.
subjects, it is bound to interest many and to improve and increase their knowledge. As Confucius once said: "One picture is worth a thousand words." It is to be hoped that educational television will prove useful in this way and that it can be utilized to achieve an optimum of performance.

To conclude our discussion on the uses of educational television, Dunham states that:

"When we think of the potential values that lie in the application of television to teaching, we become aware of a mighty aid to education waiting to be harnessed for use. In teaching skills, in providing illustrations for science and the social studies or language arts, and, in fact, in art generally, television adds sight and sound. Wherever demonstrations are required, the picture with sound can be of estimable service to the learning process."

Advantages and Disadvantages

Advantages of educational television.—At the present time educators believe television cannot entirely replace the classroom teacher. However, educational television is beginning to enter the schools and is beginning to be an effective method of teaching many subjects. Educational television may bring about a great change in teaching methods and it might provide a partial solution to the acute nation-wide teacher shortage.

1/Charles Siepmann, Television and Our School Crisis, op. cit., p. 89.
2/Franklin Dunham and Ronald Loudermilk, op. cit., p. iii.
"Crisis in Education," an article in Life Magazine 1/
states:

"Since World War II, children have been entering school more rapidly than new teachers can be hired or new schools can be built. The enrollment of elementary schools is expected to increase 3,000,000 and secondary school enrollment will probably be increased 4,000,000 by 1965. To take care of this increase we will need 460,000 more teachers on the job in 1965 than we have today. In addition, about 1,440,000 more teachers will also be needed to replace those who leave the profession."

Also, on the problem of teacher replacement, Sarnoff 2/
says: "Electronics does not supplant the teacher, but is a new aid to modern education."

Educational television will be a definite advantage to the classroom teacher and enhance her position stated 3/
Brish:

"Contrary to what people believe, we are using television to supplement personal instruction, not to supplement the classroom teacher, nor to make teachers less necessary. In fact television should even enhance the importance to teachers by exploiting the special talents of each to the fullest and making them available to many students and not to just a few."

Callahan stated that: 4/ "....is an interesting stimulating supplement to curriculum, and it displays current teaching techniques."

3/Committee on Television, Report of a conference held in Iowa City, Teaching by Closed Circuit Television, American Council, 1956.
4/Jennie Callahan, op. cit., p. 120.
The problem of financing educational television is not so overwhelming as one might think. Dr. William Kenneth Cumming gives one reason:

"...Television is not only a relatively inexpensive medium of education, it is in fact its least expensive form, when full account is taken of television's effectiveness and extensive coverage. One television station, remember, can serve millions of people day and night, in schools and homes, with the finest educational and cultural programs that are available."

Tyler also believed this concerning the financial problem.

"Someone has pointed out that the average television owner spends $50.00 a year for electric current, repairs, and maintenance on his set. If he would contribute another dollar a year, there would be ample funds to maintain an educational television station."

If educational television were to reduce the number of teachers necessary, salaries could be raised so that the ablest people would be attracted to the teaching profession, or the money saved could be used to maintain the educational television station.

One of the classroom teacher's biggest problems is the lack of enough time. Educational television will give the teacher more time, especially more time to teach. Dunham said that to the teacher educational television is an:

1/William Kenneth Cumming, This is Educational Television, Edwards Brothers, Inc., Ann Arbor, Michigan, 1954, p. 93.
2/Ibid., p. 93.
"...improved, self-projecting sound film that is ready at the flick of a switch and does not require rewinding and repacking the film for the return shipment before a certain date. It is also a radio with built-in illustrative materials."

There are advantages found when considering the various subjects taught by educational television. Callahan believes that in music: "It is possible to bring viewer participation into this program."

One advantage is that music is brought to the classroom regularly by a trained teacher who brings a piano, record player, and other instruments with her by television. It would take several teachers, fifteen or more, to do this work.

Another advantage is found in teaching art by television. It can be brought regularly and with better illustrative materials to more students by a trained teacher. A noticeable improvement has been made in all grades being taught art by television.

Callahan stated that: "In art neatness in caring for materials and one another's need to create in his own way are easy to demonstrate on television and are important by-products for younger artists."

1/Jennie Callahan, op. cit., p. 145.
4/Jennie Callahan, op. cit., p. 140.
As to language arts, Callahan said that television can be used to show: "dramatic demonstrations by experts of speech skills."

According to Callahan, social studies is an unlimited opportunity for television, especially to study the news, political campaigns, geography, maps, and history.

Teaching arithmetic by television has been proven an advantage according to the following study. In fifth grade arithmetic, the Iowa basic skills test was given after the first six weeks of regular classroom teaching, and before teaching by TV was started on this subject, it was found that the median achievement was below normal at the end of the year, and after five and a half months of teaching by TV, the median of this same group was a number of months ahead. In other words, the group achieved a standing from below normal to that above grade level.

Educational television has aroused the interest of children in science as it created more interest for outside reading and library science books became in great demand.

"Pupils become more aware of the animals, etc. about them. They are more critical and more definite. They wonder how they grow and ask, 'Why do they always stay kittens and puppies in our books?' The air age

1/Jennie Callahan, op. cit., p. 142.
2/Ibid., p. 149.
is popular. Not too many teachers are schooled on jets, but expert information can be found on television.\footnote{1}{Jennie Callahan, op. cit., p. 146.}

One of the greatest advantages of educational television is that it arouses the pupil's interest. According to Haverstick: \footnote{2}{John Haverstick, "Tools for Teaching: The 3-D Classroom," Saturday Review (February 15, 1955), p. 32.} "If television has been of no other benefit to the student, it has increased his interest to speak clearly and fluently."

It is also found that television tends to draw more members of the class into the discussion. \footnote{3}{Franklin Dunham, op. cit., p. 21.}

Cumming believes that several instructors participating in a lesson seem more interesting to the pupil than one instructor, especially the same one every day. \footnote{4}{William Cumming, op. cit., p. 115.}

According to the following study, many advantages were found. A television survey was taken to discover what teachers list as benefits of television. It was conducted throughout the United States. The results are listed below:

1. Classroom activities are stimulated.
2. Field trips are requested.
3. Children seek supplementary reading.
4. Vocabularies are enlarged.
5. Children are more aware of the importance of good diction.
6. Children retain with amazing accuracy the skills and processes they have seen.1/

In a study conducted with college students, the same biology course was taught to the college class and to outside students on television. The students learning from the television did ten per cent better, perhaps because they appreciated the chance to learn more, or were harder workers.2/

Television is capable of doing several things that no other means of education can. Television is the one median which properly used can meet the needs of education en masse according to Cooley.3/

Siepman has mentioned another advantage, namely that an open circuit television classroom can be carried to the home-bound.4/

Cooley believes that television plays an important part in history in the making.

"We feel that education is so basically fundamental to a democracy that no opportunity should be missed for improving the service which education renders to the public. We recognize in television a new facility which we believe will substantially improve educational services in a way that has not proved possible through the printed page, motion picture, or radio. It com-

1/Charles A. Siepman, TV and Our School Crisis, p. 90.
4/Charles A. Siepman, TV and Our School Crisis, p. 155.
bines the advantages of these other media of communication, offers an opportunity never before available to reach a widely scattered audience in an effective way, and brings contemporary history to an already gathered audience in a public school, college, university, and in the home.

It is our contention that one of the major contributions that television can make to education is coverage of history in the making; contemporaneous events, both on a local and national level. 1/

Vigren has listed a few kinds of learning situations that can be fostered by educational television as those which bring to the many, experiences and knowledge which only a few could otherwise have, and those which bring to the classroom (or to one's living room) demonstrations of objects or devices which are either too little, too big, too expensive, too rare, too dangerous, or too cumbersome to be taken into the classroom. 2/

Cumming stated that a television instructor knows his subject thoroughly and talks about what he knows in an easy and interesting way. 2/

He also stated: 4/

"Television's versatility means that the knowledge and techniques of master teachers, or expert authorities, and of brilliant talents of all types can be tapped at one originating point and spread to multiple and separate outlets simultaneously."

