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# THE TELECOMMUNICATIONS ACT OF 1996 AND ITS IMPACT ON CATHOLIC EDUCATION

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*Teachers and administrators worldwide are struggling to equip schools with the latest technology in an effort to enhance learning environments. This article discusses legislation concerning the funding of these efforts, with a strong focus on the specific funding challenges facing Catholic schools in the United States.*

The Telecommunications Act of 1996, through the universal service discounts for schools and libraries, offers an opportunity to provide fair and affordable access to telecommunications services for all school children by bringing new and innovative educational telecommunications resources into all classrooms. The benefits of the Act promise an increased access to information for all children, particularly those in more educationally deprived circumstances.

## HISTORY OF THE ACT

The Telecommunications Act of 1996, signed into law on February 8 of that year, was designed to overhaul telecommunications legislation and regulations originally passed in 1934. The key objectives of the Act were to:

- a) encourage competition in the telecommunications industry;
- b) provide consumers with greater choices and lower rates; and
- c) expand and maintain the existing system of universal service.

The Act offered Congress a historic opportunity to provide equitable and affordable telecommunications for America's schoolchildren and lifelong learners by bringing new and innovative educational telecommunications

resources into classrooms and libraries through a significant provision in the Act. A bipartisan amendment to the Act to provide all K-12 public and private nonprofit schools and libraries with universal service fund discounts for telecommunications services became known as the E-rate program. E-rate is a special education rate designed to provide equity and excellence in education access for all students (Education and Libraries Network Coalition [EdLiNC], 1996).

This provision was a bold attempt to reinterpret public policy to reflect broad shifts in telecommunications use over the preceding 60 years. Universal service is a national social policy adopted in 1934 to provide equitable access to telephone service for all Americans. To encourage telephone companies to provide service at affordable rates to consumers in high-cost areas (usually rural and sparsely populated areas that yielded only a small volume of business), the Universal Service Fund (USF) was created to subsidize the difference between actual costs to providers and affordable rates for consumers. The fund was financed by mandatory contributions assessed to the long distance companies, as a good-faith commitment to the public service, in exchange for the monopolies they held at that time (Aufderheide, 1999). The companies routinely passed on these contributions to users through their regular service rates.

The universal service program developed in the 1996 Act redefined universal service as "an evolving level of telecommunications services" that extends beyond regular telephone service. The Act called upon telecommunications providers to contribute to the Universal Service Fund and extended the support subsidies to include schools, libraries, and rural health care providers in addition to the existing high-cost areas and low-income family programs (Center for Media Education, 1996).

The Act mandated the creation of a bipartisan Joint Federal-State Board on Universal Service which was directed to make recommendations to the Federal Communications Commission (FCC) regarding the implementation of universal service for schools and libraries. Although the Act required that schools and libraries receive access to advanced telecommunications services through a program of discounts, it left to the Joint Board the recommendations to be made about the level of and process for obtaining discounts and the nature of the telecommunications services financed by USF discounts.

In November 1996, following several public hearings and meetings, an FCC Joint Board, comprised of three FCC commissioners, four state public utility commissioners, and one state public utility consumer advocate, issued recommendations to the FCC regarding implementation of the program for schools and libraries.

Acting upon these recommendations in May 1997, the FCC ruled unanimously to expand universal service to provide all K-12 schools and public

libraries up to \$2.25 billion a year in discounts for telecommunications services. The program was to be based on a sliding scale discount formula of 20-90%, determined by the poverty level of the students served by the individual schools. The discounts apply to any available telecommunications services, including transmission rates, inside wiring or wireless connections of classrooms, and Internet services (FCC, 1997).

As conceived in the constructs mandated by the FCC ruling, the benefits of the E-rate provisions to schools and libraries were substantial and significant. They were calculated to: a) widen access to the information superhighway; b) address equity issues by providing deeper discounts to schools that serve greater numbers of disadvantaged students or those that are located in rural areas; and c) assure local control over the selection of services by providing flexibility to create a service mix that addresses local needs.

The Telecommunications Act and the FCC rulings that followed its passage were among the most heavily lobbied legislation and regulations in political history. The *Washington Post* detailed the telecommunications industry's political contributions alone at more than \$48 million in the 1992-1998 period (Mills, 1998). This figure reflects documented contributions and does not include public relations and lobbying costs. Consumer advocate groups, such as Consumer Union and Consumer Federation of America, and the national public and private education associations located in Washington, united as EdLiNC, also lobbied Congress and the FCC on the E-rate—all from different perspectives.

