CABLE TELEVISION AND THE BOSTON PUBLIC SCHOOLS

by

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ABSTRACT

For the past several years, proponents of cable television have predicted dramatic changes in the telecommunications field with the advent of cable TV. The most obvious gain in bringing cable into a city would be a richer variety of entertainment programming and clearer reception. Subscribers to a cable television system could receive 40-100 channels of diverse educational, entertainment, sports and news programming while at the same time receiving a clearer television picture. For monthly charges usually quoted at less than $15, subscribers would no longer by locked into national network program schedules but would be able to receive information of more immediate and personal interest.

In addition to benefits to home subscribers, cable television can create a public institutional network consisting of educational institutions, hospitals, neighborhood health centers, municipal organizations, libraries and other public and non-profit organizations. These institutions, linked physically by cable wire, would be able to communicate internally within their own institutional networks or externally, with other public institutional users or with public subscribers to the system.

The Boston public school system has been planning for the arrival of a cable television system in Boston for almost two years. The School Department's plan for cable usage within the schools offers three broad objectives: first, cable can provide financial relief during periods of tight budget constraints; second, cable can enhance communication among and within the schools and with the community; and third, cable can improve the image of the Boston public schools.

There are some serious weaknesses in the School Department's plan for cable usage. The most acute is the fact that the plan can only be implemented successfully given adequate time, money and manpower. While the Boston schools may not be faced with time constraints, they most certainly are constrained by severe budgetary and personnel deficits.

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For my parents

I would like to acknowledge with appreciation the guidance of Professor Hassan Minor, who served as a supportive and discerning thesis advisor.

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For the past several years, proponents of cable television have predicted dramatic changes in the telecommunications field with the advent of cable TV. The most obvious gain in bringing cable into a city would be a richer variety of entertainment programming and clearer reception. Subscribers to a cable television system could receive 40 - 100 channels of diverse educational, entertainment, sports, and news programming while at the same time receiving a clearer television picture. In addition, for monthly charges usually quoted at less than $15, subscribers would no longer be locked into national network program schedules, but would be able to receive information of more immediate and personal interest, such as community, health and educational programs. And, the public would have access to local programming production and decisions, thereby promising a greater diversity of opinion and more comprehensive representation.

In addition to benefits to home subscribers, cable television can create a public institutional network consisting of educational institutions, hospitals, neighborhood health centers, municipal organizations, libraries and other public and non-profit organizations. These institutions, linked physically by cable wire, would be able to communicate internally within their own institutional networks, or externally, with other public institutional users or with public subscribers to the system.

Cablevision Systems Boston Corporation will soon begin wiring the city for cable television reception. In its plan, Cablevision offers 52 channels of entertainment, community, religious, educational and news programming for a $2 per month "universal basic service" subscription rate. Cablevision also provides a network for institutional usage, but uniquely separates public and private usage of the system. Thus, within four years, all public schools in the City of Boston will be wired to a cable television public institutional network. Quite simply, this means that the Boston public school system will have a mechanism for communicating not only with all schools in the system but also with other public institutions in the city and with Boston residents who have access to cable television through the subscriber basic service.

The Boston School Department is presently in the process of planning for a cable television system in the schools. The School Department's plan broadly outlines three major objectives for cable usage within the schools: 1) a cable television system within the schools should serve as a communications medium to enhance communication within the school department and with the Boston community at large; 2) a cable television system should improve the image and quality of the Boston public school system by offering a more complete range of educational services and programming; and

3) a cable television system, recognizing present budgetary restrictions and anticipating future fiscal uncertainties, should act as a self-financing system in which Boston becomes a major producer and market for educational programming throughout the country.

The central concern of this paper is not whether the technology of cable television can respond to the objectives outlined by the school department's cable advisors. It can. The state of the art is such that cable television can respond well to specific plans for the implementation of a cable television system within the schools. Cable can act as a communications tool within the school system and with the community, and cable can provide more flexible schedules for educational television programming.

However, questions beyond the technical possibilities of a cable television system in the schools remain to be answered. Can cable television, merely by virtue of its presence within a school system, improve the image and quality of Boston's public schools? Is it likely that cable television can bring revenues into the school department? And, given a wide range of cable TV technical capabilities and services, which could best serve the needs and interests of the schools' students, staff and community, without putting an unrealistic financial burden on the Boston School Department?

Chapter I (The Boston Public Schools) presents a brief history of the Boston public school system and describes the current school conditions and climate around which an educational cable television system will be introduced. Chapter II (Educational Television: History and Usage) explains educational television, its arguments for usage, and the extent to which it is incorporated into present classroom teaching. One finds that despite generous support during its early years, the usage of educational television in Massachusetts, and especially in Boston, has declined dramatically over the past 10-15 years. Chapter III (Cable Television) provides an overview of the technology of cable, Cablevision's plan for Boston, and focuses on the idea of an institutional cable television network. Chapter IV (Cable Television in the Schools) presents detailed descriptions of the Boston School Department's plans for a cable television system within the schools, as formulated by its chief cable advisor, Hal Slifer. In Chapter V (An Analysis of the Boston Public School Plan), one finds that although the school plan is exciting and innovative, generally the Boston School Department would be required to commit substantial financial resources to implement the plan adequately, and therefore it may be an unrealistic blueprint for eventual cable usage within the schools. Chapter VI (New Ways of Thinking About Cable Usage) offers recommendations for cable

usage within the schools, formulated around a sensitivity to Boston's present educational realities and constraints. In general, recommendations shift from an emphasis on hardware and program production to an emphasis on professional expertise.

The present Boston public school system began with a single schoolhouse which was set up in Boston in 1636, only six years after the first Puritan settlers came to the city.[1] The Puritans' educational blueprints were actually modeled after quality British schools. Basically, early education in Boston consisted of a three-tiered system. There was the English school, or petty school, which concentrated on reading and writing skills, and which can best be compared with the modern grammar school. Next came the Latin Grammar school, which usually consisted of a seven-year curriculum emphasizing literature, the classics, Bible study and some mathematics, mirroring to some extent the modern high school. The system was rounded out by the university, the third level of the educational tier. Since Harvard College was also founded in 1636, Boston had established all three levels of education within a decade of its first settlements.

From its earliest beginnings, Boston public school education had a dual purpose. First, of course, there was the desire to teach the population how to read and write so that settlers could study the Bible. Along with this goal came the additional responsibility of keeping young people occupied. After the American Revolution, this second goal shifted toward fostering a sense of national pride and instilling values of God and country.[2]

Despite the structuring of a three-tiered educational process, children did not necessarily attend all schools in the system. English schools catered to children who wanted a background in reading and writing; often, though, these children would leave the English school for apprenticeships and family responsibilities. And, it was not mandatory that students finish the English school to attend the Latin Grammar school. Generally, children floated in and out of the system according to the amount of education their parents perceived to be most desirable. Of course, fewer children attended the university, which was initially designed to provide a firm theological education.

Soon after the first settlements, towns required that a schoolhouse be built or designated for every fifty families in residence. These schools, however, were not divided into grade levels or differentiated by particular curricula.[3] Students learned the same material in the same classroom, regardless of age or ability.

As the population of the state began to grow, so did the number of schools within the state. English High School was opened in 1821, and by the early 1820s, an additional tier of schooling, the primary school, was included in the process of education. Parents were no longer expected or encouraged to teach the alphabet or basic reading skills to children in the home, which had been the practice in the original educational system.

Unlike some Southern states, Massachusetts had no laws which specifically banned black children from attending public schools. However, many black parents felt that predominantly white schools were purposely offering an inferior education to black children. A movement led by black reformers and parents began in the early 1800s requesting a separate school system for black children. By 1840, there was a fully segregated educational system in Boston. These schools, however, did not attract comparably qualified teachers and were denied adequate resources; therefore, by mid-century there was a strong push for integration which was finally successful by the late 1850s. Thus, technically, by the middle of the nineteenth century, Boston schools were racially integrated. During the next century, however, many white students moved away from largely populated black schools, and by the middle of the twentieth century, Boston schools were once again racially segregated.

