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AUTHOR Knirk, Frederick G.
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ABSTRACT

The problems and successes of instructional television (ITV) in elementary and secondary schools in New York State between 1966-68 are reported here as the basis for recommendations which may facilitate the continued development of ITV in the state. Sixty-five schools, representing 60 percent of the ITV-using schools, and nine nonusing ITV schools in the State were visited. Educational Council Stations were found to be the single greatest source of programs; these were mostly used as enrichment or resource materials. Problems most often mentioned were those of scheduling and programing. With the initial help of the State assistance program, most of the schools seem to have most of the equipment they need. Generally, all buildings are considered adequate for ITV. Teachers report that they feel comfortable with ITV. However, budget cuts may make the suspension rate of ITV as high as 25 percent for the 1969-70 school year. Some of the recommendations are that the development of Council stations, Instructional Television Fixed Service Stations, and closed-circuit television school systems in New York State should be coordinated; that the State Education Department videotape library should be expanded; and that ITV preservice and inservice training programs for teachers and school administrators should be developed. (MF)

The Problems and Successes of Instructional Television in Elementary and Secondary Schools in New York State

1966-68

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Department Programs Evaluation
Albany, New York 12224

The Problems and Successes of Instructional Television in Elementary and Secondary Schools in New York State 1966-68

by

Frederick G. Knirk
Syracuse University

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contents

tables

charts

figures

1. introduction

> There can no longer be any real doubt that children and adults learn a great amount from instructional television, just as they do from any other experience that can be made to seem relevant to them — experiences as different as watching someone rotate a hula hoop or reading the encyclopedia. (Chu & Schramm, *Learning From Television.*)

The major purpose of this document is to report on the problems and successes of instructional television (ITV) in elementary and secondary schools in New York State between 1966–68. The findings of this study have been projected to the future as a series of recommendations or questions which may facilitate the continued development of ITV in the State to the year 1974.

Emphasis in this study was placed on obtaining data from users of ITV — school administrators, teachers, and students. Data from the Educational Television Council stations in the State and from the school systems' television directors were also collected to provide contextual and projection data.

The focus in this report is threefold: 1) How has ITV affected instructional patterns? 2) What were the funding trends and problems? and 3) What were the exemplary and innovative uses of ITV? The chapters in this report deal with specific programmatic questions: How are television materials being distributed? How are the programs being developed, and then revised as a result of user feedback? What are the sources and trends in funding instructional television? What facilities and equipment exist and what are needed? What are the students', teachers' and administrators' attitudes toward instructional television? What are the availability and training of television and user personnel regarding instructional television? Finally, what recommendations regarding television in New York State are suggested by this study?

Background

The data for this report were collected between April 1 and June 15 in 1969. A list of schools using ITV was provided by the Bureau of Mass Communications and includes those schools under the Local Assistance Program for ITV in the public schools. A number of nonusing schools were visited to answer questions related to the reasons they had elected not to use instructional television.

The Bureau of Mass Communications identified schools which it considered outstanding or exemplary schools with regard to their use of instructional television. As these 25 exemplary schools were selected for the sample, the data from these schools were tabulated separately and reported for comparative purposes.

The Division of Educational Communications supported a number of studies related to ITV in New York State between 1966 and 1968. The Bureau of Mass Communications actively visited schools during the planning and implementation stages of new television programs to provide systems analysis and other technical assistance as requested. Followup visits were also made. In order to disseminate these findings on instructional television, the bureau has assisted in preparing several documents, including: *I.T.F.S.: What It is — How To Plan* (1967); *Percentile Ranking of Educational Programs* (1968); *Educational Communications Handbook* (1968); *Educational Media — Materials Distribution Service Catalog* (yearly); *State Study for a Network of Regional Communications Centers* (1968); and *A Study of the Cooperative Efforts of School Districts in Certain States in Showing Media Resources Through Regional Instructional Media Centers During the 1966–67 School Year* (1969). Questions related to the services provided by the Bureau of Mass Communications related to television were included in this current study.

In 1962, State aid for the development of educational television in the public schools was announced. This program has assisted over 100 schools in New York State to obtain matching funds for the purchase of television equipment and has assisted with the operating expenses on a diminishing schedule for 5 years (diminishes 10 percent each year).

The focus of this report was not upon the quality of instructional television programing in New York State, and thus did not gather data related to it. Students' learning, retention, and attitudinal behaviors resulting from programing techniques or from teacher attitudes toward television were excluded. A summary of this type of data is available in a report entitled, *Learning*

from Television: What the Research Says,[1] by Godwin Chu and Wilbur Schramm, which summed up 393 experimental comparisons of television vs. classroom teaching.

With the exception of surveys carried on by the instructional television stations, and a few surveys by the school districts to determine who was using television, there was little research in the State of New York related to the effectiveness of instructional television. A large number of those interviewed thought instructional television was an effective medium though they could offer little or no support for their feelings. Of the schools using instructional television in this study, 10.8 percent (N=65) reported doing research beyond surveys. Only 3 percent of these schools provided copies or descriptions of their research. Of the schools that did not use television (N=9), none reported having done any research with television, or any research on the effectiveness of television which influenced their decision to remain nonusers.

A paper outlining the development of ITV in New York State has been prepared by the Bureau of Department Programs Evaluation.[2]

Sampling Procedure and Interviewer Selection

The initial random sample generated in March 1969, consisting of schools on the list provided by the Bureau of Mass Communications, was expanded in late May when it became evident that additional schools could be visited. The 65 schools using ITV which were visited represented a 60 percent coverage of the entire identified population. Nine nonusing ITV schools in the State were visited and all nine Educational Council Broadcast Stations were visited. Two schools would not participate in the study. One of these schools was to have been in the using sample. It was approached in early June and due to scheduling problems could not be visited. The second school was to have been in the nonusing sample. The names of the schools in the samples are listed in Appendix A.

In order to increase the degree of cooperation and the validity of the data it was decided to have interviewers visit each of the schools. Discussion guides with closed and open-ended questions were designed and tested to increase the reliability of the data. Guides for ITV using schools, for nonusing schools, and for the Educational Council Stations were developed. See Appendix B for a copy of the guide developed for schools using ITV. The use of the structured discussion guide forced all interviews to have a common format and order.

The interviewers were selected on the basis of having: 1) a general knowledge of the area of instructional technology, and 2) a graduate background in education with a research orientation. All interviewers had successfully completed at least one graduate program and over 50 percent (N=15) had completed either the Ph.D. or Ed.D degree. No interviewer had extensive contact with any Bureau in the Department of Education. The names of the interviewers are attached as Appendix C.

In the schools surveyed there was a range of zero to 16 years of television experience reported. Table 1 summarizes the number of years instructional television was reported to have been practiced in the using samples.

TABLE 1

Years Schools in Using Sample had used ITV

Length in Years	Number of all Schools*	Number of Exemplary Schools**
1	6	0
2	9	2
3	6	1
4	11	5
5	9	10
6 or more	24	5

* Refers to all schools in using sample
** Not included in using sample; data reported for comparative purposes

At the time of the interview, most of the using schools were under the State Aid for the Use of Educational Television in the Schools Program. See table 2 for the length of time the schools in the sample had been in this program.

The experience the nonusing schools had with instructional television was, by definition, limited.

TABLE 2

Years Schools in Sample were in the State Aid for the Use of Educational Television in the Schools Program

Length in Years	Number of Schools	Percent
1	12	22.6
2	12	22.6
3	2	3.8
4	14	26.5
5	13	24.5

[1] Godwin Chu and Wilbur Schramm. *Learning From Television: What the Research Says* (New York: National Association of Educational Broadcasters, 1967).

[2] The New York State Education Department, 1969. *A History of Educational Television in New York State.*

2. wire distribution systems

In this chapter various aspects of closed-circuit television (CCTV) and community antenna television (CATV) systems will be explored. These two distribution systems are similar in that both use wire to connect the television signal source to the user's receiver. CATV systems normally distribute commercial and ITV programs to a community. In most cases the CATV company provides a channel for school use. The ITV programs are sometimes viewed throughout the community and often elicit public response. CCTV normally connects only the classrooms in a school or a school district. The signal source of programs for this system is often a school owned video tape recorder.

Closed-Circuit Television (CCTV)

CCTV offers the potential of multiple limited access channels. Only the Instructional Television Fixed Service (2500 MegaHertz) distribution system offers multiple channels and this service is necessarily limited due to Federal Communications Commission (FCC) channel allocation procedures. In New York State the CCTV systems distribute video tapes, live programs prepared by the students or teachers, and films. They are also used to insure good reception and distribution of programs originating with the Educational Television Councils. The costs of a CCTV system will be covered in Chapter 5.

Of the schools in the using sample, less than 25 percent (N=65) reported they had a CCTV system. Sixty-five percent of those schools reported having one or more video tape recorders. These recorders are connected by cable to one or more receivers and thus might be considered limited CCTV systems.

Many of the local school CCTV systems do some of their own program development. Thirty-six percent (N=65) of the using schools reported they had studio facilities of some type. At least one school system, Corning, which had one of the first stations for program development in the State, has discontinued use of its studio and CCTV systems.

The sources of programs for these CCTV systems vary. The major source in New York State is the Television Council Station. The other programing sources include local programing, video tapes from the State Education Department, and the Great Plains and other video tape and film libraries. Many school districts also use the commercial television stations for programs (the noon news is watched in many schools) and some tape evening programs for replay in schools at a later time. This taping of commercial programs was reported in 6 percent of the schools. As the legality of this activity is questionable to many educators, this figure is probably low. One Director of Instructional Television said, "We steal like everyone else." Programing activities are discussed in greater detail in Chapter 4.

Community Antenna Television (CATV)

Community antenna television can deliver improved reception of television signals to hill-locked or remote communities. CATV is an extension of the master antenna principle that serves hotels, apartments, and office buildings. Schools are also able to obtain improved ITV signals through a CATV distribution system due to better antenna placement and an amplified signal.

Franchises to operate CATV systems are granted by local authorities, not the FCC, at present. In granting a franchise to a company the community may be able to get a channel for local school programing in addition to distribution of ITV programs (and possibly within) the school buildings.

The FCC is concerned about CATV's potential effects on local commercial UHF stations. Some educational broadcasters in New York are concerned that the availability of programs from distant ITV stations may undercut the potential support for an existing or new station in the local communities. This problem is further discussed in Chapter 5.

The potential of CATV as a distribution system may be inferred from the activities of the major U.S. television networks. The National Broadcasting Corporation, according to an article by Stuart Little in the Saturday Review,[3] has five CATV systems including one in Valencia where "the cable is being laid alongside of the plumbing." The potential of CATV systems for school districts in New York to permit flexible distribution and scheduling is obvious.

[3] Stuart W. Little. "CATV: the big growth industry in broadcasting," *Saturday Review* (October 12, 1968).

Problems

The largest number of responses to the question, "Can you describe any bad situations that have occurred during the past three years?" usually relate to two problems: 1) program quality and, 2) scheduling of programs for multiple grades at times convenient to the teacher, the local school curricula, local school vacations, and various individual differences of students. These are problems which are difficult or impossible to solve with one channel according to those interviewed. A random sample of comments contained the following: "Poorly produced and scheduled programs occur across all age levels"; "Fourth through sixth grades are tracked thus scheduling is a major problem"; "Inability to preview programs"; "Did not have preparation books from Channel 13"; "Scheduling Channel 13 broadcasts"; "Scheduling problems"; "Grade levels are improper — too low." The teachers said: "Scheduling problems prevent use"; "Suggested WNED send tapes to schools instead of broadcasting them"; "Channel 17 was off the air for about a week and this threw us off schedule. Can't see the math program because of scheduled times. Some TV teachers talk too fast and others talk down to the students." A few of the students' comments were: "'Historical Shrines' program did not show on schedule"; "Mechanical problems with French TV program (Parlons Francais) lose picture, multiple images. Think the French programs were bad. Do stupid songs"; "'Reading the Newspaper' woman talks too fast. The lady on 'Dateline' talks down to you"; "The art program had a poor instructor and there is no participation by the students."

The multichannel capability of wire distribution systems technically can overcome scheduling limitations to the effective use of television. This rationale for cable distribution systems was recently used in the President's Task Force on Tele-communications Policy. This report indicated that it found little promise in the expansion of the low power UHF stations, or even in the noncommercial stations, because these offer only single channels and cannot cope with a range of specialized television needs. The task force called for at least 20 different channels for home use. The President's Task Force concluded that "cable rather than open broadcast channels is the most promising of all the pathways available to cater to as wide a variety of taste as possible." As the communication of ideas is the heart of education these multiple channels should be available for educational purposes.

3. educational television council stations

An enactment by the New York State Legislature in 1954 empowered the Board of Regents to charter Educational Television Stations (ETV). Today nine stations or Councils are in operation. The names and addresses of these Councils are listed in Appendix D. As shown on the figure 1 map, these stations are located near the major population centers in the State and can provide ITV coverage to a majority of the students in New York State.

There are major differences in production facilities in the various councils. The operating budgets for the councils vary considerably. This variance directly affects the production and services available from the councils to the schools in their service areas. Most of the budget for ITV in the council stations comes from fees paid by the participating schools of about $1.50 to $2.00 per student in the school district. The sharing of programs in the State network is resulting in more common use of some programs and less new program development.

Data collected in 1967 and reported in the *State Study for a Network of Regional Communications Centers,*[4] in October 1968, indicated that approximately 1,551,028 elementary and secondary school students in nearly 2,000 individual schools in the State received some kind of instruction via broadcast television. Many of these using students may watch only an average of 20 minutes a week, or they may watch two or more programs a day on television. The possible impact of television is uncertain. Only 32.4 percent (N=71) of the school administrators interviewed thought television had changed the curriculum in their school and 9.9 percent reported that television had made major changes in their curriculum. Sixteen of 42 television directors, and 41 of 130 teachers felt ITV had an effect on the curriculum. In each case, a small number of the interviewees had no opinion or did not respond to this question.

