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“Educating our 21<sup>st</sup> Century Generation”

**Internet Access in rural areas and inner city  
Communities:**

A way for government to issue funding more efficiently

**Syronna Lanae Brown**  
**Washington Internship for Students of Engineering**  
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### *ABOUT THE AUTHOR*

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### *WISE*

The Washington Internship for Students of Engineering is a ten-week program for prominent engineers who have completed their junior year and display knowledge of leadership skills and a keen interest in public policy. The students spend the summer in Washington, DC learning how engineers contribute to public policy decisions on various technological issues. The future engineers expand their knowledge on these matters by frequent meetings and discussions with government officials and other policy-makers. Each student completes a paper that focuses on a specific engineering public policy issue that is of concern to their area of engineering. For more information about WISE, contact WISE, Attn: Anne Hickox, 400 Commonwealth Dr., Warrendale, PA 15096-0001.

### *ACKNOWLEDGEMENTS*

The author would like to express her appreciation and the officers at NSBE for sponsoring and support of the WISE program. It is in the author's opinion that WISE gives an aspect of education unavailable in academia. Through their support NSBE has in fact broaden the minds of engineers.

Thanks also go to the administrators of the WISE program. Specifically, Dr. Wolf Yeigh, 1998's faculty-member-in-residence, for his advice and leadership on both issues concerning WISE and our future.

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## Executive Summary

The Federal Communication Committee(FCC), an independent government agency whose mission is to encourage all competition in all communication markets and to the protect public interest. In response to direction from Congress, the FCC develops and implements policy concerning interstate and international communication by radio, television, wire, satellite, and cable.\* The Education Rate(E-rate) is a Universal Service Support program to provide affordable Internet access in rural and high cost areas, distance learning, equitable and nondiscriminatory contributions from all telecommunication service providers, and specific support mechanisms to preserve and advance universal service. The E-rate was first introduced in the Telecommunication Act of 1996. Congress directed the Commission and the states to take the steps necessary to establish support mechanisms to ensure the delivery of affordable telecommunications service to all Americans (*Universal Service Report & Order: Section 1*).

In the past three years the E-rate has been introduced as the remedy for educating our twenty-first century generation. Many people inside the federal government and long-distance companies have opposed this issue. Unfortunately, these oppositions have lowered the overall funding and made the program more difficult to implement. The conflicting concerns are higher service fees in consumers' phone bills and providing the infrastructure to build the technology of Internet access in rural areas and inner cities.

There are many important issues concerning our children's future. The educational deficiencies our future leaders exhibit include diminished reading, writing and arithmetic skills. The pressure from peers always appear to be a major factor along with societal issues that youth will confront in the job market. Even the best educational system will not sufficiently train tomorrow's leaders without Internet access.

Although most members of Congress and the Administration support the E-rate, concern about sufficient funding is a constant hindrance to the expansion of Internet access to all America's children, specifically rural area and inner cities. The main force behind this hindrance is long distance service providers. As these service providers continue to balk over discount services, subsidized government funding will remain an issue in furthering education into the 21<sup>st</sup> century.

In order to remedy the problems associated with the E-rate it is recommended that the following options be enacted.

- Continued support of the E-rate
- Establish grant funding to the most disadvantaged secondary and elementary schools
- Establish grant funding neediest school districts in America

These changes will help the E-rate reach its full potential in establishing Internet access in disadvantaged schools and libraries. The funding is distributed in a manner that will increase the telecommunications service in rural and inner city areas. This long-term commitment will benefit both society and industry for many years.

*\*The Federal Communication Commission <<http://www.fcc.gov>>*

## **The Beginning**

Perhaps the event that has contributed most to public interest is President Bill Clinton and Vice President Al Gore's concern for educating our twenty-first century generation. Vice President Al Gore proposed an issue, the Education rate(E-rate), a program designed to help provide affordable Internet Access, distance learning and other educational opportunities to children and library users across the country. Established under the Telecommunication Act of 1996, elementary and secondary schools and public libraries can purchase telecommunication services at 20-90% discounts.

