1969

A Survey of Closed Circuit Television Facilities and Utilization in the Accredited Secondary Schools in the State of Washington

Robert Lawrence Wiley
Central Washington University

150

A SURVEY OF CLOSED CIRCUIT TELEVISION FACILITIES AND UTILIZATION IN THE ACCREDITED SECONDARY SCHOOLS IN THE STATE OF WASHINGTON

A Thesis

Presented to

the Graduate Faculty

Central Washington State College

In Partial Fulfillment

of the Requirements for the Degree

Master of Education

---

by

Robert Lawrence Wiley

August, 1969

APPROVED FOR THE GRADUATE FACULTY

_____

Charles Vlcek, COMMITTEE CHAIRMAN

_____

William D. Schmidt

_____

Alexander H. Howard, Jr.

ACKNOWLEDGMENTS

The writer would like to express his gratitude to Dr. Charles Vlcek for his advice and encouragement during this study. I would also like to thank Dr. Alexander Howard and Mr. William Schmidt for their support.

I would also like to express my gratitude to my wife for her faith and understanding which made this study a reality.

TABLE OF CONTENTS

LIST OF TABLES

Table Page

Chapter 1

INTRODUCTION

NEED

Although in the past many educators have been concerned with the value of educational television in the classroom, the question of whether or not educational television can serve as an efficient tool for learning need no longer be raised, according to Chu and Schramm.

> The questions worth asking are no longer whether students learn from it, e.g., educational television, but does the situation call for it and how in the given situation can it be used effectively (2:98)?

As a result of studies on the effectiveness of television throughout the nation, educators are becoming involved with television at an ever increasing rate. For example, "in 1951-52 two schools were using televised education for systematic instruction; in 1952-53, three schools; in 1953-54, seven schools; and in 1956-57, one hundred fourteen schools" (6:1). In November of 1967, on the secondary and intermediate levels alone, there were 1,826 schools involved with educational television in the United States. These schools reached a total of approximately 19,233,000 students (6:xii).

In the past few years, the schools in the State of Washington also have experienced this rapid growth in educational television, but the progress of this growth has not been recorded. According to a 1965 report, there were only three secondary schools with closed circuit television (11). A more recent report, compiled in 1968 by Kenneth A. Christiansen for the Joint Committee on Education of the Washington State Legislature, estimated that seventeen school districts are presently operating closed circuit television with an additional thirty districts planning closed circuit television facilities in the future (1:23-24). These reports are the most current for the State of Washington and both indicate a need for further study of the extent to which closed circuit television is being used. This study will fill the need for current information regarding the status of closed circuit television in the secondary schools in the State of Washington.

PURPOSE

At the present time in the State of Washington, there are no reports with detailed information about the number of secondary schools using closed circuit television, nor is there information on the type of equipment or its use in existing closed circuit television facilities. Therefore, it is the purpose of this study to assess the current facilities and uses of closed circuit television in the secondary schools of the State of Washington. The assessment of facilities throughout the state would be

valuable to schools in the purchasing of equipment and the establishment of new programs in closed circuit television.

HYPOTHESES

To attain the purpose of this study, it is necessary to answer five basic questions:

1. How many secondary schools in the State of Washington are now using closed circuit television?

2. What types of equipment are currently being used in the schools in the State of Washington?

3. For what purpose is the equipment being used?

4. Who is responsible for the operation of the closed circuit television facilities?

5. What type of programs are being offered via closed circuit television in the secondary schools in the State of Washington?

DEFINITION OF TERMS

To begin with a common frame of reference, several terms must be defined.

Closed Circuit

"A wired system that is completely closed. Its signal goes only where it is wired" (11:1). A camera or video tape recorder and monitor are a closed circuit system.

Utilization

The use of both facilities and programming. Any transmission of information via a closed circuit system is considered a program.

Facility

The building and/or the equipment which is being used. "That which is built or established to serve a particular purpose" (14:298).

Secondary Schools

High schools, junior high schools, or middle schools as listed by the State Department of Education. The range of grades represented was from grade six in the middle schools through grade twelve in the high schools.

OVERVIEW

In Chapter 2, the literature pertinent to this investigation is summarized. Only those sources directly related to this study are discussed. In Chapter 3, the procedures of this study are explained and its design is described. The results of this study, including the percentage of return of each questionnaire, analysis of questions and statistical summaries, as well as comparisons, are included in Chapter 4. Chapter 5 includes a summary of previous chapters, conclusions from the data collected, a discussion of the findings and recommendations for future study.

Chapter 2

REVIEW OF LITERATURE

Although closed circuit television has a short history and is still a relatively new medium of communication, as early as 1928 F. W. Alexanderson was experimenting with broadcast and closed circuit television (5:158). This led to state fair demonstrations and some experimental licensing by major universities during the 1930's. However, the first real use of closed circuit television occurred during World War II when it was used for educational purposes with air raid wardens, military personnel, and medical personnel (5:163).

Interest in educational television was sporadic until 1949 when Tracy Tyler wrote his editorial in the Journal of the Association for Education entitled, "How About Wired TV?" (5:167). In the early 1950's, Syracuse University, Cornell University, Pennsylvania State University, and the University of Wisconsin were all experimenting with closed circuit television and by 1955 had developed full programs of instruction. During this period, grants were awarded by various agencies to encourage others to experiment with the medium. Interest spread, and Koenig and Hill give the figures in 1966 as totaling "1000 closed circuit installations in the United States" (5:155).

Despite the strong interest, there are educators who still feel that closed circuit television is a luxury for public schools. Resistance to the movement, according to Koenig and Hill, "is emotional, not logical" (5:167). These writers indicate further that a lack of personnel, insufficient funds, and poor quality experimentation have all contributed to the lack of acceptance of closed circuit television.

Koenig and Hill indicate that in the Cortland County project in New York State, community members maintained television was a luxury and was "making education inferior." As a result of community pressure, the project was given up in 1963.

In the State of Washington, the results of this study brought forth a statement from Jack Dorr, principal of Wapato Senior High School, which indicated nonacceptance of closed circuit television:

> As a result of a study conducted, we determined that our school district was not ready for the system [e.g., closed circuit television]. It appeared much too costly for district operation after the first year and also determined that on a whole our faculty was not yet ready . . . .

Those educators who accept the medium list the advantages of a closed circuit system as: (1) having the salient feature of an element of control (7:130); (2) a flexible medium which allows for individual differences in students, programs, and school systems (2:100; 4:59); and (3) less expensive to operate than open circuit television systems and requiring no license for operation (4:60).

Educators who have worked with closed circuit television can see its potential for teacher and pupil enrichment. Richard Hull states "the inexorable need to step up the quantity and the even more fundamental need to improve quality in education" (10:345).

A good example of effective teaching ideas bringing quality education to the State of Washington through the use of closed circuit television is evident in Warne Clark's video tape exchange program being carried out in Bellevue's Tyee Junior High School (3:19). This video tape cultural exchange program between Tokyo and Bellevue is being expanded with plans to exchange video tapes with Paris, Munich, and Thailand, and is an attempt to achieve an understanding of people around the world. This international exchange of ideas exemplifies one of the potential uses of closed circuit television. This is part of the future for closed circuit television; according to Lyle M. Nelson, "national exchange arrangements offer real promise of success toward fulfilling the high goals set for education by television" (10:181).