The findings of the *State Study for a Network of Regional Communications Centers,* indicate strong, positive attitudes towards broadcast television. They conclude that educators believe "the potential for flexible demand programing made possible by closed-circuit, cable and micro-wave combination is the only real hope for achieving effective instructional television, commonly referred to as ITV." This concern about the inability to schedule or reschedule programs by the Councils was discussed in Chapter 2.

The numerical and descriptive information recorded in this chapter and in Chapter 4 is expanded in a doctoral dissertation by Mary E. Scieford entitled "Instructional Television: A Survey of Producer Knowledge and Perceptions of Producer — Consumer Communications Patterns and Production — Selection Practices in New York State." During March 1969, each of the New York State Educational Television Council stations was visited and its representative was interviewed.

The perceptions and knowledge of the School Services Department representatives of each Council station concerning instructional television programing, communications with schools, and communications with other producers and distributors of instructional material were included in this study. All specific information relates to the 1968–69 school year unless otherwise indicated. Sufficient earlier data were not consistently available and thus not useful.

General Station Description

General data which describe the services rendered to New York State school districts by the nine ETV stations and Councils are shown in table 3. In the column headed "School Services Staff," only the actual personnel of that department are recorded. In all stations, regular staff producer-directors, photographers, cinemaphotographers, graphic artists, production, and engineering crew are available, when needed, for local inschool productions. Under the heading, "Programing," both numbers of series and numbers of programs are included since a television series may include any number of programs, ranging from a low of 3 to a high of 140. The columns subheaded "Programs," refer only to the number of different programs offered during the course of the year,

[4] The New York State Education Department, *et al., State Study for a Network of Regional Communications Centers.* October 1968. The Department, Albany, New York 12224.

TABLE 3

New York State ETV Council Stations:
General Description of School Services

	Years of ITV Programing		School Services Staff		Programing		Member Districts	
	CTV Channel	Own Channel	Administration	Secretarial	Series	Programs	Regular	Pilot
WNED		10	1	1	42	1040	14	1
WXXI	8	3	1	½	39	770	25	
WCNY	1	3	1	1	39	834	27	2
SLV-ETV	10		1	½	18[a]	433[a]	35	
WSKG	8	1	1	½	35[b]	421[b]	35	5
WMHT		7	2	1	49	1016	40	
WNDT		7	7	5	52	1263	164	40
WNYE	17	1	4	5	42	803	1[c]	
WLIW		½	1	½	31[d]	279[d]	4[e]	

[a] Broadcast on commercial channels for only 1 hour per day. Data for 1968–69
[b] Figures available for first semester only.
[c] This station is operated by the New York City Board of Education.
[d] Figures represent 9-week sample of programing.
[e] Because the station began broadcast operations in January 1969, there are no regular 1968–69 member districts. Four have enrolled for the 1969–70 school year.

TABLE 4

New York State ETV Council Stations:
Potential, Members, and Actual ITV Users

Stations and Councils	Potential Enrollment		Member Enrollment		Actual Student Viewers
	Districts	Students	Districts	Students	
WNED	90	400,000	15	245,000	214,530[a,b]
WXXI	U	U	25	U	61,875[b]
WCNY	99	U	29	160,010	U
SLV-ETV	U	U	35	146,000	U
WSKG	65	U	40	91,000	U
WMHT	U	U	40	U	U
WNDT	U	3,000,000[c]	204[c]	1,400,000[c]	1,050,000[b,c]
WNYE[d]	1	1,100,000	1	1,100,000	190,000[b]
WLIW	134	614,000	4[e]	U	U

NOTES:
[a] 1967–68 figures.
[b] Figures estimated, may include students who have been counted twice.
[c] Includes totals from WNYE which utilizes WNDT as an auxiliary service.
[d] New York City Board of Education Station.
[e] 1969–70 figures.
Code: U — Unknown to station.

despite the fact that many programs are repeated more than once. School districts supporting and participating in instructional services as provided by the Educational Television Council stations are recorded under the heading, "Member District." "Regular" members pay the full per pupil membership fee, while "Pilot" members are considered as trial members and pay a reduced per pupil fee.

Charts indicating the 1968–69 programs and series, offered by each individual station, according to subject area and grade level, are shown in Appendix E.

The extent to which instructional television programing by the Councils is used by school districts of the State is shown in table 4. The first column lists the potential member districts and student enrollments which *might* be served by individual stations. These districts may receive the station's signal either through open-circuit broadcasts or CATV. The second column lists the *actual* member districts and their student enrollments. This student enrollment figure shows how many member district students are eligible to receive instruction through the medium of television, as presented by the ETV stations and Councils. The last column shows the estimated *actual* number of students utilizing instructional series presented by the stations and Councils.

Station Contact with Schools

Each School Services Department has some type of formally organized station-school liaison group or groups. The major function of these groups is to provide a means whereby stations and schools may work together to provide instructional material for member district students. The major types of responsibilities assumed by these groups include making major policy decisions which affect the station-school relationship, communicating curricular needs and advice from school to station, and developing courses which are produced locally. Generally, committees are designed to give all member districts an active voice in the determination and provision of televised instruction.

In addition to the organized liaison groups, stations utilize a variety of printed, personal, and televised forms of communicating with schools. A statewide review of the personal and televised means of communication between schools and stations is summarized in tables 5 and 6. The printed materials exchanged between schools and stations are discussed in Chapter 4 as they relate to program development and use.

The personal contacts recorded in table 5 may have been initiated by either the School Services staff or school district personnel. Most of these meetings and conferences are held in the schools, but the column headed "tours" refers to teacher and student visits at station facilities.

Table 6, "Televised Communications with Schools," records the ways in which the medium of television is used by stations for communicative purposes, exclusive of the current instructional television series and programs.

Summary

The major evident trends regarding the development of the Educational Council stations in New York State suggest that the Councils in the larger population areas of the State provide a multitude of services and television programs to a large number of schools in New York. The rural areas of the State often have little or no ETV coverage and the stations located in the less populous areas, as in Binghamton, have difficulty in sustaining operations solely through the participation by local school systems.

There appears to be an increase in the sharing of programs between the Councils and in the purchase or rental of programs distributed "commercially." The limitation of a single channel within each Council is a problem and will be of continued concern to the school districts subscribing to the services of these Councils. With the relatively small amount of secondary programing, and a seeming inability to correct the problem there may be increasing pressure to eliminate a user charge for secondary school students. Financial aid to the poorer Councils from the State Education Department would increase the equality of the services provided by the Councils. There are formal and informal feedback procedures between the schools and the stations but as was noted in Chapter 2, the problems of scheduling and programing quality have not been eliminated.

TABLE 5

New York State ETV Council Stations:
Personal Contacts With Schools

Station	Demonstration Lessons Taught	Workshops	Administrator Planning Conferences	Tours	Technical Assistance	Faculty Meetings	PTA Meetings	Classroom Observation
WNED								
WXXI					3			1
WCNY	3	13	9		9	15	2	7
SLV-ETV								
WSKG		12	9	25	3			15
WMHT		18		50	500			12
WNDT	6	50	13	20	3			
WNYE								
WLIW								

DATA BASE: Number of contacts from September 1968 to February 1969.

TABLE 6

New York State ETV Council Stations:
1968–69 Televised Communications With Schools

Station	Introduction To Year's Schedule	Utilization Practices For Teachers	Promotional Announcements	Recognition of Schools' Program	Program Preview
WNED					X
WXXI		X	X	X	X
WCNY		X	X	X	X
SLV-ETV					
WSKG			X		X
WMHT		X			X
WNDT	X	X	X	X	X
WNYE		X	X	X	
WLIW				X	X

4. programs and programing

User Data

Instructional television programs can be bought or produced locally. The sources of programs currently used in the schools are shown in table 7. The schools reported they are using more video taped programs now than they used in 1966 through 1968. They are using their recorders for micro-teaching activities, so the students can see themselves; for recording student productions such as news programs; for copying broadcast programs and films to eliminate scheduling problems; and for occasional production of instructional programs.

The impact or role of these instructional television programs was almost always seen as either enrichment, or as an aid to the teacher based activities. When the ITV interviewees were asked what role they thought ITV could have, they responded that ITV could be used for enrichment, as a major resource, and some thought as the basis for the entire course. (See table 8.)

A few of the administrators' comments on using ITV as the basis for a full course of instruction follow: "Yes, more easily now than earlier"; "No, teachers should be more involved"; "Maybe, utilization is the key. It will never replace teachers"; "No, you have to have a

TABLE 7

Program Sources in Using Schools

Source	Number of All Using Schools (N=65)	Number of Exemplary Schools (N=25)
Local Programing	22	10
Educ. Council TV Station	50	14
Local Taping of Commercial Stations	18	10
State Education Dept. Tapes	19	6
Great Plains Tapes	4	1
Other Tape Libraries	6	4
Other Sources — Film, etc.	9	3

TABLE 8

Role of ITV Programing

Source	Full[a] Course	Major[a] Resource	Enrich-ment[a]	Not at All[a]
School Administrators (N=71)	11	43	69	0
TV Directors (N=42)	14	35	40	0
Teachers (N=130)	22	63	119	1
Students (N=92)	22	38	50	0

[a] The response categories are not mutually exclusive. Each respondent can answer in 1, 2, or 3 categories.

personal followup"; No, nothing happens between people, TV can make a major part of the presentation, there can be smaller units of independent instruction or self-study, but out of this must come some production of ideas that are tested against one another. A problem with TV is that it is one-way communication." The teachers said: "No, TV teachers can't answer questions. There is a need for active participation"; "No, need feedback to student questions"; "No, students need personal attention from the teacher"; "Yes, but not enough sets now"; "Yes, I use 'All About You' as a full course of instruction although I do followup sessions. I feel this program gives very adequate coverage of 'Our growing bodies'—it would depend on the area." The students responded to the same question in the following manner: "No, because someone is needed to review the TV lesson"; "No, need to ask questions"; "No, I like learning from books more"; "No, some kids would goof around"; "Yes, I'd like to take the present course in science completely on TV—without a live teacher." It should be noted that a number of students, over 40 percent of those responding (N=55), felt television could be used as the basis for a full course.

The comments summarized in table 8 regarding the role of ITV programs suggest that the impact on the curriculum is moderate. When asked specifically about the impact ITV had had on curriculum, the interviewees responded as indicated in table 9.

TABLE 9

Impact of ITV on School Curriculum

Source	Any Impact Yes	Any Impact No	Major Impact Yes	Major Impact No
School Administrators	23	24	7	37
TV Directors	16	9	8	16
Teachers	41	38	13	57
Students	7	13	4	12

Random comments from administrators included: "No, there has been no basic change in the curriculum structure. Additional source material has been made available for the various subjects"; "No, has added more resources. Teachers are more aware of AV materials and their receptivity to it has increased"; "Yes, social studies and science have been expanded"; "Some, more science instruction within instructional programs due to popularity of the science series." The teachers comment: "No, I have not made any change in my story telling time due to 'Real and Make Believe.' However, 'All About You' has been done excellently and has eliminated the need for a lot of research and teaching materials on my part. I couldn't possibly do the job the teacher on TV does"; "Yes, a course in social studies was made more flexible while at the same time maintaining the guidelines set by the New York State Department of Education."

When the interviewees were asked to comment on the relative amount of time the subjects presented by television consumed when compared to conventional instructional procedures the majority indicated there was no change in time. (See table 10.) Those indicating there

TABLE 10

Impact of ITV on Time Spent in TV Taught Subjects

Source	Time Spent			
	All Schools		Exemplary Schools	
	Change	No Change	Change	No Change
School Administrators	11	31	2	10
TV Directors	8	13	3	5
Teachers	24	49	7	19
Students	2	9	0	3

was a change in the time usually felt that instruction via ITV was faster than the conventional discussion-lecture approach. Administrators' comments included: "No, there has been no great difference in time expenditures regarding the subjects taught by television"; "No, but expect impact"; "Yes, reduces time spent on TV taught areas—better presentations." The teachers said: "Yes, TV saves considerable time"; "Yes, TV stimulates more questions in science and consequently we spend more time on it and go into greater depth—also social studies"; "No, classtime about the same."

When the teachers were asked about their perceptions of how their comments concerning needed ITV program changes actually changed the programs, the majority of the interviewed administrators and TV directors said they

were being heard. The majority of teachers and students, however, felt they were not being heard. (See table 11.)

TABLE 11

Perception of Impact of Inschool Evaluation on Revision of TV Programs Before Rebroadcast

Source	ITV Progams	
	Are Changed	Are Not Changed
School Administrators	25	14
TV Directors	19	7
Teachers	31	42
Students	1	11

The major part of the programing effort in New York is done by the Educational Council Stations. As illustrated in the individual station charts in Appendix E, New York State elementary and secondary students were offered televised instruction in the subject areas of Driver Education, Fine Arts, Guidance, Home Economics, Language Arts, Mathematics, Physical Education, Science and Health, Secretarial Studies, and Social Studies by the ETV Council.

The process by which this instructional material is selected for member district utilization is similar in all Council stations. In identifying the instructional needs which may be filled through televised instruction, informal comments by teachers to School Services personnel or to their school's ITV liaison representative are considered along with written remarks concerning the continued use or replacement of a series indicated on current evaluation sheets. If any structured attempt is made to poll all teachers — both users and nonusers — concerning their need for televised instruction, it is usually conducted by the individual member districts and not by the School Services Departments. School Services personnel must then assume that members of organized station-school liaison groups are reasonably accurate in ascertaining the curricular needs of their districts.

As needs for televised instructional material are identified, appropriate programing is sought. During the 1968–69 school year, finance was the basic criterion in New York State for determining whether instructional television series should be locally produced or rented. Because each station was concerned with making the best use of its allotted School Services funds, most series were rented rather than produced locally due to the higher cost of local production. This statewide policy correlates with the national profile reported in *One Week of Educational Television*, in which local production of ITV programing decreased from 42.2 percent in 1966 to 35.4 percent in 1968.[5]

One New York State station reported that its 1968–69 ITV series rental for 39 series amounted to approximately $22,000. According to figures released in the report cited above, local estimates for production costs of one 30-minute program included a median of $455 and a mean of $1,005 (Coombs, p. 25). Projecting these figures to the total production costs of a 15-program series results in a range of $6,825 — $15,075 for just one series. These figures demonstrate the financial criterion on which rental-production decisions are based. These financial considerations are expanded in Chapter 5.

