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**JUL 9 1999**

**STATE OF ILLINOIS  
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**FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY**

SBC Communications, Inc., SBC )  
Delaware Inc., Ameritech )  
Corporation, Illinois Bell )  
Telephone Company d/b/a Ameritech )  
Illinois, And Ameritech Illinois )  
Metro, Inc. )  
)  
Joint Application For Approval Of )  
The Reorganization Of Illinois Bell )  
Telephone Company d/b/a Ameritech )  
Illinois, And The Reorganization Of )  
Ameritech Illinois Metro, Inc. In )  
Accordance With Section 7-204 Of )  
The Public Utilities Act And For All )  
Other Appropriate Relief. )

ICC Docket No. 98-0555

**EXHIBITS**

In Support of

**DIRECT TESTIMONY ON REOPENING**

of

**DON S. SAMUELSON**

On behalf of

**DSSA**

And the Neighborhood Learning Networks

July 6, 1999

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## SCHEDULE AND SYNOPSIS OF EXHIBITS

- A. David Garth Taylor Testimony on the disparity in access and use of the Internet which has created a Digital Divide in Chicago, the Chicago Metropolitan Region and the State of Illinois.
- B. The Metropolitan Planning Council Report, "Putting Our Minds Together, The Digital Network Infrastructure and Metropolitan Chicago," calling for an aggressive effort to close the digital divide, as a matter of regional economy policy.
- C. California Partnership Agreement Information Package outlining the history, purpose and structure of the California program to serve "disadvantaged" and "underserved" communities in California which resulted in the creation of a \$50 million community technology fund as part of the 1998 Pac Tel/SBC merger in California.
- D. California Community Partnership Agreement Organizational Charter outlining the makeup of the Board, governance and a summary of programs and procedures.
- E. Annual Ohio Report on Implementation of the Community Computer Center Commitment made by Ameritech as a settlement to an earlier rate case in Ohio. Describes functions and accomplishments of program.
- F. U.S. Department of Commerce, Telecommunications and Information Infrastructure Assistance Program (TIIAP) outlining its March, 1999 program to support public technology initiatives, its purposes and procedures.
- G. The June, 1999 request for proposals from the U.S. Department of Education, Community Technology Center Program to support the development and operation of community technology centers in disadvantaged areas.
- H. Summary of the Chicago Neighborhood Learning Network Project to involve the community in education and lifelong learning won by the Chicago Public Schools in 1997 as part of the national Department of Education Technology Challenge Grant Program.

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DIRECT TESTIMONY ON REOPENING

Of

**DAVID GARTH TAYLOR**

On behalf of

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DIRECT TESTIMONY ON REOPENING

DIRECT TESTIMONY

DAVID GARTH TAYLOR

**Q. What is your name and business address?**

A. My name is David Garth Taylor. My business address is Metro Chicago Information Center, 360 N. Michigan Ave., suite 703, Chicago Illinois 60601.

**Q. What is your current position?**

A. My current position is Executive Director of the Metro Chicago Information Center (MCIC) located at 360 N. Michigan Ave., suite 703.

**Q. What is the highest degree you hold?**

A. I have earned a Ph.D. degree in Sociology from the University of Chicago.

**Q. What are your areas of expertise?**

A. My areas of professional expertise include sociological research, surveys, demography, cartographic research, and statistical analysis. As a graduate student, I received a three year fellowship in advanced methodological training at the National Opinion Research Center, at the University of Chicago. I worked for approximately eight years at the National Opinion Research Center as an in-house expert on public opinion polling, survey design, data collection, and telephone surveys. I designed, participated in the design, or reviewed the design of approximately 100 surveys while at National Opinion Research Center. I taught courses for eight years in survey design and data analysis at University of Wisconsin and University of Chicago and was the chair of the Methods Research Committee for six years at University of Chicago Department of Political Science.

**Q. What experience do you have in sociology and research methods?**

A. In my position at the Chicago Urban League I supervised all aspects of research design, survey design, data collection, data analysis, and report writing for a staff of six professionals and three administrative/assistant personnel. I supervised several surveys and statistical analysis projects in this position. In my position at MCIC, I am responsible for the design and execution of all research and educational materials for the organization.

**Q. What materials have you published?**

A. I have several published articles and book chapters in the area of sociological research, survey design, telephone surveys, and statistical analysis, and I have

been frequently asked to review books in these areas for professional journals. I have published three books based on analysis of sociological and political data; the most recent book won a national award from the American Political Science Association.