One of the earliest reports made in this state describing the use of closed circuit television is by Robert Vogelsang (11:17). His 1965 report indicated that the usual approach to planning and using closed circuit television in the state was trial and error. He stated that each system did "experience errors and suffer regrets" (11:17).

Further criticisms of closed circuit television systems were given with reference to the equipment used. Vogelsang stressed the

need for a neutral consultant between buyer and seller to participate in the purchasing of equipment. This, he claimed, would prevent many purchases of equipment which was not fitted for its intended use.

At the time of publication of Vogelsang's report, there were fourteen closed circuit television facilities in educational institutions in the State of Washington. Of these fourteen, only three were in public school systems.

Two of the three facilities were located at Spokane, Washington. In 1965, closed circuit television at Ferris High School was operated on an experimental basis with a chain of equipment used in a single room or several rooms. Vogelsang's report does not discuss the success or failure of the effort in its early stages. Salk Junior High School also had its entire building wired for closed circuit television with a minimum of one outlet in each classroom. One of the cameras of a two-camera chain demonstrated how ingenuity can evolve from necessity. A non-viewfinder camera was equipped with a small monitor on top to aid the cameraman. The programming at Salk Junior High School was informal and its scheduling was not regular. The principal reported that the use and acceptance of the system had been quite successful up to that time.

The third system was developed at Rainier Beach High School in Seattle. A facility was being installed in 1965 with plans for expanding to at least one other school and eventually into connecting with more than

two schools. This interconnection has not come about in the years following 1965.

A report formulated by Kenneth Christiansen in 1968 for the Joint Committee on Education in thi s state is available. The main purposes of this study were given by Christiansen:

> . . . to understand educational television's in-school and out-of-school role as an instructional and educational facility; to determine what assistance may be required, if any, from the legislature; and to determine what improvements and economics might be achieved through improved management practices . . . (1:1).

As a portion of Christiansen's study, a questionnaire was distributed to all superintendents of districts which had applied for federal aid in the construction of new buildings and whose applications had been processed by the State Office of Education. A total of seventy-six districts were sent the questionnaire with sixty-four responding (a return of 84.2 percent). Of the sixty-four districts which responded, seventeen were currently using closed circuit television within the district. Forty-seven districts were not using closed circuit television. Of those districts not using closed circuit television, thirty districts indicated that they planned to provide for its use in the future.

Of the sixty-four districts which responded, twenty-four have planned closed circuit television for new buildings while nine districts do not have closed circuit television and do not plan to use closed circuit television. Those planning to use closed circuit television were primarily

users of educational television. Those not interested in closed circuit television indicated they did not use educational television services. Only one of the nine districts not expecting to use closed circuit television lies within the signal pattern of an existing educational television station.

Christiansen's study further indicated a significant trend on the part of school districts to extend the service of closed circuit television into their secondary schools. As an indication of this trend, when those districts with plans or proposals put them into effect, a total of ninety-eight secondary schools will possess equipment of one kind or another. The exact means by which Christiansen arrived at this figure is not clear, but the indication of a significant increase over existing closed circuit installations was quite obvious.

It is unfortunate that the time and funds were not available to Christiansen for a more detailed study of closed circuit television in the public schools of this state. He admits this early in his discussion of closed circuit installations (1:23). Another weakness of Christiansen's report is his failure to define what he means by closed circuit television. It can only be concluded from his figures that he does not mean only facilities with origination or storage equipment, but rather any facility with origination, storage, or line-fed receivers or monitors.

SUMMARY

Although experimentation on closed circuit television began in 1928, it did not become significant in education until the 1950's when several universities began experimenting with television. When grants became available for the development of closed circuit television, interest increased, resulting in 1,000 closed circuit television installations in the United States by 1966. The early development of closed circuit television was somewhat hampered by the resistance of some educators to television. This was due to the lack of qualified personnel, insufficient funds, frequent poor quality experimentation, and sometimes, personal bias. Resistance has largely been overcome as research continued to show that students and teachers could learn from closed circuit television programs.

With reference to the State of Washington, two survey-type studies have been conducted. The first of these by Vogelsang in 1965 described the early development of three closed circuit television systems in Seattle and Spokane. He concluded that the development of these systems was basically by trial and error and that they were, for the most part, well accepted. The second survey, conducted by Christiansen in 1968, used a questionnaire to determine the extent to which closed circuit television was being used in the state. This study was somewhat limited due to lack of funds and does not provide a complete description

of closed circuit television utilization in 1968. Because of these limitations, it will be valuable to up-date and extend this research at the present time.

Chapter 3

DESIGN

This study is a descriptive survey developed to assess the current facilities and uses of closed circuit television in the secondary schools in the State of Washington.

A questionnaire was designed to collect data about current facilities and uses of closed circuit television in the State of Washington. Data received was compiled numerically and percentages were derived from the questionnaires returned.

SAMPLE

The sample for this study consisted of all the secondary schools accredited by the State of Washington's Superintendent of Public Instruction. The list of junior high schools accredited for the 1968-69 school year (9:1-5) and the list of accredited high schools for the school year 1968-69 (8:1-11) were used to derive those schools which would receive the two questionnaires used in this study.

The first questionnaire was directed to the principals of the secondary schools in Washington. As approval was not granted by the Director of Research for the Seattle School District, twenty-eight Seattle

schools were not included in this study. Rainier Beach Junior-Senior High School was the only Seattle Public School included in the survey.

The criteria used to determine which schools would receive the second questionnaire was a yes answer to question two, "Do you have closed circuit television in your school?"; and a yes answer to question five, "Do you have a television camera(s) in your building?"; and/or a yes answer to question six, "Do you use a video tape recorder in your building?" A copy of the first questionnaire can be found in Appendix A.

INSTRUMENTATION

Two instruments were used in this study, both being questionnaires. The first questionnaire was designed to determine those secondary schools which have closed circuit television and to determine the individual or individuals responsible for the operation of the facility. The second questionnaire was designed to determine the amount and types of equipment possessed by the schools surveyed and the ways in which this equipment was being used. A sample of each questionnaire can be found in Appendix A.

The first questionnaire included a section at the top devoted to an explanation of the need for such a study and a definition of a closed circuit system. The questionnaire consisted of nine questions which would be answered by indicating a yes or no, and the final question asking for the name and address of the person responsible for the operation of the

facility. The questionnaire was designed to be completed with a minimum amount of effort by the principals of the schools involved. A total of 484 copies of the first questionnaire were sent and 446 were returned for a 92.2 percent return.

The second questionnaire consisted of fifty-three questions divided into three groups. The first group consisted of twenty-eight questions devoted to the area of facilities. The second group consisted of seventeen questions devoted to the area of use. The third group consisted of eight questions dealing with staff. The second questionnaire was four pages, excluding the cover-letter which included an introduction and explanation of the study. The letter can be found in Appendix A, page A total of eighty-seven schools received the second questionnaire and seventy-five were returned for a 86.2 percent return.