Only one station, WNYE, reported extensive local production during the 1968–69 school year, although four other stations engaged in the production of at least one series. Since the majority of New York State stations were not extensive production centers, the necessity for effective communications with other producers and distributors of instructional television programing was underscored.

Many School Services directors noted curricular areas in which there were no acceptable series available from other sources. Among those mentioned were: a series to accompany the revised New York State Social Studies curriculum, Family Life and Sex Education series, elementary series in Afro-American History, up-to-date series in elementary science and music appreciation, secondary series in science and mathematics, career development series for high school students, series for the perceptually handicapped, and a series which would present curricular and instructional innovations to teachers.

Stations obtain recorded instructional television series from a number of distributors. During 1968–69 these included: The Eastern Educational Network (EEN), the Great Plains National Instructional Television Library (GPNITL), the Midwest Program on Airborne Television Instruction, Inc. (MPATI), National Instructional Television Center (NIT), New York State Department of Education (NYSED), and National Educational Television (NET). Data comparing the major outside distributive

[5] D. H. Coombs. *One Week of Educational Television: Number Five, May 6–12, 1968* (Stanford, California: Institute for Communications Research, 1969), p. 29.

source of instructional series to locally produced series are shown in table 12.

TABLE 12

New York State ETV Council Stations: 1968–69 Instructional Series — Major Sources, Local Productions

Station	Local Series Used	Other Series Used	
		Source	Number
WNED	11	EEN	16
WXXI	2	EEN	20
WCNY	3	EEN	16
SLV-ETV	2	NYSED	6
WSKG	1	NYSED	8
WMHT	12	EEN	15
WNDT	8	EEN	20
WNYE	32	EEN	5
		NET	5
WLIW	1	NYSED	23

As previously indicated, production of televised instructional series by the Councils in 1968–69 did not occur at levels as high as in earlier years. However, many series in use throughout the State had been produced in past years by New York State ETV councils. Figures included in table 13 compare the instructional series produced by New York State Councils to those produced by sources outside the State. These sources include other ETV stations, networks, and independent commercial producers.

Of 167 different instructional series offered during the 1968–69 school year, it was possible to identify the original producers of 137 series. Of this total, 86 had originally been produced by New York State ETV stations and/or Councils, 35 had been produced by other ETV stations, and 16 originated from other outside sources.

In interpreting table 13, however, the reader should note that these are statewide totals and that, for example, WNED as the original producer of 17 series-in-use, did *not* necessarily air all 17 of these series for Buffalo area viewers during the 1968–69 school year.

For those televised courses which were produced in

TABLE 13

New York State 1968–69 Series — Original Producers

In-State Producers			Out-of-State Producers				
Stations	Series	EEN	Stations	Series	Other Organizations	Series	Total Out-of-State
WNED	17	X	WEDH, Hartford, Conn.	2	Heath de Rochemont	1	
WXXI	6	X	WETA, Washington, D.C.	6	MPATI	5	
WCNY	3	X	WGBH, Boston	10	National Film Board Canada	2	
SLV-ETV	3		WILL, Univ. of Illinois	1	NET	6	
WSKG	1	X	WITF, Hershey, Pa.	2	South Carolina ETV Association	1	
WMHT	16	X	WQED, Pittsburgh	2	Southwest Texas ETV Association	1	
WNDT	13		WVIZ, Cleveland	5			
WNYE	27	Prog. Assoc.	KQED, San Francisco	2			
			KRMA, Denver	4			
			KVIE, Sacramento	1			
Totals	86			35[a]		16	51

[a] Includes 24 series from EEN members or affiliates.

New York State during 1968–69, most stations reported that the television teacher or narrator was selected by means of an on-camera audition; but only one station reported that it had suggested the use of preservice training for the television teacher. Most stations instructed teachers in on-camera techniques during the development, production, and actual taping of telelessons. In evaluating these local productions, the stations reported that informal formative evaluation was usually conducted immediately after a lesson was recorded. The video tapes were screened by television teachers, educational consultants, and station personnel for content, production, and technical errors. In cases of major failures, lessons were re-recorded before being released. For summative evaluations, stations depended upon the return of teacher evaluations of current series. No New York State Council station reported engaging in the prerelease validation of instructional television lessons during 1968–69; although two stations did consider ongoing feedback from teacher and student users during the timespan when the series was being produced.

School and Council Interaction

During the school year, a variety of printed materials — developed by School Services and station personnel, with the advice of educational liaison representatives — were provided to the member district schools.

Teacher Guides which contain the yearly schedule of recorded telelessons and detailed descriptions of lesson content, objectives, suggested followup activities, and reference materials were sent to school districts for use by each teacher-user. Later in the year, evaluation forms for the series-in-use, are distributed by all nine Councils for teacher comment and " use again-do not use " recommendations. For the six stations which are members of the New York Network — WNED, WXXI, WCNY, WSKG, WMHT, and WNDT — a midyear, on-air preview of televised series under consideration for the following school year were offered. During the 1968–69 special " preview week," 19 different series with a total of 38 different programs were presented to schools through the NYN transmission facilities. Special preview evaluation forms were distributed to schools for use in evaluating these programs.

Bulletins and newsletters containing special instructional television and educational news, as well as notations of schedule changes or special programing were distributed to member district schools. Copies of a monthly station *News Magazine* were sent to administrators and school board members by some stations. Data concerning these printed materials are recorded in table 14.

TABLE 14

New York State ETV Council Stations: 1968–69 Print Communications with Schools — Sent and Returned

Station	Guides	Current Evaluation	Return	Preview Evaluation	Return	ITV Bulletins	Station News
WNED	X	X	X	X	X		X
WXXI	X	X	X	X	750	X	
WCNY	8,800	8,800	3,160	4,751	1,925	4,300	X
SLV-ETV	1,200	500	125				
WSKG	3,000	3,000	X	X	X		
WMHT	6,000	2,500	1,200	2,500	500	2,000	6,000
WNDT	24,000	72,000	2,450	48,000	1,575	20,250	6,000
WNYE	55,000	X	756	X	X	X	
WLIW	Program Listing	X	X			How to Use UHF-TV	

NOTE: Use of x indicates print communications sent, but exact numbers not known.

Since the educational liaison committees and School Services personnel rely upon the evaluative reactions of teachers in determining the selection of instructional television programing, table 15 is a compilation of data concerning the 1968–69 evaluation forms which were returned to the stations by March 1969, as compared to the total possible teacher-evaluations. Some stations expected additional returns before the school year ended. Since the actual number of user-teachers is not known in many cases, and since some teachers evaluate more than one series, it is impossible to estimate what proportion of user-teachers participated in these evaluations.

1969–70 evaluation of current and preview programs.

The interviewees considered two major areas in evaluating the effectiveness of the total system of communications between New York State ETV stations and Councils and other producers and distributors of instructional television series. The first was a general estimate of the amount and types of communications received from other production and distribution sources. All nine School Services directors agreed that the printed lists and catalogs, and the opportunities available to meet with other producers and distributors, combined with the availability of preview tapes, provided them with an accurate estimate

TABLE 15

New York State ETV Council Stations
1968–69 Evaluation Forms Returned
Member District Teacher Totals

Stations	Forms Returned		Member District Teachers	
	Current	Preview	Total	Actual ITV Users
WNED	U[a]	U	U	U[a]
WXXI	U	750	4,500	2,300
WCNY	3,160	1,925	7,663	U
SUNY-ETV	125	U	U	700
WSKG	U	U	3,000	U
WMHT	1,200	500	U[b]	U[b]
WNDT	2,450	1,575	24,000	U
WNYE	756	U	55,000	13,000
WLIW[c]	U	U	U	U

[a] Tabulations held for 100 percent return.
[b] Station does not keep exact records.
[c] Station began broadcast operations in January 1969.
U — Unknown at this time.

The greatest "communications gap" exists with the student group. During 1968–69, no New York State station had put into practice an organized district-wide plan for obtaining feedback about telelessons from the "ultimate consumer," the student. One station reported that frequent observations by television teachers and station production staff of telelessons being used within the classroom, enabled them to sample student reactions. A second station which had received some evaluations of programs from students, on a voluntary basis, was in the process of drafting a student form for use during the

of televised material available for rental from national, regional, and State sources.

The second area was concerned with the effectiveness of the national, regional, and State procedures for identifying and acquiring high-quality instructional television series for distribution. Unanimity of opinion was not expressed in this evaluation. Three School Services directors termed the national-regional-State identification procedure as "satisfactory." Five directors felt that while the national system of acquiring and disseminating instructional series was improving, there was still need

for greater review of series from all areas of the nation and greater communication among the various geographical regions. Four directors specifically noted that the EEN procedures for screening and selecting instructional series — produced by both members and nonmembers — enabled this organization to offer the best available series to members and affiliates, on a regional basis. Several directors commented that each station must maintain its own standard for judging instructional series, since the "level of quality" — content, production, and technical — varied from series to series.

New York State Department Tapes

The Bureau of Mass Communications makes available to school systems in the State of New York over $3 million worth of instructional video tapes. These materials may be borrowed without charge for use on slant-track video tape recorders for closed-circuit use and for 2500 MegaHertz transmission. The school system must provide a blank tape on which to duplicate the programs. A number of the educators interviewed have indicated that there are three problems with this service. The first problem involves the delay from the time the schools send the blank video tapes to the State Education Department and receive the tape back at the school. A second problem results from the fact that the State Education Department will duplicate tapes for only certain types of recorders, as discussed above. The third and largest problem as perceived by the interviewees is related to the quality of the tapes. Comments such as the following were recorded: "We tried to use the State Department tapes but the program quality was so bad the teachers rejected them"; "State Education Department productions are an abomination in terms of production, dramatics, quality and the 'people of talent' who were chosen to demonstrate inductive teaching in social studies"; "Some State tapes are in great need of improvement — quality and quantity. Not enough programs are geared to primary and elementary level."

A number of subject areas were taught in part by instructional television. In a national survey sponsored by National Educational Television and published under the title *One Week of Educational Television: May 6–12, 1968*, it was reported that 25 percent of the ITV hours were devoted to science. Others included 17.2 percent for social studies, 16.8 percent mathematics, 14.8 percent language arts, 8.9 percent foreign language, 6.9 percent music, 5.4 percent art, and 3.5 percent humanities. Health and safety education were mentioned next most frequently.

A 1969 dissertation study (Syracuse University) by a member of the Department of Educational Communications, reflects an anticipated growth pattern in the United States for video tape material. In this study by Mr. David Rees entitled, "A Study of the Cooperative Efforts of School Districts in Certain States in Sharing Media Resources Through Regional Instructional Media Centers During the 1966–67 School Year," he states that 18 out of 307 regional instructional media centers were distributing video tape recorders in the 1966–67 school year. When the same media centers were asked what types of instructional materials they were planning to distribute during the next three years, 94 indicated that they plan to distribute video tape to their schools. The number of hours of programing available to the schools varies but most of the schools have about 30 hours. The Educational Council stations usually offer about 30 hours of ITV programing to the schools. The schools, depending on their own VTR equipment, most often have fewer available programs. (See chart I.)

Summary

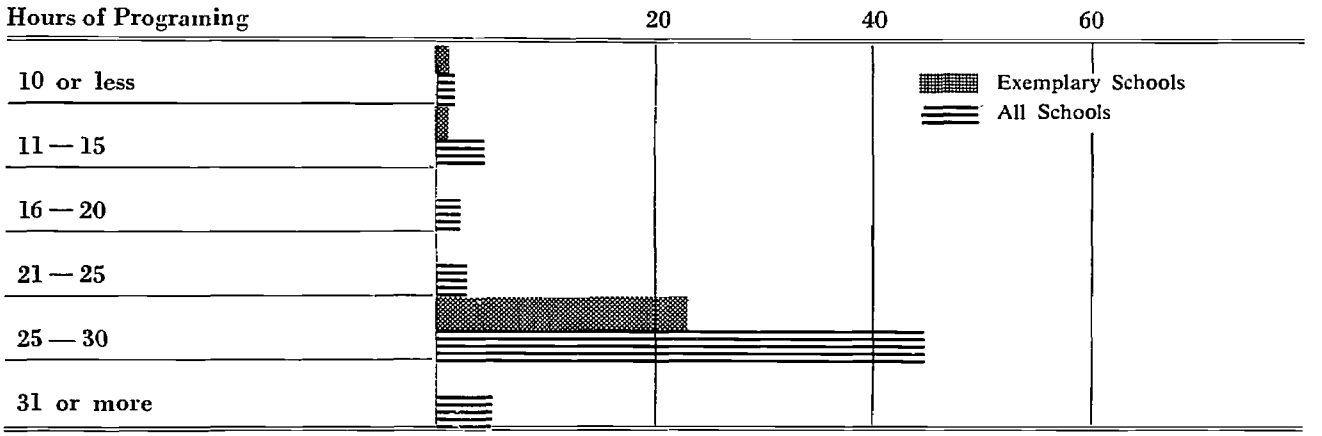
The schools used the Educational Council stations as the single greatest source of programs. These programs were usually for enrichment or resource purposes and have moderate impact on the total school curriculum. The school administrators and TV directors felt their comments regarding scheduling and program revision were being heard in that they had observed recent efforts to resolve the problems.

The Educational Council stations are using programs from a variety of sources. They are producing fewer programs and renting more than they have in the past due to economic pressures. They are attempting to obtain useful feedback from the schools in a variety of ways.

The quality of television programs will be restricted by production techniques which provide little in the way of financial released time, technical, graphic support, or other reward structure for television teachers. As one television teacher near New York City said, "These [facilities] are used on a hit-and-miss basis because personnel are lacking to do the 'leg work' required." The cost for a school district to support a large production activity would be relatively high. As will be discussed in the next chapter, the cost for producing high quality programs (in terms of available resources and evaluation and revision) are less on a per student user basis when the programs are developed for, and used with, a large number of viewers.