The telecommunications industry balked at the increased contributions they were required to pay into the Universal Service Fund. The regulatory reform built into the 1996 Act included reductions in charges that the local phone companies assess long distance carriers for accessing their lines. This reform yielded more than \$2.4 billion in the first 11 months of the Act's passage (*Business Week*, 1998). While that offset the \$2.2 billion to be collected for USF, the telecom companies decided to pass the costs to consumers by adding to phone bills a line-item charge for universal service payments. Additional points of contention involved the FCC decision not to include cable companies, Internet service providers, and satellite companies in the pool of contributors to the USF (EdLiNC, 1997a).

The consumer advocate groups were angered by what they perceived as stalling on the part of the companies to significantly reduce consumer phone and cable bills. The addition of a new line-item charge for universal service, which increased phone bills by less than one dollar, prompted their lobbying effort to secure suspension of the E-rate program until consumer interests were satisfied. Other public interest advocates, as well as some journalists, business analysts, and politicians, regarded the USF line item on phone bills as a new and illegal tax not legislated by Congress and called for a revision of the Act.

The EdLiNC coalition, seeking to avoid entrapment in the debates between the telecommunications industry and consumer advocates, lobbied the FCC regarding maintaining the implementation of the E-rate program and the application process for schools and libraries to obtain their discounts.

## IMPLEMENTATION OF THE ACT

The EdLiNC coalition took charge of the efforts of the school and library communities to lobby the FCC regarding the application process. Immediately several implementation issues became problematic within the EdLiNC coalition. The primary one was the Joint Board recommendation that the method of calculating the school discount rate be based on the collection of poverty data used to determine the number of students eligible for the federal free and reduced-price school lunch program. Since most private schools do not participate in the school lunch programs, such data were not readily available to private school administrators. Attempts to change the formula to determine the ability of the school to pay, calculated on available discretionary income, were not accepted by the coalition. Proposals to use a formula once allowed for private school children in the calculation of federal Elementary and Secondary Education Act (ESEA) Title I services were opposed by some members of the coalition and ultimately not accepted by the FCC (EdLiNC, 1997b).

The FCC mandated that schools and libraries comply with three requirements when applying for discounts: (1) they must have technology plans that ensured the ability to use the services requested; (2) they must submit a description of the services to the USF administrator for posting to invite competitive bidding among providers; and (3) they must file an affidavit that attests the school/library meets all the program eligibility requirements.

Working with the U.S. Department of Education, the FCC, and the Schools and Libraries Corporation (SLC), EdLiNC actively engaged in developing policies regarding how a consortium of eligible entities would qualify for discount rates, the process for and by whom technology plans would be approved, and the final construct of the application forms.

On January 30, 1998, the 75-day open application process began. The number of first-round E-rate applicants surpassed 30,000, requesting discounts worth approximately \$2.02 billion. Euphoria over the realization of the goals of the program was short lived, however, as intense political wrangling began in Congress.

High-level lobbying pressure on the part of the telecommunications industry and a suit in federal district court challenging the extension of universal service to schools and libraries threatened to delay implementation of the program even as schools completed applications. When phone companies began to place USF line-item charges on consumer bills, media attention was

focused on the increased rates, dubbed the Gore tax because of the Vice President's close affiliation with the E-rate program. Some legislators labeled the Telecommunications Act a failure and called for its repeal. In addition, congressional displeasure with the CEO of the Schools and Libraries Corporation and concerns about the management of program integrity issues turned the original bipartisan support into a partisan conflict in which most Democrats supported and Republicans opposed the E-rate. The Senate Commerce Committee, which has jurisdiction over telecommunications issues, mandated a U.S. General Accounting Office audit, followed by a second independent audit of the program. These audits delayed processing of applications by more than six months (Actions Needed, 1998). Some legislators introduced bills mandating the acquisition of blocking and filtering software before discounts could be received, while others called for the abolition of the E-rate and introduced additional forms of financing public support for school technology.

Under intense lobbying pressure, FCC Chairman William Kennard decided to cut the funding level from \$2.25 billion to \$1.275 billion for 1998 and to extend the first funding cycle to an 18-month period rather than one year. While the additional six-month extension raised the funding commitment to \$1.925 billion for the first applicants, it reduced the available funds significantly below the original projections. These FCC program modifications, a change of management personnel at the SLC, and a program integrity clearance by both the GAO and Price-Waterhouse audits appeased many congressional objectors. Ultimately, the need for legislators to produce a budget appropriations bill in the waning days of the 105th Congress deflected attention from the passage of any unfavorable E-rate legislation and the funding process moved forward.