PROCEDURES

During the study certain procedures were followed. The junior high schools were numbered consecutively starting from the beginning of the list of accredited junior high schools 1968-69 (9:1-5) with the first being number 1 and the last being number 187. The same consecutive numbering system was used for the list of accredited senior high schools 1968-69 (8:1-12) beginning with the number 188 and continuing through number 512.

Self-adhesive address labels of Washington State schools were supplied by the Seattle office of the Washington Education Association. The Washington Education Association Directory (12) was used to locate addresses not included in the address labels.

Both the original and the return envelopes were furnished under the sponsorship of the Highline Public Schools Instructional Resources Center and contained the return address of the Instructional Resources Center. Letterhead paper was furnished for the first questionnaire and the cover letter of the second questionnaire by the Instructional Resources Center.

Each envelope mailed contained a questionnaire and a stamped self-addressed envelope. The second questionnaire also contained a letter of explanation. The return envelopes and questionnaires were numbered with corresponding numbers of the schools to which they were sent. These numbers facilitated the recording of the results upon return of the questionnaires. When a questionnaire was returned, a notation was made on a master list and the results of all questions were tabulated.

HYPOTHESES

The questions to be answered by this study are basically:

1. How many secondary schools in the State of Washington are using closed circuit television?

2. What types of equipment are being used?

3. How is this equipment being used?

4. Who is responsible for the operation of the facility?

5. What types of programs are being offered over the television system?

The first twenty-eight questions of the second questionnaire, which deal with facilities, are directed to the answer of the second hypothesis. The third hypothesis is answered by the questions in the second questionnaire which cover utilization. The tenth question on the first questionnaire and the eight questions regarding staff are directed to answer hypothesis number four. Hypothesis number five can be answered by the last five questions in the second questionnaire, regarding utilization. The results of these groups of questions will be presented in the fourth chapter by using the number of responses of each question and percentages to aid in clarifying relationships which exist.

SUMMARY

The lists of accredited junior and senior high schools in the State of Washington published by the Office of Public Instruction in Olympia, Washington, was used to determine the sample for this study. Two questionnaires were used to assess the current facilities and uses of closed circuit television in the State of Washington's secondary schools. The first questionnaire was sent to the principals of accredited secondary schools to determine which schools did have closed circuit television.

Four hundred forty-seven of 484 questionnaires resulted in a 92.2 percent return of the first questionnaire. The second questionnaire was then sent to those schools which did have closed circuit television facilities. A total of 87 second questionnaires were sent and 75 returned for a 86.2 percent return.

All results will be tallied and reported in Chapter 4 by the total number of responses to each question. Percentages will be used to clarify relationships which exist.

Chapter 4

ANALYSIS OF RESULTS

FINDINGS OF THE STUDY

The findings of this study have been divided into five major areas and will be reported in the following order:

1. How many secondary schools in the State of Washington are now using closed circuit television?

2. What types of equipment are currently being used in the schools of the state?

3. For what purposes is the equipment being used?

4. Who is responsible for the operation of the closed circuit television facilities in the secondary schools of Washington?

5. What programs are being offered via closed circuit television in the secondary schools of the State of Washington?

Number of Schools Using Closed Circuit Television

The first question was "How many secondary schools in the State of Washington are now using closed circuit television?" This question was given a yes answer on the first questionnaire by 49 or 10.99 percent of the 484 schools surveyed. In addition, 68 or 15.25 percent responded that

they had a television camera in their building. Two schools indicated the availability of closed circuit television at the district level. One school had access to a television camera from the district, and three schools borrowed video tape recorders from the district. Eighty-one (18.16 percent) indicated they used a video tape recorder in their building.

Using the criteria summarized in Table 1, eighty-seven schools were surveyed with the second questionnaire. Of the seventy-five responding, forty-one (8.47 percent) of the total secondary schools surveyed in Washington do have closed circuit television.

Table 1

Responses to First Questionnaire Used to Select Recipients of Second Questionnaire

Questions	Responses			
	Yes	Percent	No Response	Percent
Do you have closed circuit television?	49	10.99	2	0.4
Do you have a television camera?	68	15.25	4	0.8
Do you have a video tape recorder?	52	11.65	3	0.6

Types of Equipment

The second question was "What types of equipment are currently being used in the schools of the state?" The second questionnaire reported a total of sixty-two cameras in the forty-one schools surveyed. All but one

school had at least one television camera with the largest number of cameras at any one school being nine. A total of three schools had image orthicon cameras with E.I.A. synchronization. Two of these cameras were of the viewfinder type and one had no viewfinder. Vidicon cameras with E.I.A. synchronization were present in fifteen schools having a total of twenty-one cameras. Of these twenty-one cameras, sixteen had viewfinders and five did not. Vidicon cameras without E.I.A. synchronization also accounted for twenty-one cameras in fourteen schools. There was an almost equal distribution between the viewfinder type and non-viewfinder type with ten non-viewfinders and eleven viewfinders. One school had six vidicon cameras without E.I.A. synchronization. The television camera data is summarized in Table 2.

Table 2

Number and Type of Television Cameras in the Secondary Schools of Washington

Camera Type	Viewfinder	Non-Viewfinder	Total
Image Orthicon	2	1	3
Vidicon with E.I.A. Synchronization	16	5	21
Vidicon without E.I.A. Synchronization	11	10	21
Unknown			15
Total Cameras in the State of Washington			62

Video tape recorders also were widely distributed throughout the state. A total of fifty-two video tape recorders were reported by thirty-eight schools. Three schools indicated they did not have a video tape recorder. The largest number of video tape recorders present in one school was five. Twenty-two schools used the one inch format recorders and twenty schools used the one-half inch format. Four schools reported using both the one inch and the one-half inch format machines.

Four different makes of video tape recorders were used by the schools--Ampex, International Video Corporation, Panasonic, and Sony. Table 3 illustrates the distribution of video tape recorders by make and model. Ampex accounted for twenty-three of the machines with eight model 5000, five model 5100, three model 6000, three model 7000, two model 7500, one model 7800, and one school did not indicate the model number. International Video Corporation accounted for two machines and Panasonic for one machine. Sony accounted for twenty of the fifty-two machines with one model SV 300, one model 2000, one model 2010, three model 2100, eleven model 2200, three model DVK 2400, and five schools did not know the model of machine they owned.

Of the forty-one schools surveyed, a total of 593 reels of video tape were reported by thirty-four schools. Schools using one inch tape accounted for 347 reels of video tape. The largest number of reels of video tape in any one school was ninety-two. The next largest number of video tape reels used by one school was forty-eight. These two schools were

Table 3

Number of Video Tape Recorders in the Secondary Schools of Washington by Manufacturer and Model

Model	Ampex	IVC	Sony	Panasonic	Total
5000	8				8
5100	3				3
6000	3				3
7000	3				3
7500	2				2
7800	1				1
SV 300			1		1
CV 2000			1		1
CV 2010			1		1
CV 2100			3		3
CV 2200			11		11
DVK 2400			3		3
Unknown	1	2	4	1	8
Total	23	2	24	1	50

In addition to those listed above, two recorders were listed with no brand name indicated.

responsible for 43.2 percent of the one inch tape in the State of Washington. Schools using one-half inch tape reported 246 reels of video tape. One hundred sixty-five hour-long tapes were reported, with the next largest number being thirty-five reels of twenty-minute tapes. In addition, there were twenty-six reels of fifteen-minute video tapes and twenty reels of thirty-minute video tapes. A summary of video tapes in the state may be found in Table 4.