The driving force behind this issue is that money needed to support these services in inner cities and rural area schools and libraries are not being distributed by the government. The Federal Communication Committee (FCC), the responsible party, seems not to be very concerned with the severe economic, environmental and social consequences. If this issue is not dealt with immediately, there will be irreversible damages to our future leaders and the society of the 21<sup>st</sup> century.

The E-rate is now under attack by some members of Congress and long-distance phone companies. The reason for this attack is the Universal Service Fund, which already supports telecommunication services in rural areas. Long-distance phone companies have paid into this fund for many years and feel they should give out any more.

## ***Background***

The Universal Service Fund changed with the enactment of the Telecommunication Act of 1996 to include the E-rate. The idea supporting the expansion was to make sure that all Americans had access to the Internet.

The FCC began charging higher service fees that took affect in January 1997, only affecting business long-distance calls. However, AT&T and MCI said they are passing on the new charges to residential customers. Consequently, a five-percent increase in the out-of-state and overseas calls is expected effective July 1, 1998.<sup>1</sup> These long-distance have forgotten that the access charges they pay to local phones companies, which fund universal service, have decreased by billions of dollars in the past year. The FCC gave this decrease specifically to help balance the costs of paying into the E-rate fund.

The Federal Communication Commissions' E-rate program, in its current form, pays for a number of things, including Internet services, basic telephone services, advanced telecommunications services and internal connections. The discount amount depends on the school's location and economic need, which is determined by the level of eligibility in federal free and reduced-priced school lunch programs.

## **The Problem**

### *Educational Resource Deficiencies*

America's disadvantaged children and young adults-those attending schools where a high proportion of the students' parents are on welfare or are not regularly employed-have been ignored in the region of education for many years. Our future leaders are not receiving the fundamental education that is needed to succeed in the twenty-first century. Many lack the first principles of basic academic standards, such as reading, writing, and arithmetic. In 1992, 60% of seniors in disadvantaged urban areas had math proficiencies below the basic level.<sup>2</sup>

Not meeting prerequisites of colleges and universities is another serious problem. Public schools and libraries in rural and urban areas often do not have resources necessary to

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<sup>1</sup> Federal Communications Commission, "*Funding Internet access*" 1998  
<<http://www.fcc.gov/>>

<sup>2</sup> Robert I. Lerman, "*Helping Disconnected Youth by Improving Linkage Between High Schools and Careers*", The Urban Institute, 1998, <<http://www.urban.org/pubs/disconec.htm>>

adequately prepare students to understand the technology of the future. Textbooks and other learning materials are essential, but cannot provide all elements of education offered today.

### *Competition*

Peer competition is considered to be an indispensable factor in social and academic development. Poor school outcomes for some youths can ultimately bring down others, as peer-pressure works against those trying to succeed. Without access to all forms of information, there is little chance for our students and young adults to compete successfully for the future challenges of becoming engineers, doctors, lawyers or any vital contribution in the next millennium.

### *Societal Issues*

There are 266,218 people in poverty in the United States, approximately 14% of the total population. Approximately, 19% of the population under 18 is also included in this figure.<sup>3</sup> Today's youth will confront tough, demanding, international economic forces in the job market. They will also confront a social and economic life in America that demands flexibility, mobility and a basic understanding of science and math to keep up with technological innovations. Some teachers, parents and other adult figures throughout these communities may lack certain educational skills. For that reason, they are unable to help in the advancement of our youth's education. The children are America's future.

### *Technology in Schools and Libraries*

Most of our 80,000 schools and many libraries in America, particularly in the inner city and rural areas, are not designed for the computer technology needed to meet the needs of today's students and tomorrow's workers. These schools cannot provide

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<sup>3</sup>All income levels weighted persons count  
Annual Demographic Survey (Poverty Status 1996)

essential facility requirements, such as telecommunications, Internet access, and the software to engage the students in diverse learning. The Internet is moving into mainstream faster than all other preceding technologies.