1/Hazel Cooley, op. cit., p. 32.
2/William Cumming, op. cit., p. 92.
3/Ibid., p. 115.
4/Ibid., p. 90.
According to Siepman:

"Films are also time and space bound. On television the teacher can allude, by way of illustration, to this morning's paper, can introduce a distinguished visitor in town, can carry students visually to the local museum or to some public ceremony.

The teaching on film is likewise inflexible. By contrast, the television teacher can respond overnight to suggestions coming from the classrooms; comment and criticism can be reckoned with.

And have we forgotten that films can be shown on television?"

The fact that the television instructor can look every pupil in the eye is very good because this is universally recognized as a teaching advantage.

One of the greater advantages concerns itself with the human senses.

"...it has long been felt that television would be the most efficient educational medium devised by man. Nearly 98 per cent of all individual learning is absorbed through the senses of sight and hearing, and television brings the message to these senses simultaneously."

Lachrie, teacher of speech in the Memphis Public Schools, believes that television, in addition to being a valuable instrument in the teaching program, also teaches the child to give his complete attention to the subject under discussion.

1/Charles Siepman, TV and Our School Crisis, p. 155.
2/Franklin Dunham, op. cit., p. 21.
"One advantage of classroom reception is the training it gives the pupil in sitting quietly to watch and listen. The loud speaker should be just loud enough to be heard easily by all—not set at a blasting volume. Here is an opportunity to train the class in listening for melodious quality and quiet thoughtful reception. This is important because of the hours they will spend in watching television programs at home."1/

Siepman believes that education television is valuable in that:

1. It is communication of facts, skills and techniques.
2. It welcomes relief to students from the habitual teacher.
3. The parent can see what his child is learning.
4. The children learn by doing."

Disadvantages of educational television.—There are certainly disadvantages to educational television as well as the advantages. Although not so many in number, they are definite disadvantages and cannot be overlooked. In fact, some people feel so strongly that one educator thinks television may prove as much danger to our society and culture as the atomic bomb may to civilization.

The cost of such a program tends to be a great disadvantage. Few school systems have been able or willing

2/Charles Siepman, TV and Our School Crisis, p. 155.
thus far to foot the bill for installation for receiving

sets.

Most larger television stations cost around $350,000
to set up and the schools do not have this kind of money.
However, the Ford Foundation has helped in this financial
problem.

In the problem of time and speed of the students, by
observation of the students in a classroom a teacher can
regulate the pace to their ability to grasp the problem,
but the television teacher cannot do this.

It has also been said: "Television also is fugitive,
here and gone, but this is true of other types of education
too."

Two of the greatest disadvantages of educational tele-
vision are the problems of adjusting the teacher and the
class to the television time schedule and correlating the
television program with the class work.

In comparing educational television with films, films
have two supreme advantages.

1/Charles Siepman, *Television and Education in the United
States*, p. 80.

2/Harland Manchester, "Educational Television," *Reader's


5/Charles Siepman, *Television and Education in the United
States*, p. 85.
"First, they are not subject to television’s tyranny of time, being available at call. They are available for use when the teacher wants them, without adjustment of the curriculum.

Secondly, from the point of view of effective teaching, films have an enormous advantage in that teachers can preview them at their leisure. They have the further advantage of being projected on a screen that is much easier on the eye than all but the largest projection of television transmissions."  

According to Callahan, there is great difficulty in planning for individual differences in educational television.

The last, and one of the most important, disadvantages of educational television is why television will never replace the classroom teacher. It is the lack of that intangible value that two individuals have between each other when discussing a topic. It is what helps bring the subject alive for the student. One method of explaining this disadvantage is saying it is lack of personal contact.

Siepman stated the below concerning this problem:

"Attainment, apparently achieved by television students, is not the whole goal of education. There are intangible values which television does not offer."

4/Ibid., p. 85.
Reactions

The present reactions of the pupil, parent, and teacher toward educational television will affect further development. Because educational television is relatively new there are not yet too many definite reactions, but the ones that there are tend to be in favor of it. Concerning this problem, Siepman has this to say:

"If mere opinion seems to predominate, it is not lightly to be dismissed. For, as Milton claimed, 'opinion in good men is but knowledge in the making.' Moreover should opinion fly in the face of objective evidence, it will in practice undermine the value of the evidence—by creating an unsurmountable obstacle to its use. Television may have inestimable advantages, but if school administrators, teachers, pupils or the public dispute the fact, it will not be used. Opinion counts."

Student interest in educational television and their thoughts concerning the matter are described in Siepman's discussion of a study made in Pittsburgh:

"In Pittsburgh, where elaborate tests and questionnaires were used to probe almost every aspect of their 'demonstration,' we have evidence corroborated by impressions and opinions of a less scientific sort elsewhere. Allowing for the fact that you can never be sure that children say what they really mean, the following insights derive from questions put directly to the students.

The lessons on television were well liked. Thus among fifth grade students, tuned in to a course on reading and asked how they liked it, more answered 'very well' or 'pretty well' than students in control groups taught by conventional methods. Responses to a televised course in arithmetic were 80 per cent.

1/Charles A. Siepman, *TV and Our School Crisis*, p. 76.

2/Ibid., p. 83.
favorable. Three quarters of the students participating in all the televised courses expressed a desire to repeat the experience next year.

Of students in a course on reading, 86 per cent thought the pace (always a difficult matter in broadcasting to an unseen audience) was about right. And again this was a higher figure than elicited from students in the control groups. In none of the courses did the figure fall below 67 per cent. The rest of the students answered either 'too slow' or 'too fast.'

Responses to the question 'Were you able to get as much help as you think you needed (in the particular subject taught) this year?' were 90 per cent affirmative in arithmetic, 88 per cent in reading, 62 per cent in French. And if this last figure disappoints the reader, he must reckon with the fact that the corresponding figure in the control group, taught under conventional conditions, was 60 per cent."

Students missed not being able to participate in class discussion, but in the science program they appreciated the chance to see experiments and materials not available to them in their separate classrooms. They liked to study under a teacher well versed in her subject and were more inclined to listen and concentrate more closely. On the other hand some students felt that they would have learned more in a regular classroom.

The parents' reaction is far less definite. They are still feeling for a definite opinion concerning educational television.

"Of the delight of many parents in going back to school alongside their own children we have already had something to say, as of the value of open circuit broadcasting in winning the interest and support of the

1/Charles Siepmann, TV and Our School Crisis, p. 92.
community for the schools. But there were reasonable grounds for doubting whether they would welcome, or even tolerate, the subjection of their children to what some still contemptuously describe as robot teaching.1/

While parents are not completely sold on educational television they believe the school should continue the use of it until more can be found out about it. It is a great advantage to the schools not to have the parents against the program.2/

There is a tendency for parents' attitudes to vary with their socio-economic status. The upper socio-economic groups tend to favor it less than do the lower socio-economic groups. In general, however, parents who do have television in their home are in favor of it.

The teachers find it is a change in their schedule; however, it offers an expert teacher on a subject she may not be too familiar with.

Teachers saw both advantages and disadvantages in television teaching. Most frequently commented on was the freedom and flexibility of the medium in its presentation of the subject matter. Adverse comment centered on the problem of the various needs of children, of varying ability, and on the unsatisfactory physical conditions under which the

1/Charles Siepman, TV and Our School Crisis, p. 85.
2/Ibid., p. 85.
3/Charles Siepman, Television and Education in the United States, p. 106.
television students studied, such as crowded rooms and inability to hear and see.