Table 4

Number of Video Tape Reels in the Secondary Schools of Washington

Size of Reel In Minutes	Number of Reels		Total Time
	Tape Size 1/2 inch	Tape Size 1 inch	
15	0	0	
20	35	0	
30	20	10	
45	26	0	
60	165	310	
Unknown		27	
Total	246	347	521.2 hrs.

Only five schools had remote camera controls. Seven remote camera control units were reported, with one school having three remote units.

The thirty-six schools reporting indicated that twenty-five did not have a switcher or switcher-fader and ten did have a switcher or switcher-fader.

Only one of the thirty-six schools indicated the possession of a special effects generator.

The possession of a combination Very High Frequency (VHF) and Ultra High Frequency (UHF) tuner was more common than either a VHF or a UHF tuner by itself. The twenty-six schools reporting indicated nineteen combination tuners, three VHF tuners, and one UHF tuner in their respective buildings. Two schools reported having more than one tuner with one school having three and the other school having two. Both schools have the combination type tuner.

Three schools of the thirty-five responding to this question indicated they had film chains in their buildings.

Responses from thirty-four schols indicated that six schools have eight television compatible 16 mm motion picture projectors. One school indicated the possession of three such 16 mm projectors.

Thirty-four schools responding to this section of the questionnaire disclosed seven schools with twelve slide projectors for television. The largest number of slide projectors at any one school was five.

Seven of the thirty-six schools responding to the question related to lighting used some type of lighting other than normal classroom lights. The size, type, and number of lights varied from one small quartz light to

a studio lighting system of eight 1,000 watt fresnel lights, six 500 watt fresnel lights, and ten 750 watt quartz, scoop lights.

Ten studios exist in the total schools surveyed with closed circuit television. Of these ten studios, six have control facilities.

A summary of the video production equipment in Washington is located in Table 5, page 27.

Thirty-four schools reported having ninety-seven microphones for television use with a rather even distribution over the entire state of Washington. More than two-thirds of the schools had more than one microphone with seven schools reporting the possession of five or more microphones.

Audio amplifiers were not as common as microphones. Thirty-one schools disclosed the ownership of a total of twenty-three audio amplifiers. The largest number of audio amplifiers in any given school was three, with two schools indicating this number.

Only ten turntables were reported by thirty schools. Twenty-four of the thirty schools reported they did not have turntables for the use of television.

Forty-six audio tape recorders were reported by a total of thirty-two schools having closed circuit television. More than one-half of the schools reporting indicated they did not own an audio tape recorder. One school claimed possession of twelve machines with the next largest

Table 5

Video Production Equipment in Secondary Schools of Washington

Equipment	Number
Cameras	62
Video Tape Recorders	52
Video Tapes	593
Remote Camera Controls	7
Switcher-Switcher Fader	10
Special Effects Generator	1
Tuner	23
Film Chain and Multiplexer	3
16 mm Projectors	8
Slide Projectors	12
Lighting	7
Studios	2
Control Facilities	6

number being six. The audio production equipment in the secondary schools of Washington is summarized in Table 6.

Table 6

Audio Production Equipment in Secondary Schools of Washington

Equipment	Number
Microphones	97
Audio Amplifiers	23
Turntables	10
Audio Tape Recorders	46

The total survey of schools showed 23.32 percent or 104 schools with buildings wired for the distribution of television programs. Of the forty-one schools having closed circuit television, eighteen schools reported nine video systems and ten radio frequency (RF) systems in their respective buildings. One school had both a video system and a radio frequency system.

Less than half of the thirty-three schools reporting had a transmitter or modulator in their buildings. Twelve schools had a total of seventeen transmitters or modulators. The largest number of transmitters or modulators reported by any given school was three.

In the schools with closed circuit television and a distribution system, 226 origination points were listed. Five schools reported having 89.82 percent or 203 of the 226 origination points. Seven schools disclosed having communication between the classrooms and the production area. A summary of equipment or systems used in transmission of closed circuit television signals is presented in Table 7.

Table 7

Transmission Equipment or Systems in Secondary Schools of Washington

Equipment	Number
Distribution Systems (RF)	10
Distribution Systems (Video)	9
Transmitters or Modulators	17
Origination Points	230
Communication Between Classroom and Production Area	9

Thirty-six of the forty-one schools reported having a total of 355 receivers. Six secondary school buildings with closed circuit television have 68.2 percent of the receivers in the State of Washington. These six schools have 242 receivers. Seventy-four was the largest number in any one building. The thirty-six schools indicated one portable set with a screen of seven inches or less. fourteen portable sets with

screens of eight to fourteen inches, four portables with screens of fifteen to twenty inches, ten receivers on carts with fifteen to twenty inch screens, 129 portables with screens of twenty-one inches and up, fifty sets with screens of twenty-one inches and up mounted on carts (no size given), as well as four portable sets with no screen size indicated. A summary of receivers in the State of Washington can be found in Table 8.

Table 8

Receivers in Secondary Schools of Washington

Screen Size	Portables	On Carts	On Walls or Ceiling	Total
7" or less	1	0	0	1
8" - 14"	14	0	0	14
15" - 20"	4	10	0	14
21" or more	129	58	96	283
Unknown	4	57	0	61
Total	152	125	96	373

In an estimate of receiver-student ratio, twenty-four schools indicated a ratio of one receiver for every 100 students or more. The ratio of one receiver for every twenty students was reached by only one school. The extreme ratio was reported in a school where one set served 1,618 students.

Use of Equipment

The third question was, "For what purpose is the equipment being used?" Of the schools in the survey with closed circuit television, 10 percent were unable to respond regarding utilization with any degree of accuracy because they had just received their equipment. Those schools in the survey having closed circuit television long enough to evaluate averaged 2.5 programs per day to their students. The largest number of programs offered per day was six, with some schools offering fewer than one program per day. These programs reached classes ranging in size from 25 to 190 students. Eight schools reported reaching 100 percent of their students via closed circuit television at some time during the year. These eight schools accounted for 53.7 percent of the 15,200 students reached by closed circuit television in their respective schools. Twenty-one of the schools with closed circuit television reported presenting a total of 637 programs during the first semester of the school year. Four hundred twenty of these programs were stored on tape for one month or more. Teachers were indicated by 84 percent of the schools as the individual responsible for the selection of programs to be recorded, stored, or played.

Of thirty-six schools answering, nineteen schools did not offer services outside their buildings and fifteen did offer such services. The schools which did offer services outside their building usually did for the district, the community, and Parent-Teacher Association.