Boston experienced large waves of immigration as early as the 1850s, when thousands of Irish immigrants settled in the city. The schools began to take on a different responsibility now. In 1833, the Commonwealth of Massachusetts officially separated from the Congregational Church. This separation of church and state meant that a religious institution could no longer set the moral tone for the community. Thus, the schools took on this added burden and the arrival

of immigrants provided an opportunity to put this new responsibility into operation.

The schools now had the role of the "Americanization" of foreigners.[4] Schools were dedicated to making good citizens out of these new immigrants. At this time, Horace Mann, the Secretary of the Massachusetts Board of Education, lectured extensively on the notion of the "common school." His view of public education was that it not only provided basic educational skills, but even more importantly, that it was a place where all people from all types of backgrounds and social classes could come together and share a common experience. Thus, all children, regardless of background, could partake of a shared American environment, thereby producing a cohesive American public. Curriculum changed from an emphasis on the classics to an emphasis on American values. School legislation during this period centered around establishing a strong bureaucratic structure within the school system but basically the foundation of the present Boston public school system was set by 1850 with a two dimensional objective: 1) establish a literate population; and 2) provide a common experience for all American children.

During the first half of the twentieth century, the second prong of the objective mentioned above was modified somewhat in method but not in substance. Boston no longer was faced with large numbers of Irish immigrants; it saw large numbers of immigrants from all over the world, as well

as a large black migration from the South. America was undeniably a country of diversity. Education, therefore, responded to that diversity by offering instruction in English for immigrants, vocational education (which served largely as a substitute for earlier community apprenticeships), modern language programs, and the like. Boston Technical High School, originally called the Boston School for Mechanical Arts, was opened in 1896; by the first decade of the century, the schools offered curricula that differentiated between college-bound and factory-bound students. The focus was still essentially on making good citizens out of the native children and immigrants. However, the notion of a common experience for all American children, guided by a common curriculum, was replaced by more specialized curricula designed to prepare a heterogeneous student body for work and post-secondary education after high school.

Two major trends dominated Boston's education system for the first half of the twentieth century — perpetually increasing school expenditures and the subtle, though systematic, re-segregation of Boston's schools.

The expansion of the traditional curriculum during the early 1900s, though not extensive, did entail added expenses for the schools. In addition, during James Curley's terms as mayor, 49 new schools were built in Boston. Even up to 1944, when the state-appointed Finance Commission (FinCom)

issued its second report on the schools, the Boston School Department had no centralized budgetary process which authorized, or even kept track of, school expenditures. Schools and administrators appealed separately to nine different taxes for support. FinCom's first report (1931) called for more centralized fiscal control in particular and a deceleration of school expenditures in general; these recommendations were basically repeated in the 1944 report. FinCom also cited Boston schools as having outdated curricula for all grade levels and a lack of coordination among schools in the system. In fact, by the middle of the twentieth century, Boston schools had slowed substantially — not in expenditures, as FinCom had recommended, but in educational responsiveness and reform.

The second major trend in the schools occurred throughout the twentieth century as Boston schools became increasingly more segregated by race. As early as 1910-1920, reformers in the black community publicly called for an end to the unequal education offered to black children; in the 1930s, the NAACP issued a similar statement against Boston school segregation. However, these early efforts were unsuccessful, due in part to the lack of mobilization of the small, isolated black community and the general lack of concern demonstrated by the community at large.

In 1940, Boston's black community was only about 3% of the city's population. By 1960, that percentage had increased

to 9 (or about 63,000) and by 1970, blacks numbered roughly 100,000, or almost 17% of the total city population. The black community of Boston, a larger and better organized body, became instrumental in bringing Boston's segregationist policies to national attention.

In 1961, the NAACP issued a report documenting de facto segregation and unequal education in at least six Boston schools. The report was answered by the School Committee by absolute denials of any segregation within the Boston school system. A pattern of denial, in fact, became the dominant mode between the black community and the School Committee. After a state-commissioned study of Boston schools concluded not only that racial imbalance was harmful to black and white children alike, but also that 45 schools in the city were racially imbalanced; and after Governor John Volpe passed the Racial Imbalance Act of 1965 which demanded that schools draw up desegregation plans, the Boston School Committee denied that any Boston schools were segregated and ignored laws aimed at desegregation.

The fight for an equal education for black children took two main forms — public denouncements of segregation within the school system and community efforts to set up alternative schools and educational opportunities for black students. Two busing programs, Operation Exodus and Metropolitan Council on Educational Opportunities (METCO, which was ultimately more successful because of substantial state funding)

brought students from Boston neighborhoods to predominantly white city and suburban schools. Neighborhood schools were set up which taught black history and culture for the first time. Boycotts and demonstrations were called in protest of the segregated system. Now, black community support was bolstered by a national civil rights movement which drew attention to racial segregation in housing and employment, as well as in education.

In 1972, a group of black parents issued a complaint in federal court alleging that all black children in the City of Boston were denied equal education.[5] More than two years later, the Court responded when Judge Arthur Garrity ruled that the Boston School Committee had deliberately segregated the schools by systematically channeling black students to black schools, whether by transfer, by feeding patterns (elementary school feeds to junior high schools which in turn feed to high schools), by districting and redistricting and by suggested curriculum (black students were sent more often to predominantly black vocational educational institutions). A program of court-ordered busing was designed to balance the schools racially.

The schools have gone through dramatic demographic changes since Judge Garrity's desegregation decision. The schools are now racially balanced (to reflect the city's racial breakdown); they have also experienced a substantial loss of white students over the past six years.

Boston Public School Enrollment By Race*

Year	Black/ % total	White/ % total	Asian/ % total	Latino/ % total	Other/ % total	Total
1976	30660/ 40.65	35124/ 46.56	2203/ 2.92	7158/ 9.49	289/ .38	75443
1982	27845/ 47.47	18756/ 31.98	3606/ 6.15	8193/ 13.97	253/ .43	58653

In addition to large changes within the Boston student population, roughly 600 teachers have been cut from the schools within the last year; more teacher cuts are expected for next year. This is due in part to a general tightening of school spending and to the passage last year of Proposition 2 1/2, a state-supported tax-cutting mechanism

While the expenses of the Boston public schools have increased, the quality of the school system has not shown a comparable increase. In fact, the quality of Boston's schools, once viewed by educators throughout the country as a successful and responsive system, has decreased over the past decades. This decrease in the quality of schools is not due to demo-

*Source: The Boston School Department — Records Management Division

graphic changes, recent budgetary constraints or teacher lay-offs. The schools, especially in urban areas throughout the country, are no longer viewed as the training ground for America's children, as they were once viewed in the earlier educational system. However, schools must now attempt to improve the quality of education in an atmosphere which is not receptive to large commitments of capital to educational reform.

Television entered the school systems across the country relatively soon after it first came to the public's attention. By the late 1950s and early 1960s, the Ford Foundation committed millions of dollars to research and develop instructional and educational television programming. School systems began purchasing audio-visual equipment including, besides the television, tape recorders, films, overhead and slide projectors. Many educational policymakers were excited at the prospect of using visual aids to assist in the instruction of standard curricula. The equipment was generally available, in conjunction with Ford Foundation educational materials, as educational and teaching supplements.

Prior to the introduction of the television and other audio-visual materials in the classroom, many studies were conducted to test whether educational and instructional television were beneficial for learning. The studies reveal that students generally learn at least as much and as well with the use of instructional television; often, with the use of individualized instructional television, students can learn more.[1]

Educational television (ETV) and instructional television (ITV) are really not synonomous labels. Educational television, a much broader category, consists of programming which would be of educational interest to specific audiences or student populations. Most ETV programming is produced with a specific

audience in mind. However, many programs made for presentation on the three national networks, or public television, could be included under the heading of educational television. For example, historical entertainment programs, programming dealing with pertinent social issues, biographical programs and news shows could surely be included in the definition of educational television. Instructional television, which certainly is included in ETV, is programming which is specifically geared to instruct, or teach, students. ITV can be accompanied by written instructional aids, or can be shown in conjunction with a lesson plan prepared by the teacher. Or, in some cases where ITV is presented to the student with the use of a computer for individualized instruction, ITV can be used without an instructor.