In a study made at the University of Cincinnati there was this to be said:

"This question was specially studied at the University of Cincinnati; 694 educators were interviewed; 17 questions were put to them. To ensure that all should have some basic familiarity with educational television, four sample telecasts of varied types were seen by them. Ninety-two per cent of the respondents felt that there is a place in educational programmes for television designed for school use. Fifty-eight per cent favoured 'restricted sponsorship' of such programmes, while 25 per cent were definitely opposed to sponsorship of any kind. Eighty-four per cent favored special programmes, relation to school activities, directed to parents and tax payers. Seventy-four per cent favoured adjustment of class schedules to take advantage of television educational programmes. Only 21 per cent favoured any kind of daily 'detailed instruction type' television programme, and only 42 per cent favoured such programmes weekly. On the other hand, 84 per cent favoured a weekly programme providing 'supplementary' instruction. 2/

Several of the advantages and disadvantages of educational television are indirect reactions also. After this new means of education has been set up and working for a while longer pupils, parents, and teachers will know better what they are looking for and will be able to react accordingly.

Educational Television Looks Ahead

Sarnoff remarked at one time that Educational television

1/Charles A. Stepman, TV and Our School Crisis, p. 91.
2/Charles A. Stepman, Television and Education in the United States, p. 106.
was an art: "so important in its implications that it (was) bound to affect all society, (and that it was) a creative force which we must learn to utilize for the benefit of all mankind."

Paley of the Columbia Broadcasting System enlarged upon this thought by writing:

"In the atomic age, vast areas of ignorance and misunderstanding cannot be penetrated by the traditional slower methods of mass enlightenment. As an educational force with a clarity matched only by the speed of its dissemination, television has the opportunity to render its greatest service."

However, in 1945 Eddy, a pioneer in television engineering, commented:

"If television is to take its proper place in the scheme of our postwar world, it will need to prove that it can satisfy a definite need in education. This can be done by providing a new and effective mode of learning through visual channels."

This is not to be the kind of education, however, where facts are all important. Rather television shall be used to illustrate essential concepts and basic truths. It should provide a new and interesting means to attract the attention and interest of all. "Television will not put up long with a sameness of fare, with an unimaginative approach to edu-


cation that fails to bring the material close to the lives of the viewer." It will have to strive to discover more and more effective methods and techniques of teaching. Though it will teach few subjects, it must teach these adequately and instill those disciplines of mind that enable us to handle all knowledge that we come by.

Each teacher will be chosen for her love as well as ability in the subject area. It is hoped that a "happy marriage" will be achieved between showmanship and education. Thus English will be taught only by those who love it and consequently those who are most able to let us share their enjoyment. History will no longer be an outdated subject but will be taught in relation to its relevance to us. Mathematics, science, art, religion—all these will be taught so that they have meaning for us and so that through study of them we may enlarge our own horizons.

Garry states that:

"To make the most of its possibilities, television should deliberately seek to stimulate learning as well as to entertain. For children, virtually all experi-

1/Jennie Callahan, op. cit., pp. 5-6.
2/Charles Siepmann, TV and Our School Crisis, p. 144.
3/Ibid., p. 165.
4/Giraud Chester, op. cit., p. 505.
ences, no matter how intended or casual, have some significance for developing ideas and understandings."

Educational television will have to provide experiences in which new ideas are presented in relation to familiar ones. Consequently such things as social standards, solutions to many of the child's problems can be better understood if they relate to his own environment. Programs should be chosen for their ability to fulfill the child's needs as well as induce him to experiment, to read further, to be more resourceful, etc.

Partridge, president of Montclair State Teachers College, has remarked that educational television is only in its infancy.

"In order for it to mature it will need the help of many different educators, working to examine and evaluate the possibilities of this new medium. . . . It is entirely possible, (he feels), that in order to use television as an educational tool, it will be necessary for teachers to utilize new methods of approach to children. It may be necessary to re-examine school construction and classroom layout. It may require a basic examination of the entire relationship between teacher and pupil."

Newburn, president of the Educational Television and Radio Center in Ann Arbor states:

"Many questions remain to be resolved before the place of television in education can be adequately assessed. These issues must be attacked in a systemat..."

1/Jennie Callahan, op. cit., p. 7.

and experimental manner by competent researchers with 
varied backgrounds and interests, both individually and 
cooperatively."

In answer to this, several educators have proposed plans for dealing with the situation. Siepmann believes that television teaching will be improved if the teachers are not only carefully chosen but also are given all facilities and help which they might need. Television teachers must be special people, pre-eminent as scholars, outstanding as teachers, who are given ample time for preparation of their program and are provided with all the facilities necessary for demonstration. In this instance you would have an excellent master teacher teaching larger classes of students. The follow-up period would, of course, be done by a less pre-eminent but equally capable teacher. The increase of students in the classroom should somewhat relieve the shortage.

Chauncey further adds that pupils should be separated into separate homogeneous groups. Each of their teachers would be skilled in guidance work and would serve more as a counselor or an advisor. One other person would be employed to help with the clerical work involved in teaching. Therefore, the teacher’s instruction:

"...could become as highly individualized as his personal capabilities can make it. He would be

1/ Charles Siepmann, *TV and Our School Crisis*, p. 57.
challenged to approach his work in the true sense of teaching: to lead, to guide if necessary, or simply to instill an awareness, but always to encourage."

This would, of course, mean the development of new skills on the part of the teacher. Rather than replacing her, the teacher will now specialize in motivational techniques or guidance methods which will make her all the more indispensable to the child.

As for the schools, Stoddard states that there will be a radical change made here which also should help relieve the teacher shortage. He outlines a plan for a school which would provide room for 150 students working in a resource and television room, an auditorium for 75 or over and a playground to hold an equal number. These groups would rotate during the day in 45 minute periods. It would entail no more than a teacher and a teacher's aide to supervise them. Naturally these conditions would only prevail when the new large screens, better acoustics and lighting have been achieved. The Boston Globe suggests the use of long and narrow rooms instead of the usual size classroom.

Institutions will pool their resources, their materials,

1/Jennie Callahan, op. cit., p. 71.
so that all may benefit from their best. In summing up this program, Siepmann writes:

"In schools and colleges alike, large classes will be taught by superior and at times by master teachers. By the discrete choice of the teacher, the medium of communication and the visual resources used, lectures of greater clarity, more evocative of interest, more economically organized, will become the prerogative of more students than ever before."

This will result in a situation, however, which calls for more self-dependent learning. More responsibility will be placed on the student for listening, questioning and observing.

Seeing so many new things should inspire a new zest for learning. Also the more effective use of the teacher's time and abilities should make it possible for the student to move ahead at a pace in keeping with his ability.

More and more programs are planned in future years and it is to be hoped that they will be patterned after the needs of the community. "Instructional television programs must be planned from where the learner sits, rather than from the teacher's desk behind the television camera."

New channels will be purchased and a more wide acceptance of this new medium is bound to take place.

1/Charles Siepmann, TV and Our School Crisis, pp. 180-181.
2/Jennie Callahan, op. cit., p. 10.
3/"Television in Instruction: an Appraisal," op. cit., p.16.
Siepmann comments:

"The radical change to look for in the education of the future is the vast expansion of its services and clientele.... A nationwide system of educational television stations will spread the teaching of schools and universities to millions in need of it. Many such stations will become in effect, colleges (of the air) in their own right."

In conclusion, Callahan states that:

"Education may be defined as the process by which society preserves and transports its intellectual and cultural heritage. Television as a new medium for communication, holds tremendous potentiality for the realization of this educational purpose and the fulfillment of this process."

"This is not the end of the Television story. It is only the beginning. Every day new ways are being found to use television to teach. There is disagreement as to its value. Some schools find it invaluable; others, almost useless. None, however, can afford to ignore it."

Description of the Local Educational Television

Boston, using the facilities of WGBH-TV, has contributed much to the advancement of Educational Television. The organized efforts of the school superintendents (from more than seventy towns and cities located within a twenty-five mile radius of Boston), the State Department of Education, and the Eastern Massachusetts Council of School .

1/Charles Siepmann, op. cit., p. 177.
2/Jennie Callahan, op. cit., p. 8.
Television have made this progress possible.