The SLC began issuing letters of funding commitment in December 1998, and by mid-February 1999 more than \$760 million was awarded to 18,500 approved applicants, with the remaining applicants and money to be awarded by early March. Concomitantly, the applications for the 1999-2000 school year were being processed by SLC (SLC, 1999).

## **IS THE E-RATE WORKING?**

At this early stage of implementation, any assessment of program effectiveness is anecdotal. The 1998 Milken Exchange study (Edwards, 1998) demonstrates that there is very little research currently available on technology effectiveness. The limited number of research studies available, however, indicate that technology can be a valuable support for teaching and learning if used appropriately. This research makes parallel comparisons with that on effective schools and effective teaching, pointing toward productive planning and mentoring of teachers as necessary components of a successful program

(Garnette, 1998).

A September 1998 poll by the American Association of School Administrators and the Lightspan Partnership presents interesting findings regarding the value of technology among 811 respondents. Eighty percent of educators saw increases in student achievement; 96% viewed technology as an important tool for learning; 30% witnessed improvement in student test scores; 60% saw increased student motivation; and 93% reported some level of curricular integration (National Catholic Educational Association, 1998).

While the available research data do not relate directly to the impact of the E-rate program, several inferences may be drawn from sources and resources tangentially related to it. These sources include the public policy debates over the role of technology in education, the thrust of the Clinton administration programs, and the realities of the schools' efforts to secure technological resources for their students and teachers.

## ASSESSMENT

Computer technology is an integral part of education, and preliminary research is beginning to show that developments in learning technology will profoundly change the way in which students learn and schools function in the immediate future. Internet access to global libraries, museums, other research and cultural resources, and outstanding educators and lecturers expose students to sources of information and insights inaccessible in conventional classrooms or remote locations. Such technologies are also increasing communication between home and school that can involve parents more directly in their children's learning. The rapid and radical advances in technology hold great promise for school improvement, and schools that cannot take advantage of these opportunities will graduate students at a distinct disadvantage in a society that is becoming dependent on and driven by technology (Benton Foundation, 1996).

In the new educational pedagogy that is rapidly developing, technological literacy is a necessity, not a frill. Technological literacy, defined as the possession of computing skills and the ability to use computers and other technologies to improve learning, is becoming as fundamental a measure of a person's ability to become a productive citizen as are the traditional three Rs. Educational technology is a tool for learning academic content and a mechanism for mastering skills, as well as a tool for tracking school progress and a means of holding schools accountable for student achievement. All schools must be able to afford the technologies necessary to prepare all students—not just the privileged few—for work and citizenship in the technological world (Sivin-Kachala & Bialo, 1998).

Public policy debates over the role of technology in education and the place of the federal government in sponsoring universal access to the Internet have taken on partisan dimensions in the political spectrum. Politically

“right” opponents maintain that the federal government should do little or nothing to help citizens utilize or obtain access to the Internet, arguing that individuals provide their own access while schools and libraries obtain it from local school funding sources. Those on the “left” advance the argument that affordable access is a matter of social justice and equity in an emerging digital economy that has already exacerbated social inequalities (Moschella & Atkinson, 1998).

The debate will continue as funding expenditures for technology increase as part of the national budget, which demonstrates that the issue is one of national importance. The Bureau of Labor Statistics estimates that there will be a 70% growth in computer- and technology-related jobs by 2005. A Department of Commerce study confirms a “digital divide” drawn along economic and racial lines, with 41% of white Americans and 19% of African Americans and Hispanics owning computers; 75% of households earning more than \$75,000 annually owning computers; and 11% of households earning less than \$10,000 having computer access (Testimony Before, 1998).

The Clinton administration has made educational technology a top priority of its public policy agenda and has committed a great deal of its rhetoric and budget allocations to the promotion of initiatives in support of its objective. The Clinton agenda called for connecting every classroom in America to the information superhighway with computers and good software and well-trained teachers.