Despite the fact that ETV was brought into the schools at least 20 years ago, it has really never become an integral part of public school education. ITV is used less than more general educational television, and in the last few years, ETV is used rarely, at best.

Since most newly designed cable television plans include an educational institutional network, and educational television programming has been seen as a large part of the benefits of wiring the schools for cable reception, it is necessary to understand exactly what ETV can offer, what its limitations are, and how it can most effectively serve the Boston public school population.

It is a fact that by the time most first graders enroll in schools, they have already spent over 4000 hours watching television.[2] Children presently grow up in a world where television is the medium which reaches them at the earliest age. Most pre-school children generally do not listen to radio; few can read, and if they could, would be unable to understand the printed media. Many pre-school children learn much of their vocabulary from the television, have become accustomed to learning from a visual medium, and have adapted an attention span to fit several preferred television shows. Advocates of educational television suggest that children come to school with visually-oriented learning capabilities. Youngsters, comfortable with the notion of spending hours in front of a television set, are uncomfortable and bored sitting quietly while a teacher stands in front of their classroom and tries to teach. Argument #1 in favor of educational television, therefore, centers around the notion that our society is television-dominated — that children enjoy and feel comfortable listening to and learning from television, and that it is sometimes difficult to adjust to a single individual presenting material in front of a classroom.

Argument #2 assumes the belief that educational television can offer a more detailed and complete curriculum than any teacher, class, or school, regardless of the resources of the

particular school system. Specifically, when teachers offer coursework in geography, history, literature, foreign languages, mathematics and the sciences (although this list could continue), it is conceivable that with an absolutely unlimited budget, they would arrange fields trips to foreign countries, lectures by prominent writers and scientists, trips to important laboratories and research departments, and visits to the museums of the world. Clearly, no school has such resources. When reading Shakespeare, children cannot go to England to see where Shakespeare lived or where his plays were performed. However, with the use of educational television, Shakespeare's birthplace can, in the form of an educational television program, come to the classroom.

Argument #3 in favor of the use of educational television springs from the assumption that present teaching methods, in general, are insufficient in today's information-saturated world. Instructors choose from hundreds, or thousands, of educational sources: English teachers choose among innumerable works of literature; history teachers choose from many different periods of American and world history. Science and math teachers, of course, faced with less flexibility, still select certain important topics over others. Students from one school graduate with a different education than students from other city high schools, or even from students within the same

school. Advocates of educational television insist that it would be cost-effective and beneficial for students to have a comprehensive, mandatory curriculum broadcast through educational television. Basic literary concepts and facts about American and world histories could be shown on ETV, thereby freeing up the teacher to instruct students in the finer points involved in learning. In essence, the argument goes like this: trained instructors should not be spending time, in every school in the city, and even the country, explaining the basic facts of the American Revolution. Educational television can more easily and efficiently assume that function, or at least a part of it, leaving the teacher free to emphasize interpretation, analysis and integration of material.

Argument #4 in favor of ETV directly follows from the previous argument: educational television can make present public and private school education more responsive to the needs of students today. It is true that relatively few changes have taken place in the basic structure of <u>teaching</u> over the past 300 years. Although curriculum content has changed and become somewhat richer, facilities have been improved and students have been encouraged to take a more active role in their education, the teacher in front of the classroom has remained the dominant model since the time Boston opened its first schoolhouse in 1636.[3] In reality,

schools have not responded in any substantial way to the larger bodies of knowledge which are available today. Elementary and secondary schools have remained stagnant in their teaching approaches, with the notion that more and more post-secondary education will offer the additional information necessary. Education, ETV advocates explain, must rewrite its goals for educating students in a twentieth and twenty-first century world. Schools must stop stressing facts and figures since even in the most successful schools, twelve years of education will not be able to supply the amount of information needed in today's society. Thus, schools must emphasize analytical thinking skills, familiarity with information systems, and should take a thematic approach to coursework. Basic skills, of course, should be stressed, but most important should be the ability to think clearly and know how to find the necessary information.

With educational television, the teacher's role would be to form and train analytical minds, and not to impart factual information which a television program could provide. Libraries of coursework could be put on videotapes for the student's personal use; students would use the film libraries according to interest and convenience, although some of the materials would still be under the heading of mandatory study. Two outcomes should follow from this model of educational television in the schools: 1) students would take a more active role in their own education; and 2) teachers

would have more time to work with students on an individual basis with special instruction, problem-solving and analysis.

At best, educational television could revolutionize teaching, providing each student with an individual curriculum and course of study, in conjunction with a teacher who has more time to assist students with special problems and questions. At worst, it offers some interesting programs which can be viewed as a supplement to a traditional lesson plan. Given that educational television could offer some range of services described above, one might ask why educational television is so underutilized in the Boston school system. Basically, reasons for the lack of or decline in the use of ETV can be grouped into two categories: financial problems and inconvenient programming and equipment logistics.

Massachusetts Educational Television (MET) is an agency of the department of education which houses educational programming, researches ETV trends and usage, and services schools by airing daily educational programs on the public networks. MET leases time, each school day from 9:30 a.m. until 2:30 p.m., from WGBH, which in turn offers the programs on the air for public viewing. MET designs a yearly schedule, according to school preferences (these preferences are assessed from school questionnaires about desired programming) and sends the schedule to every school building in the state. In addition, MET houses numerous programs which schools may request for videotaping.[4]

Thus, many of the programs shown during the 9:30-2:30 time slot can be videotaped for usage at more convenient times.

MET has thousands of hours of educational programming which can be used, free of charge, by the schools. MET has programming aimed at different grade levels, abilities and curriculum content. Yet Boston public schools are not usually taking advantage of the programming that Massachusetts Educational Television has to offer. Specifically, teachers throughout the city and state complain that MET programming is shown at times which are generally not convenient. Despite the fact that teachers may request certain types of programming, or specific programs, individual teachers can have very little say about when the shows will be aired, since MET designs one educational television schedule for all school systems within the state. Teachers may find it impossible to readjust their schedules to fit a televised program. In addition, media specialists, by and large, are among the first to be lost in a round of teacher lay-offs. In previous years, media specialists assisted in making equipment accessible and available to teachers. Without their assistance, classroom teachers often neglect using television aids, since they may be logistically inconvenient and time-consuming.

Many teachers in the Boston public school system are relatively unaware of the programming schedules available

through MET, or any ETV options in general. One reason stands out for this lack of awareness: schools often do not have the equipment necessary to take advantage of educational programming. Television sets purchased in the 1960s, presently in need of repair, are not a priority when teachers are being asked to leave the financially troubled school system.

Community Antenna Television (CATV), commonly referred to as cable television, was developed in the late 1940s by John Walson, a maintenance man in Mahoney City, Pennsylvania, whose rural surroundings presented a constant problem for television reception.[1] Community antenna television, true to its original name, was designed to offer rural communities higher quality reception on their television sets. Mountainous and distant towns often have difficulty receiving clear pictures due to the fact that television signals travel in waves which can be obstructed by tall buildings, mountains, and even distance. Walson, in an effort to correct this problem (which, by the way, was drastically limiting his desire to augment his television repair business) put an antenna at the top of a mountain near his repair shop in Mahoney City and attached cable to the antenna, stringing the cable from tree to tree until he connected it to his shop in Mahoney City. He found that he was able to receive a clear television picture, since it was coming through to his set directly from the antenna on top of the mountain. Walson began to wire other homes and stores in his town, thus offering residents not only a clearer picture but also a greater number of channels to choose from, since subscribers to his system were able to pick up distant signals now caught by the antenna on the mountain.