The high level of administration of these programs is clearly indicated by: (1) The room that is left for more advanced developments; i.e., rather than supplement school curriculums, television will assume the responsibility for teaching entire courses. (2) The very specific aids they give the classroom teacher:

"A month in advance of the program presentation, guides will be sent to all teachers in the school systems participating in the project. These guides, encompassing all of the series on the air, will be integrated into the curriculum activity so as to provide information concerning:

1. The date, time and subject of each program
2. Suggested activities to be carried out prior to the television presentation
3. The content of each program
4. Suggested follow-up activities and lists of pertinent audio-visual materials available in the state to enrich and clarify the televised teaching."

The goal of this Boston group is to present:

...."one half-hour program per day, five per week for thirty weeks during the year. The programs in any given subject area will most probably be broadcast once per week. The length of the series is dependent upon the amount of material that must be covered. In this initial phase of production not all of the curriculum needs will be filled, but as effectiveness in its use is shown, expansion of the available subjects will be carried out."

1/Kelsey B. Swett, Supervisor of Audio Visual Services, State Department of Education, Interview.


3/Ibid., p. 3.
Those programs now being taught on television are:

1. Science, grade 6; 2. Science, grade 5; 3. Elementary Art; 4. Literature, grades 2 and 3; 5. Music, grades 1 and 2; 6. Here and There, grades K, 1 and 2; and 7. Lines and Shapes, grades K, 1, 2 and 3. These last three programs are taped. The times of all the broadcasts are 9:30 a.m. and 11:00 a.m. All of those shown at eleven are taped. The composite title of the above programs is "21" Classroom.

The television teachers are chosen in the following manner:

"All television teachers will be selected from the wealth of outstanding teachers in Massachusetts. In addition to a wide knowledge of their subjects and a distinct and outstanding ability to teach them, the television instructors will be selected on the basis of their ability to adjust their techniques to this new teaching medium. Experts in each curriculum area will always be available to the television teachers to help them maintain the highest possible quality in their presentations."

The teachers are paid four hundred dollars per series (15 weeks) in addition to what they receive teaching during the week.

Those cities and towns which receive the programs appropriate twenty-five cents per pupil while the city itself pays twenty-two thousand dollars. Any school within

1/Kelsey B. Sweatt, op. cit.

2/"Facts About Television—Its Use in the Classroom," op. cit., p. 3.

3/Kelsey B. Sweatt, op. cit.
the coverage area of W G B H - T V and of any other television stations broadcasting such programs can receive the programs by merely tuning to the correct channel (channel 2.) The individual teacher, with advice of the local school authorities, will decide how best to use the material presented on television.

The Boston group realizes that if the programs are ever going to reach an optimum quality and efficiency they must constantly undergo evaluation by those for whom they are intended, i.e., the students and teachers:

"This both groups will have an opportunity to do. Each member of the in-school television network will have a television co-ordinator appointed expressly for the purpose of siphoning all these suggestions, evaluations, and criticisms to that committee in charge of preparing and producing the in-school schedule."\(^1\)

This is done in the following manner: (1) Cards are sent to the teachers asking them particular questions about the various television programs. When the cards are answered they are returned to the television teacher, who evaluates them with her television aides. (2) Meetings are held at W G B H where the teachers who are using specific television programs in their classroom meet with the television person who teaches that specific area. The outcome of such a discussion is bound to produce improvements.

\(^1\)"Facts About Television-Its Use in the Classroom," op. cit., p. 4.

\(^2\)Ibid., p. 3.

\(^3\)Kelsey B. Sweatt, op. cit.
The growing number of cities and towns that have incorporated channel 2 television in their elementary school programs indicated that WGBH-TV certainly has effectively met the educational needs of the communities in the eastern sections of its state.
CHAPTER III

PLAN OF STUDY

The material in this study was gathered and compiled by four graduate students. It is their purpose to give the reader an organized view of the methods used in obtaining the information. Included here will be the procedures used for the observation of the programs, and construction and distribution of the questionnaires.

Selection and Treatment of the Topic

In selecting the topic of television and its use in the elementary school, the writers realized that this new medium is fast becoming an integral part of our home and school lives. The writers recognized the fact that their topic lent itself quite readily to the inquiry method, and since their main objective was to gather new information and thus shed a fresh light on the area of educational television, the questionnaire form was used. The entire nation is interested, although somewhat uninformed, of television's progress in education. Therefore, it was the writers' decision to offer the readers a compact research chapter containing most of the pertinent information written in this particular area.
The writers decided to distribute questionnaires to the teachers and students in several public schools in the Boston area, covering grades two, three, four, five and six. The purpose behind this survey was to discover the reaction to the television programs which have been viewed in the respective classrooms.

Of particular assistance in considering this topic was the availability of information from WGBH-TV, the educational television station of Boston. The advances of this station have gained recognition in many cities and towns in the United States, and consequently formed a firm foundation from which to begin this study.

Before undertaking this topic, it was determined important to discover the extent to which the subject had previously been covered. After a careful perusal of the theses in this field, it was found that although various studies on television had been made, none had been done at Boston University on the educational programs specifically designed for grades two through six in the Boston area.

This initial research was of further help to the writers in that it provided illustrations of the various forms of surveys and the types of questions found most successful. Reading done from various other sources during the period of organization was found useful in the viewing process as well as in the item writing and also provided a reasonable idea of the topics which should be covered in a
Observation of the Programs

For a period of six weeks during the months of November and December the programs were watched faithfully four days a week. Four graduate students did the viewing simultaneously from the same television set. This means that the programs for grades two through four were viewed a total of six times in succession while the grade five and six science programs, which alternate each week, were viewed a total of three times each. However, some of the programs were watched sporadically by different members of the group over a longer period of time.

Before beginning the actual viewing of the programs, the group discussed various aspects which might be of greatest concern. It was decided first of all that the format would be most important—how the program was set up, what materials were used, etc. The writers also hoped to gain a familiarity with each of the programs. During the viewing, more problems and questions became evident; these were recorded with appropriate comments. When reasonably familiar with the programs, the writers tried to think in terms of both teachers and students as to the effectiveness of the program, the ease in which it would fit into the curriculum and the interest that would be aroused. The program guides which unfortunately were unavailable until late
in the writing of the inquiry forms were, however, of some help in showing the aid which the teacher was given in integrating the program with her own curriculum in a meaningful way.

Following each viewing period, the writers discussed and recorded any new ideas, and compiled suggestions on what to look for in subsequent viewings. These notes were kept and later provided the basis of the inquiry forms.

A brief description of the program at each of the grade levels follows.

Description of the Television Programs

MUSIC

Grade Level: Two

Time: 9:30-9:45 and 11:00-11:15

Day of the Week: Thursday

Description: A music consultant, for one of the greater Boston area school systems, sings ballads and plays the guitar. Children watching the program accompany him either vocally or rhythmically. The purpose of the program is to acquaint children with folk songs and instruments. Simple folk dances are also occasionally taught.

LITERATURE

Grade Level: Three

Time: 9:30-10:00 and 11:00-11:30

Day of the Week: Wednesday

Description: A children's librarian in the Boston Public

* All of these programs are from time to time repeated at 7:15 p.m. on the day they were presented.
Library System narrates and provides illustration of stories for children. Various authors of children's books are occasionally guest speakers on the program.

SOCIAL STUDIES

Grade Level: Four

Time: 9:30-10:00 and 11:00-11:30

Day of the Week: Tuesday

Description: A teacher from one of greater Boston's school systems gives illustrated talks on "Our New England Heritage." She describes such things as the lives of the early settlers, the founding of our country, and the rise of industry.

PHYSICAL SCIENCE

Grade Level: Six

Time: 9:30-10:00 and 11:00-11:30

Day of the Week: Monday**

Description: A science consultant for one of the greater Boston area school systems teaches such things as the study of light, sound, air pressure, etc. Each program consists of a series of experiments which illustrate the concept being taught.

** The science programs alternate each week.

Procedure for Construction of Questionnaires

After six weeks of daily observation and discussion of the in-school television programs, each member of the group prepared questions for both the teachers and the students. The questions were planned according to subject matter and to the reading ability of each grade level: music for the second grade; literature for the third grade; social studies
for the fourth; biological science for the fifth; and physical science for the sixth grade.