Though the focus is on Internet access in these specific areas, education reform is a worldwide issue intended to raise standards for all students at all schools. This reform is supposed to help students be aware of what they should know about and be able to do in preparing for the future. Major key components of this educational system are directed to achieving these outcomes. Without the necessary technologies and improvements, students, teachers and others, will continue to lack basic understanding of future technologies.

America's industry should be looking for alternatives to ensure that all students are exposed to and have access to computers at an early age to help build these skills and interest.

### *Employment*

Will these inner city and rural area children continue to graduate without the rudimentary scientific principles that are needed? Will they continue to enter the *real world* without proficient entry-level computer skills? In a rapidly growing information-based economy, high paying jobs require analytical research skills, in addition to the ability to read, write and follow instructions. Former Labor Secretary Robert Reich noted three general types of jobs, routine production workers, in-person service providers and symbolic analysts. Two of them are dead-end types, which most poor and middle-class children are prepared for in school, and one with great promise - which our most fortunate children are groomed for<sup>4</sup>. Some examples are data entry operator or service

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<sup>4</sup>*The Internet and the Poor*, August 3, 1993  
<gopher://nic.merit.edu:7043/00/con..work.communities/internet-poor.txt>

clerk (whose jobs move off shore), factory workers (the work can't move off shore, though the employer could), or an architect.

There is only a small proportion of non-college jobs in central cities involving the types of educational levels and other qualification currently held by disadvantaged youths. For example, only 4% of non-college, inner city jobs do not require a high school diploma, training, experience or references. Approximately 10% require a high school diploma and general experience.<sup>5</sup> A skilled workforce is essential to increase productivity so that a society can maintain and enhance its standard of living. The American educational system was designed to prepare youths for increasingly growing industries and bureaucratic management, not symbolic analysts and generalists.<sup>6</sup>

### ***Key Conflicts***

The Universal Service Fund gives benefits to both urban and rural areas to assure the affordability of telephone services. The key restraint to resolving this issue is the deregulation of long-distance companies and other telecommunications sectors. The Companies, such as MCI Communications Corporations and AT&T, decided to raise customers' phone bill, rather than absorb the investments in their profit margins. They are doing this in spite of the fact that their industries have been given substantial reductions in access charges. These companies have also mounted public relation campaigns to convince customers that their price increase is the equivalent of a tax, including a line item on phone bills for the Universal Service Fund. This rate increased customers' concern, which began lobbying Congress to cut the E-rate.

The FCC is also having a problem determining how to collect the fees from telecommunications companies to pay for the Universal Service for the second half of the year. Meanwhile, new fees are showing up on phone bills to pay for, among other things,

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<sup>5</sup> Ibid

<sup>6</sup> Ibid

the Internet Program. Under pressure from Congress and phone companies, the FCC decided to slow funding for the Internet discounts.

### *Primary Concerns*

#### *Statistics*

Nearly one-quarter of the new jobs added in the past year were technology-based occupations, according to Labor Department estimates. According to a study by the Information Technology Association of America, it is estimated that 346,000 technology-based jobs are unfilled in companies that employ more than 100 workers. By the year 2000, 60 percent of the jobs available will require computer skills; right now, just 22 percent of workers have these skills.<sup>7</sup>

Nevertheless Internet access is still too limited. Only 14 percent of America's classrooms are wired to the Internet. That number drops to 7 percent in high-poverty urban and rural areas. The target student-to-computer ratio is 4 to 5 students per computer, half of today's 10-to-1 rate, according to a Congressional Research Report. The ratio of students to computers that can perform on the Internet (386s or better) is only 25-to-1.<sup>8</sup>

#### *Teacher Literacy*

Many teachers are lacking the ability to adequately prepare and help our students' master the essential skills that are in greatest need. In high poverty areas and rural communities where expectations are low, many teachers are poorly educated. However, there are some well-informed teachers in America, approximately 56.2 percent hold one or more advanced degrees.<sup>9</sup> The problem is that some of the teachers with at least 15 years of experience have not been trained for technology, such as the Internet. These teachers are skilled in the subjects of their field of study, where the majority of their

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<sup>7</sup> *The Internet Open Worlds of Opportunity for Our Students, n.d.*,  
<<http://www.senate.gov/~rockel./releases/1998/stats021798.html>>

<sup>8</sup> Ibid

<sup>9</sup> *NEA Profiles American Public School Teacher*, July 2, 1998,  
<<http://www.nea.org/nr/nr970702.html> and [nr/status.pdf](http://www.nea.org/nr/nr970702.pdf)>

teaching time is distributed. Therefore they are less beneficial in merging our children toward success.