CHART I

Number of Hours of Programing
Available to Schools



5. funding of ITV in new york state

> Cost considerations and the lack of sufficient numbers of qualified faculty have changed the classroom environment to the large lecture format in many cases. Television presentation and similar educational techniques on a mass scale are essential to accommodate seemingly endless numbers of students seeking...education. (Richard L. Desmond).

Cost comparisons between instructional media (including the teacher) are vague due to the difficulty in identifying situations with equivalent methods, contents, and associated parameters. These problems relating to the measurement of instructional content and instructional methods make it hard to relate the costs of instructional methods media to any common standard. Television is no exception. There are, however, generalizations which can be made.

The costs of using television are greater than when using instructional radio. These larger costs for television are due in part to the initial capital investment (transmitters, studio facilities, receivers) and the larger operating costs (especially skilled personnel) needed for production and operation. *In Learning From Television: What the Research Says,* by Chu and Schramm, there is an indication that television costs are gererally five times as much as radio for a comparable unit of instructional time. It was difficult to get useful related data from the schools using television in New York State due to various methods of accounting and categories where the materials and equipment for instructional television were found. In many cases, the administrators and/or the television coordinators, and/or the teachers had little or no data related to the costs for television operations in their schools.

The costs of film or other media are similarly difficult to obtain and to compare with instructional television. The relative break-even point for film and television would depend upon a number of variables such as the cost of films, projectors, receivers, distribution techniques, number of viewing students, and the like. There is a point at which it becomes more economical to deliver televised instruction to some thousands of students rather than to deliver films to them. This break-even point can be estimated for a given situation but cannot be generally stated. (See page 89 of *Learning From Television: What the Research Says,* by Chu and Schramm.)

State Support of ITV

The facilitation of instructional television in the public schools in New York has long been a policy of the New York State Education Department. In 1961 this policy was given concrete expression by amendment of the Education Law to permit payment of State aid to school districts and Boards of Cooperative Educational Services who intended to use television in their schools. In part, this amendment said that any district or board shall be entitled to an apportionment during the 5-year period following approval of the program as follows: A district is entitled to 50 percent of the approved cost relative to the acquisition and installation of equipment. During the first year 50 percent of the approved operational expenses in connection with the approved operation of the program can be funded. During the second year 40 percent of the approved operational expenses in connection with the approved operation of the program can be funded. This drops to 30 percent in the third year, 20 percent in the fourth year, and 10 percent in the fifth year. There is little question that this legislation has enabled a number of school systems in New York State to make use of television that they could not otherwise afford, or that they would not have made such rapid progress with instructional television. Many interviewees stated that without this aid there would be no television programs in their school.

In no instance did any instructional television manager or school administrator mention the fact that he was concerned about, or was keeping, records other than purchase orders of monies spent in the school system on television. The accountability of the State funds, according to the comments of those interviewed, were of little or no concern.

When the instructional television directors and the administrators were asked "Has the State Education De-

partment financial support been of aid to you?" Many said that the money was of assistance. (See table 16.)

TABLE 16

Impact of State Education Department Funds

Source	All Schools		Exemplary Schools	
	Positive Impact	Negative Impact	Positive Impact	Impact Negative
School Administrators	42	15	18	3
TV Directors	29	4	11	0
Teachers	18	29	7	9

Note the relatively low number of teachers who valued this aid. Few comments were made by the teachers on this question. Those who did respond usually indicated they were not aware of the State's support. Many more teachers felt they could not answer this question. Most of the school districts who desired State financial assistance for establishing television programs apparently obtained the desired assistance.

Cost of Broadcast ITV

Peter Dirr, Manager of Utilization for the School Television Service of WNDT (Channel 13, New York City) wrote an article entitled "How can Broadcast ITV Survive?" in the April 1969 issue of *Educational-Instructional Broadcasting*. In summarizing the article he says, "the need for broad basic support cannot be overstressed. The cost of broadcast ITV is so high that no one group can be expected to pay the entire cost. Certainly the individual learner cannot support the media. Local school districts are finding it difficult to increase their support in proportion to the increased demand for ITV from teachers and students. State and Federal educational agencies do not profit directly from most applications of the medium and should not be expected to bear the entire bill." (p. 21) The problem has been stated and restated by educators. There must be additional attention provided to the financial support of ITV in New York if it is to continue to grow or even maintain its current strength.

The *State Study for a Network of Regional Communication Centers* similarly points to the problem that the television stations are having in New York State when it says, "These stations are having undue financial problems."

The allocation of State support to other nonschool funds for instructional television seems critically needed to insure the continuance of the Educational Television Councils. The Binghamton Educational Council is an illustration of one Council in trouble to such degree that its financial troubles have been aired in many papers in the State. The station manager of WSKG, Binghamton, stated in an interview that the station facilities are worth over $1 million. Much of this equipment was donated, but it is not now actively producing programs, as it is not able to operate solely on the contributions and fees paid by its subscribers.

The problem of having the actual ITV users pay for the instructional programs viewed in their respective schools is serious. As was noted in Chapter 3, the actual subscribing school systems within the viewing areas of each of the television councils usually represent a small percentage of the potential audience. Peter Dirr, Manager of Utilization, together with Marvin Terban, Utilization Coordinator at WNDT in New York City, wrote an article entitled "Piracy in the Skies: Will Free Loaders Kill ITV?" He said, "School television service programs are telecast on an open circuit channel that can be received on any standard television set within a 65 mile radius of Channel 13's transmitter on top of the Empire State Building. A potential audience of 3 million school children in over 600 school districts can view these programs. Of this potential audience, only a small fraction pay membership fees to the School Television Service, yet letters from school teachers in New Jersey, Connecticut, and New York indicate that many thousands more school children are watching our programs than

are paying for them."[6] These pirates are not able to get the teacher guides so the students in these schools do not use the programs as the producers intended.

Channel 13, WNDT, depends on membership fees, as do the other Educational Councils in New York State, from the participating schools in the service area to pay for a substantial portion of their ITV operating budgets. For the educational services performed, which usually include the broadcasting of approximately 30 hours per week and the writing and distribution of teachers' guides, the station charges a per pupil fee of between $1.50 and $2.00 per student in the participating school districts. The money from the participating school districts limits or expands the services that the station can offer to the schools.

Support of Educational Television Councils

Precise data on the number of schools in New York State and in adjoining states who illegally pirated programs distributed by the various Educational Councils in New York State were not available. There is no question that a great many schools are using these programs illegally. Informal data was continually picked up by the interviewers: "We sometimes use Channel 21 in the primary grades," said one nonusing TV school.

In this study, few educators questioned the value or the efficiency of their dollars spent for instructional television. Chart II indicates the number of respondents who felt that ITV is an efficient use of money.

Unfortunately, many of the schools are unwilling to pay for the programs which they can receive at no charge by merely turning on the television sets in their schools.

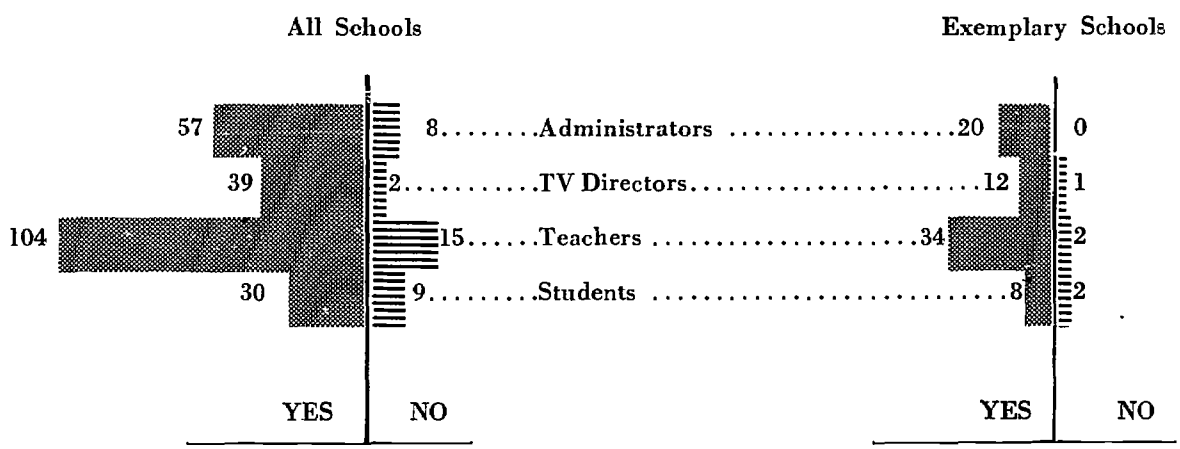
A number of interviewees felt that the requirement to pay a user charge for their high school students was unjust. An examination of the programing schedule provided by the Councils supports the contention that there is little secondary broadcasting at prime school times. The scheduling problems offered by a single channel seem to be the major reason for the poor use of television in secondary schools.

The Educational Council representatives mentioned a concern that aid for instructional television channeled through the BOCES may "look attractive" to the various BOCES and they may attempt to hang onto the control of these monies normally sent to the Educational Television Councils. This might be done by establishing 2500 MegaHertz systems, or by the establishment of CCTV systems for use in the BOCES area. Funding that may be duplicating systems within a geographic region for television viewing would raise new problems. Taxpayer support for instructional television is difficult to determine. While the taxpayer may not be an expert in curriculum development, his voice is heard. In May 1969, the voters of the Fayetteville-Manlius School District voted against the "support of WCNY and television purchases." Thirty-seven percent of the voters (N=353) voted in favor of supporting instructional television, while 50 percent of the voters felt that television support should

[6] Peter J. Dirr and Marvin Terban. "Piracy in the Skies: Will Free Loaders Kill ITV?" *Audiovisual Instruction* XIII, No. 10 (Dec. 1968), pp. 1100–1101.

CHART II

ITV Is An Efficient Use of School Money



be eliminated. Eleven percent indicated they did not have enough information to make a decision.

CATV

Many of the community antenna television systems (CATV) in New York State provide to the schools at no cost (or low cost), a channel for instructional television. The CATV systems vary regarding the amount of support they provide. Cable, terminal equipment, technical assistance, and other services are provided through the courtesy of some local CATV systems. In most cases, school systems using CATV systems can receive one or more Council broadcasts in their schools. In no instance was there an indication that these users paid more than one Council for the services they were using.

Program Development Costs

There is a need for quality programing as discussed in previous chapters. This quality may be reflected in the attainment of cognitive or motor skill objectives or may be related to improving the students attitudes toward school and learning. The costs of programs of this type in New York State between 1966 and 1968 are hard to identify, but several attempts have been made to generalize these costs.

A report of the Carnegie Commission of Educational Television entitled *Public Television: A Program for Action,* written in 1967, states "the cost per hour of producing national programs is to be judged rather than estimated. That is to say, the cost depends fundamentally on the level of quality sought." (p. 188) This report goes on to say commercial programs cost approximately $100,000 an hour while the current expenditure for public television programs for the National Educational Television is approximately $20,000 per hour of programing.

An estimate of the cost to produce instructional television is reported in a study supported by the National Educational Television Center in *One Week of Educational Television: May 6–12, 1968.* The median estimate for one hour presentation of ITV programing produced locally was $910 per hour.

Neither the expenditure per pupil in weighted average daily attendance (WADA) in the school district, nor the expenditure per pupil for instructional television had a definite relationship to the number of years the school reported using instructional television. This data is summarized in table 17.

Program budgeting was seldom used in the schools and little useful data were obtained on the actual costs by schools using television as subscribers to a Council station (beyond the direct cost for subscribing and obtaining the programs), producing programs, operating a school station, maintaining a CCTV system, etc. Many interviewees did not indicate an interest in knowing what television costs were or in knowing what the alternative use of those funds might be. In most cases the costs for instructional television seemed to be added to the existing educational costs. The number of using school interviewees reportedly having knowledge of their costs of using ITV are summarized in table 18.

The problem of funding television and measuring the impact of this expenditure is a problem needing much more study. There is no funding trend evident at this time to indicate that the school systems are assuming the relatively increasing operating costs of their own

TABLE 17

Expenditure Per Pupil in ITV Using Districts on WADA for 1967–68

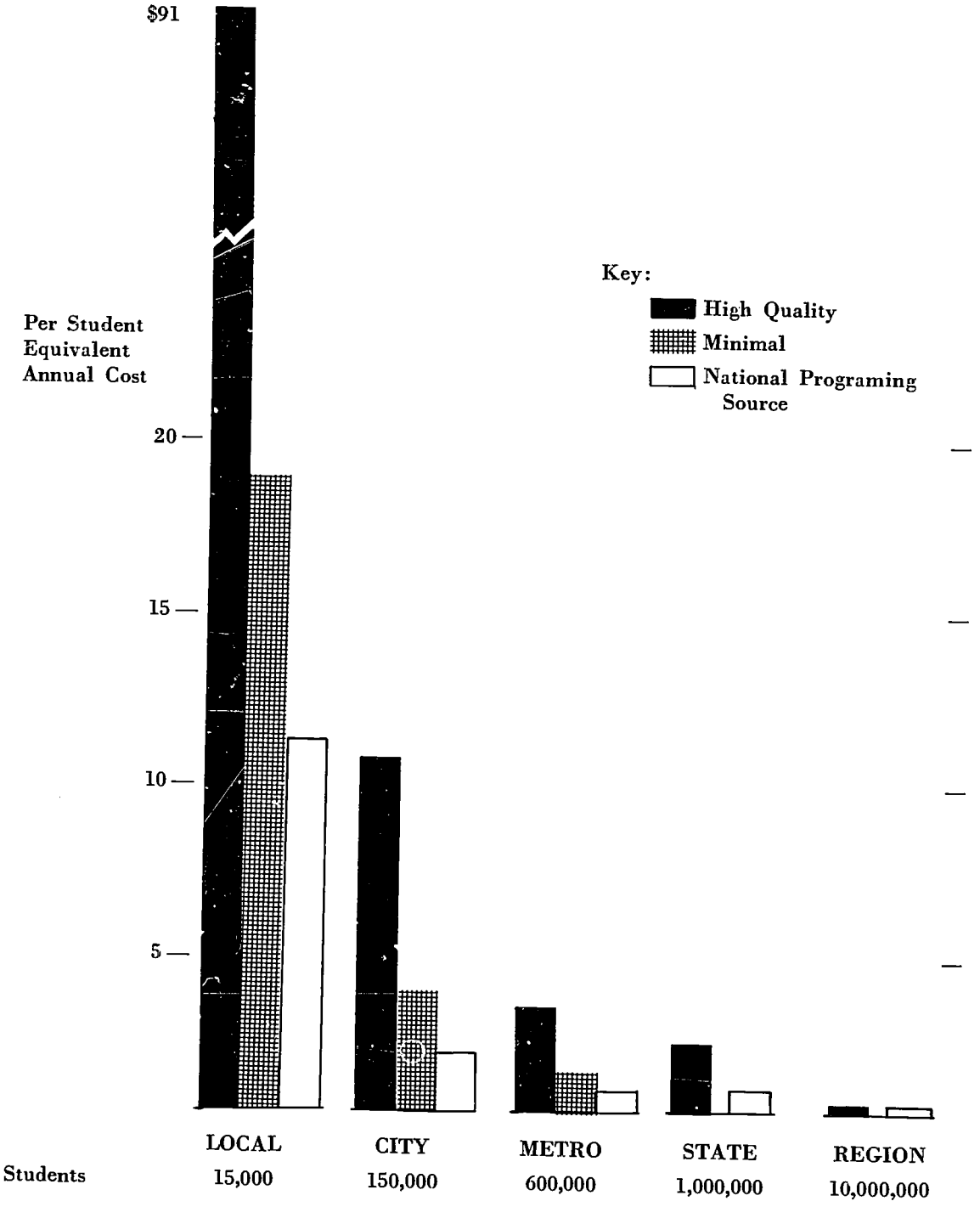
Expenditure Per Pupil	Number of Schools	Number of Exemplary Schools	Nonusing Schools
$600 to 799	3	1	0
800 to 899	10	3	1
900 to 999	20	7	3
1,000 to 1,099	9	4	4
1,100 to 1,199	8	2	0
1,200 to 1,299	8	4	0
1,300 to 1,399	2	4	0
1,400 and over	4	0	1
Totals	64	25	9