Each member read her questions for approval. Some of the questions were omitted for overlapping and some were re-written or enlarged upon. Some applied to all grades and to both the teachers and the pupils, and appeared in more than one instance.

The questions were further checked for suitability and clarity. Most of them were objective with multiple choice answers. Spaces for comment were provided on the teachers' questionnaires. Attached to teachers' questionnaires were directions for administration, i.e., reading questions to young children for understanding, omitting pupils' names so that they would feel freer to answer questions, etc.

Plan of Study

Questionnaires were distributed to teachers in three communities where the educational programs are regularly viewed. The grade levels, number of teachers, and number of children participating in the study are indicated in the following table:
Table 1. Grade Levels and Number of Teachers and Children Participating

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Total Number of Teachers</th>
<th>Total Number of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0000000</td>
<td>3</td>
<td>70</td>
</tr>
<tr>
<td>3.0000000</td>
<td>2</td>
<td>53</td>
</tr>
<tr>
<td>4.0000000</td>
<td>1</td>
<td>33</td>
</tr>
<tr>
<td>6.0000000</td>
<td>1</td>
<td>26</td>
</tr>
</tbody>
</table>

Each of the forms was accompanied by a set of specific directions for the administration of the questionnaires by which it was hoped to obtain as accurate a picture as possible of their reactions.

All results of these questionnaires were tabulated and along with any indicated trends are reported in the following chapters.
CHAPTER IV
ANALYSIS OF DATA

It was the purpose of this study to construct inquiry forms which might give some indication of child and teacher reaction to the current educational television series.

For each of the programs, music, literature, social studies, and science, a separate inquiry form was built. Although many of the factors investigated were common to all programs each had certain specific and peculiar aspects.

The data were analyzed in terms of the number and percentage of responses to each item at each grade level. The data appear in the following tables.

The first two tables are concerned with grade two - music. (tables 2 and 3)

Table 2. Number and Percentage of Pupils Responding to the Various Questions on Music - Grade Two

<table>
<thead>
<tr>
<th>Item</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Per Cent</td>
</tr>
<tr>
<td>1. Can you see the screen?...</td>
<td>59</td>
<td>84</td>
</tr>
<tr>
<td>2. Can you hear the music?...</td>
<td>68</td>
<td>97</td>
</tr>
<tr>
<td>3. Can you understand the songs?...............</td>
<td>57</td>
<td>82</td>
</tr>
<tr>
<td>4. Do you sing the songs at home?...............</td>
<td>50</td>
<td>72</td>
</tr>
</tbody>
</table>
In an attempt to get at the power of the program, one multiple response item was included and is reported in the following table.

Table 3. Reason for Enjoyment of Program -- Music -- Grade Two

<table>
<thead>
<tr>
<th>Item</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>1. Sing with teacher................</td>
<td>30</td>
</tr>
<tr>
<td>2. Listen to teacher sing...........</td>
<td>24</td>
</tr>
<tr>
<td>3. Clap hands to music...............</td>
<td>12</td>
</tr>
</tbody>
</table>

From the preceding tables it is apparent that although the majority of the children (84 per cent) have no difficulty seeing the program, 16 per cent reported that they were unable to see the screen clearly. A higher percentage (97 per cent) were able to hear the program with no trouble at all.

Of the 82 per cent who seemed to have little difficulty in understanding the words in the songs, 72 per cent were able to retain them long enough to sing them at home to their parents.

Upon examination of the multiple response question concerning what the children enjoyed the most, it was found that 44 per cent of the children felt that singing with the television teacher was the most popular activity, whereas 34 per cent of the children liked best to listen to the
Tables 4 and 5 present data on grade three - literature.

Table 4. Number and Percentage of Pupils Responding to the Various Questions on Literature - Grade Three

<table>
<thead>
<tr>
<th>Inquiry</th>
<th>Yes</th>
<th></th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number</td>
<td></td>
<td>Number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Per</td>
<td></td>
<td>Per</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cent</td>
<td></td>
<td>Cent</td>
</tr>
<tr>
<td>1. Can you see the screen?...</td>
<td>52</td>
<td>98</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. Can you hear the speakers?</td>
<td>52</td>
<td>98</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3. Can you see the pictures in the books?</td>
<td>47</td>
<td>89</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>4. Do you wish to read the books discussed?</td>
<td>51</td>
<td>96</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>5. Have you read any of these books?</td>
<td>47</td>
<td>89</td>
<td>6</td>
<td>11</td>
</tr>
</tbody>
</table>

In order to estimate the power of this program, one multiple response item was included. It is reported in the following table.

Table 5. Reason for Attention to the Program -- Literature -- Grade Three

<table>
<thead>
<tr>
<th>Item</th>
<th>Response</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Per</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cent</td>
<td></td>
</tr>
<tr>
<td>1. Because it is interesting...</td>
<td>49</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>2. Because it gets me out of class work...</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

It may be observed in tables 4 and 5 that 98 per cent of the children could see the screen and hear the speakers quite adequately. However, the response of 89 per cent to
seeing the pictures in the books was not as high. While 98 per cent stated that they wished to read the books only 89 per cent did so. Most of the children, 92 per cent, enjoy watching the program because of its interest, while 8 per cent watch it to avoid doing class work.

The data on Social Studies - grade four are presented in tables 6, 7 and 8.

Table 6. Number and Percentage of Pupils Responding to the Various Questions on Social Studies - Grade Four

| Inquiry                                                        | Yes | No |
|                                                               |     |    |
|                                                               | Number | Per Cent | Number | Per Cent |
| 1. Can you see the screen?...                                 | 29  | 87  | 4     | 13   |
| 2. Can you hear the speaker?..                                | 31  | 97  | 1     | 3    |
| 3. Can you see pictures held by the teacher?.......           | 28  | 85  | 5     | 15   |
| 4. Do the maps help you in what you are studying?...         | 0   | 0   | 33    | 100 |

The above table shows that while almost all the children had no trouble hearing the speaker, 13 per cent had difficulty seeing the screen and 15 per cent found the pictures hard to see. The fact that 100 per cent of the children found that the maps were not of help in understanding material might indicate that maps had not been used during the program on which the responses were based.

In order to obtain certain additional information concerning this program, use of a multiple response technique was necessary. The data are contained in the following
Table 7 shows that 85 per cent of the pupils paid attention to the program because they found it interesting while the other 15 per cent reported that they enjoyed it only in preference to class work.

Table 8. Factors Affecting Attitude Toward the Social Studies Program - Grade Four

Responses in Table 8 indicate that most of the children preferred the displays (42 per cent), while 37 per cent liked the things they learned best, and 21 per cent liked the television teacher. The fact that none of the children found the films interesting might indicate that film had
not been used during the program on which the responses were based.

Data concerning Science for grade six are contained in tables 9, 10, 11, 12 and 13.

Table 9. Number and Percentage of Pupils Responding to the Various Questions on Science - Grade Six

<table>
<thead>
<tr>
<th>Inquiry</th>
<th>Yes</th>
<th></th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Per Cent</td>
<td>Number</td>
<td>Per Cent</td>
</tr>
<tr>
<td>1. Can you see the screen?...</td>
<td>26</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. Can you hear the speaker?</td>
<td>24</td>
<td>92</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>3. Can you see pictures held by the teacher?.........</td>
<td>18</td>
<td>69</td>
<td>8</td>
<td>31</td>
</tr>
<tr>
<td>4. Do you understand all the words used? ............</td>
<td>3</td>
<td>12</td>
<td>23</td>
<td>88</td>
</tr>
</tbody>
</table>

It may be observed from table 9 that a very large per cent of the children could see the screen and hear the speaker while only 69 per cent could see the pictures held by the TV teacher. The biggest problem, however, is evident in the response from 88 per cent of the children who could not understand all of the words used.