Similar cable starts can be documented throughout the 1950s and 1960s. As such, cable television actually refers to the technology involved in receiving the televised programming, and not really to the source of that programming. Basically, cable television consists of a coaxial copper cable through which television signals are sent, in much the same way that telephone voice patterns are sent over a telephone cable or wire. However, because of the thickness and shielding of the coaxial cable, it is capable of carrying considerably more information than telephone lines.[2]

In Walson's early system, the receiving antenna was a large television antenna which had been used quite a bit for better reception; it was the particular location of that antenna which served to eliminate reception problems, and it was the use of the coaxial cable which brought that better reception into the home.

Walson's antenna also served as the distribution system, which dispenses the system's messages. With the present day system, there is a head end in addition to the distribution system. The head end, which is not necessarily specific to any location, controls, originates, and processes signals over the cable system. In some systems, the head end will have the hardware to originate local programming; in other instances, its main function will be transmitting network messages.

Cable wire and phone lines are strung in a similar fashion. Coaxial cable can be connected to utility poles or can be installed underground. An additional piece of cable, referred to as the drop cable, connects the subscriber's television set within the home to the trunk cable, or the main transmission cable, which has been strung outside.

Cable television, for the past thirty years, has been primarily a tool for a better picture on a television set. Because reception was dramatically improved, cable television also offered a greater diversity of programming, since distant signals could be picked up through the use of cable which would have previously been impossible to receive. During the last 10-15 years, however, cable television has been evolving into something more than a technology for better reception. It is, indeed, being considered a medium in itself. Born of the television, but promising greater access to and representation in programming decisions and programming content, cable television is now considered a tool for communication.

It is certainly true that network television is a communications medium. Yet the sentiment persists that network television does not allow for a great diversity of opinion or interest. Programming, due to the dominance of three national networks, must appeal to the middle range of interests in order to attract a large share of the viewing audience. Special interest groups, community groups, and educational systems, to name a few, are unimportant segments of a network target population where the goal is simply to attract the largest audience possible. There has generally been the feeling that television could service these groups with programs of entertainment, cultural and educational value,

but that their numbers are too small. Thus, with the feeling that parts of the population are not served well by the traditional three networks, cable's multi-channel capacity takes on an important role in the struggle for public access to programming production and decisions and also for more diverse types of programming.

In the past, even with a greater number of channels available, cable television has been underutilized. Coaxial cable, due to refinements in the technology and the wire itself, can carry up to 150 channels through a single or double cable, with eventual use of fiber optics promising even thousands-of-channels capacity.[3] The questions on the forefront now center around how these channels will be allocated and to whom, what kinds of programming will be shown on these channels, and how the cable television system can be used in the future, in conjunction with other technologies, as a two-way communications medium.

The growth in the consumption of pay-television over the last 10 years leads to the conclusion that people want a greater diversity of entertainment, sports and cultural programming; the growth of video recording devices suggests that consumers also prefer to design their own viewing schedules. In addition, there is evidence, from the use of these two technologies, as well as home computers and home video games, that home consumption of entertainment and learning media, as opposed to consumption outside of the

home, is on the rise. Cable television, with its promise of many more channels offering more programming, which is geared to previously unsolicited audiences, with consumers having a stronger voice in the content of programming, seems to respond well to the need for more choice in and control over programming.

While cable television began and grew primarily in rural areas, its growth has moved closer to large cities over the past 10 years. Many suburban areas have been wired for cable for a number of years; by far, their programming diversity rests on the fact that they have access to a greater number of channels which are generally local outlets for the three major networks, and not in the fact that cable companies have been producing additional types of programming. To a certain extent, consumers did not really expect qualitatively different programming from the companies.

The City of Boston had been considering the installation of a citywide cable system for a number of years. As early as 1972, Mayor Kevin White decided against moving ahead with the available cable systems. The issue was reexamined in 1978 and at that time recommendations were made to move forward with a cable television plan for Boston.

Boston's initial goals for a cable system in the city contained three broad objectives. First, the plan should include a greater number of channels offering a broader diversity of programming which would appeal to previously untargeted segments of the city's population in particular. Second, the plan should provide for public access to the system in the way of programming decisions and programming

production. Third, the plan should provide the technology and technical expertise for the creation of an institutional network which would in essence construct a physical link between public and private institutions within the city. Boston's Request for Proposals differed from other contemporary RFPs in that it called for the establishment of a Public Access Foundation to which the cable franchise company would not only present a large initial cash outlay for start-up expenses but would also provide 5% of its annual revenues. The Public Access Foundation would monitor and regulate consumer access to and public institutional usage of the system.

In August of 1980, the City of Boston made a formal announcement that it was seeking applications for a cable franchise. Despite the fact that several cable companies applied for the Boston franchise, all but two of the companies, Cablevision Systems Boston Corporation and Warner Amex, withdrew their applications because of the high revenues earmarked for the Public Access Foundation.[4] Both Warner Amex and Cablevision responded to all three objectives drawn into the Boston RFP. Both plans promised high channel capacity, diversity of programming, public access to the system, and the creation of an institutional network. Cablevision's plan, which was more comprehensive in scope and less expensive in price than Warner's, appealed to Boston decisionmakers since its low-cost basic subscription price meant that a larger percentage of the city's population would be able to be part of the cable television system.

On 25 March 1982, a provisional license was signed between the City of Boston and Cablevision. Among other considerations, the license calls for:[5]

1) a $2 per month "universal basic service" with 52 channels offering diverse entertainment, educational, news, sports and special interest and community programming.
2) the establishment of a Public Access Foundation which has priority use over at least 5 channels on the universal

basic service and the majority of channels on the public institutional network.

3) the establishment of and separation between a public institutional network (P.I.N.) and a commercial institutional network (C.I.N.). This separation between public and private institutional usage was unique to Boston's plan.

4) the provision of and a fee schedule for additional channels of programming similar to present pay-television (in fact, including some established pay-television packages).

5) interactive capabilities available to subscribers on a second cable wired to the home.

6) the provision of a local-origination production studio supplied not only with equipment but also training programs to allow groups an opportunity to use/learn to use the equipment.

The commercial institutional network and the public institutional network are both slated to consist of 25 upstream (interactive, two-way capacity) and 25 downstream (one-way capacity) channels. On the P.I.N., 5 upstream and 5 downstream channels have been allocated for municipal usage and Cablevision has retained the rights to four channels.

The separation of the public institutional network and the commercial institutional network means, in terms of an institutional connection and communications system, quite a bit more than merely additional channel capacity. P.I.N. time allocation and usage will not be in competition with commercial or private interests; nor will those interests be combined, since the Public Access Foundation will formally designate "public institution" status over the next few months. The creation of a separate public institutional network means, therefore, that public institutions need not be at a disadvantage in their attempt to become part of the institutional network; they will not have to compete for airspace with private institutions which may have greater financial resources for communications systems usage.

The emphasis on an institutional network centers around the notion of a cable communications system which includes, but is not limited to, the services traditionally associated with cable television (i.e., better reception and more

varied programming options). The benefits of a public institutional network are difficult to predict, at this stage of cable's existence, since most descriptions of an institutional network paint a picture of an interconnected municipal, educational, health service, resource system in which all public and non-profit institutions and staff can readily exchange information and heighten communication. Technologically, this is possible. More pragmatically, however, the institutional network does not, by virtue of its existence, promise better communication than the telephone. And, despite the fully extensive usage of the telephone, institutions still suffer from internal and external communications problems.

It is easy, when talking about a cable television institutional network, to speak of using the system as a communications medium to enhance communications internally, among institutional users, and externally, with public users. It is more difficult, however, to plan for cable usage, since there are actually no fully operational, extensively used cable systems in urban areas. Nevertheless, there are plans for such systems throughout the country.

Many school systems have been wired for cable reception for at least the past ten years; few have used cable to any meaningful extent. The Irvine, California school system has developed a "Cameras in the Classroom" program in which students play an active creative and technical part in the production of internal school programming over the cable television system. Many small school systems use cable to rebroadcast educational programming aired originally on public television networks within their schools. More extensive usage of an educational/institutional network, however, cannot be documented.

The Boston public school system (BPS) has been planning for the advent of a cable television system in Boston for almost two years. Questions about the schools' usage of cable are discussed in the Office of Planning and Policy, a division of the Boston School Department. Of late, the Office has undergone internal personnel shifts, its name is in the process of being changed to the Office of Planning and Budget, and Hal Slifer has assumed the position of Cable Specialist and Advisor within the schools.