### *Interest of the Public*

No one particular person brought this issue to public attention. Many parents, teachers, school board members, administrators, concerned citizens, government figures and committees, such as the Council of Great City Schools, Schools and Libraries Corporation and the National Association for the Advancement of Colored People are in support of rural area and inner city education.

The Federal Communications Commission has proposed an issue to be implemented by the Universal Service Administrative Company (USAC). This report noted the need for universal service support demonstrated by schools and libraries in every state. Schools and libraries have filed more than 30,000 applications for universal service support.<sup>10</sup>

### *Governmental Association*

FCC Chairman William E. Kennard states, "First and foremost, we must place poor and rural communities at the front of the line. Funding will go first to schools in poorer communities, whether they are in sparsely populated rural areas or inner city school districts. These are the schools and school kids with the greatest needs and they must be our first priority".<sup>11</sup> Commissioner Susan Ness notes "...I am determined to do everything in my power to safeguard these programs.."<sup>12</sup>

The Reverend Jesse L. Jackson, President and Founder of the Rainbow/PUSH Coalition provides his opinion on the E-rate " this action would essentially re-segregate our schools along class lines. On one hand we have schools that are wired for the Internet and its attendant technology; on the other, poorer urban and rural children will be shut out

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<sup>10</sup> *Commission Proposes Single Entity to Administer Federal Universal Support Mechanisms* (CC Docket No. 98-13) <[http://www.fcc.gov/Bureaus/Common\\_r/News\\_released/1998/nrcc8035.html](http://www.fcc.gov/Bureaus/Common_r/News_released/1998/nrcc8035.html)>

<sup>11</sup> *Statement of Chairman William Kennard on FCC Adoption of Plan to Reform Schools and Libraries Discount Procedures* <<http://www.fcc.gov/Speeches/Kennard/Statements/stwek846.html>> June 12, 1998

of the technology. It is a travesty that will have immense repercussions on the ability of urban and rural children to compete effectively in the new millennium”.<sup>13</sup> Also Michael Casserly, Executive Director of the Great City Schools, Reverend Jesse Jackson and representatives of Congress and the Chicago public Schools held a press conference on June 6, 1998, in support of the E-rate Program, which had been threatened by lobbyist. This is only one positive action towards saving the E-rate.

### *The President's Initiative*

President Bill Clinton has great concern for the future of our children. He has presented initiatives for many achievements in these areas. President Clinton noted “In our schools, every classroom in America must be connected to the Information Superhighway, with computers and good software, and well trained teachers.” One initiative is base on four provisions of achievement:<sup>14</sup>

1. *Modern computers and learning devices accessible to every student;*
2. *Classrooms connected to one another and to the outside world;*
3. *Educational software that challenge the mind and engages students in learning;*
4. *Teachers ready to use and teach with technology;*

In addition to supporting the E-rate, President Bill Clinton has proposed a \$350 million program to the National Association for the Advancement of Colored People that would lure new teachers to inner city and rural schools, according to Jane Enda of Inquirer Washington Bureau. Clinton feels that unsatisfactory teachers in schools that are in degradation around them are teaching students from disadvantaged neighborhoods. His proposal is a five-year plan to bring in at least 35,000 new teachers, specifically minorities and bilingual instructors, to the poorest urban and rural communities. This proposal should supply the need for at least one-tenth of the new teachers whom the ill-