At this grade level it was also necessary to utilize a multiple response technique to sift out certain pertinent information. The following tables handle this data.
Table 10. Reason for Attention to Science Program - Grade Six

<table>
<thead>
<tr>
<th>Item</th>
<th>Response</th>
<th>Number</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Because it is interesting............</td>
<td></td>
<td>25</td>
<td>96</td>
</tr>
<tr>
<td>2. Because it gets me out of class work.</td>
<td></td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

The response indicates that almost all of the children (96 per cent) paid attention to the program because it was interesting while four per cent paid attention only to get out of class work.

Table 11. Factors Affecting Attitude Toward the Science Program - Grade Six

<table>
<thead>
<tr>
<th>Item</th>
<th>Response</th>
<th>Number</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I like the television teacher........</td>
<td></td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>2. I like the films......................</td>
<td></td>
<td>11</td>
<td>42</td>
</tr>
<tr>
<td>3. I like the displays...................</td>
<td></td>
<td>23</td>
<td>88</td>
</tr>
<tr>
<td>4. I like the materials discussed.......</td>
<td></td>
<td>9</td>
<td>34</td>
</tr>
<tr>
<td>5. I like the suggestions for things to do.</td>
<td></td>
<td>9</td>
<td>34</td>
</tr>
</tbody>
</table>

As shown in the previous table the displays were liked by 88 per cent of the class while only 11 per cent of the children liked the television teacher.
Table 12. Repetition of Experiments -- Science - Grade Six

<table>
<thead>
<tr>
<th>Item</th>
<th>Response</th>
<th>Number</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. At home</td>
<td></td>
<td>19</td>
<td>73</td>
</tr>
<tr>
<td>2. At school</td>
<td></td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>3. Both places</td>
<td></td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>4. Neither one</td>
<td></td>
<td>0</td>
<td>23</td>
</tr>
</tbody>
</table>

From the previous table it is apparent that many, 73 per cent, of the children repeat the science experiments at home, while 23 per cent repeat them neither at home nor at school.

Table 13. Understanding of Experiments -- Science - Grade Six

<table>
<thead>
<tr>
<th>Item</th>
<th>Response</th>
<th>Number</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All of the time</td>
<td></td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>2. Part of the time</td>
<td></td>
<td>25</td>
<td>96</td>
</tr>
<tr>
<td>3. None of the time</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

It may be seen from this table that all of the children understand at best some of the experiments performed on the program. However, only four per cent state that they have complete understanding at all times. Part of the time 96 per cent of the class have no difficulty.

Since the writers were concerned primarily with the reaction of the children to the television programs, the major part of the study is an analysis of this phase.
Each teacher was asked to fill out a questionnaire if her class participated in the study. No attempt was made to obtain large numbers of teacher responses, but a compilation has been made of the seven teachers whose children participated in the major study.

A tabulation of teacher responses to certain aspects of educational television and its effect on the children has been made. The table titles indicate the type of question and will clarify the tabulation for the reader. Copies of the questionnaires can be found in the appendix.

Table 14. Limitations in Use of Educational Television - Grades Two, Three, Four, Six

<table>
<thead>
<tr>
<th>Size of Group Observing</th>
<th>Mixed Grade Levels Observing</th>
<th>Time Schedule Conflicts</th>
<th>Conflict of Content With Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

This table indicates that four teachers believed that the size of the group observing was too large. Conflict with the time the programs were scheduled was found by two teachers and two others felt that the programs conflicted with the content of the regular classroom curriculum.
Table 15. Preparation Necessary to View Program - Grades Two, Three, Four, Six

<table>
<thead>
<tr>
<th>Extensive</th>
<th>Moderate</th>
<th>Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

It may be noted in the previous table that three teachers found that it was necessary for a moderate amount of preparation, three found little preparation necessary, while one felt that no preparation was necessary.

Table 16. Necessity for Follow-up of Programs - Grades Two, Three, Four, Six

<table>
<thead>
<tr>
<th>Extensive</th>
<th>Moderate</th>
<th>Little</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

The reader will note in the preceding table that no teacher felt that an extensive amount of follow-up was necessary. However, three teachers felt that a moderate amount should be used while four of them found that little follow-up was necessary.
Table 17. Estimate of Materials in Program Guide - Grades Two, Three, Four, Six

<table>
<thead>
<tr>
<th>Fully Adequate</th>
<th>Reasonably Adequate</th>
<th>Inadequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

From the previous table, it is apparent that only one teacher believed the materials in the program guide to be fully adequate. The guide was felt reasonably adequate by four teachers and two found the materials provided to be completely inadequate.

Table 18. Visibility of the Programs - Grades Two, Three, Four, Six

<table>
<thead>
<tr>
<th>Can be Seen Easily</th>
<th>Cannot be Seen Easily</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

In table 18 it is indicated that all seven teachers agreed that the program could be seen easily.

Table 19. Length of Program - Grades Two, Three, Four, Six

<table>
<thead>
<tr>
<th>Too Long</th>
<th>Adequate</th>
<th>Too Short</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>
Examination of table 19 reveals that six teachers felt that the program was of adequate length and one believed that it was too long.

Table 20. Estimate of Children's Interest in Programs - Grades Two, Three, Four, Six

<table>
<thead>
<tr>
<th>Extremely Interested</th>
<th>Average Interest</th>
<th>Restless</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

The preceding table shows that three teachers believed that the children were extremely interested in the television programs, while two teachers said the children were restless during the viewing. The remaining two teachers stated that the children showed average interest.

Table 21. Ability Level for Most Satisfactory Use of Program - Grades Two, Three, Four, Six

<table>
<thead>
<tr>
<th>Superior</th>
<th>Average</th>
<th>Slow</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

It may be observed in table 21 that four teachers thought that the programs were geared to students at all ability levels. Of the other teachers, one felt that they were best suited to the superior and average children; one
believed them best for the average and slow children, and one judged them with just the slow children.

Table 22. Estimate of Children's Retention of Material - Grades Two, Three, Four, Six

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

It is indicated in table 22 that three of the teachers felt that the children's retention of material presented through television was average, while three other teachers believe that their retention was better than average. One teacher did not respond to this item since no follow-up activity had been employed which would reveal the amount of retention.

Although most of the teacher-responses to the questions on educational television would indicate general satisfaction, there was some dissatisfaction, particularly with matters concerning administrative details and the materials provided for teacher guidance.

A summary of the reactions of both children and teachers to educational television, and the conclusions based on these data appear in the following chapter.
CHAPTER V
SUMMARY AND CONCLUSIONS

This study is an initial attempt to investigate children's reactions to educational television.

The television program is built around certain curricular areas and is designed for grades two, three, four and six.

A summary of the analysis follows:

Children's Reactions

Grade Two - Music

1. While 84 per cent of the children reported they had no difficulty seeing the television clearly, 16 per cent of them stated that they were not able to see the screen clearly.

2. The majority of the children (97 per cent) were able to hear the program with no trouble at all.

3. Although 82 per cent of the children said they were able to understand the words the television teacher sings, 18 per cent felt they had difficulty comprehending the songs.

4. A large percentage (72 per cent) were able to retain the songs and sing them at home.
5. The most popular activity on this program proved to be singing with the television teacher to 44 per cent of the children. Next in popularity with 34 per cent of the children was listening to the television teacher sing.

Grade Three - Literature

1. Responses from the questions concerning visibility and audibility indicated that 98 per cent of the children had no difficulty.
2. The per cent who could see the illustrations which were part of the program, however, was only 89.
3. While 98 per cent of the children wanted to read the books discussed, only 89 per cent reported having read them.
4. The per cent that wanted to watch the program because they found it interesting was 92.

Grade Four - Social Studies

1. Most of the children (97 per cent) had no trouble hearing the speaker.
2. As many as 13 per cent of the children had difficulties seeing the screen and 15 per cent had trouble seeing the illustrations used in the program.
3. The majority of the children (85 per cent) paid attention to the program because they found it interesting, while 15 per cent reported enjoying it
only in preference to class work.

4. The order of preference concerning the most enjoyable part of the program is as follows:
   a. The displays - 42 per cent
   b. The subject matter - 37 per cent
   c. The TV teacher - 21 per cent
   d. The films - 0 per cent

5. The fact that none of the children found the films interesting or the maps helpful might indicate that they had not been used during the program on which the responses were based.