Twenty-five of thirty-five schools used their equipment to train students to act as television crew members. Five of the twenty-five schools also used their equipment for vocational training. The students being trained either as crew members or for vocational purposes ranged in age from twelve through eighteen years.

Closed circuit television facilities were used by a number of instructional departments. The survey asked each school to rank the three departments which made the most use of the closed circuit television facility in their building. The survey asked what type of program each department used most often. Table 9 illustrates the frequency of department selection and program preferences.

The science department was selected by nineteen of the responding schools as a frequent user of television. These schools indicated seven science departments used primarily programs from commercial channels. Five science departments used more programs from educational channels than any other source. One science department used school productions. Five schools did not indicate the type of programs used by their science department.

The social studies department was selected by fifteen of the schools answering the questionnaire as a frequent user of television. These schools indicated three social studies departments used mostly school productions, nine social studies departments used programs

Table 9

Departments Most Frequently Using Television Facilities

Departments	Number of Schools Selecting	Program Preferences			
		Commercial Channels	Educational Channels	School Productions	Unknown
Science	19	7	5	1	6
Social Studies	15	9	3	3	0
English	14	4	2	6	0
Athletics	8	0	0	7	1
Physical Education	8	0	0	7	1
Language Arts	6	1	3	2	0
Home Economics	6	0	2	2	2
Speech-Drama	4	0	0	4	0
Music	3	0	2	1	0
Business	2	0	1	1	0
Distributive Education	2	0	0	2	0
Mathematics	2	0	0	2	0
Teacher Evaluation	2	0	0	2	0
Vocational Education	2	0	0	2	0
Total	93	21	18	42	10

primarily from commercial channels and three social studies departments used programs primarily from educational channels.

The English department was selected by fourteen of the responding schools as a frequent user of television. The responses indicated that in six schools English departments used mainly school productions, in four schools English departments used primarily programs from commercial channels, and in two schools English departments used programs from educational channels. Two schools had English departments listed as most frequent users of the facility, but failed to indicate what type of programs were used.

The physical education and athletics departments were each selected by eight responding schools as most frequent users of the television facility. These schools indicated that seven physical education departments and seven athletic departments used only school productions. Two schools did not indicate what type of programs were used by physical education and athletic departments in their buildings.

The home economics department and the language arts department were each selected by six of the responding schools as a frequent television user. The schools indicated two home economics departments using mostly student productions, two using primarily programs from commercial channels, and two schools did not indicate the type of program used in their home economics departments. Three language arts departments of the responding schools used programs primarily from educational channels,

two used mostly school productions, and one used programs predominantly from commercial channels.

The speech and drama departments were selected as frequent users of television by four of the schools answering the survey. These schools indicated all of their speech and drama departments used mainly school productions.

The music department was selected by three of the responding schools as using television frequently. Two of the schools indicated their music department used primarily programs from educational channels, and one school specified the use of school produced programs most often.

Other departments chosen by responding schools for television usage were the departments of mathematics, business education, vocational education, and distributive education. Each of these departments was selected by two schools and used primarily school produced programs.

One other use indicated in the survey by two schools was that of teacher evaluation. These evaluations were school produced programs.

Responsibility for Operation of Facilities

The fourth question asked was, "Who is responsible for the operation of the closed circuit television facilities?" In six of the responding schools, the superintendent was responsible at the district level. In seven of the schools responding, the audiovisual coordinator was indicated as the responsible individual. Two schools gave the

principal as the person responsible at the district level. Table 10 contains a tabulation of responses to this portion of the questionnaire.

Table 10

Individuals Responsible for Closed Circuit Television Facilities at District Level

Individual Responsible	Number of Schools
Audiovisual Coordinator	7
Superintendent	6
Principal	2

In six schools responding, the principal is responsible for the closed circuit television facility at the building level. Five schools disclosed the responsibility lay with the building coordinator of either television or audiovisual. The librarian was responsible for the closed circuit television facility in three of the responding schools. In one school, the mathematics department was responsible, and in another school the counselor was the responsible person. (See Table 11, page 37.)

Thirty schools with closed circuit television responding to the second questionnaire indicated the individuals responsible for closed circuit television facilities have taken an average of 3.1 audiovisual courses and less than one television course. A total of ninety-four audiovisual courses were taken by thirty individuals. Two individuals have

taken fifteen audiovisual courses, one individual has taken twelve courses, one individual has taken six courses, three of those responsible have taken five audiovisual courses, four people have taken three courses, four individuals have taken two audiovisual courses, eleven persons have taken one audiovisual course, and four persons responsible have taken no audiovisual courses.

Table 11

Individuals Responsible for Closed Circuit Television Facilities at Building Level

Individual Responsible	Number of Schools
Principal	6
Building Coordinator (Audiovisual or Television)	5
Librarian	3
Counselor	1
Mathematics Department	1

A total of nineteen courses in television were taken by thirty individuals. The largest number of courses taken by one individual was six. One of the responsible people has taken four television courses, two individuals have taken one course, and twenty-one of the people responsible have taken no television courses. A summary of the audiovisual and television courses taken by the people responsible for closed circuit television

facilities in the secondary schools of the State of Washington will be found in Table 12.

Table 12

Courses Taken By Persons Responsible for Closed Circuit Television Facilities in Secondary Schools of Washington

Number of Courses	Number of Individuals Taking Courses	
	Audiovisual	Television
0	4	21
1	11	4
2	4	1
3	4	1
4	0	1
5	3	0
6	1	1
12	1	0
15	2	0

Of the twenty-three schools answering the question regarding operation of the closed circuit facility, nine indicated a combination of teacher-student responsibility for the operation. In four schools, the teacher is reported as the responsible individual, and in five schools, students are listed as the persons responsible for operation. One school indicated a principal-student combination as the operators of the facility.

These same individuals have a total of forty-one years experience in television. Of the forty-one years total experience, twenty years were reported by one individual in radio. Of those reporting, 46.2 percent have had no experience before this school year began.

Twelve schools requiring video taping of programs after school hours reported teachers did the taping. Three of the twelve were reimbursed for the time spent taping the programs. Students were also indicated doing the taping of after hour programs in six schools; none of these students were reimbursed. Two schools have their after hour programs video taped at the district level. Both schools indicated reimbursement for the individual video taping after hour programs. Table 13 shows a tabulation of individuals responsible for after hour video taping and those reimbursed for their efforts.

Table 13

Responsibility for After Hour Video Taping of Programs

Persons Responsible	Schools Reporting	Operator is Reimbursed
Teachers	12	3
Students	6	0
Aides	1	0
District	2	2
No One	7	0
Total	28	5

Types of Programs Offered

The fifth question was, "What types of programs are being offered via closed circuit television in the secondary schools of the State of Washington?" Seven schools found it impossible to respond to this question because their records were inadequate or their facility was just beginning operation. The schools which did answer indicated that 202 programs from commercial channels were used. These schools also indicated they used 155 programs from educational channels, 135 programs from district sources, and 85 other programs ranging in sources from rental video tapes to school productions. (See Table 14.)