TABLE 18

Reported Knowledge of Costs of ITV in Schools

Source	All Schools		Exemplary Schools	
	Yes	No	Yes	No
School Administrators	15	28	4	9
TV Directors	11	14	3	4
Teachers	3	47	3	17
Students	0	20	0	5

CHART III



ITV Production Costs Per Student User
On A Total User Basis

television facilities as the State or other outside funds diminish.

The local school districts were seldom able to afford extensive programing activities. Production activities in most school districts did not replace other activities funded by the school district but were added to these costs. Teachers who produce programs for their own districts seldom receive additional income for these activities and seldom have trained graphics and other technical support. In one instance even the production supervisor was unpaid and this low-budget technique leads to many problems. The interviewer concluded his report: "To recapitulate, the television program rests on the talent and energy of an unpaid volunteer who now is making noises that she will not be able to continue unless she becomes a paid member of the staff."

It is expensive for local school districts in New York State to produce their own programs. A 1968 paper entitled, "Costs of Educational Media Systems," distributed by the ERIC Clearing House on Educational Media and Technology, summarized the high cost for local production of television programs with the chart on the following page. One TV director suggested that "Local production in each district that has ITV is not economically profitable — central distribution and studio production, as in the BOCES operation is much better."

Summary

The State assistance program helped over 100 schools purchase receivers, and distribution and production equipment. The number of schools unable to pick up the increasing operating cost, as the State program assistance diminished between 1966 and 1968, was below 5 percent. The matching funds for the one-time purchasing of equipment enabled many schools to become television users. The accountability of State funds seemed to rest mostly on visits to the schools for visual inspection.

The cost of using instructional television in the schools between 1966 and 1968 is difficult to determine. The costs involved in producing television programs are extensive but as the number of viewers increases the expenditure per pupil decreases. The tape costs of using programs from the State Education Department video tape library, or the rental costs from libraries such as NET or Great Plains, resulted in lower production expenditures.

The operations of the Educational Council Stations expanded between 1966 and 1968, but the economic future of these stations is uncertain. Many interviewees indicated a new system for supporting them must be developed. The costs involved in producing quality programs seem to be a major problem to the broadcast stations, as well as to the instructional television fixed service stations, and the local school VTR based television systems.

6. facilities and equipment

Adequate television equipment and facilitating school buildings are necessary for effective use of instructional television. This chapter examines both availability and reliability of television equipment together with supporting school facilities or buildings.

School Facilities

Interviewees generally indicated that school buildings are appropriate for using instructional television. There was general agreement, however, that the newer buildings were more adequate because of the number and wattage of power outlets and the ability to control ambient light in newer buildings. Newer buildings usually had conduits through which the cable for a closed-circuit distribution system or an antenna system could be pulled. These responses, according to response interviewee category, are included in table 19. The specific question asked was, "Are school buildings designed for proper utilization of instructional television? Yes — No, Comments."

TABLE 19

Appropriateness of Current School Designs for Using ITV

Source	Appropriate	Not Appropriate
School Administrators	39	21
TV Directors	24	17
Teachers	70	27
Students	24	2

Random comments to this question included the following: Teachers said — "No, not enough cable and power outputs. Darkening and acoustics are difficult"; "No, section of room should hide equipment"; "Yes, cable provides excellent quality"; "No, have no room darkening. Should have receivers up on brackets on wall instead of cluttering up floor space." Administrators said — "Yes, conduit installed in new buildings"; "No, not designed with TV in mind. Room arrangement poor. Outlet boxes in wrong place — cords run all over the classroom"; "No, walls will not support them and the wires go over sinks"; "Older buildings no, but the newer buildings are O.K." TV Managers said, "Yes, all rooms hooked to cable"; "Elementary, yes — High School, no"; "Yes, in the more modern buildings - - 12 of 24."

Equipment

The ratio of television receivers to the number of classrooms varied considerably. The number of television receivers in elementary schools was usually larger than in the secondary schools. The ratio of receivers to classrooms in the elementary schools using television ranged from one receiver for every classroom to one receiver for every four classrooms.

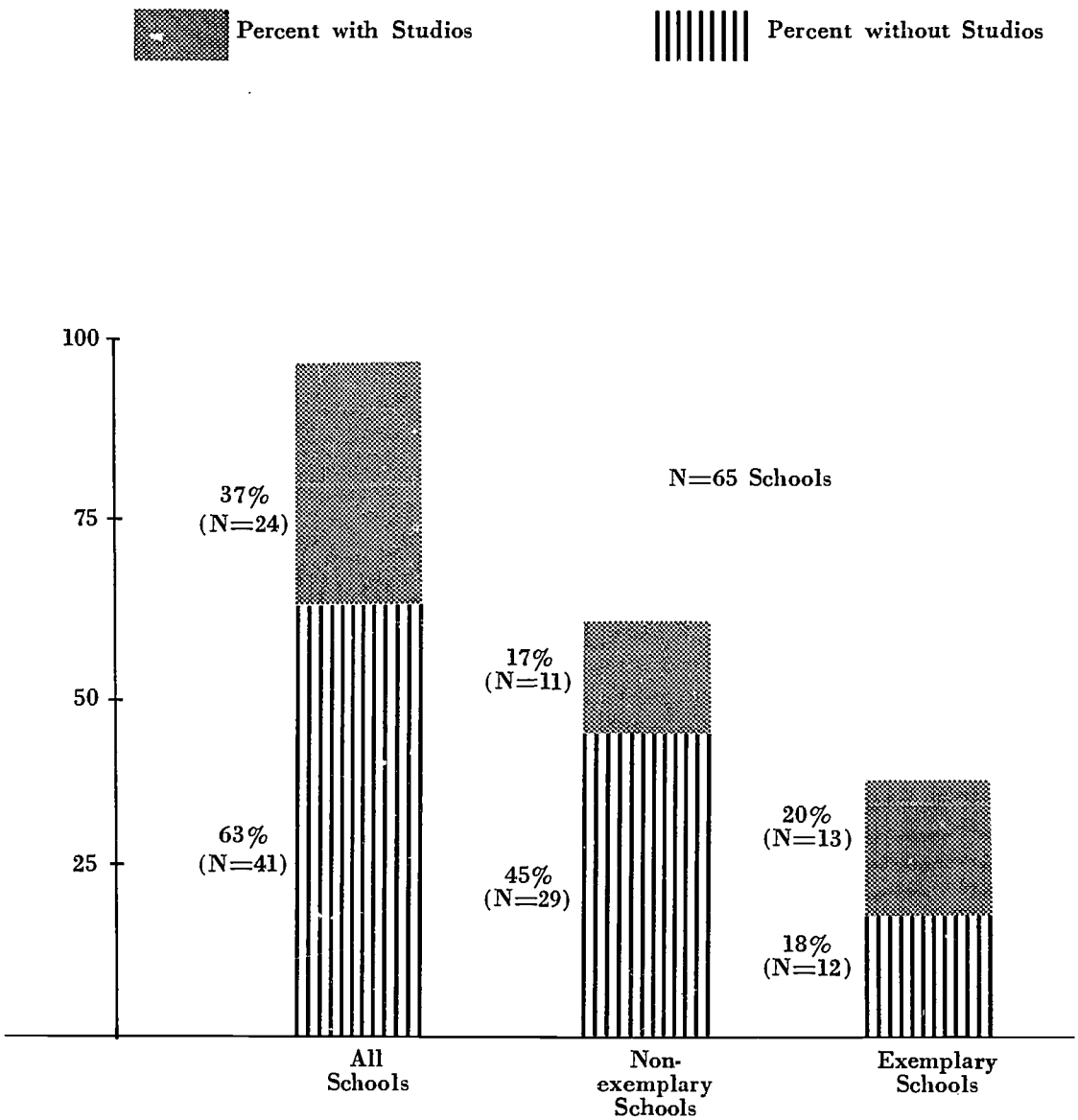
The instructional television system used in the schools is normally black and white. Sixty-four out of 65 using schools reported using primarily black and white receivers for their instruction via television. Several had color sets for commercial broadcast reception. Less than 10 percent (N=65) of the schools, however, reported having a color receiver. Several teachers (less than 10 percent) said a color television system would be desirable for instructional purposes. Frequently, these were science teachers who felt that their content or "proofs" required color.

The quality of the ITV equipment used in the sample schools is apparently quite high. The audiovisual directors, principals, teachers, and students agreed that television equipment is generally dependable.

Comments from the sample include: School Administrators — "Yes, We have an excellent repairman but we seldom need him"; "Yes, no problems"; "Don't know. Have had little equipment break down thus far"; "Yes, service is very good. Extra set available"; "Yes, depends upon the make, installer and service. We do our own service"; "Yes, excellent serviceman in town." Teachers — "No, get a lot of interference when construction is going on. Can't hear or see"; "Yes, no problems"; "Yes, quickly repaired if needed." Students — "Yes, sometimes there is trouble but it doesn't last long"; "Yes, the teacher fixes it in a hurry"; "Yes, I can hear OK, always. All the kids can."

CHART IV

Proportions of Schools in the Sample Having
ITV Studio Facilities



Studio Facilities and Distribution Systems

Approximately 37 percent (N=65) of the using schools have a studio. (See chart IV.)

Of the schools reporting a studio 2 percent reported having no video tape recorders. (See table 20.)

The majority of schools in New York State have a single instructional television source (usually ETV Councils — See table 7) which is frequently augmented by video tape recorders. The number of available distribution channels found in the schools is reported in table 21. Those schools having more than one channel may have multiple channels due to local Instructional Television Fixed Service systems, or the schools' ability to pick up multiple Educational Television Council Stations. The figures in table 21 do not include programs available via video tape recorder "channels."

TABLE 20

Number of Schools with Video Tape Recorders

Video Tape Recorders	39
No Video Tape Recorders	26
Exemplary Schools with VTR	18
Exemplary Schools with no VTR	7

As was noted in Chapter 3, the availability and quality of the materials for school VTR's in CCTV systems is questionable. The time the VTR equipment is used per week frequently varies from zero to 5 hours per week. Some schools report using their recorders almost constantly. The mean user time appears to be between $1\frac{1}{2}$ to 2 hours per week for video tape recorders.

There seems to be little correlation between the number of years users have been under the State Assistance Program and the source of their instructional television materials. Some of the oldest television users depend on the Educational Television Council Stations for their programs while others have ITFS or CCTV systems. Additional information on distribution facilities can be found in Chapters 2 and 3.

TABLE 21

Number of Available Distribution Channels (Less VTR Channels)

Number of Channels	Number of Schools
1	46
2	6
3	4
4	4
5	0

Scheduling seems to be the biggest problem related to the relatively limited number of distribution channels. The problem of limited communications channels for television is now practically solved in terms of technical know-how. The May 16, 1969 issue of the *ETV Reporter*, reports the Laser Link Corporation has developed an inexpensive 80 channel communication system. While technical problems can usually be overcome, the expansion of broadcast distribution systems remains a problem.

Summary

The schools seem to have most of the equipment they need. About half of the so-called nonusing schools reported they would like additional receivers. The elementary and secondary teachers in the using schools reported having reliable receivers when they want them. The interviewees reported the schools now being built are better than the older buildings but that generally all the buildings are adequate. Facilities and equipment do not seem to be unavailable to the administrators and teachers wanting to use television.

7. attitudes and personnel

Educators' attitudes toward the use of instructional television and the availability of trained personnel in television production, maintenance, and operation are vital to the success of an instructional television program. Data regarding attitudes and personnel availability were collected from Television Council administrators, school administrators, school television managers, teachers, and students. Information from other studies in New York State was also collected and is reported.