Grade Six - Science

1. Most of the children could see the screen and hear the speaker, but only 69 per cent could see the pictures held by the television teacher.

2. Almost all of the children (96 per cent) paid attention to the program because it was interesting, while four per cent paid attention only to get out of class work.

3. The displays were liked by 88 per cent of the class, while only 11 per cent of the children liked the television teacher.

4. The science experiments were repeated at home by 73 per cent of the children, at school by 12 per cent, and at both home and school by 12 per cent. There were 23 per cent who repeated them neither at home
nor at school.

5. Most of the children reported that they understood part of the experiments performed on the program. However, only four per cent stated that they had complete understanding at all times.

**Teachers' Reactions**

1. The size of the group observing was found to be too large by four teachers.

2. It was reported by two teachers that the program conflicted with the content of the regular classroom.

3. Two teachers reported that the programs conflicted because of the time they were scheduled.

4. While three teachers felt that a moderate amount of preparation was necessary, little preparation was thought necessary by three teachers, and one teacher felt that no preparation was necessary.

5. A moderate amount of follow-up was felt necessary by three teachers; however, four teachers found that very little follow-up was necessary.

6. Only one teacher found the materials in the program guide fully adequate. The guide was felt reasonably adequate by four teachers, while two teachers found the materials provided completely inadequate.

7. All of the seven teachers agreed that the program could be seen easily.

8. Out of seven teachers, six felt that the program was
adequate in length.

9. Three teachers stated that the children were extremely interested in the programs, while two teachers said that they showed average interest, and two said that they were restless.

10. Four teachers reported that the programs were geared to the ability levels of all students. Of the group of teachers, one stated that it was geared to the superior and average children, one felt that the programs were best for the slow children, and one felt that the programs were geared to the average and slow students.

11. The number of teachers who felt that the children's retention of the material was average amounted to three, while three other teachers felt that the retention was better than average.

From the preceding summary it may be concluded that there is general satisfaction with educational television on the part of both the children and teachers.

Our conclusions are as follows:

1. In general, the children had no difficulty in seeing and hearing the broadcast. The fact that teachers felt that the children could see the illustrations clearly (while some children stated that they could not) may indicate a need for a more careful preview
from the child's viewpoint of materials and techniques to be used.

2. It was felt by many teachers that the size of the group watching the television was too large. This might imply a need for more television sets, larger screens, or more effective seating arrangements.

3. The conflict that was felt concerning the time schedule suggests either a need for more frequent projection of the programs, or the need for greater flexibility for classroom schedules to use to better advantage either of the two existing opportunities for viewing each program.

4. It is apparent that some teachers felt that the content of the televised program conflicted with the regular classroom curriculum. This should support the belief that the teacher ought to have some freedom in deciding whether or not her class will view a particular lesson or series of lessons.

5. The difficulty which some children reported with comprehension may mean that more careful attention should be paid to vocabulary control.

6. The enjoyment which many children showed in active participation either during or following the program should be of considerable influence in preparation of future programs.
Suggestions for Further Research

Certain factors which became evident during the analysis of the data lead the writers to believe that the following areas in the programs studied are in need of further research:

1. Administration of questionnaires to a larger number of classrooms at each grade level
2. Survey of a larger number of schools in an attempt to examine different methods for using the programs
3. More comprehensive survey to determine the effectiveness of the programs at each ability level
4. More extensive study of teachers' reactions and suggestions
5. Examination of the existing program guides in relation to the needs indicated by the teachers
6. Investigations of present administrative practices for the purpose of isolating conditions which teachers have found limiting.
Books


Magazines


Bulletins and Pamphlets


41. Association for Childhood Education, Children and Television - Making the Most of It (pamphlet), 1954.


Newspapers


Reports

57. Committee on Television, Report of a conference held in Iowa City, Teaching by Closed Circuit Television, American Council, 1956.
58. Statement of the Joint Council on Educational Television
Before the Senate Interstate and Foreign Commerce Committee, Joint Council on Educational Television.
Washington, D. C.

Interview

59. Sweatt, Kelsey B., Supervisor of Audio-Visual Services,
State Department of Education. interview.
APPENDIX
Directions For Administration

Distribute the forms to all of the children.

Read the directions carefully to them. Make sure that they understand that some questions may have more than one answer. They may circle either the complete answer or its corresponding number.

In the case of second or third graders or any others who might have difficulty reading the questions, the teacher may slowly read each question to the students.

We would appreciate it if every effort were made to impress the children with the fact that their answers will in no way discredit them especially since their names will not appear on the form.
PUPIL Circle your answers

1. Can you see the television from your seat?
   A. Yes
   B. No

2. Can you hear the television from your seat?
   A. Yes
   B. No

3. Can you understand the words the television teacher sings?
   A. Yes
   B. No

4. What do you like to do best?
   A. Sing together with the television teacher
   B. Listen to the television teacher sing
   C. Clap your hands to the music

5. Can you sing the songs to Mother and Father when you go home?
   A. Yes
   B. No
Circle word(s) or letter(s) which indicates your answer(s) to the questions below.

1. Do you feel that this program: (choose one or more of the following)

A. Can be used for practice
B. Can be used to supplement regular music program
C. Cannot be used at all
D. Can replace the regular music program

2. Circle any of the following answers which you find to be limitations.

A. Size of group watching program
B. Mixed grade levels watching program
C. Time it is scheduled
D. Conflict with regular music instruction

3. Can the children see the illustrations clearly?

A. Yes
B. No

4. How much preparation do you feel is necessary?

A. Extensive
B. Moderate
C. Little
D. None

5. How much follow-up do you feel is necessary?

A. Extensive
B. Moderate
C. Little
D. None

6. The children are:

A. Extremely interested
B. Fairly interested
C. Restless

7. The materials provided in the guide are:

A. Fully adequate
B. Reasonably adequate
C. Inadequate
8. The length of the program is:
   A. Too long
   B. Adequate
   C. Too short

9. The children's retention is:
   A. Excellent
   B. Good
   C. Average
   D. Poor

10. Do you feel that the program is geared to the abilities of:
    A. The superior student
    B. The average student
    C. The slow student
    D. All of the above

11. Optional: Suggestions for improvement (materials, methods, presentation, etc.)
QUESTIONNAIRE ON TELEVISIONED GRADE THREE LITERATURE

Directions: Circle the word(s) or letter(s) which indicates your answer(s).

1. Can you see the T.V. from your seat?
   YES
   NO

2. Can you hear from your seat?
   YES
   NO

3. When pictures in the books are shown, do you find it easy to see?
   YES
   NO

4. Do you want to read the story they talked about?
   YES
   NO

5. Have you read any of the stories?
   YES
   NO

6. Do you pay attention to the program
   a. because it is interesting.
   b. because you don't have to do class work at that time.
QUESTIONNAIRE ON TELEVISION GRDE THREE LITERATURE

TEACHER

Directions: Circle the word (s) or letter (s) which indicates your answer(s).

1. Do you feel that this program
   a. can be used for enrichment.
   b. can be used for supplement.
   c. cannot be used at all.

2. Do you find any limitations in the following school administrative aspects?
   a. size of the group watching program.
   b. mixed grade levels watching program.
   c. time it is scheduled.
   d. conflict with regular literature instruction.

3. Can the children see the illustrations clearly?
   YES
   NO

4. How much preparation do you feel necessary for this program?
   a. extensive
   b. moderate
   c. little
   d. none

5. How much follow-up do you use for this program?
   a. extensive
   b. moderate
   c. little
   d. none

6. Are the children usually
   a. extremely interested?
   b. fairly interested?
   c. restless?

7. Are the materials provided in the guide
   a. fully adequate?
   b. reasonably adequate?
   c. inadequate?
6. Does the program relate to other area of curriculum?
   Y: 5
   N: 0

9. What percentage of the children in your class are reading:
   a. above grade level 10% 20% 50% 75%
   b. at grade level 10% 25% 50% 75%
   c. below grade level 10% 25% 50% 75%

10. The length of the program is:
    a. too long
    b. adequate
    c. too short

11. The children's retention is:
    a. excellent
    b. good
    c. fair
    d. poor

12. Do you feel that the program is geared to the ability of:
    a. superior students.
    b. average students.
    c. slow students.
    d. all of the above.