Table 14

Closed Circuit Television Programs Offered by the Secondary Schools in Washington

Source	Number
Commercial Channels	202
Educational Channels	155
District Sources	135
Other Sources	85

The most common type of program taken from broadcast sources, both commercial and educational, were the specials (e.g., National Geographic specials). One hundred forty-seven of the special programs were

used by the responding schools. These schools also revealed the use of forty weekly series programs (e.g., Twenty-First Century) and fifty-three of the current news type program (e.g., Apollo Moon Shot). (See Table 15.)

Table 15

Number of Programs From Broadcast Sources

Type of Program	Number
Specials	147
Weekly Series	40
Current News	53

In listing strong points of the closed circuit television programming, the survey showed a variety of answers. Seven schools revealed they had not had time to determine their strong points in their programming. Three schools listed flexibility as their strongest point in programming. Student evaluation and student motivation were listed by two schools as the strong points of their programming. Student awareness was listed by two schools as well as immediacy and individual progress concepts. Two schools indicate there were no strong points in their programming.

ADDITIONAL FINDINGS

An interesting fact revealed by the first questionnaire was that 19.28 percent or eighty-six schools were using closed circuit television,

or had used closed circuit television on a demonstration basis. In addition, 252 of 484 schools surveyed indicated they would be interested in having closed circuit television in their building. Several reasons were given for not having closed circuit television. A common reason given was the lack of funds to purchase the equipment. Another was the lack of personnel to operate the equipment if equipment was available.

Twelve schools also responding to the first questionnaire, indicated borrowing equipment from the school district offices. One school indicated the use of equipment from Central Washington State College for evaluation purposes.

An analysis of the forty-one schools with closed circuit television in regard to their geographic locations in the state shows that thirty-two of the secondary schools were located west of the summit of the Cascade Mountains and nine secondary schools with closed circuit television were located east of the summit of the Cascade Mountains.

Of the forty-one schools having closed circuit facilities, fifteen were junior high schools and twenty-six were high schools. Two schools returned their surveys indicating they were combination junior and senior high schools.

SUMMARY OF THE FINDINGS

The first questionnaire which was sent to 484 secondary schools in the state revealed forty-nine schools with closed circuit television in

their buildings. The second questionnaire revealed forty-one secondary schools which actually had a closed circuit television facility in their building. This is 8.47 percent of the accredited secondary schools surveyed in the State of Washington. A wide variety of equipment was reported in the forty-one schools with closed circuit television facilities.

The most prevalent types of equipment for television use reported by forty-one schools were: 593 video tapes, 355 receivers, 230 points of origination, 97 microphones, 62 television cameras, and 52 video tape recorders. Table 16 shows the totals for each of the types of equipment reported by the secondary schools of the State of Washington

The use of the closed circuit television facilities in the secondary schools in the State of Washington is shown by the 637 programs presented to 15,200 of the students in these schools. Those secondary schools with closed circuit television reported using their facilities to train students as television crew members. Instructional departments also made use of the schools' closed circuit television facilities with the science departments being the largest users. The social studies departments and the English departments were also ranked as frequent users of closed circuit television in the schools. The schools indicated programs from broadcast sources were used most frequently.

The responsibility for the closed circuit television facilities in the secondary schools at the district level was largely that of the audio-visual coordinator or the superintendent. Building responsibility was left

Table 16

Closed Circuit Television Equipment in Secondary Schools in Washington

Equipment	Number	No Response	Yes	No
Cameras	62			
Video Tape Recorders	52			
Video Tapes	593			
Transmitters or modulators	17	7		
Remote Camera Controls	7	7		
Switcher--Switcher-fader			10	26
Special Effects Generator			1	35
Tuner	23	11		
Film Chain and Multiplexer		6	3	32
16 mm Projectors	8	7		
Slide Projectors	12	6		
Lighting	5		7	29
Receivers	355	4		
Microphones	97	7		
Audio Ampliphiers	23	9		
Turntables	10	11		
Audio Tape Recorders	46	9		

Table 16 (Continued)

Equipment	Number	No Response	Yes	No
Distribution Systems (RF)	10			
Distribution Systems (Video)	9			
Origination Points	230	16		
Communication between classroom and production		8	9	24
Studios		2	10	29
Control Facilities		6	8	27

primarily with the building coordinator or librarian. Responsibility for the operation of the equipment was left to teachers or students.

The formal training of the responsible individuals at the building level was very limited. Responsible personnel averaged three courses in audiovisual, but 56 percent have had no courses in television. Of those responsible, 46.2 percent had no experience with closed circuit television before the school year 1968-69. Twelve schools reported video taping programs after the regular school hours with three schools reimbursing the operator.

Secondary school closed circuit facilities used 202 programs from commercial channels, 155 from educational channels, and 135 district productions. Special programs from broadcast channels were used most often by the closed circuit facilities. School productions within the state were most often of an evaluative nature.

Eighty-six schools were using or had used closed circuit television on a demonstration basis. Two hundred fifty-two schools indicated they would be interested in having a closed circuit television facility if they had the funds and personnel. Twelve schools related they could borrow closed circuit television equipment from their school districts.

The geographic distribution of the secondary schools with closed circuit television facilities revealed nine schools east and thirty-two west of the summit of the Cascade Mountains. Twenty-six senior high schools

and fifteen junior high schools made up the population of those with closed circuit facilities in the State of Washington.

Chapter 5

SUMMARY AND CONCLUSIONS

SUMMARY

Many educators have expressed concern for the lack of information regarding the development of closed circuit television in the State of Washington. Reports which have been done in the state concerning television are either out-dated or directed mainly at the broadcast channels. This study was directed at the need to assess the current facilities and utilization of closed circuit television in the State of Washington. To attain the purpose of this study, it was necessary to answer these five basic questions:

1. How many secondary schools in the State of Washington are now using closed circuit television?

2. What types of equipment are currently being used in these schools?

3. For what purposes is the equipment being used?

4. Who is responsible for the operation of the closed circuit facility?

5. What types of programs are being offered via closed circuit television in the secondary schools in the State of Washington?

Prio to this study, only two surveys had been conducted. The first of these studies was by Robert Vogelsang in 1965 and described the early development of three closed circuit television systems in Seattle and Spokane secondary schools. The second survey, conducted by Dr. Kenneth Christiansen in 1968, revealed seventeen school districts using closed circuit television and thirty reporting plans to use it in the future. Dr. Christiansen's study was limited due to a lack of funds and did not provide a complete description of closed circuit television utilization in the State of Washington in 1968.

This study was conducted to determine the present status and utilization of closed circuit television in the State of Washington. A descriptive survey design was used. The population for the study consisted of all the state accredited junior and senior high schools. Two questionnaires were used. The first was sent to the principals of 484 secondary schools with a return of 92.2 percent. The second questionnaire was sent to those persons responsible for the operation of the closed circuit facilities disclosed by the first questionnaire. The second questionnaire had a 86.2 percent return.

Of the schools responding to the second questionnaire, 8.47 percent or forty-one schools had closed circuit television facilities. The most prevalent types of equipment for television use reported by the forty-one schools were: 593 video tapes, 355 receivers, 230 points of origination, 97 microphones, 62 television cameras, and 52 video tape recorders.