At the direction of the administration, several major studies were undertaken to frame the issue and outline the resources and project developments needed. A 1996 U.S. Department of Education report, *Getting America's Students Ready for the 21st Century: Meeting the Technology Literacy Challenge*, included survey data on available technology resources and usage in public schools. The National Information Infrastructure Advisory Council's 1995 report, *Connecting K-12 Schools to the Information Superhighway*, known as the McKinsey Report, included cost estimates and technology planning required to connect all schools. A second report by the National Information Infrastructure Advisory Council in 1996, *The Kickstart Initiative: Connecting America's Communities to the Information Superhighway*, used the McKinsey cost estimates to provide an overview of potential applications of technology and explored funding possibilities as well as Internet privacy and security issues.

From these studies, several administration technology initiatives designed to foster targeted and interrelated activities requiring partnership with local businesses and governments have been developed across federal programs. The signature pieces of the Clinton agenda for schools have been the Technology Literacy Challenge Fund, Technology Innovation Challenge Grants, Star Schools, and other programs sponsored by the Department of Commerce's Telecommunications and Information Assistance Program

(TIAP) support projects that improve access to cultural, educational, and training resources and public health services. The current funding levels for these programs total \$601 million a year, with significant increases projected for the next fiscal year (Testimony Before, 1998).

In addition, as part of the FY2000 budget, President Clinton has proposed an additional \$366 million investment in the technology program Information Technology for the 21st Century (IT2), to research the economic and social implications of the technology revolution (White House Press Release, 1999). In addition to these initiatives, the President and Vice President remain firmly committed to the E-rate as a means of advocating equity and access for all students.

National data on connectivity and access for America's public schools have improved dramatically in the past two years. A 1997 survey of the nation's public schools indicated that 4.4 million computers are located in classrooms, with a typical school owning 21-50. The ratio of students to computers is 10:1, down from 125:1 in the previous decade. Eighty-five percent of schools have access to some multimedia computers; the average ratio of students to multimedia computers is about 24:1. Sixty-four percent of schools have Internet access; 14% of instructional rooms have Internet access; a four-fold increase in two years. Projected cost estimates of making all public schools technology effective are about \$15 billion, which is about \$300 per student and 5% of total education spending (Coley, 1997).

Unfortunately, many of these newer and advanced technologies available in public schools are lacking in most Catholic schools. Research has demonstrated that a great digital divide exists for students in Catholic and most other private schools. Technology capabilities in the private school sector, which comprises 24% of all schools and 11.2% of the total school population, are at a level that is approximately half of that of the public schools. Lack of funds is the reason most often cited as responsible for limited technology in Catholic schools (Heaviside, 1997).

Most of the technology assistance provided to public schools is not available to private schools because state and local government funded technology bond issues or other initiatives exclude expenditures for private school participation. While corporate sponsors have made some contributions to private schools, their efforts are few and not sustained. The E-rate program appears to be a source of support that will provide consistent assistance to facilitate effective long-range technology planning and implementation.

Data collected in 1995 for a National Center for Education Statistics survey, *Advanced Telecommunications in Private Schools*, clearly illustrated the necessity for and dependence upon discounted services to enable Catholic school students to begin to cross the digital divide. The connectivity levels of Catholic schools and students to Internet access were very low: schools, 25%; classrooms, 4%; students, 41%. The ratio of school student/computer

Internet access was also low and determined by geographic location: urban schools, 174:1; rural schools, 280:1. Connectivity capability for schools with Internet access was low-tech driven: 95% used telephone line modems and high-speed connections were rare: 56 kb, 2%; T1, 1%; ISDN, 2% (Heaviside, 1997).

When surveyed about future plans for connecting schools to the Internet, private school respondents indicated the following as barriers to the acquisition or use of advanced telecommunications: lack of funds, 61%; lack of equipment, 38%; too few access ports in school, 36%; lines not easily accessible, 21% (Heaviside, 1997).

However, with the advent of the universal service discount program, the picture began to change rapidly. The national education associations undertook an intense publicity campaign and mentored their schools and districts to bring them on board with the program. As a result, all schools, public and private, were awakened to the impact and consequences of the technological revolution in education and dedicated massive personnel and financial resources to the development of technology plans. These plans include teacher-training programs to foster integration of technology into the curriculum; connections to networks, especially the Internet; and purchase of hardware and software to make computers readily accessible to students in their classrooms.

In addition to the challenge of integrating technology into the teaching and learning process, an additional concern articulated by Catholic school educators is the need to prepare students to live wisely, well, and humanely in a high-tech world (Trampiets, 1997). An additional caveat was given to teachers by Stuckey (1997), who cautioned educators that although students will use technology without teachers, it is the teacher who must bring the full potential of technology into the classroom and determine how it will be integrated into the learning experience.