Slifer has been with the Boston public school system for eleven years. In addition to teaching media in the schools for seven years, he spent one year at the Humphrey Occupational Resource Center, and then came to Court Street in the Office of Planning and Policy. He is presently solely responsible for cable planning for the school system.

Representing the Boston School Department, Slifer has developed a plan for cable television usage within the schools. As such, the plan is referred to as the "BPS plan" or the "Slifer plan;" at this point, both terms refer to the same set of designs. However, the "Slifer plan" is referred to most often because Slifer is the chief architect of the plan, and, at this point, it is unclear to what extent the school department will actually implement his suggestions.

Before Cablevision offered its final proposal for a cable franchise in Boston, Slifer spoke to representatives of the

company and offered suggestions concerning an educational network using cable communications. Some of his suggestions were incorporated into Cablevision's final proposal. However, Cablevision does not provide a plan, per se, for school usage of the cable television system. Cablevision has made a commitment to provide technical assistance and equipment to facilitate implementation of the schools' plan for cable usage. Thus, while Cablevision's proposal responds to needs within the school department, it does not offer a specific and separate plan for cable usage within the schools.

Slifer's plan offers three objectives for cable television usage within the schools: first, cable can provide financial relief during periods of tight budget constraints; second, cable can enhance communication among and within the schools and with the community; and third, cable can improve the image of the Boston public schools.

Specifically, the plan suggests eleven possible uses of cable television within the schools. According to Slifer, cable television can:

1) enhance communication within and among the schools;
2) enhance communication between the schools and the community;
3) provide programming for segments of the population which have not been served by the school system;
4) provide continuing educational programming for the entire Boston community;
5) provide in-service teacher training;
6) provide teleconferencing capabilities;
7) save financially-threatened subject areas by providing them as educational television programming;
8) provide better teachers to students across the city;
9) provide a uniform, citywide curriculum, thereby ensuring equal education for all students in Boston's schools;
10) acquaint students with a new medium, can teach skills involved in television production, and can bring student-run programs of interest to other students throughout the

system;

11) eliminate racial prejudice through the use of a collective electronic space.

Slifer's plan is more a series of cable possibilities within the schools than a step-by-step outline for the implementation of an educational cable television system. As such, all of the eleven goals require some measure of explanation as to how they could be realized and what they translate into as far as cable techology, costs and planning efforts are concerned. With this in mind, the Boston public school plan for cable television usage is explained below.

1) Cable television can enhance communication within and among the schools.

As was stated earlier, cable television can realistically be discussed as a communications medium, but not by virtue of the hardware alone. "Increased communication within and among the schools" can mean several different things. Cable television can become somewhat like a large closed circuit television system, in which all schools are wired to one another, and communications can be sent as easily citywide as messages sent on a closed circuit system within one school. Most people are familiar with audio intercoms, or closed-circuit systems. All rooms, or at least some rooms within a school would be wired for audio, or in this case video and audio, reception. Unlike the audio system, however, the cable system would need a camera in at least one area within the school. If there is only one camera present, for example, in the superintendent's office, memoranda and messages will be able to be transmitted to all schools quite easily, although the superintendent will not be able to view the people to whom he is delivering his messages. Naturally, the schools which are receiving the transmission will be able to see Superintendent Spillane on their sets. In addition to the Spillane/staff announcements (which

will be discussed in greater depth in the section on teleconferencing), schools will be able to send announcements over cable with relative ease. This could save both time and money, since mailings would be used less often. Also, messages could be delivered more quickly and efficiently. Schools could also compile data banks of shared information. For example, all libraries in the BPS could condense their listings into a single information bank, listing references and the library where the book or article could be found. And, the Boston Public Library could be added to this catalogue. Boston Teacher Union meetings, rules and messages could be put on the cable at various times during the day, so that teachers in all parts of the city would have more convenient access to particularly relevant information. The possibilities for increased communication within and among the schools are truly great and relatively simple, given that: a) all schools have some working, accessible television sets; b) all schools have the personnel available to process and add the material and information into the data banks; and 3) all schools have personnel available (although Cablevision has promised to supply the necessary expertise) to explain how to use the system fully.

2) Cable television can enhance communication between the schools and the community.

Cablevision's universal basic service, at $2 per month, may make it possible for virtually all of, or at least the majority of Boston residents, to become part of the Boston cable community. School usage of the system will be twofold — schools will probably have access to an educational channel on the subscriber network, in addition to several (Slifer is requesting eight) channels on the public institutional network. Therefore, schools have the option of offering informational programs, messages and meetings which originate within the school system to Boston residents. Curriculum content can be explained, rules and regulations of the system can become more accessible, parent-teacher association meetings can reach a larger audience, allowing parents to stay home and at the same time be privy to the meetings.

The technological side of this possibility, again, is within the realm of present cable capabilities. Home reception of Boston school communications, if carried originally on the P.I.N., involves patching the message from the P.I.N. onto the subscriber network, a relatively simple technological task. Home reception, if originally assigned to the subscriber network, means having staff

and equipment administering an educational channel, but it is not difficult to offer messages, per se, on the subscriber educational channel. Also, the Boston School Department, if it seriously plans to increase communication with the community, will want to issue a printed educational channel schedule, or it may broadcast the schedule on the channel itself. More parents and community members may tune into the program if it is listed in a printed television guide, but this locks the school department into a fixed weekly, or monthly, schedule.

3) Cable television can provide programming for segments of the population which have not been served by the school system.

Many residents of Boston feel that they have been neglected or underserved by the Boston school system. Cable television could, in response to this feeling, offer educational and cultural programming to English as a Second Language parents of Boston students. Or, the educational channels, either on the subscriber loop or the public institutional network, could offer information concerning school events and announcements in several different languages. Narrowcasting — that is, selectively narrowing the audience to which programming

is directed — could undoubtedly benefit large pockets of Boston residents, who previously have been faced with language barriers in communicating with the schools. Offering information in several languages can be done rather inexpensively if students within the schools, who represent virtually all of the linguistic groups within the city, are called upon to deliver the message. This entails training students volunteers, finding students who have strong oral communications skills, and having a permanent staff person, in charge of the student volunteers/interns, coordinate and produce this programming. If the School Department decided to offer bilingual educational programming on the subscriber educational channel, the schools would have to design, write, produce, film, edit and provide talent for this programming. Certainly, this second option involves more production planning than the first option. It also is significantly more expensive.

4) Cable television can provide continuing educational programming for the entire Boston community.

As was stated before, the BPS will probably have substantial usage of an educational channel on the subscriber service. And, since the universal basic service is relatively inexpensive, a large percentage of Boston residents will become part of the cable TV system. Boston schools can

provide programming of educational value to residents in Boston who have already graduated from high school, or who may have left the school system without a diploma, thereby developing a secondary educational market which in the past has not been a consumer market for the Boston schools. Programming might consist of new tax regulations, how-to programs (how to fix an appliance, how to design a vegetarian menu, how to garden), new computer technology, etc. The technology involved here is quite simple; the planning behind it is not. Again, while MET does have some programming which could conceivably be shown under the heading of continuing education, by far most of its programming is geared to students in primary and secondary school. Thus, if the BPS wanted to initiate a continuing education program, it would have to produce much of that programming from the start. College courses, for credit or not for credit, could be considered for the continuing education program. Some colleges in the area (Bunker Hill's Over-the-Air Program is an example) have a library of college-course programs which could be put on a city cable system. Boston schools could use the Bunker Hill system as a model for developing their own continuing education programming. However, again, large production costs and substantial efforts at coordination, curriculum development, technical assistance and audience participation

must be considered before plans for a continuing education program can be offered. A link between the Boston schools and area junior colleges or universities could, in the long run, prove quite fruitful.