13. Are the books used on the program available to you?
    Y: 3
    N: 0

14. Optional
    Suggestions for improvement (Material, methods, and presentation.)
Pupil questionnaire
Circle your answer.

1. Can you see the TV from your seat?
   Yes
   No

2. Can you hear the TV from your seat?
   Yes
   No

3. Can you see the illustrations clearly?
   Yes
   No

4. What do you like about the program?
   A. The TV teacher
   B. The films
   C. The displays
   D. The subject matter presented

5. Do you pay attention to the program because:
   A. It is interesting.
   B. You don't have to do class work at that time.

6. Do you think the maps help you understand what you are studying?
   Yes
   No
Teacher questionnaire

Circle the word (s) or letter (s) which indicate your answer to the questions below.

1. The children are usually:
   A Extremely interested
   B Fairly interested
   C Restless

2. The children's retention is:
   A Excellent
   B Good
   C Fair
   D Poor

3. Do you find any limitations in the following administrative aspects?
   A Size of group watching the TV
   B Mixed grade levels watching at the same time
   C Time it is scheduled
   D Conflict with regular supervised program

4. Can the children see the illustrations clearly?
   Yes  No

5. How much preparation do you feel is necessary?
   A Extensive
   B Moderate
   C Little
   D None

6. How much followup do you feel is necessary?
   A Extensive
   B Moderate
   C Little
   D None
7. The materials provided in the guide are:
   A  Fully adequate
   B  Reasonably adequate
   C  Inadequate

8. Does this program relate to other areas of the curriculum?
   Yes  No

9. The length of the program is:
   A  Too long
   B  Just right
   C  Too short

10. What percentage of the children in your class read:
    A  Above grade level?  10%  25%  50%  75%
    B  At grade level?     10%  25%  50%  75%
    C  Below grade level?  10%  25%  50%  75%

11. Do you feel that the program is geared to the abilities of:
    A  The superior student
    B  The average student
    C  The slow student
    D  All of the above

12. Optional: Suggestions for improvement (Materials, methods, presentation, etc.).
QUESTIONNAIRE ON TELEVISED GRADE FIVE SCIENCE

Directions: Circle the word (s) or letter (s) which indicates your answer (s).

1. Can you see the program clearly from your seat?
   a. YES
   b. NO

2. Can you hear the program clearly?
   a. YES
   b. NO

3. Can you see the illustrations clearly?
   a. YES
   b. NO

4. What do you like about the program?
   a. the television teacher
   b. the films
   c. the displays
   d. the subject matter presented
   e. suggestions for further activities

5. Do you pay attention to the program?
   a. because it is interesting
   b. because you don’t have to do class work at that time.

6. Do you understand all the words used on the program?
   a. YES
   b. NO

7. Have you ever found any of the plants and animals discussed on the program?
   a. YES
   b. NO

8. Would you have known what they were, before watching the program?
   a. YES
   b. NO
QUESTIONNAIRE ON TELEVISIONED GRADE FIVE SCIENCE

(For Grade Five Teacher)

Directions: Circle the word(s) or letter(s) which indicates your answer(s) and comment if you so desire.

1. Do you find any limitations in the following administrative aspects?
   a) Size of group watching television
   b) Mixed grade levels watching television
   c) Time it is scheduled
   d) Conflict with regular science program

2. Do you feel that this program
   a) can be used for enrichment
   b) can be used as a supplement
   c) cannot be used at all

3. Do you feel that the children can see the illustrations clearly?
   a) Yes
   b) No

4. How much preparation do you feel is necessary for this program?
   a) extensive
   b) moderate
   c) little
   d) none

5. How much follow-up is necessary?
   a) extensive
   b) moderate
   c) little
   d) none
6. When the children watch the program are they
   a) extremely interested
   b) fairly interested
   c) restless

7. Are the materials provided in the guide
   a) fully adequate
   b) reasonably adequate
   c) inadequate

8. Does this program relate to other areas of the curriculum?
   Yes
   No

9. Is the length of the program
   a) too long
   b) adequate
   c) too short

10. What percent of your class are reading
    a) above grade level  10%  25%  50%  75%
    b) at grade level    10%  25%  50%  75%
    c) below grade level 10%  25%  50%  75%

11. The children's retention of the material covered on this program is
    a) excellent
    b) good
    c) average
    d) poor

12. Do you feel that the children have learned to recognize
    the plants and animals discussed on the program?
    Yes
    No
13. Do you feel that the program is geared to the abilities of:

a) the superior student
b) the average student
c) the slow student
d) all of the above

14. Optional - Suggestions for improvement (methods, materials, presentation etc.)
QUESTIONNAIRE ON TELEVISION GRADE SIX SCIENCE

(For Grade Six Teacher)

Directions: Circle the word(s) or letter(s) which indicates your answer(s) and comment if you so desire.

1. Do you find any limitations in the following administrative aspects?
   a) size of group watching television
   b) Mixed grade levels watching television
   c) Time it is scheduled
   d) Conflict with regular science program

2. Do you feel that this program
   a) can be used for enrichment
   b) can be used as a supplement
   c) cannot be used at all

3. Do you feel that the children can see the illustrations clearly?
   Yes
   No

4. How much preparation do you feel is necessary for this program?
   a) extensive
   b) moderate
   c) little
   d) none

5. How much follow-up is necessary?
   a) extensive
   b) moderate
   c) little
   d) none
6. When the children watch the program are they
   a) extremely interested
   b) fairly interested
   c) restless

7. Are the materials provided in the guide
   a) fully adequate
   b) reasonably adequate
   c) inadequate

8. Does this program relate to other areas of the curriculum?
   Yes
   No

9. Is the length of the program
   a) too long
   b) adequate
   c) too short

10. What percent of your class are reading
    a) above grade level  10%  25%  50%  75%
    b) at grade level    10%  25%  50%  75%
    c) below grade level 10%  25%  50%  75%

11. The children's retention of the material covered on this program is
    a) excellent
    b) good
    c) average
    d) poor

12. Do you feel that on the whole the children understand the concepts being presented, even though they may not understand all the experiments?
    Yes
    No
13. Do you feel that the program is geared to the abilities of:

a) the superior student
b) the average student
c) the slow student
d) all of the above

14. Optional - Suggestions for improvement (methods, materials, presentation etc.)
QUESTIONNAIRE ON TELEVISIONED GRADE SIX SCIENCE

(For Grade Six Teacher)

Directions: Circle the word(s) or letter(s) which indicates your answer(s) and comment if you so desire.

1. Do you find any limitations in the following administrative aspects?
   a) size of group watching television
   b) Mixed grade levels watching television
   c) Time it is scheduled
   d) Conflict with regular science program

2. Do you feel that this program
   a) can be used for enrichment
   b) can be used as a supplement
   c) cannot be used at all

3. Do you feel that the children can see the illustrations clearly?
   Yes
   No

4. How much preparation do you feel is necessary for this program?
   a) extensive
   b) moderate
   c) little
   d) none

5. How much follow-up is necessary?
   a) extensive
   b) moderate
   c) little
   d) none
6. When the children watch the program are they
   a) extremely interested
   b) fairly interested
   c) restless

7. Are the materials provided in the guide
   a) fully adequate
   b) reasonably adequate
   c) inadequate

8. Does this program relate to other areas of the curriculum?
   Yes
   No

9. Is the length of the program
   a) too long
   b) adequate
   c) too short

10. What percent of your class are reading
    a) above grade level  10%  25%  50%  75%
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    concepts being presented, even though they may not under-
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   a) the superior student
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   c) the slow student
   d) all of the above

14. Optional - Suggestions for improvement (methods, materials, presentation etc.)