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<sup>12</sup> *Press Statement of Commissioner Susan Ness* (CC Docket No. 96-45)  
<<http://www.fcc.gov/Speeches/Ness/States/stsn818.html>> June 12, 1998

<sup>13</sup> *Council of Great City Schools and Rev. Jesse L. Jackson, Sr. Stand in Support of the E-rate*, June 6, 1998, <[http://www.cgcs.org/services/media/6\\_5\\_98.htm](http://www.cgcs.org/services/media/6_5_98.htm)>

<sup>14</sup> *The President's Education Technology Initiative Achievements of the Rural Utilities Service*, 1998, <<http://www.usda.gov/rus/home/prezed/htm>>

starred schools will have to hire in the next five years, and over two million in the next decade. To attract these special teachers, he will contribute support scholarships and trained them in particular areas provided they stay for three years.

### *Future Hope*

The education of young children and the ability to provide these neighborhoods with some technical skills to help others is valuable. Having a better education, equity and certainty of a future is an interest that everyone desires. Personal goals for youth such as, security and giving back to their communities is of great significance because they realize what it takes to make it out of the distressed conditions. The competition in economic opportunities, the cost of living, public participation and ethnic identification is of important significance.

### *The System of Administration*

#### *Government Action*

The Telecommunications Reform Act of 1996 ensures that all American's have access to the 21<sup>st</sup> century information age. This act assures that schools, libraries, hospitals and clinics have access to advanced telecommunication services. Opening up worlds of opportunity and knowledge in rural and low-income areas will benefit all of society. There are many advantages to the program, such as the V-chip that will let parent's electronically block certain television programs from their children. Other advantages are the prevention of undue concentration of television and radio ownership, and the regulation of local and long-distance telephone companies from competition.

In section 254 of the Telecommunications Act of 1996, the Net subsidy program-known as the education rate (e-rate), or "Gore tax" was created for school and libraries in rural and inner city areas to have access to affordable connection to the Internet. There are to be 20 to 90 percent discount rates offered to all schools and libraries on transmission, internal connection, including inside wiring, and Internet services, which is based upon their ability to pay. There was an applied budget of \$2.25 billion for the reimbursement to

telecommunication providers for discounted rates to schools and libraries. This was assumed to be effective January 1, 1998. Little has come from this reform act, yet it has been a great step towards helping eradicate this inequity of inner city and rural area children being cut off from the new economy.

### *Barriers*

Numerous barriers exist towards the creation and use of education technology. Having infrastructure at affordable and reasonable rates is essential for inner cities and rural areas. Furthermore, the cost to connect these particular areas extends beyond just wiring and computer purchases. There are significant expenses, such as hiring professional staff to maintain the network and training teachers to use equipment properly. In order to assist in the adoption of new technology, schools will need additional space for electrical, air climate control and security systems. Yet, access to well-developed telecommunication and information services in all these encumbered communities are indispensable.

While many schools have converted to new technology, others still strongly feel that the traditional way of teaching is more sufficient, therefore are reluctant to make large investments necessary to obtain them. Many understand that there is no other way than the original way of teaching such as, purchasing books and other supplies needed to fulfill learning skills. To be guaranteed all information available to future leaders, the need for remarkable technology such as the Internet is essential. While many barriers need to be overcome, the opportunities offered by National Information Infrastructure have provided many capabilities within these rural and inner city areas. If the close of the digital divide is not addressed immediately, the consequences will be felt for decades into the next century.

### *Knowledge of Government*

The government has excessive information on networking systems in rural areas and inner cities. They know that there is an immediate need to begin exercising the policies at hand. Introduced in the Senate, **S.12-Education for the 21<sup>st</sup> Century Act-Title IV—Investing in Technology for the Classroom**, Congress found that technology in

schools is a central component of preparing students and that equipping schools with this technology is a necessity.<sup>15</sup> There is a definite understanding of cost in these particular projects, such as infrastructure, upgrading the networks and training teachers to educate in these neighborhoods. The knowledge we obtain about lack of education, demanding employment and information technology is substantial. Everyone detects that the need for jobs in technology areas will continue to increase. In a statement by Vice President Al Gore, “Today, unfortunately, we have a digital divide. In 1997, students in predominately minority schools were three times less likely to have Internet access in the classroom than those in predominately white schools.”