Table 16, page 44, shows the totals for each of the types of equipment reported by the secondary schools of the state.

A total of approximately 15,200 students were reached by the 637 programs presented by the schools. The instructional departments which made the most use of the closed circuit television facilities were the departments of science, English, and social studies. The primary responsibility for closed circuit facilities at the building level was the building coordinator or the librarian. The operation of these installations was the responsibility of the teachers or student operators.

Secondary school closed circuit television facilities used 202 programs from commercial channels, 155 programs from educational channels, and 135 district produced programs. Special programs from broadcast channels were used most often by the closed circuit facilities. School productions in the State of Washington were more often of an evaluative nature than any other type.

Twenty-six senior high schools and fifteen junior high schools made up the population of those schools with closed circuit facilities in the state with more than 75 percent being west of the Cascade Mountains. In addition, 211 schools indicated they would be interested in having closed circuit television in the future.

CONCLUSIONS

Several conclusions may be drawn as a result of this study:

1. Only forty-one or 8.47 percent of the state's accredited secondary schools have closed circuit facilities.

2. There is a sizeable amount of equipment being used by the secondary schools of this state with the cameras primarily being of the vidicon tube type and the video tape recorders almost evenly divided between Ampex one-inch tape format and Sony one-half inch tape format.

3. The closed circuit television equipment in the state's secondary schools is serving two main functions: (1) immediate feedback for evaluation and (2) the time delaying of broadcast information from other sources.

4. Secondary school teachers hold the main responsibility for the operation of the closed circuit television facilities.

5. Students play an important role in the operation of the closed circuit facilities throughout the state.

6. The two most common types of programs presented via closed circuit television were the television specials presented by broadcast channels and programs produced in the schools of an evaluative nature.

7. The closed circuit facilities are used by a wide variety of instructional departments, with the science, social studies, and English departments the most frequent users.

8. A few schools contain a large portion of the closed circuit equipment in the State of Washington.

9. Schools with studios have more equipment than those without studios.

10. The majority of the schools with closed circuit television use their equipment on a portable basis.

DISCUSSION

The response to this study by the secondary schools of this state indicates the great interest which exists in closed circuit television throughout the state. It is very unfortunate that the studies of closed circuit television have been conducted so incompletely. School districts in the state spend thousands of dollars each year on closed circuit television equipment and have had very limited survey data to refer to for guidance. This study provides a starting point for further study in the area of closed circuit television in the State of Washington.

RECOMMENDATIONS FOR FURTHER STUDY

A continuation of this study yearly would provide a basis for the analysis of the development of closed circuit television in the State of Washington. It should also be recommended that further research of closed circuit television facilities be conducted in the state elementary schools, junior colleges, and colleges. A study of this scope should be undertaken

by the State Department of Education in Olympia to provide a guide for schools interested in becoming involved with closed circuit television.

With closed circuit television utilization and technology advancing at an ever increasing rate, new areas for study will also be revealed.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Christiansen, Kenneth A. Washington State Educational Television Study. Olympia, Wash.: Subcommittee on Instruction, 1968.

2. Chu, Goodwin, and Wilber Schramm. Learning From Television. Washington, D.C.: National Association of Educational Broadcasters, 1967.

3. Clark, Warne L. "Bellevue Inaugurates International Video Tape Exchange," Resources for Teaching and Learning, 4:19-20, Summer, 1968.

4. Gordon, George. Educational Television. New York: The Center for Applied Research in Education, Inc., 1965.

5. Koenig, Allen, and Ruane B. Hill. The Farther Vision. Madison, Wisconsin: University of Wisconsin, 1967.

6. McCune, Lawrence E. National Compendium of Television Education. Michigan State University of Continuing Education Service, Vol. 14. East Lansing, Michigan: University of the Air, 1967.

7. Mitchell, Wanda B. "The Closed Circuit Television Facility," Bulletin of the National Association of Secondary School Principals, 312:129-134, October, 1966.

8. Superintendent of Public Instruction. List of Accredited High Schools School Year 1968-69. Olympia, Washington: Superintendent of Public Instruction, 1968.

9. Superintendent of Public Instruction. List of Junior High Schools Accredited for 1968-69 School Year. Olympia, Washington: Superintendent of Public Instruction, 1968.

10. United States Department of Health, Education and Welfare. Educational Television, The Next Ten Years. Washington, D.C.: U. S. Government Printing Office, 1965.

11. Vogelsang, Robert. A Report on the Development and Current Status of Educational Television in the State of Washington. Olympia, Washington: Office of Public Instruction, 1965.

12. Washington Education Association. Washington Education Directory. Superintendent of Public Instruction, 1968-69 edition.

13. Washington State Educational Television Commission. A Plan for Educational Television in the State of Washington. Olympia, Washington: Office of Public Instruction, 1963.

14. Webster, Merriam. Webster's Collegiate Dictionary, 7th edition. Springfield, Massachusetts: G & C Merriam Co., Publishers, 1963.

APPENDIX A

QUESTIONNAIRES

HIGHLINE PUBLIC SCHOOLS SCHOOL DISTRICT 401
INSTRUCTIONAL RESOURCES CENTER
15701 AMBAUM BLVD. S.W.
SEATTLE, WASH. 98166

CARL JENSEN, SUPERINTENDENT

Dear Sir:

Many educators have expressed the need to determine the utilization of closed circuit television within the state. In this questionnaire, closed circuit television is defined as a wired system which is entirely closed. Its signal goes where it is wired. A videotape recorder-monitor system is a closed circuit system.

I am sending this questionnaire to all junior and senior high schools in the state of Washington as a part of a thesis project being conducted through Central Washington State College. Through your cooperation, the utilization of closed circuit television will be determined.

1.	Have you used closed circuit television in your school?	Yes No
2.	Do you have closed circuit television in your school?	Yes No
3.	If the above answer is no, do you anticipate closed circuit television in your future?	Yes No
4.	Is your building wired for the distribution of programs?	Yes No
5.	Do you have television camera(s) in use in your building?	Yes No
6.	Do you use a video tape recorder in your building?	Yes No
7.	Do you produce local programs?	Yes No
8.	Do you have a television production facility in your building? (A special room or special studio.)	Yes No
9.	If you have a closed circuit system in your building, who is responsible for the operation of this system?	

Name_____
Address_____
Position_____

Please return this form in the self-addressed stamped envelope which is enclosed. Thank you for your cooperation.

Sincerely,
/s/ Robert L. Wiley
[redacted]

HIGHLINE PUBLIC SCHOOLS SCHOOL DISTRICT 401
INSTRUCTIONAL RESOURCES CENTER
15701 AMBAUM BLVD. S.W.
SEATTLE, WASH. 98166

CARL JENSEN, SUPERINTENDENT

Dear

Your name has been given to me as the person responsible for the operation of a closed circuit television facility. I am sure your involvement with closed circuit television has raised questions about what is happening currently in the state of Washington in the secondary schools.

This study is an attempt to determine what is being done in the state; what type of equipment is being used and who is using it. It is my sincere hope that with your help we can determine the utilization in the state.