A common debate concerning educational television, be it continuing education or general primary and secondary level programming, centers around the concept of "quality" of production. Most educational programming available today is of extremely high quality; it is also very expensive to produce. A fifteen-minute educational program can often cost at least $50,000 to produce; Sesame Street, produced by Children's Television Workshop in New York, began with a $10,000,000 yearly budget (in 1972) for that show alone. With the advent of cable television, educators are questioning whether programming always needs to be of such high quality. With college students and high school students as unpaid interns, and with the use of existing equipment available either through Cablevision or through the $425,000 television studio at the Humphrey Occupational Resource Center, the $50,000 price tag could fall dramatically. But what about the quality of the programming? Student writers and student technicians, with little experience, can learn to use the equipment but will most assuredly not produce the quality of programming most students and

parents are accustomed to seeing. Consumers may reject low-quality programming, regardless of its educational worth, if it is not visually and aesthetically satisfying.

5) Cable television can provide in-service teacher training. At present, there are two types of in-service training programs which are administered by the Boston schools. The first type is voluntary training typically targeted for mandated programs such as special education and bilingual education. Teachers are required to have a certain amount of formal training to receive salary increases and to begin instruction in special programs. These training sessions, at present, are short-term and rarely contain any instruction with visual media. The second type of in-service training consists of a mandatory 1 hour and 45 minute meeting 10 times a year in which teachers discuss Boston Teacher Union (5 sessions) agenda issues and administrative (5 sessions) agenda issues. Some topics which are discussed are testing and discipline problems and procedures. From general comments from Boston teachers, these sessions are hardly considered comprehensive teacher-training courses. They are attended somewhat reluctantly by the teachers.

Cable television could easily replace the in-service training which now exists within the schools. Short-subject programs could be produced by the schools, chosen according

to agenda topics, and shown to teachers instead of having the usual lecture format. Question and answer periods could follow these programs. The question here is whether in-service teacher training is desired by the schools, whether teachers want to participate in the program, and whether there is a genuine interest in producing the programming. Would teachers, currently reluctant to attend the lectures once a month, be more or less relectant to sit through a media presentation? In addition, it is not clear that teacher-training sessions are effective, since an assessment of the outcomes of these sessions is not available. At present, there is very little administrative in-service training, although an Institute for Professional Development will be set up this summer which will deal in part with administrative training. At this point, no plans have been made to incorporate the use of cable television and the use of media in this Institute.

6) Cable television can provide teleconferencing capabilities. It is true that cable television can offer teleconferencing although, by far, most teleconferencing now consists of two-way audio and one-way video usage. Teleconferencing is, quite simply, a method by which individuals, in two or more locations, can conduct live discussions and meetings with each other. The usage of telephone con-

ference calls has sharply increased in the last few years; cable teleconferencing offers, basically, a telephone conference call with video. However, because of the inclusion of video, significantly more equipment, manpower and costs are involved in cable teleconferencing. To a certain extent, talking about the usage of cable for teleconferencing is misleading, since the existence of cable technology does not easily establish the possibility of a video conference call, although the presence of cable does supply some of the hardware.

Most video teleconferencing now involves meetings with participants in different cities or countries. The use of satellites is essential, therefore, in bringing distant messages to a central reception studio where the picture is then channeled to a closer location. Live conferences, for example, can be filmed in New York, beamed by satellite to Boston, and then to a wired room, or rooms, in the Boston schools. It is generally not being used, at present, for local teleconferencing. However, this may change in the next few years, due to the existence of the public and commercial institutional networks.

In the example referred to earlier, with Superintendent Spillane in Court Street addressing his staff throughout the city, most typically Boston school personnel would be able to see Dr. Spillane, would be able to speak with

him (through the use of telephones), but Dr. Spillane would not view his audience. If all school personnel were gathered in a central location (although this seems highly unmanageable), with additional cameras and crew, Dr. Spillane could see the audience he was addressing. However, with each additional location involved in the video conference call, additional costs are incurred in equipment, crew and technical logistics. Two-way, or even multi-way video teleconferencing may prove economically inefficient for small meetings of people scattered throughout the city (which would be the case if the superintendent wanted to meet with all of his headmasters), and may be logistically infeasible for very large groups of people in only a few locations. The conveniences usually associated with teleconferencing, in a school system which cannot invest large sums of money in communications technologies, may be overridden by the overall costs involved.

7) Cable television can save financially-threatened subject areas by providing them as educational television programming.

Boston schools have faced, and continue to face, drastic teacher lay-offs. From a curriculum standpoint, this is particularly untenable since the teachers who leave the

system tend to be those teachers in subject areas which are considered expendible. Cultural, special instruction and foreign language teachers, to name a few, seem to be leaving the school system with no alternatives to take their places. Cable television can respond to the loss of teachers by providing educational programming to retain the subject area which would be lost if the teacher is gone. For example, art history courses could be shown to students despite the fact that an art history teacher is no longer available.

Again, the technology involved in this suggestion is not beyond the present state of the art. Here, the question is one of availability of programming, and also of logistics involved in showing that programming. There are already certain ETV programs which could address this need. However, in the example presented with art history, it is not clear why or how the students would come to actually view the art history program. With no art history teacher, who would screen the programming? Who would show it to the students? And who would then answer questions after the program had been shown? It should not be assumed that students would find the programming, schedule the cable time, and then show it to themselves. Therefore, some school staff would have to administer the program, thereby putting an additional responsibility on already overburdened teachers who have

been accepting additional duties due to teacher losses.

8) Cable television can provide better teachers to students across the city.

Several ETV advocates, including Slifer, have spoken of finding "super teachers" in particular subject areas and putting them, and their curricula, on cable television. Students would then get the opportunity to learn from these "super teachers," regardless of where they went to school. So, the long-range outcome of this suggestion would be: "students would get a better education by watching better teachers on cable than they could by watching their own teachers in the classroom." There are several problems with this suggestion, none of which is really a technology problem. Technically, teachers can become video instructors if there is the proper equipment to film them, and an adequate, trained technical staff to edit, film, and produce the program. However, how will "super teachers" be chosen? Usually, though not always, educational television programs use trained actors as the instructors in the ITV program. Thus, a wonderful teacher in the classroom may not be a wonderful teacher on video. Choosing teachers and labeling them "better" than their colleagues would surely create resentment among faculty who may not be designated as such. Also, teachers could genuinely fear that cable

television was in the process of replacing them.

9) Cable television can provide a uniform, citywide curriculum, thereby ensuring equal education for all students in the Boston public school system.

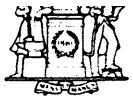
Cable television could indeed provide a citywide curriculum. However, the costs involved in producing the amount of programming necessary, with the quality of programming preferred, are prohibitive. Still, even if this could be done affordably, it is not clear that students would receive an equal education.

If the goal is to have all students learning the same material in the same way, cable television can most effectively realize this goal. However, it seems that educational planners, in instituting this suggestion, would be sinking to the least common denominator, i.e., an electronic medium with no directly personal interaction, to ensure equality. In this example, the quality of the learning experience could be greatly impaired if students received all of their instruction from a television set. More plausibly, students would still have to have the presence of staff teachers/teacher aides in the classrooms with them. These staff assistants or teachers would be responsible for asking and answering questions, analyzing the material, and testing the students on their understanding of the coursework. Most

educators would want these staff people to be certified and qualified teachers — the type of teachers who are presently in the system.

10) Cable television can acquaint students with a new medium, can teach skills involved in television production, and can bring student-run programs of interest to other students throughout the system.

This is an interesting and viable suggestion, and one that can realistically be implemented within the Boston public school system. Boston schools have a large pool of talented students who could, with training and supervision, become part of a cable television educational system. Several programs are already being planned for student participation. Sack Theaters is sponsoring a weekly program which will consist of BPS students interviewing celebrities who come to the city, student reviews of movies, television and cultural programs and events in Boston, and some new programming of interest to the students. Five students are in the process of being chosen for this program. In it, students will write their own copy and, with technical assistance and supervision supplied by Sack Theaters, will become cable television performers and technicians. In addition, sports activities, plays, concerts and forums can be broadcast



eliminated before it begins. His reference to the "collective electronic space" which cable television can provide goes further to suggest that racial prejudice may be more easily eliminated if students, from diverse racial and ethnic backgrounds, are not in physical proximity, but instead are connected through an electronic communications medium.