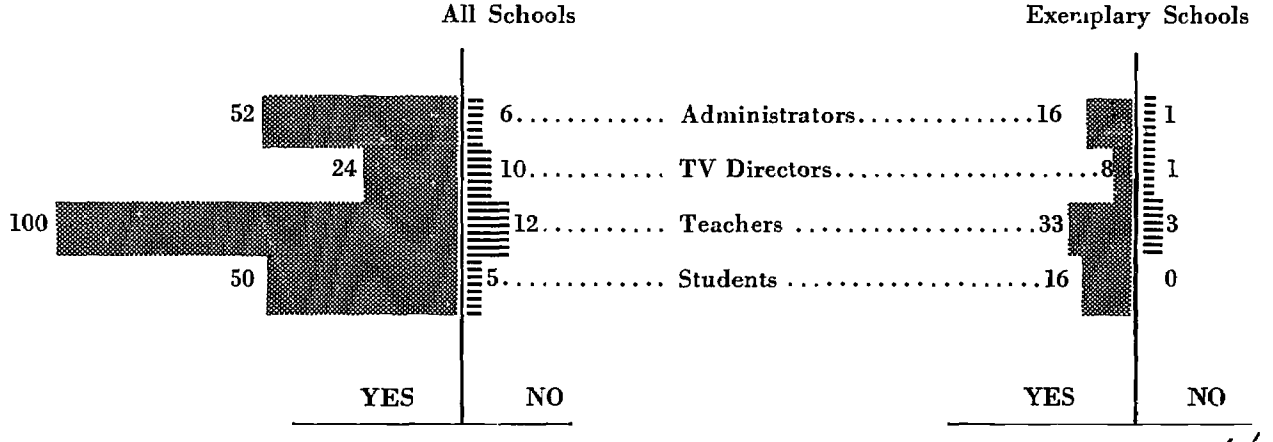
Attitudes

In a recently released final report of the State Study for a Network of Regional Communications Centers, dated October 1968, a survey of teachers in New York State indicated that only 37 percent felt teachers would welcome systems such as closed-circuit television. Only 20 percent of the teachers felt that most communities would accept and financially support television programs. (p. 64) The data in that study indicated that teachers and other school personnel in the schools who used television were much more positive toward its acceptability. As was noted in chart II, an overwhelming majority of the educators interviewed expressed the belief that television was an efficient use of educational funds. This data on educators' attitudes toward television was reinforced by the data in table 8, where the teachers and other administrators indicated their preference for using television programing for enrichment, major resource, and full course activities. In chart V the teachers commented about their "comfort" while working with television. The question asked was, "Are teachers comfortable with ITV equipment? Yes — No, No comments."

Random comments from the teachers on this question included the following: "No, unless they have careful support from technicians"; "Yes, younger teachers have it on": "Yes, I enjoy it! Use many different types of media"; "Yes, if available at all times in class." The TV Directors said: "Yes, with proper instruction"; "No, some people are not. People fear what they don't understand. Mechanical equipment for example"; "Yes, most accepted it in the past year beautifully"; "Yes,

CHART V

A Tabulation of Replies to the Question "Are Teachers Comfortable Working With ITV Equipment?"



through inservice training." Administrators said: "No, younger ones are — some aren't — afraid to even push the switch"; "Yes, 50 percent of them"; "Yes, sometimes used too much"; "Yes and no, some text oriented — uncomfortable with TV. Students said: "Yes, my teacher likes it and we have good talks"; "Yes, teacher likes it because it gives her a break"; "No, most of the students talk."

In the *State Study for a Network of Regional Communications Centers*, the teachers interviewed felt that television video tapes and television receivers were of some use but of "low" availability. (p. 66) This study concluded the unit on educator attitudes toward media with the following sentence: "Basically, devices which represent none or a smaller unit cost, which are easy for relatively untrained persons to use and which do not require a fundamental change in curriculum or instructional approach are among those found to be most available to educators." (p. 68) This ease of operation characteristic seldom mentioned in that study, may only imply that television equipment is easy for those teachers to operate.

The attitudes of the television managers and engineers also affect the adoption of ITV. One teacher in a New York City school said, "The two older men now serving as engineers have had a calming and encouraging effect on teachers. They stand there and tune the set carefully and have a 'better bedside manner' than the young and brash engineers we had at first. This makes an enormous difference in teacher acceptance of the video system."

ITV Personnel Availability and Training

When administrators and teachers were asked, "Do you have or see a need for a preservice or inservice teacher program related to the use of television?" they responded that they did need such programs. However, teachers were less sure of this than were their TV directors or administrators. (See table 22.)

TABLE 22

Need for Either Preservice or Inservice ITV Teacher Programs

Source	All Schools		Exemplary Schools	
	Yes	No	Yes	No
School Administrators	56	3	20	0
TV Directors	33	3	10	2
Teachers	65	32	26	9
Students	10	7	4	4

In the *State Study for a Network of Regional Communications Centers*, almost 80 percent of teachers felt that inservice educational programs in the use of media was needed. (p. 64) The results of this study indicate that 75 percent of the teachers felt a need for inservice educational programs to help them most effectively employ ITV as a medium of instruction in their classrooms.

The comments varied considerably on the extent to which questions of television training were necessary. Teachers — "Yes, how to use TV effectively"; "Yes, sets are not used enough — could be helpful to teachers"; "Yes, need to know how to introduce and followup"; "Yes, do not presently have enough skill to use medium in optimum way"; TV Directors — "Yes, need to realize potential of medium"; "Yes, already conducted here"; "Yes, a film on it would be good"; "Yes, two separate problems 1) to train TV teachers and 2) to train TV users." School Administrators — "Yes, teachers need to be involved"; "Yes, on how to operate and best utilize media"; "Yes, development of pretest and posttest activities."

The inservice training potential of the personnel in the Bureau of Mass Communications was assessed in part by the question, "Have the State Education Department personnel been of aid to you? Yes — No, Comments." A tabulation of responses to this question is found in table 23.

TABLE 23

Impact of State Education Department Personnel

Source	Impact on Schools			
	All Schools		Exemplary Schools	
	Positive	Negative	Positive	Negative
School Administrators	39	19	14	7
TV Directors	31	5	12	0
Teachers	14	47	5	16

It should be noted that many of the school administrators, television directors, and teachers did not respond to this question. In several instances respondents in all categories indicated they have not had any contact with State personnel and thus could not respond. Other potential

respondents indicated anxiety over this question and did not respond meaningfully to it. In interpreting table 23, it should be remembered that the exemplary schools were selected by the Bureau of Mass Communications.

Random comments related to this inservice support of State personnel were as follows: TV Managers said: "Yes, selecting materials and recommending manufacturers"; "Yes, very much help, especially Ray Graf"; 'Yes, in the beginning, but no aid now"; "Yes, Mr. Graf's office has been of much help to us"; "No, one person was coming but with STETA problems it was cancelled — only contact with the State Education Department"; "Yes, in the initial planning particularly, but no contact regarding operation since installation." School Administrators said: "Yes, although we have had to buy equipment on our own then they did not agree with our production ideas"; "Yes, in purchase of equipment and assisting and advising on engineering problems, etc."; "No, only with people from Channel 13."

It should be noted that the only name mentioned by the interviewees in the Aid-to-School projects was Raymond Graf, the supervisor for School Television who supervises these projects. He was repeatedly mentioned as a person providing much needed and valuable assistance.

In a number of instances the school personnel indicated they had obtained technical, as well as programing assistance from the local ETV Council Stations. This was especially true in the WMHT-TV Broadcast area.

Adequately trained technical personnel to operate and maintain a television production or distribution system seem to be available as measured by (1) the equipment reliability data, and (2) the lack of personnel problems mentioned when respondents discussed negative aspects of their television systems. This was substantiated by the Educational Council Station School Services directors who felt they had adequate personnel in the positions they could afford to fill.

In at least one case the background of the television manager was unexpected. According to one interview report the manager is a paraprofessional recruited from housewife activities. The report continued, "... she is indispensible." She has "a combination of television production skills and an interest in the student which is excellent. She is unhappy because she is unpaid."

Television teachers were not specifically sought in this study. The reactions of the limited number of interviewed teachers who had taught on television, however, were not generally negative as related to their production activities. There were few reported instances of television teachers reporting that they were not being fairly treated regarding their television teaching activities. In several instances, they were given released time from classroom activities for their television activities or were using the VTRs on their own time as a result of their interest, and were happy to have the tools to work with. One negative comment related to compensation for television work was: "All (teachers) recognize the value of TV but few are encouraged to cooperate on an unpaid basis."

ITV Nonuser Attitudes

Thirty-six individuals were visited in non-ITV using schools in order to examine the attitudes concerning ITV. Ten of these nonusers said the school system had considered using ITV in the past and two said they had not. Nine said they were now actively planning an ITV program while seven indicated they were not. Eighteen of the interviewees said they thought their school would be using ITV by 1974; five thought they would not be using ITV and the other did not have a reaction to this question.

The comments on the past, present, and future of ITV included: "Yes, by 1974, especially with current events, space programs, and world series. As far as buying equipment for own production, no, unless more money is made available"; "No, in the past, due to the unavailability of adequate funds and suitable programing"; "Yes, by 1974, we use it now. I bring in my own set for space shots and candidates speeches"; "Yes, by 1974, we may use film to overcome scheduling problems or record what is wanted with a VTR"; "No, budget cutting has and will prohibit TV"; "Yes, we will use TV by 1974 because overcrowding will lead to TV in large classes, such as biology"; "Yes, by 1974, as you can spread teachers over more students."

When the interviewees were asked, "Do you believe students learn as much from TV programs as from conventional instruction?", 19 said yes and 7 said no. They said: "For instruction, I don't think you can beat a teacher because television just presents a tape"; "Yes and no. TV is impersonal. You can't ask a question of the television teacher"; "I believe students would learn better if they had many sources from which to learn; ITV would be one of these sources"; "I guess they'd listen because it's different but they would have to make it interesting."

When asked, "Do you believe the students in your school would like to have television instruction?", 22 said yes and 5 no. Their comments included: "Yes, this is the TV age and they readily accept the medium. They could have a variety of programs presented by master teachers"; "Some people are interested — others wouldn't listen at all"; "Yes, if well planned and relevant." The students said: "Yes, it would be a good change. It is

easier to watch TV than to listen to a teacher"; "No, students lack motivation and wouldn't pay attention."

Cost Predictions

When these nonusers were asked about the cost of ITV, 12 interviewees thought the cost of instruction would increase; four felt there would be no change, two felt instructional costs would decrease, and the remaining had no comment. Comments included the following: "I can't see much change. It might cut down on some films. I can't see how it would cut down any teachers"; "Increase costs as it would be used in addition to regular instruction"; "Increase, we would use it as a teaching aid — not a replacement for the teacher."

Summary

The data collected in this study suggests that teachers need professional preparation related to using instructional television. Technical personnel are available to those schools willing to fill such positions.

The school administrators, television managers, and teachers feel television makes efficient use of educational funds and should be used for a range of resource and enrichment activities. The teachers report they are comfortable using instructional television. The inservice assistance provided by the Bureau of Mass Communications and the Educational Council Stations was rated well by administrators but not by teachers. Personnel problems, other than professional training for the teachers, did not seem to unduly restrict the development of instructional television in the period between 1966 and 1968.

8. conclusions and recommendations

> The effectiveness of television has now been demonstrated in well over 100 experiments and several hundred separate comparisons, performed in many parts of the world, in developing as well as industrialized nations at every level from preschool to adult education, and with a great variety of subject matter and method. (Chu and Schramm.)

Conclusions

The use of instructional television in the State of New York increased in the elementary and secondary schools between 1966 and 1968. The primary problems were those related to the development of programs: scheduling, quality control, availability, and, to a degree, the costs of obtaining good programs. Equipment reliability, personnel availability, cost of television equipment, facilities availability, and personnel attitudes were seldom identified as major problems.

The Educational Council stations in New York State provide the majority of the ITV programing hours available to, and used by the elementary and secondary school students in the State. The more populous areas were fairly well covered with at least a single Council station, while the rural areas often have little or no coverage, and the stations covering these rural communities are having financial difficulties.

There was an increase in the degree of program sharing between the Councils and rental of programs available through various video tape libraries. Secondary school programing was light even though the participating school districts made contributions which included the secondary school students. The Councils were " used " by a number of school districts who had their students view the ITV programs but who did not support the Council financially. The participating schools were asked to evaluate the programs broadcast by the Councils; this feedback was then used to modify future schedules.

The ITV programs were used as enrichment or resource materials more often than as the basis for the course content being taught or learned in a subject area. Local programing of content related programs, as opposed to micro-teaching, or image building activities, or news broadcast activities in the schools, was an expensive activity for schools developing their own ITV programs.

The State Assistance Program has helped over 100 schools purchase receivers, distribution, and production equipment. The schools were usually able to pick up the increased operating costs of the ITV operation each year (less than 5 percent of the cooperating schools dropped out of the Assistance Program up to 1969), but often the total ITV operation was somewhat reduced as the years progressed. ITV directors also picked up other audio-visual activities; personnel for the ITV program diminished, and little or no additional equipment was purchased to expand or replace old equipment.

The costs of using programs from the State Education Department video tape library, or from other libraries, such as NET or Great Plains, were relatively economical when compared with the cost of locally produced materials. The quality and availability of State Education Department tapes, however, were often criticized.

The costs of distribution channels varied. The use of the Educational Council stations expanded because of their relatively low per user costs but the stations, as mentioned above, often operated on restricted budgets which would have been eased if all the schools using the Council stations had paid for the services used. The majority of educators interviewed did not know what the costs of ITV were for their schools. Thus, exact funding data on CCTV, CATV, or 2500 MegaHertz distribution systems were difficult to obtain in order to compare to either total systems cost per pupil per hour, or to other cost standards. Program budgeting procedures were not normally used by ITV administrators. Parenthetically, it is almost impossible for school administrators to tell the total cost of any single educational program.

The multiple channel capacity of cable television offered a diversity and flexibility that was reported by many educators to be a reasonable step toward resolving the single channel limitation of broadcast television. As concluded in the *State Study for a Network of Regional Communications Centers*, the arguments in behalf of cable

television include an increase in signal quality and the number of channels available. "In order to better coordinate the broadcast and cable systems within the State of New York these recommendations should be implemented; the study recommended that a commission be established, composed of various public and private, educational-cultural agencies, human service agencies, business and industrial groups, and representatives of appropriate units within the State Education Department and the State of New York." (p. 91)

While most of the ITV using schools reported they had about all of the equipment they needed, about half of the nonusing schools reported they would like additional TV receivers. The newer buildings, in general, were better suited to instruction via television because of multiple and higher amperage power sources in the classrooms, distribution systems via conduit, better light control, and better acoustical control.