In focus on the e-rate, many major telephone companies have discerned that the price in long-distance has decreased and the result should be that the education rate program should not cause the investor’s rate to increase. On the other hand, the feelings of a few participants seem to be in disagreement. Senator John Ashcroft (R-Mo.), says “the e-rate violates the bedrock American principles of ‘no taxation without representation’.”<sup>16</sup> Christine Olson of the Heritage Foundation notes, “Hooking classrooms of poorly educated children up to the Internet is no solution to the breakdown of public education.”<sup>17</sup> Some believe the funding will not be distributed in manners necessary to provide the technology, but to use money on unrelated improvements such as tearing down walls and repairing floors. The government and America know exactly the need for support of the next century. The United States have realized that they will need 1.3 million information technology workers over the next eight years and 95,000 new computer scientists, analysts and programmers.<sup>18</sup>

Knowing this need for advancement in education, I do not understand why the Congress and other officials are putting such a strain on distributing the funds. In my opinion, the problem is that the government has tremendous amounts of money and for some reason

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<sup>15</sup> *S.12 Education for the 21<sup>st</sup> Century Act*, n.d.,  
<<http://thomas.loc.gov/cgi-bin/q...05:1:/temp/~c105UGCxSZ:e34049:>>

<sup>16</sup> *Support of the E-Rate*, June 22, 1998, <<http://www/policy.com/issuewk/98/0622/062298d.html>>

<sup>17</sup> *Ibid*

<sup>18</sup> *see note 7*

terrified to commit to our future. There are only 5,800,000 computers in United States schools and many cannot perform the advanced functions, such as accessing the Internet. The federal government has claimed a commitment to funding education technology by investing an additional \$200 million in subpart A of title III of the Elementary and Secondary Education Act of 1965 in the fiscal year 1997. This investment was a great incentive by ear, but by knowledge a scare. The amount is definitely not capable of advancing technology in schools and libraries into the 21<sup>st</sup> century. For the first year in respect to the E-rate, it has been approximated to take \$2.02 billion to fund 30,000 school and libraries alone.

The policies of the government are ideal. In implementing these programs the government, in a sense has failed. The basic infrastructures in establishing these technologies already exist.

### **Policy Alternatives**

There are various alternatives concerning networking systems and educating our next century generation of leaders. The National Information Infrastructure, Universal Service School and Library Discount Program (e-rate), the Telecommunication Act of 1996 and the advancement of the Information Superhighway were all created to try and help the disadvantaged children of today.

#### *National Information Infrastructure*

The National Information Infrastructure (NII) in Education exists to implement a variety of networked information technologies to improve educational skills and learning in the 21<sup>st</sup> century. Some current resources are telephone, broadcast, cable, and electronic networks. There are five basic reasons to further the development of this infrastructure. First, the use of cable television throughout schools as instructional video programs. Over 75 percent of the schools in America are currently supported by this option. There are some 200,000 students in 48 states receiving this advanced education. Fiber optics, computer, and satellites support some courses in mathematics, science, and foreign languages. This option is widely used in many of the advantaged areas. The gathering of

information, including specific curriculum, research reports, computer aided digital (CAD) devices for workplace technologies and equipment, and the retrieval of multimedia news from digital libraries is the second option. Students, homes, libraries and museums will be able to access this information from anywhere in the world. Two-way communication is the third opportunity of the NII. Electronic mail (e-mail) will link communication among teachers, students, and mentors to share information knowledge and many classes having the opportunity with on-line teaching. Students can provide each other with information and discuss educational problems on-line. The fourth way is the distance learning process. There are many students in colleges and communities using the option to take courses via one- and two-way audio and video communication. Lastly, instructional software and simulation transfers. That is, any student at home, work and school can access all instructional programs, simulations, materials and databases over the NII. Unfortunately, the only oppositions to advancing this technology is distribution of money and having unlimited-accessible superhighway to continue development.