The enclosed questionnaire has been sent as the second phase of this study being conducted through Central Washington State College. The first phase consisted of determining the extent and location of the closed circuit television facilities in the state's secondary schools.

If you would like to have a copy of some of the results of this study, please indicate on the questionnaire and return it as soon as possible in the self-addressed envelope.

Sincerely,

/s/ Robert L. Wiley

[redacted]

TELEVISION QUESTIONNAIRE

Please answer all the questions that apply to your situation and return as soon as possible in the enclosed self-addressed envelope.

FACILITIES

Number of television cameras_____

Type of cameras

I.O. with E.I.A. sync	Viewfinder_____	Nonviewfinder_____
Vidicon with E.I.A. sync	Viewfinder_____	Nonviewfinder_____
Vidicon not E.I.A. sync	Viewfinder_____	Nonviewfinder_____

Number of Video Tape recorders_____

Type (Brand) _____ Model_____

Size 1/2"_____ 1"_____ 2"_____

Number of video tapes

1/2" tape (Number_____) Length in minutes_____

1" tape (Number_____) Length in minutes_____

2" tape (Number_____) Length in minutes_____

Number of transmitters or modulators_____

Number of remote camera controls_____

Do you have a switcher or switcher-fader?_____

Do you have a special effects generator?_____

Do you have a tuner? Type: VHF_____UHF_____Combination_____

Do you have a film chain and multiplexer? Yes_____No_____

Number of 16 mm projectors (TV compatible)_____

Number of slide projectors for TV_____

Do you have lighting (other than normal room)? Yes_____ No_____

What type of lighting do you have? (Size, number and type)

_____

_____

_____

Number of receivers_____

Wall or ceiling mounted_____ Size_____

Carts_____ Size_____

Portables_____ Size_____

Number of microphones for TV_____

Number of audio amplifiers for TV_____

Number of turntables for TV_____

Number of audio tape recorders for TV_____

Number of teaching stations (classrooms) in your building_____

Number of teachers in your building_____

Number of students in your building_____

What type of distribution system?

Video_____ Manufacturer_____

RF_____ Manufacturer_____

Number of origination points in your building?_____

Can you communicate between classroom and production area? Yes__No__

Do you have a separate TV production area (studio)? Yes_____ No_____

Do you have a control facility? Yes_____ No_____

If you have no special studio facilities, where is the equipment stored and used?_____

UTILIZATION

What type of schedule is used in your building (six period, rotating period, modular)?_____

What is the length of the periods?_____ Minutes

What is the average number of programs (ITV, self assessment, motor skills, etc.) played each day?_____

What is the average number of students reached by each program?_____

What percentage of the student body has some contact with your programming? _____%

How many programs did you present during the first semester of this year?__

How many of your programs were video taped during first semester?_____

How many of your programs are stored for one month or more during the first semester?_____

Who selects the programs to be taped?_____

Do you provide TV services outside your building? Yes_____ No_____
If yes, describe_____
_____

Do you train students to operate the equipment? Yes_____ No_____
If yes, for what purpose? Please check below.
Serve as cres_____
Vocational Training_____
Other_____
What is the age range of students involved?_____

What three departments make the most use of your facility?
_____
_____
_____

What type of program does each most often use? (Commercial productions, ETV productions, district productions, school productions, etc.)

Department	Type
_____	_____
_____	_____
_____	_____

What is the number of programs which originates from each of the following?
Programs from commercial channels_____
Programs from educational channels_____
Programs from district production_____
Other____ Explain_____

What average number of the following types of programs are used from commercial or educational channels?

Weekly Series (e.g., 21st Century)_____
Current News (e.g., Election)_____
Specials (e.g., National Geographic)_____
Other_____

How many types of the following programs did you produce during the first semester?

Evaluation (e.g., student views own speech)_____
Instructional (e.g., lecture, demonstration)_____
Enrichment (e.g., informational)_____
Entertainment (e.g., for fun)_____

What do you consider to be the strong point in your programming?

_____
_____
_____

STAFF

Who is responsible for the administration of the facility?

District level_____
Building level_____

If someone, other than yourself, operates the equipment, please indicate.

_____

List the number of people used for TV during an average production._____

List the number of courses you have had in:

Audiovisual_____ Television_____

How many years experience have you had in TV?_____

In your job, are you: Full Time_____ Half Time_____ Other_____

Who does the taping of programs after hours and on weekends?_____

Is the operator reimbursed? Yes_____ No_____

HIGHLINE PUBLIC SCHOOLS SCHOOL DISTRICT 401
INSTRUCTIONAL RESOURCES CENTER
15701 AMBAUM BLVD. S.W.
SEATTLE, WASH. 98166

CARL JENSEN, SUPERINTENDENT

February 22, 1969

Dear Sir:

I am writing in regard to the copy of the questionnaire you should have received in the early part of January. This was the second part of a survey designed to determine the utilization of closed circuit television in the secondary schools in the state of Washington.

Conditions during the month of January may have prevented you from completing and forwarding this questionnaire. Therefore, I have enclosed another copy of the questionnaire and a self-addressed stamped envelope for your convenience.

Returns have been most enlightening and I am anxiously awaiting your reply.

Sincerely,

/s/ Robert L. Wiley

[redacted]

APPENDIX B

SCHOOLS WITH CLOSED CIRCUIT TELEVISION

SCHOOLS WITH CLOSED CIRCUIT TELEVISION

School Name	Address	Make & Model
Columbia High School	Richland	Sony CV 2100
Sequim High School	Sequim	Sony CV 2100
Fort Vancouver High School	Vancouver	Ampex 5000
Elma High School	Elma	Ampex 5100
Coupeville High School	Coupeville	IVC
Auburn Academy	Auburn	Sony SV 300
Newport High School	Bellevue	Sony CV 2200
Glendale Junior High School	Seattle	Sony CV 2200 Ampex 7500-7800
Kent Junior High School	Kent	Ampex
Meridian Junior High School	Kent	Ampex 5000
Sequoia Junior High School	Kent	Ampex 5000
Kent-Meridian High School	Kent	Ampex 5100
South Mercer Junior High	Mercer Island	Sony CV 2200
Canyon Park Junior High	Bothell	Sony CV 2100
Renton High School	Renton	Ampex 6000
Rainier Beach Junior High	Seattle	IVC Ampex 7000
Goldendale High School	Goldendale	Ampex 5100
Morton High School	Morton	Sony 1/2" Panasonic 1/2"
Mossyrock High School	Mossyrock	Sony 1/2"

School Name	Address	Make & Model
Onalaska High School	Onalaska	Sony 1/2"
Reardan High School	Reardan	Sony CV 2200
Bellarmine High School	Tacoma	Sony CV 2000 Sony CV 2200
Hudtloff Junior High School	Tacoma	Ampex
Keithley Junior High School	Tacoma	Sony 1/2"
White River Junior High	Buckley	Sony EV 2200 Ampex 5000
Stevenson High School	Stevenson	Sony CV 2010
Arlington High School	Arlington	Ampex 5000
Edmonds High School	Edmonds	Ampex 6000