Most of the school administrators, television managers, teachers, and students reported they felt television was a useful instructional tool which made efficient use of educational funds. The majority of the interviewees indicated they felt "comfortable" with ITV but that either preservice or inservice programs on the use of ITV should be provided for teachers.

The technical inservice assistance provided by the Bureau of Mass Communication and the Council stations was well received and appreciated by the using schools. The dedication and the competence of the personnel, particularly Mr. Ray Graf, in the State Education Department, is excellent as judged by the results of this survey. In quantitative terms, New York has developed one of the largest instructional television programs in the United States. According to a 1967 survey sponsored by the Department of Audio Visual Instruction (of NEA), only the State of California is close to having an ITV system with the same financial support as that found in New York. In New York State, technical personnel were available to schools, willing to fill such positions.

Many of the school districts had no specific long term plans. In some cases, they even seem to be lacking short range goals beyond those of using television as an innovative tool. There is seldom a focus on the use of ITV as an instructional alternative as opposed to other instructional methods.

One of the activities to be cut from many budgets in the 1969–70 school year, as the result of cuts in school aid, has been ITV. Personnel from the Bureau of Mass Communications indicated they have letters from currently active school districts asking for a suspension from the television assistance program for next year. This suspension rate may be as high as 25 percent for the 1969–70 school year. In previous years, according to Mr. Graf, this rate was below 2 percent.

Projections of the data gathered in this study can be forecast to the year 1974 only with trepidation. Local school programing will probably diminish and the Council stations and Regional or statewide CCTV systems will become more widely used by the schools as program sources. The Educational Council stations will continue to have financial troubles unless new funding procedures are developed.

Video tape recorders and other television related equipment will become less expensive and more widely used. The use of video recordings of students for instructional purposes will expand as individual students can have the opportunity to examine their own behavior, dress, and speech. These recorders will also be used to record commercial programs for replay at a later time in the school unless programs become easily available from other sources (as the State video tape library), or unless court action is effectively brought by the television networks against the schools for copyright infringement.

New recording devices may be developed which will use less expensive and bulky storage techniques than the current video tape. The Columbia Broadcasting System already claims one such device.

The "teachers colleges" in New York will increasingly include preservice training on the use of ITV in their certification programs. As these teachers go into the schools, the elementary and secondary schools can use more instructional television. Many television programs will become the basis for content presentations. Teachers will spend more time working with individual student problems, providing feedback or additional data to students with problems, and the teachers will organize activities in which the students can apply the information disseminated via television. Some of this programing may be available directly to the student's homes. The Council stations can now be received on most home TV receivers.

In a recent study by Lawrence Myers, Jr.[7] it was concluded that "teachers can affect student behavior as much by a television presentation as by being physically present in the classroom, and may even be able to project better by television." The implication of this study which supports the findings of many earlier studies, raises the question of alternatives. When should television instructional systems be employed in lieu of conventional

[7] Lawrence Myers, Jr. *Improving the Quality of Education by Identifying Effective Television Techniques.* (U.S. Department of Health, Education and Welfare, 1968).

instructional systems? What is the decision structure and what are the parameters of such a decision structure for selecting television as a median? Certainly economic factors should be considered. The effect on the student should be considered. This can be measured by student dropout rates, by attendance figures, or by interview techniques. The use of the student time is also relevant; i.e. which system takes longer to instruct a student to the point where he can perform at the desired level?

Recommendations

Unlike the foregoing summary section, which was based on data from the interviews, some of the following recommendations may go beyond this data:

1. The development of the Council stations (and/or other noncommercial broadcast stations), the Instructional Television Service Fixed Stations, school CCTV systems, and the educational applications of CATV systems in New York State need to be coordinated. A commission might be established to perform the task. This commission should be organized as soon as possible to consider the relationship of these dissemination channels to each other and to program development or procurement. The funding of these programs should also be examined by this commission.

2. The current State Education Department video tape library needs increased financial support to provide economically and rapidly, a wide range of up-to-date materials to the Council stations and to the school CCTV systems. This expanded ITV depository-exchange system should be organized as soon as possible. State assistance to the local school systems for production facilities and equipment should be questioned except for unusual research related to particular situations.

3. The State of New York should encourage and support, as soon as possible, research on the effectiveness of instructional television for specific instructional tasks. This research may identify new curriculum or methodological areas of involvement for ITV in the schools. The Bureau of Mass Communications might better serve the State if it now focused on specific projects which would guide and coordinate ITV activities in the State toward the new and more efficient use of this medium. The attitudes of many interviewed educators reflect a concern that the cost of instruction will increase as television is used. It is desirable to determine those activities for which television can be used to economic advantage. The Bureau of Mass Communications could assist television users in the State of New York to better use its ITV equipment by research and dissemination activities and by selective funding operations. Information for this implementation activity could be derived from the specific studies suggested in recommendation four.

4. Research studies on the qualitative impact of ITV on student learning as it relates to conventional instruction or the use of instructional technology, should be conducted by the State to determine what direction the current media programs in the State might take in the future. This current study did not attempt to identify the various qualitative parameters of instructional television programing as defined by the amount of data "learned" by students, their retention rates, their attitudes, or the attitudes of their teachers. It is important to examine learning by television in greater detail as an entity with, as well as without, the use of comparison groups. Instructional television needs to be evaluated in itself, using various techniques or methods in such a way that several types of learning experiences can be integrated into a "taxonomy" of learning, using instructional media based systems. The following should be examined:

a) the use of commercial-liked production techniques as opposed to techniques involving shots of a teacher's torso while he is talking;

b) the use of commercially prepared instructional materials distributed over a wide geographic area;

c) the attitudes of the teachers and administrators and other parameters need to be related to each other in some meaningful pattern;

d) the attitude of the community toward instructional television;

e) the use of accompanying workbooks or program materials;

f) the relationship of television to other instructional techniques and procedures used in the school;

g) the use of color or black and white;

h) the relationship of the program techniques to affective objective development;

i) the use of television programs for perceptual-motor skilled objectives;

j) the use of high visual, as opposed to verbal scripting techniques;

k) the location of the student (in a large class, in a small class, in individual study carrels, at home);

l) the use of pretesting or posttesting technique;

m) the use of positive feedback techniques;

n) note taking while viewing instructional television;

o) preservice or inservice training program for teachers on the use of instructional television. The effectiveness of ITV as a teaching device is established. More research needs to be directed toward improving the techniques of ITV.

5. The Division of Educational Communications should work with the State University of New York and the City University of New York to develop preservice and inservice training programs for teacher and school administrators relating to the uses of ITV teacher guides and program evaluation procedures. Particular attention in such programs should be given to the role of the classroom teacher when ITV is used.

6. If the Bureau of Mass Communications continues to administer the State Aid for the Development of Educational Television for the Public Schools, and if it continues to engage in activities growing out of programs which other Bureaus administer, the Bureau of Mass Communications needs to have its allocated positions filled. Possibly other positions ought to be added. This is needed so that the Bureau may supervise more adequately the expenditure of these funds. Even though the Bureau's staff is out of Albany several days a week visiting schools, a number of the schools receiving State funds have not been visited in the past year.

7. The ETV Council stations need to be encouraged to identify their potential and actual viewing population. The data in table 4 suggests that a cost benefit analysis, or even cost per pupil data will be difficult to establish. Planning without user data is difficult.

8. School systems applying for State monies for television should present short range (2–3 year) and long range (5–10 year) curriculum and methodological development plans for their school system. ITV needs to be incorporated into a context which is supportive of it.

appendix "a"

Schools Visited in New York State

Amherst Public Schools
55 Kings Highway
Snyder, N.Y. 14226

Amsterdam City School District
43 Division Street
Amsterdam, N.Y. 12010

Archdiocese of New York
Seminary Avenue
Yonkers, N.Y. 10704

Auburn Enlarged City School District
Memorial City Hall
Auburn, N.Y. 13021

Bainbridge-Guilford Central School
Bainbridge, N.Y. 13733

Ballston Spa Public Schools
70 Malta Avenue
Ballston Spa, N.Y. 12020

Bedford Public Schools
369 Lexington Avenue
Mt. Kisco, N.Y. 10549

Binghamton City School District
98 Oak Street
Binghamton, N.Y. 13091

Brockport Public Schools
Brockport, N.Y. 14420

Buffalo Public Schools
City Hall, Room 712
Buffalo, N.Y. 14202

Burnt Hills Schools
491 Saratoga Road
Scotia, N.Y. 12302

Canajoharie Public Schools
Canajoharie, N.Y. 13317

Cayuga County BOCES
144 Genesee Street
Auburn, N.Y. 13021

Southern Cayuga Central Schools
King Ferry, N.Y. 13081

Chappaqua Public Schools
650 King Street
Chappaqua, N.Y. 10514

Chateaugay Central Schools
Chateaugay, N.Y. 12920

Chatham Public Schools
Chatham, N.Y. 12037

Cheektowaga Public Schools
3600 Union Road
Cheektowaga, N.Y. 14225

Corning Public Schools
291 East First Street
Corning, N.Y. 14830

East Rockaway Public Schools
East Rockaway, N.Y. 11518

Elmira Public Schools
Board of Education, City Hall
Elmira, N.Y. 14091

Fayetteville-Manlius No. 1
107 Pleasant Street
Manlius, N.Y. 13104

Fire Island
Surf Road
Ocean Beach, N.Y. 11770

Fort Plain Central Schools
Fort Plain, N.Y. 13339

Glens Falls City School District
15 Quade Street
Glens Falls, N.Y. 12801

Greene Central Schools
Greene, N.Y. 13778

Hamburg Public Schools
Legion Drive
Hamburg, N.Y. 14075

Harrison Public Schools
UFSD No. 6
Union and Nelson Avenues
Harrison, N.Y. 10528

Hudson Falls Public Schools
92 Main Street
Hudson Falls, N.Y. 12839

Hudson Public Schools
360 State Street
Hudson, N.Y. 12534

Huntington UFSD No. 3
300 Broadway, Box 1500
Huntington, N.Y. 11743

Islip Public Schools
215 Main Street
Islip, N.Y. 11751

Ithaca City School District
302 West Buffalo Street
Ithaca, N.Y. 14850

Johnson Central Schools
727 Azon Road
Johnson, N.Y. 13790

Kenmore — Town of Tonawanda
1500 Colvin Boulevard
Kenmore, N.Y. 14223

Lawrence Public Schools
Reilly Road
Cedarhurst, N.Y. 11516

Lindenhurst Public Schools
Lindenhurst, N.Y. 11757

Liverpool Central Schools
Liverpool, N.Y. 13088

Locust Valley Central Schools
Horse Hollow Road
Locust Valley, N.Y. 11560

Malone Public Schools
Malone, N.Y. 12953

Mamaroneck Public Schools
Mamaroneck Avenue
Mamaroneck, N.Y. 10543

Marion Central School District No. 1
Marion, N.Y. 14505

Maryvale Public Schools
Cheektowaga, N.Y. 14225

Massena Public Schools
Massena, N.Y. 13662

Middleburg Public Schools
Middleburg, N.Y. 12122

Moravia Central School
Moravia, N.Y. 13118

The City School District of Newburgh
Newburgh, N.Y. 12550

Newark Central Schools
Newark Valley, N.Y. 13811

New York City Public School No. 33
281 9th Avenue
New York, N.Y. 10001

Niagara Falls Public Schools
Board of Education
520 Walnut Avenue
Niagara Falls, N.Y. 14301

North Syracuse Central Schools
305 South Main Street
North Syracuse, N.Y. 13212

Ockawamick Central School
Philmont, N.Y. 12565

Peru Central Schools
Peru, N.Y. 12972

Plainview Central School No. 4
Jamaica Avenue
Plainview, N.Y. 11803

Port Byron Central School
Utica Street
Port Byron, N.Y. 13140

Potsdam Public Schools
Potsdam, N.Y. 13676

Franklin Academy and Prattsburg Academy
Steuben County
Prattsburgh, N.Y. 14873

Rochester Public Schools
13 Fitzhugh Street
Rochester, N.Y. 14614

Scarsdale Public Schools
Brewster Road
Scarsdale, N.Y. 10583

Schenectady Public School
108 Union Street
Schenectady, N.Y. 12305

Schoharie Central School
Schoharie, N.Y. 12157

Scotia-Glenville Public School
Senior High School Building
Sacandaga Road
Scotia, N.Y. 12302

South Glens Falls Central School
7914 Bluebird Road
South Glens Falls, N.Y. 12801

Spring Valley No. 14
District No. 14 Town of Ramapo
Lakeside School
Spring Valley, N.Y. 10977

Staten Island Board of Education
110 Livingston Avenue
Brooklyn, N.Y. 11201

Syracuse Public Schools
409 West Genesee Street
Syracuse, N.Y. 13202

Town of Rye
Ridge Street School
Port Chester, N.Y. 10573

Union Endicott Schools
300 Lincoln Avenue
Endicott, N.Y. 13760

Union Free School District No. 10
200 Emory Road
Mineola, N.Y. 11501

Union Springs Central Schools
Union Springs, N.Y. 13160

Valley Stream No. 24
Horton Avenue
Valley Stream, N.Y. 11580

Weedsport Central School
Weedsport, N.Y. 13166

Wellsville Public Schools
Wellsville, N.Y. 14895

West Seneca Central Schools
45 Allendale Road
West Seneca, N.Y. 14224

Yorktown Heights Public Schools
1931 Commerce Street
Yorktown Heights, N.Y. 10598

appendix "b"

K–12 ITV User Individual Questionnaire
K–12 ITV School Users Questionnaire for 1966, 67, & 68.

School ..... Interviewer .....

..... Date 1969

Background Information:

1. Name of School.....
2. Years Using ITV.....
3. Under State Support Program (now — past). If now, year.....
4. Number of receivers in schools.....
5. Black & white or color systems (B & W — Color).
6. Video tape recorded normally used (yes — no).
7. Number of distribution channels..... Type(s).....
8. Studio facilities (yes — no). If yes describe on back.
9. Research on ITV in system (yes — no), describe on back or attach documents.
10. Total number of hours of ITV programing available per week.....
11. Expenditure per student in Average Daily Attendance at the school.....