### *Information Superhighway*

Another relief for education rehabilitation in these unqualified areas is the advancement of the Information Superhighway. In developing the Information Superhighway, the U.S Department of Agriculture (USDA) has realized how valuable it is to connect rural America. In 1996, the Rural Utilities Service (RUS), had set a goal to ensure that this advanced telecommunication service will be brought to rural areas at approximately the same time as urban areas. In agreement with the USAD this was a positive beginning. The provisions of the Superhighway connections are to be approved for financing from RUS and to be an active participant in statewide telecommunications. These plans will offer the transmission of video images and high speed data. Implementation will also ensure that residents of rural America have access to the most recent technology in a timely manner.

With the background of the National Information Infrastructure and the Information Superhighway in mind, what is the real issue of helping our disadvantaged schools and school children?

As the 21<sup>st</sup> century draws near, the Industrial Age is giving way to the Information Age. The new era has profound implications for our children's lives and their future. The Information Superhighway will educate communities throughout the world. In some school districts the Information Superhighway is making up for a lack of resources in other areas. If everyone is connected to this new electronic communication, then there may be a long-term solution for many educational problems.

Imagine if schools in low-income areas with few library books could use modem-equipped computers to access all resources in the Library of congress. The beginning of the National Information Infrastructure is already in place. The challenge now is to build "electronic streets" to links homes, schools and libraries to the information superhighway. The benefits of this development will provide core infrastructures to serve residents in many disadvantaged areas. The information infrastructure is a community-wide need. The information superhighway holds opportunities for creating new jobs in our changing society.

### *E-rate*

Another alternative, the Universal Service School and Library Discount Program (the E-rate), which is controlled by the Federal Communication Commission (FCC). The E-rate program should ensure that all schools and libraries get services needed to prepare students and teachers for the challenges of the next millennium. It calls for all telecommunication service providers to contribute to the funding. Another provision of the new law is to require that schools and libraries not only get telephone service, but also advanced telecommunication service and specific discounted rates on these services. These discount rates are based upon the school and libraries' ability to pay. Internet service, wireless communication in classrooms, internal wiring, and transmission rates are to be discounted by all available telecommunication services. An amount of \$1.275 billion from the universal service fund is to reimburse providers of telecommunications for the discounts they provide to schools and libraries for the first year. The FCC also ordered each state's public utility commission to adopt intrastate discount programs. To be eligible for discounted telecommunication service, each school must draft a

technology plan to develop courses and identify necessary hardware and software. This plan must be approved by the government agency in their community. They are also required to keep inventory. A submission of an application to the School and Libraries Corporation (SLC) is required and must be certified.

The e-rate alternative can prove to be effective if it is dealt with effectively. The Federal Communications Committee (FCC) was trying to achieve an objective of educating our twenty-first century generation. The decisions avoid immediate concern of the education process for our youths, but will this be a long-term commitment? The FCC's final resolution to distribute \$1.27 billion over a 12-month period ending June 30, 1999 will not be enough to help all youths.

The FCC has cut the funding from the original amount by 43%. The pressures from AT&T, MCI and other carriers on increasing consumers telephone bills by five percent were uncalled for. These long distance carriers made at least \$82 million in revenues in 1996. Schools and libraries can be funded approximately \$1.67 billion for 1998 without increasing payments of companies such as AT&T and MCI. On a quarterly based collection for schools and libraries, the amount could rise from \$325 million to \$524 million without increasing payments of long distance carriers. The FCC estimated that the long-distance carriers access charge to local phone companies will be reduced by \$700 million by July 1, 1998. Still long-distance companies were outraged at the prospect of having to fund the E-rate in addition to their traditional universal service requirements. Even though the original funding for E-rate support was \$2.25 billion, the FCC believes the first year will meet the needs of schools and libraries without a rise in consumers phone bills.