To date, there is no evidence to suggest that racial attitudes may be positively altered through the usage of cable television.

In all of the eleven suggestions set forth in the plan, it is a fact that cable can do what Slifer says it can do. In all of the suggestions above, with the exceptions of numbers 8 and 11, the state of the art is such the given adequate time and resources, cable could successfully accomplish what the Boston public school system has offered in its plan. And, in numbers 8 and 11, the qualitative assessment of "better teachers" and the exact definition of "eliminate racial prejudice," respectively, is what is questioned — not the technical feasibility of cable usage in that particular area. Thus, the technology of cable is prepared to respond to the goals and objectives outlined in Hal Slifer's plans for cable usage.

The state of the art notwithstanding, there are some serious weaknesses in the plan which must be identified. The most acute is the fact that the plan can only be implemented successfully given adequate time, money and manpower. While the BPS may not be faced with time constraints, it most certainly is constrained by severe budgetary and personnel deficits. Merely suggesting that, in the long run, the system will finance itself does not accurately reflect the serious financial restrictions and the current political reality facing the system. The Slifer plan would almost certainly require a large initial commitment of financial resources. Yet, it is not clear that the Boston School Department has such resources. As such, Slifer's plan takes for granted

resources that at least at this time appear unavailable.

Slifer's self-financing system, then, appears premature and unrealistic. At present, schools can receive, completely free of charge, hundreds of hours of quality educational programming from MET. Even at no cost, schools are not using ETV. Therefore, it is not clear why Boston would begin thinking of producing its own educational television before it is documented that schools are more open to and prepared for (in terms of working equipment) educational television.

The second objective in the plan centers around the notion of increasing communication among and within the schools and with the community. This is certainly a desirable outcome and one which can, with proper coordination and technical assistance and planning, be realized.

The third objective, or desired outcome, involves improving the image of the Boston public school system. This could be accomplished in several ways. If the schools, through the usage of cable television, could reach segments of the population which had previously been unserved by the BPS, then perhaps more Boston residents would feel that the schools were a worthwhile expense. The image of the schools might then improve. If the quality of education were enhanced by the use of cable television, then the community might reevaluate the school system's worth and elevate the regard in which it is held. If educational programming and reports,

sponsored and produced by the schools, served as a functional, valuable communications medium, effectively and efficiently providing school-related information, then indeed community perceptions of the schools would be improved. "Improving the image of the schools" involves a qualitative and quantitative assessment of how much we think the schools are worth. Many Boston residents feel that the schools are not worth the amount of money spent to run them. If cable television could turn this perception around, i.e., if it could make taxpayers feel that public school taxation is money well-spent, then cable could truly improve the image of the Boston public schools.

Obviously, it is difficult to comment upon the long-range success of this goal at this time. It seems, however, that cable television alone can hardly improve the image of the Boston public schools to any great extent. On the contrary, with teacher cuts, facilities badly in need of repair and continual feelings of frustration and distrust, Boston taxpayers may resent expenditures on cable television when the money, in their eyes, could be better spent in so many other areas.

It has now been established that the plan could only be successful if it first received a large commitment of resources for both capital and labor costs. Given these resources, Boston could become a major production house of

educational television programming. Boston schools would then become, most probably, major users of educational television. A uniform, citywide curriculum on cable might be instituted, and "super teachers" could be chosen for video presentations. However, it is not at all clear whether teachers would voluntarily agree to either become part of a cable television "super teacher" program or use ETV to any great extent in their classrooms. Slifer is presently in the process of conducting seminars on school usage of cable with Boston school teachers. However, these seminars stress student usage of the system and not separate teacher involvement. Slifer may be accurately anticipating teacher reluctance to adopt usage of a system which may ultimately provide the rationale for even greater teacher cuts.

The school system's ability to use cable television to realize its goals for increasing communication and offering programming to previously unserved segments of the population seems to be a more promising avenue for cable usage within the schools. Cable television, as a communications medium, can realistically be used as a communications tool between parents, students, teachers, administrators, and the Boston School Department. With some financial commitment and careful planning, cable television could eventually replace mailings, telephone calls and newspaper and television announcements concerning the schools. For the first time, community

residents and school staff can have a Boston public school news program for their daily use. Students could join in the production and creation of these news programs, thereby meeting another need for student exposure to various technical and media training.

Planning within the school system should concentrate heavily on this area of increased communication. In my opinion, this aspect should be a priority in planning and resource allocation. In addition, some programming geared toward specific audiences in the Boston community should be designed, although I would suggest that continuing education programs should be the responsibility of post-secondary institutions. For example, along with news programs on the educational channels, students in the system might begin to attract viewers on the subscription cable by offering news, in foreign languages, to the city's linguistic minorities. It is important that the notion that an educational channel could be of interest and value to the Boston community be introduced to the population at large. My sentiment is that Boston schools should gear their earliest efforts toward those populations which are not served at all by local and national network programming. After tapping these audiences, experimental programming may be added to identify various markets for educational television and communications.

Cable television is not a new technology. Cable offers more of what existed before, and it offers easier ways of doing things that could technically have been done before but would have required greater effort and greater cost. Schools could conceivably have been wired to produce a huge closed circuit system without the existence of cable television; however, cable makes this a viable option because the hardware will be there and the communication will be less expensive than building the entire system afresh. Thus, in thinking about how to fully take advantage of Boston's Cablevision system, it is helpful to think about how the schools use technology now, what their communications needs are, what they will be in the next decades, and how cable can best serve the goals of the Boston School Department.

To a large extent, the Slifer plan is formulated around the question: what can cable technology do in a school system? A better formulation might be: what would be the realistic uses of cable television, given a financially troubled, understaffed, frustrated school system, which would service the goals of the Boston public schools?

The goal of the Boston public school system is to provide a high quality education to all students within the city. Thus, how can cable television help the system provide a quality education?

1) Educational television can provide, in some instances, students with visual presentations of primary sources which may supplement the classroom coursework (see ETV: history and usage — argument #2). Some of the programming is available, yet it is presently not being shown because of a lack of working equipment and inconvenient scheduling. I would suggest, therefore, to channel some resources earmarked for cable usage not into production of programming but into equipment and repair. Also, some money will be necessary to hire staff who will monitor the equipment (security problems have been cited as a major problem with audio-visual equipment), have knowledge about all types of educational programming in this country and in other countries, and design ETV cable schedules for the schools.
2) Part of the goal of the schools is the training of young children academically; part is also teaching students how to assume responsibility. This cannot be taught, however, without first delegating responsibility. Students can begin working in a cable studio, can learn to use and take care of the equipment; they can also take the responsibility for designing programming of interest. Here again, resources should be set aside for staff who can supervise the student workers in the cable system.
3) Parent involvement is also important to the Boston public school system. With information, produced by some students

and some outside staff, parents can truly become more aware of what is happening within the schools and more involved with their children's education.

4) The Boston School Department tries to reach all children, regardless of ability or educational level. Here, the use of cable television can be particularly effective. Students in accelerated programs, gifted students, and highly motivated students could spend some time viewing educational programming with historic and cultural value. Many public television series could be shown in the schools for various fees. Students needing additional help with the basic skills would greatly benefit through the use of instructional television. Many programs are already available for no fee; others will require some amount of money. However, through the use of cable television, students, regardless of ability, will be able to receive supplemental or review materials which would be consistently challenging and helpful.

5) The goal of the Boston school system is to prepare students for college. SAT drills, vocabulary testing and other pre-college practice could be put on cable and shown to students in the system. Such programming would be relatively inexpensive to produce, if the technical and visual quality were considered of secondary importance. Boston schools could experiment with program production in this area.

Cable can assist in providing a quality education to Boston children by offering more convenient scheduling possibilities for interesting programs of educational value; it can also enhance a student's learning experience by exposing that student to a new field and technology. Cable television can facilitate communications within the community, particularly by providing parents of Boston public school children with easily accessible school-related information. And, cable television can provide instructional materials which may provide easier access to colleges and universities. With the exception of preparing students for work in the communications field, cable television, in my opinion, would not be particularly effective with vocational training.