INDIVIDUAL QUESTIONNAIRE

Title or job.....

Name .....

Date 1969

We are interested in your reactions to classroom television in your school. I would like to hear both positive and negative reactions, but lets start with the plus side.

Can you think of a situation or incident where an ITV program was particularly successful in improving student's attitudes, achievement, or skills? (For example, a program or series that students liked very much or one that produced a great deal of learning.)

Can you think of any other similar instances?

Can you think of similar cases where ITV was especially effective for teachers, administrators or other personnel? (For example, one area had a very useful series for bus drivers on driving safety.)

Let's talk about the negative aspects for a few moments.

Can you describe any bad situations that have occurred during the past three years. Let's talk about students first. (For example, bad reactions to programs, to courses using TV or to mechanical things.)

Can you think of others that should be mentioned?

Have there been similar instances with teacher, administrators or other staff people?

Do you engage in any program development in your school or do you get all your material from outside sources? (Check all appropriate responses — note added explanations.)

1. Local Programing .....

2. Other Sources:

   Local Station.....

   Tapes from outside sources.....

   Tape, commercial or other, programs locally for rebroadcast.....

   State Education Department.....

   Great Plains.....

   Other (identify) .....

* * * *If 1 or 2 in the last item were checked, answer this page.* If *not*, go to next page.

Production & support staff training (preservice or inservice).

Program development (if done by school system).

Are teachers given released time?.....

Are viewing teacher/pupil ratios normally changed from non-ITV viewing time?.....

Are the programs video taped?.....

Reused the same year? (yes — no) Reused the following year? (yes — no)

Teacher/Pupil workbooks developed to go along with the television program?.....%

Teacher guides.....%

Funding (if data not available so indicate — if data can and will be computed, have it mailed):

Sources and change trend (if any) in last three years.

Cost (approximately) on ITV system including:

Receivers (or number).....

Studio (cumulative — identify if buildings cost was included).....

Purchase, or participation costs, of completed programs per year.....

Change in last three years.....

Is ITV an efficient way to spend educational funds? (yes — no) Explain

Does ITV make good use of the school building? (yes — no) Explain

Other comments regarding your production activities.

What changes or impact (if any) on TV on curriculum practices & time expenditures re subjects taught by TV?

Do you have or see a need for a preservice or inservice teacher program related to the use of television?

Are the programs normally changed as the result of teacher or student feedback? (yes — no) Explain how this happens and when it does.

Have you seen any effects of ITV on curriculum and instruction? Can you give an example?

Has the curriculum changed in many courses as a result of ITV influences? Can you give at least one example of this occurrence?

Do you know of many instructional practices that have changed as a result of having ITV in your school? Can you give an example?

Do you have any information available as to the cost of your ITV system? Is there some source of this information?

Possible items to be considered:

Receivers .....

Studio equipment .....

Portable recorder and other equipment (camera, etc.) .....

.....

Distribution equipment .....

Would you react to the following:

ITV is an efficient way to spend educational funds. Yes — No Comments.

Have the State Education Department (personnel and financial support) been of aid to you? Yes — No Comments.

School buildings are designed for proper utilization of ITV. Yes — No Comments.

ITV equipment is reliable. Yes — No Comments.

Teachers are comfortable with ITV equipment. Yes — No Comments.

ITV should be used to teach a full course of instruction? Yes — No.

ITV should be used as a major resources for instruction? Yes — No.

ITV should be used as an enrichment resources? Yes — No.

INTERVIEWER'S COMMENTS.

React to the person, the environment, the tone of the interview, etc.

appendix "c"

CONSULTANTS

1. Lawrence Arcarese
   Assistant Professor, Education
   Plattsburgh College of Arts and Sciences
   Plattsburgh, N.Y. 12901

2. Frederick Arce, Assistant Director
   Northeast Regional Supplementary Educational Center
   8 South Platt Street
   Plattsburgh, N.Y. 12901

3. Leonard Aronff, Instructor
   Radio-Television Department
   Syracuse University
   Syracuse, N.Y. 13210

4. Aldo Bonura
   Bonura Educational Consultants
   58 Morton Street
   New York, N.Y. 10014

5. Kenneth Fishell
   Associate Director for Research
   Center for Instructional Communications
   Syracuse University
   Syracuse, N.Y. 13210

6. Castelle Gentry, Assistant Professor
   School of Education
   Syracuse University
   Syracuse, N.Y. 13210

7. Robert Hedges
   Director of Television
   Middle County School District No. 11
   Centereach, N.Y. 11720

8. Delayne Hudspeth
   Associate Director for Instructional Development
   Center for Instructional Communications
   Syracuse University
   Syracuse, N.Y. 13210

9. Robert Jones
   Director of Electrography
   Syracuse University
   Syracuse, N.Y. 13210

10. John Keshishoglou, Director
    Instructional Media Services
    Ithaca College
    Ithaca, N.Y. 14850

11. Frederick G. Knirk
    Associate Director for Academic Affairs
    Center for Instructional Communications
    Syracuse University
    Syracuse, N.Y. 13210

12. Herbert McCoy, Director
    Communications Center
    Plattsburgh College of Arts and Sciences
    Plattsburgh, N.Y. 12901

13. Howard Schivera
    Director of Television
    Baldwin Public Schools
    High School Drive
    Baldwin, N.Y. 11510

14. Mary Scieford, Assistant Director
    Development and Utilization — School Services
    WQED Metropolitan Pittsburgh Educational Television
    Pittsburgh, Pennsylvania 15213

15. George Southall
    Electrography Department
    Syracuse University
    Syracuse, N.Y. 13210

appendix "d"

EDUCATIONAL TELEVISION COUNCIL STATIONS IN NEW YORK STATE

WSKG-TV Ch. 46
Box 954
Binghamton, N.Y. 13902

WNYE-TV Ch. 15
112 Tillary Street
Brooklyn, N.Y. 11201

WNED-TV Ch. 17
Hotel Lafayette
Buffalo, N.Y. 14203

WILW-TV Ch. 21
Long Island ETV Council, Inc.
Ellington Avenue, W
Garden City, New York 11530

WNDT-TV Ch. 13
304 W. 58th Street
New York, N.Y. 10019

WXXI-TV Ch. 21
410 Alexander Street
Rochester, N.Y. 14607

WMHT-TV Ch. 17
Box 17
Schenectady, N.Y. 12301

WCNY-TV Ch. 24
Old Liverpool Road
Liverpool, N.Y. 13088

St. Lawrence Valley ETV Council
Academy Street School
Watertown, N.Y. 13601

appendix "e"

STATION TABLES OF 1968–69 PROGRAMS AND SERIES BY SUBJECT AND GRADE LEVEL: DATA FROM VISITS TO ETV COUNCILS BY DR. MARY E. SCIEFORD IN MARCH AND APRIL 1969

WNED: 1968–69 Series and Programs

	Elementary		Secondary		Inservice		Total	
	Series	Pgms.	Series	Pgms.	Series	Pgms.	Series	Pgms.
CULTURAL ENRICHMENT	1	140					1	140
FINE ARTS	4	74	3	24			7	98
FOREIGN LANGUAGE	2	163					2	163
LANGUAGE ARTS	7	203	3	53			10	256
SCIENCE AND HEALTH	6	115	2	34	1	15	9	164
SOCIAL STUDIES	7	142	5	47			12	189
	27	847	14	188	1	15	42	1040

WXXI: 1968–69 Series and Programs

	Elementary		Secondary		Inservice		Total	
	Series	Pgms.	Series	Pgms.	Series	Pgms.	Series	Pgms.
DRIVER EDUCATION			1	30			1	30
FINE ARTS	7	114					7	114
LANGUAGE ARTS	5	133	2	38			7	171
MATHEMATICS	3	55					3	55
SCIENCE AND HEALTH	5	111	1	29			6	140
SOCIAL STUDIES	7	176	8	85			15	261
	27	589	12	182			39	770

SLV-ETV: 1968–69 Series and Programs

	Elementary		Secondary		Inservice		Total	
	Series	Pgms.	Series	Pgms.	Series	Pgms.	Series	Pgms.
FINE ARTS	1	30					1	30
LANGUAGE ARTS	4	106					4	106
SCIENCE AND HEALTH	4	152					4	152
SECRETARIAL STUDIES			1	15			1	15
SOCIAL STUDIES	5	115	3	16			8	131
	14	403	4	31			18	434

WSKG: First Semester 1968–69 Programs and Series

	Elementary		Secondary		Inservice		Total	
	Series	Pgms.	Series	Pgms.	Series	Pgms.	Series	Pgms.
DRIVER EDUCATION			1	30			1	30
FINE ARTS	6	52	1	4			7	56
GUIDANCE			1	5			1	5
LITERATURE	3	44					3	44
PHYSICAL EDUCATION	1	19					1	19
SCIENCE AND HEALTH	8	105	1	15			9	120
SOCIAL STUDIES	6	72	7	75			13	147
	24	292	11	129			35	421

WNDT: 1968–69 Series and Programs

	Elementary		Secondary		Inservice		Total	
	Series	Pgms.	Series	Pgms.	Series	Pgms.	Series	Pgms.
DRIVER EDUCATION			1	30			1	30
EARLY CHILDHOOD EDUCATION	4	170					4	170
FINE ARTS	6	146	3	57			9	203
FOREIGN LANGUAGE	2	146					2	146
GUIDANCE			1	12			1	12
LANGUAGE ARTS	6	160	2	30			8	190
MATHEMATICS	1	12					1	12
SCIENCE AND HEALTH	9	214	2	34			11	248
SOCIAL STUDIES	5	118	8	103			13	221
GENERAL INSERVICE					2	31	2	31
	33	966	17	266	2	31	52	1263

WMHT: 1968–69 Series and Programs

	Elementary		Secondary		Inservice		Total	
	Series	Pgms.	Series	Pgms.	Series	Pgms.	Series	Pgms.
DRIVER EDUCATION			1	30			1	30
FINE ARTS	8	144					1	144
FOREIGN LANGUAGE	3	90					3	90
LANGUAGE ARTS	4	100	2	38			6	138
MATHEMATICS	4	63					4	63
SCIENCE AND HEALTH	8	173	1	29			9	202
SOCIAL STUDIES	9	224	7	81			16	305
GENERAL INSERVICE					2	44	2	44
	36	794	11	178	2	44	49	1016

WNYE: 1968–69 Series and Programs

	Elementary		Secondary		Inservice		Total	
	Series	Pgms.	Series	Pgms.	Series	Pgms.	Series	Pgms.
FINE ARTS	4	75			1	15	5	90
FOREIGN LANGUAGE					1	15	1	15
GUIDANCE			3	60			3	60
LANGUAGE ARTS	3	90	2	25	3	45	8	160
MATHEMATICS	1	15	1	15	2	30	4	60
SCIENCE AND HEALTH	6	155			1	15	7	170
SOCIAL STUDIES	6	129	4	54	2	30	12	213
GENERAL INSERVICE					2	30	2	30
	20	464	10	154	12	185	42	803

WLIW: Nine Weeks Sample Schedule of Programs and Series, 1968–69

	Elementary		Secondary		Inservice		Total	
	Series	Pgms.	Series	Pgms.	Series	Pgms.	Series	Pgms.
DRIVER EDUCATION			1	9			1	9
FINE ARTS	5	45	1	9			6	54
GUIDANCE			1	9			1	9
HOME ECONOMICS			1	9			1	9
LANGUAGE ARTS	1	9	2	18			3	27
MATHEMATICS		18			3	27	5	45
PHYSICAL EDUCATION	1	9					1	9
SCIENCE AND HEALTH	3	27					3	27
SECRETARIAL STUDIES			1	9			1	9
SOCIAL STUDIES	6	54	1	9			7	63
GENERAL INSERVICE					2	18	2	18
	18	162	8	72	5	45	31	279

WCNY: 1968–69 Series and Programs

	Elementary		Secondary		Inservice		Total	
	Series	Pgms.	Series	Pgms.	Series	Pgms.	Series	Pgms.
DRIVER EDUCATION			1	30			1	30
FINE ARTS	4	40					4	40
LANGUAGE ARTS	5	135	2	94			7	229
MATHEMATICS	1	15					1	15
PHYSICAL EDUCATION	1	15					1	15
SCIENCE AND HEALTH	7	186	2	93			9	279
SOCIAL STUDIES	6	107	9	89			17	196
GENERAL INSERVICE					1	30	1	30
	24	498	14	306	1	30	39	834


ST. LAWRENCE
FRANKLIN
CLINTON
JEFFERSON
°Watertown
ESSEX
LEWIS
LAKE ONTARIO
HAMILTON
WARREN
WASHINGTON
OSWEGO
NIAGARA
ORLEANS
°WXXI-21 Rochester
MONROE
WAYNE
ONEIDA
FULTON
SARATOGA
°WCNY-24 Syracuse
GENESEE
ONONDAGA
HERKIMER
MONTGOMERY
°WNED-17 Buffalo
ONTARIO
SENECA
MADISON
SCHENECTADY
°WMHT-17 Schenectady
RENSSELAER
LAKE ERIE
ERIE
WYOMING
YATES
CAYUGA
LIVINGSTON
CORTLAND
CHENANGO
OTSEGO
SCHOHARIE
ALBANY
CHAUTAUQUA
CATTARAUGUS
ALLEGANY
STEUBEN
SCHUYLER
TOMPKINS
DELAWARE
GREENE
CHEMUNG
TIOGA
BROOME
°WSKG-46 Binghamton
COLUMBIA
PENNSYLVANIA
ULSTER
DUTCHESS
SULLIVAN
PUTNAM
ORANGE
WESTCHESTER
ROCKLAND
LONG ISLAND SOUND
BRONX
NEW YORK
°WNDT-13 New York City
QUEENS
NASSAU
°WLIW-21 Garden City
KINGS
WNYE-15 Brooklyn
RICHMOND
CONNECTICUT
MASSACHUSETTS
NEW JERSEY