The equity of the program could be very beneficial. Many schools and libraries will be able to afford telecommunications services, but there are different levels of discounts for which to apply. The Commission established a disposition that will provide discounts ranging from 20 to 90% on all commercially available services, Internet access and internal connections. Schools and libraries will only be required to pay the portions of

their bill remaining after the discount has been applied. The level of discount will be based on the schools or libraries' level of economic disadvantage and its location in an urban or rural area.

The source of money used for these services comes from all telecommunication carriers that provide interstate telecommunications services. The carriers that are required to contribute will receive bills from the universal service administrator. Their assessments for schools and libraries discount programs will be based on their interstate and intrastate end-user telecommunications revenues.

The problem of the program is there may not be enough money to fund all disadvantaged areas. The revised funding amounts will not satisfy the estimated demand by the schools and libraries that have completed applications. The FCC anticipates that its revised rules of priority will ensure that all eligible schools and libraries will receive full support for telecommunications services and Internet access, and the poverty-stricken applicants will receive support for internal connections. Unfortunately, with the cut back of funding, the FCC does not seem to be very reliable.

The program determines the school's level of economic disadvantages by the percentage of the students eligible for either a free or reduced priced lunch. A school will determine the percentage of its students whose family income falls within 185% of the poverty line.

There is not much extendibility of the universal service program. Many aspects of the program has been investigated, but without the funding to begin telecommunication services, internal connections and Internet access to all disadvantaged children the social and economic factors among these groups will not change. This program is not a difficult one to administer among America's less fortunate young adults. The FCC has already instructed the Universal Service Administration Company to deal with this issue. There are individuals with experience and expertise to understand the mission of the school and libraries. If the program is implemented with education of future leaders in mind it may prove successful.

## **Recommendations and Conclusion**

The E-rate in its current state is an effective incentive to gain Internet access in rural areas and inner cities if it receives the support and funds needed. Many government individuals have repeatedly opposed the effectiveness of this program. The Commission, however, has revised the funding for the first year support mechanisms for schools and libraries. They have also made other administrative changes to satisfy Congress. The FCC has cut funds tremendously and feels they will be able to distribute the money necessary to implement the E-rate for the first year. But with continuing pressure from the government and long-distance companies what will happen in the next five years. In order to solve these problems three recommendations are made:

### **Option 1: Continue to support the E-rate**

Most importantly, the E-rate must be made a permanent part of our educational society to further our children knowledge of the 21<sup>st</sup> century. Internet access to all America's children must be achieved. The limiting factor is long-distance companies' vow to tax customers. The primary hindrance in the adoption of the E-rate is funding. The establishment of the E-rate with sufficient funding allows both long-term educational commitment and reduces distinct disadvantages in continuing education. Logically, the more the government gives to support the E-rate, the greater the knowledge of our future leaders, and the more they will give to society.

### **Option 2: Establish a grant funding for the most disadvantaged elementary and secondary school children**

The government now provides an estimated \$10 billion a year in aid toward elementary and secondary schools. This program should be eliminated and the money given in the form of \$5,000 grants to parents of 7 million school aged-children. Those grants should be allocated to parents with the lowest incomes first, specifically in inner cities and rural areas. Knowing that the parents in these areas may try to use the money on other materials rather than education, they will only be able to redeem the voucher at any public or private school of their choice.

### **Option 3: Enact a grant program in the worst school districts in America**

It would be beneficial for the government to consider the worst school districts in America and give \$5,000 education grants directly to the schools to help buy updated computers, provide Internet access and basic essentials to enhance the mind of the less fortunate for the 21<sup>st</sup> century. These schools should then present a receipt upon purchase of equipment to the funding organization. This will ensure that those schools are only spending grants on advanced technology for education. Also with this grant, schools could organize a community event that brings old computers and software to children in the rural and urban area homes. This will give some advancement on basic computer skills and technology.

A genuine education is a goal that America has been trying to achieve for many years. To continue support in education, the government should distribute any amount of money. They have the last commentary in implementing programs and preparing our society for the next millennium. In considering these options, the children of tomorrow and society can benefit as a whole.

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