The goal of the Boston public school system is to provide a quality education for the children of Boston, and to prepare students for post-secondary institutions and/or careers. Cable television can play a part in meeting that goal if it is treated as a tool, and not as a separate technology to be developed without regard to the schools' goals and objectives.

At present, it is not certain whether the Boston School Department will allocate funds for cable usage; it has also not been specified whether Cablevision or the Public Access Foundation will provide financial assistance for the schools' cable television system. What is certain, according to the provisional license, is that all public and non-profit institutions will be wired externally for cable reception and that a drop cable will also be provided, free of charge. Institutions, including public schools, will pay for the internal cable link to the drop cable, although this fee has not yet been set by the Public Access Foundation. In addition, schools will have access to an educational channel on the subscriber cable and priority use of several channels on the institutional loop. Usage of these channels may or may not require payment. Again, the Public Access Foundation will be determining usage and payment schedules for the system in the next few months.

Despite present uncertainties, several recommendations for the schools' introduction to cable television can be made.

1) Cable television should not put an additional financial strain on the school system.

It is insensitive to address the issue of cable in the schools without consistent and careful attention to their present financial situation. Plans requiring large commitments of capital, regardless of the availability

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system and with Boston's public and non-profit institutions, all of which may eventually become active participants in the city's public institutional network. To construct and take advantage of a system of this kind requires that a) all schools receive at least one link to the public institutional network; b) all schools have some (depending upon the enrollment in the school) working television sets which have been connected to the public institutional network (public institutions that pay for the internal link to the drop cable receive one free subscription to the universal basic service, which includes an educational channel); c) staff, who understand and feel comfortable with the cable system be hired to process data and coordinate cable activities.

The most difficult task, in thinking about a cable television system for the Boston public schools, it to divorce oneself from the notion of cable as a television set with multi-channel capacity, and begin thinking of it as a communications device. Yet, it is in this realm of communications that cable television can prove most promising for institutional usage.

Once one can make the mental jump from cable as a television set (and, primarily, an entertainment medium) to cable as a communications device, there is still the question of how to turn machinery and wiring into a public institutional network, or more specifically in this case, into an educational network.

Communications devices, including the television, telephone, computer, newspapers and magazines, all demand cooperative and collaborative efforts for the dissemination of information. Planning a cable television system in the schools, without sufficient resources targeted toward staff to run the system, can be compared to planning for a Boston newspaper by supplying paper, printing presses and office space. Without trained writers, reporters, editors and technicians, this Boston newspaper would be virtually worthless, regardless of the quality of paper or the design of the office furniture.

Cable television is a <u>tool</u> for communications. It

can provide important services to schools, but the hardware or educational software cannot run the system by itself. Only trained users can make the cable television system a viable communications system within the Boston public schools.

Cable's impact on the Boston public school system will be directly related to the amount of resources dedicated to staff hired to work and manage the system. If large percentages of cable dollars are channeled into equipment and educational program production, cable television in the schools may become the Boston newspaper with high quality paper and blank pages. However, if dollars are spent on manpower instead of machinery, cable may be able to slowly grow into an operational communications medium with the school system.

Chapter I

[1]Boston Latin claims 1635 as its founding date. The plans for the school were drawn up in 1635; its doors probably opened in 1636. The official date, then, for Boston's first Latin Grammar school would be 1635-1636.

[2]James W. Fraser, "Boston Colonial and Revolutionary Experience, 1629-1819," in From Common School to Magnet School: Selected Essays in the History of Boston's Schools, ed. James W. Fraser, Henry Allen and Sam Barnes (Boston: Trustees of the Public Library of the City of Boston, 1979), p. 9.

[3]In the 1840s, the Secretary of the Board of Education, Horace Mann, after studying the European school systems, modeled a twelve grade progressive school curriculum after the Prussian educational system.

[4]James W. Fraser, "Reform, Immigration and Bureaucracy, 1820-1870," in From Common School to Magnet School: Selected Essays in the History of Boston's Schools, ed. James W. Fraser, Henry Allen and Sam Barnes (Boston: Trustees of the Public Library of the City of Boston, 1979), p. 30.

[5]Morgan et al. v. Boston School Committee, 1972.

Chapter II

[1]Robert L. Hilliard and Hyman H. Field, Television and the Teacher: A Handbook for Classroom Use (New York: Hastings House Publishers, 1976), p. 14.

[2]Ibid., p. 10.

[3]This statement is not meant to suggest that there have been no educational reforms over the past 300 years. Open classrooms, schools without walls, alternative schools, etc. have all had their place in public school education. Yet, by far, most children in public and private school systems receive their education through a single teacher in front of a classroom. The teacher or subject may change, but the model remains dominant.

[4]MET clearly designates copyright laws of all programming, specifically outlining rights as they apply to cable retransmission.

Chapter III

[1]Mary Alice Mayer Phillips, CATV: A History of Community Antenna Television (Evanston: Northwestern University Press, 1972), p. 7.

[2]John R. Bittner, Mass Communications, 2nd ed. (Englewood Cliffs: Prentice-Hall, Inc., 1980), p. 282.

[3]Ibid., p. 280.

[4]Stuart N. Brotman, "After the Cable TV Honeymoon," The Boston Globe, 7 September 1981.

[5]City of Boston, Provisional Cable Television License. Granted to Cablevision Systems Boston Corporation, 25 March 1982.

BIBLIOGRAPHY

Bittner, John R., Mass Communications 2nd ed. Englewood Cliffs: Prentice-Hall, Inc., 1980.

Botein, Michael and Rice, David M., Network Television and the Public Interest. Lexington: Lexington Books, 1980.

Brotman, Student N., "After the Cable TV Honeymoon." The Boston Globe, 7 September 1981.

City of Boston, Provisional Cable Television License. Granted to Cablevision Systems Boston Corporation, 25 March 1982.

Cronin, Joseph and others, Organizing an Urban School System for Diversity: A Study of the Boston School Department. Cambridge: Massachusetts Advisory Council on Education, 1970.

Fraser, James W., "Boston Colonial and Revolutionary Experience, 1629-1819," in From Common School to Magnet School: Selected Essays in the History of Boston's Schools ed. Fraser, James W., Allen, Henry and Barnes, Sam. Boston: Trustees of the Public Library of the City of Boston, 1979.

Fraser, James W., "Reform, Immigration and Bureaucracy, 1820-1870," in From Common School to Magnet School: Selected Essays in the History of Boston's Schools ed. Fraser, James W., Allen, Henry and Barnes, Sam. Boston: Trustees of the Public Library and the City of Boston, 1979.

Hilliard, Robert L. and Field, Hyman H., Television and the Teacher: A Handbook for Classroom Use. New York: Hastings House Publishers, 1976.

LeBaron, John, "Schools and the Cable 'Revolution.'" Cambridge: Massachusetts Educational Television, May 1981.

LeBaron, John and Miller, Phillip, "Cable Television and the Franchising Process." Cambridge: Massachusetts Educational Television, March 1981.

LeBaron, John and Miller, Phillip, "Summary Report: Survey of Television and Audio Equipment/Facilities in Massachusetts School Departments." Cambridge: Massachusetts Educational Television, March 1981.

Massachusetts Department of Education, "School Programs for Gifted and Talented Students." Cambridge, Fall 1981.

Martin, James, The Wired Society. Englewood Cliffs: Prentice-Hall, Inc., 1978.

Phillips, Mary Alice Mayer, CATV: A History of Community Antenna Television. Evanston: Northwestern University Press, 1972.

Pool, Ithiel de Sola, Talking Back. Cambridge: MIT Press, 1972.

Rivkin, Steven R., A New Guide to Federal Cable Television Regulations. Cambridge: MIT Press, 1978.

Slifer, Hal, "Cable Communications in the Boston Public Schools: A Progress Report." Boston: Boston Public School Department, Spring 1981.