Catholic schools have made some incremental progress in building the infrastructure as well. The 1998 Quality Education Data (QED) survey of 6,522 schools, conducted in conjunction with the National Catholic Educational Association (NCEA), revealed data indicating the great strides that Catholic schools have made in adopting educational technologies:

Technology is now a critical element of [Catholic school] commitment to educational quality and equality. NCEA affirms the place of technology as a significant infrastructure of Catholic educational programs. As this report will clearly demonstrate, these strong words have been—and continue to be—converted into actions and implemented in Catholic schools nationwide. (Tyre, 1998, p. 3)

Some indicators of change occurring in the technology picture in Catholic schools since 1996 follow. Seventy percent of Catholic schools have

adopted technology plans within the past two years, a quadruple increase since the 1996 survey. The data attributed the high response to both the lure of the E-rate discounts and increased parental pressure on schools for technology access for students. Sixty-eight percent of the schools reported that they have at minimum a part-time technology or media coordinator and 78% of teachers are reported as having a moderate facility in using technology. Approximately 7% report having experience with integrating technology usage into their curriculum, while 45% of schools incorporate technology use into student content performance standards (Tyre, 1998).

Computer hardware and software expansion remains problematic for Catholic schools. Overall, classroom placement of computers remains at 4.82 computers, with labs remaining the dominant placement. Another indicator of significance is that, on average, instructional rooms that have Internet access contain more than 12.24 computers with active connections, with an average of 3.42 instructional rooms able to access the Internet. However, Catholic schools report that of the Internet accessible computers, 12.24 are in classrooms, 7.64 are in computer labs, and 2.57 are in media centers. While Pentium machines outnumber 486 or 386 models, most are first-generation models that do not support multimedia capabilities. Catholic schools are far more likely to have Internet access than networking links to other computers in the school; approximately 25% have a local area network (LAN) in place (Tyre, 1998).

## CHALLENGES THAT REMAIN

### Survival

Although the first round of E-rate discounts has been awarded, the program is far from established. Legislative action threatens the program in several ways. Senator John McCain has proposed the requirement that schools install filtering and blocking software before their receipt of E-rate funds. The schools continue to argue for local control and options that include acceptable use policies as well as mandatory controls. Since the Supreme Court, in *ACLU v. Reno*, invalidated the Internet Decency Provisions of the Telecommunications Act based on First Amendment free speech rights, there is concern that blocking and filtering requirements would trigger additional litigation that would enjoin the program (Harris, 1998).

A concern for all schools, but particularly for private and religious institutions, is the proposed legislation seeking to take the E-rate from the Universal Service Fund and finance the program through use of the excise tax already part of consumer phone bills. Such a move would make the E-rate a federally funded program (which it is not while it is funded by the Universal Services Administrative Corporation) and subject religious schools to church-state challenges when funds are used for infrastructure and possible access to religious content.

### High cost of high tech

Schools are finding that technology costs don't end once the hardware is purchased. A report in the *San Jose Mercury* indicates that for every \$1000 spent on computer equipment, schools need to spend almost \$300 annually for maintenance and repair. Such costs are not usually provided for in government or private corporation grants for startup programs (Sloanaker, 1998).

### Professional development

The most significant challenge is providing professional development for teachers to achieve effective integration of technology in the curriculum. Market Data Retrieval's (MDR) *Technology in Education 1998* report on technology in the nation's K-12 public schools reveals: (1) 85% of schools and 50% of classrooms have Internet access; (2) in 23% of schools teachers use computers daily, but 22% report no teachers use computers for instructional purposes; (3) 7% of teachers report themselves at advanced skill level, while 38% are beginners (MDR, 1998).

A newly released Department of Education study, *Teacher Quality: A Report on Preparation and Qualifications of Public School Teachers*, revealed that only 20% of teachers were confident using modern technology (National Center for Education Statistics, 1999).

While American schools, and particularly Catholic schools, are a long way from realizing the goal of connecting all classrooms to the information superhighway, the promises of the E-rate, if fully implemented, will accelerate the pace at which the goal becomes a reality. Most schools will qualify for at least a 40% discount on telecommunications services, a significant contribution toward full connectivity implementation. The fact that over 30,000 applications were received in the first year is testimony to the significance schools attach to the E-rate program.

With proper funding and implementation, computer technology may well provide much needed support to enhancing the learning environment in all our nation's schools.

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