**Q. Please indicate the types of cases in which you were retained as an expert or testified as an expert.**

A. I have been qualified as an expert and provided testimony in a number of trials, including: Federal Court in Omaha, Nebraska -- interpreting demographic and survey evidence in a school desegregation case; Federal Court in Cleveland, Ohio -- interpreting survey evidence in a product liability case; Federal Court in Chicago, Judge Bua -- interpreting demographic and observational data and providing opinions on causes of neighborhood change in Gautreaux public housing case; Federal Court in Chicago, Judge Leighton -- interpreting demographic and survey evidence and providing opinions on neighborhood differences in resources for a park district case; Federal Court, Kansas City, Missouri -- interpreting demographic and survey evidence and providing opinions on the causes of neighborhood change in a school desegregation case; Illinois Human Rights Commission, administrative hearing -- analyzing employer data on worker experiences, providing opinions on statistical patterns for an employer discrimination case; Federal Court in Chicago, three-judge panel (Hastert v. State Board of Elections) -- analyzing US Census data on black and Hispanic population distribution and growth trends for a case on Congressional reapportionment; Federal Court, Little Rock, Arkansas -- interpreting survey

evidence in a school desegregation case; Federal Court, Rockford Illinois, providing rebuttal testimony to social science research on the causes and patterns of enrollment change after court-mandated desegregation. I was retained by the U.S. Department of Justice to conduct research and testify on the delineation of communities of interest for a recent court case involving a challenge to the drawing of Chicago's 4<sup>th</sup> Congressional District. Federal Court in Chicago; I provided demographic research and a written report delineating common interest neighborhood areas for a City of Chicago Ward Remap case (Barnett, Bonilla).

**Q. Please describe the Metro Chicago Information Center.**

A. The Metro Chicago Information Center (MCIC) is an independent, non-profit research organization founded in 1990 with the support of the John D. and Catherine T. MacArthur Foundation, the McCormick Tribune Foundation, the Chicago Community Trust, and the United Way/Crusade of Mercy of Chicago. MCIC's mission is to provide top-quality professional research and data collection services on issues affecting public policy and the quality of life. MCIC is based in the Chicago region and does research in every part of the United States.

**Q. Please describe the Metro Survey Program.**

A. Each year since 1990 MCIC has conducted a survey of approximately 3,000 respondents who are heads of households in the six county Chicago metro area as the centerpiece of its annual Metro Survey Program. The data are collected from a combined random telephone and face-to-face (for non-telephone households) sample. The highest professional quality control standards are exercised over the

design of the survey, training and supervision of interviewers, and management of the sampling operations. The data from Chicago and the 6-county suburban area (Suburban Cook, McHenry, Lake, Kane, DuPage, Will) reported here are from the Metro Surveys conducted in Autumn 1994, 1995, 1996, and 1997.

In 1994 the Chicago Community Trust provided a grant to MCIC to extend the Metro Survey to a sample of approximately 1,500 respondents from outside the six county Chicago metro area. The downstate portion of the survey was conducted with an identical questionnaire. According to 1990 U.S. Census data, downstate households represent a little more than one-third of the state's population, whereas they are almost exactly one-third of the survey responses -- necessitating a small weighting factor to correctly represent all households in the state of Illinois. Tabulations of the Autumn 1994 statewide data are based on a combined six county/downstate data base of approximately 4,500 respondents.

**Q. Have you been retained by any party in this proceeding to provide expert testimony?**

A. I have been retained by DSSA/Neighborhood Learning Networks to develop and explain factual information on the "digital divide" in Chicago, the Chicago region, and the State of Illinois.

**Q. What is the "digital divide" in Illinois?**

A. The "digital divide" is the term used by demographers and social scientists to refer to the dramatic, persistent demographic separation in computer ownership, computer access, and online access between information "haves" and information "have nots."

In Illinois those who are fortunate enough to come from households in the upper third of the income scale, or who have completed college are 10 times more likely than others to use the Internet. Differences by income level in job tasks, and the information technology resources used at work, reinforce differences in people's households and personal lives. Those in the upper third of the income scale or from a college background are more likely to have Internet access at home and at work. The information have-nots get access through schools and libraries where quality of resources is less and potential time on task is more restricted. If we multiply the ten-fold difference in ownership of quality information technology produces by the ten-fold difference in access time and opportunity to explore and learn about the medium by those who have Internet available, the outcome is a disparity on the order of 100:1 between the haves and the have note in effective access to technology.

**Q. Please identify how significant information flow through the telecommunications infrastructure is for Americans today.**

A. Information flow through the telecommunications infrastructure is now central to the way Americans live, work, learn, shop, and achieve success in the labor market and in the economy.

**Q. How important is fairness of access to the telecommunications infrastructure to the future of government and society?**

A. Fairness of access to the telecommunications infrastructure and to online learning is now, and will continue to be, a central issue for the government and society as our nation grapples with the implications of electronic information technology for

schools, libraries, learning and economic behavior. A level playing field was once defined in terms of access to books and teachers, it is now defined in terms of access to the electronic information infrastructure as well.

**Q. How bad is the digital divide based on incomes?**

According to the latest report of the National Telecommunications and Information Administration titled "Falling Through the Net II: New Data on the Digital Divide," in 1997 fewer than 15 percent of U.S. households in the lowest income ranges own a computer, compared to more than 75 percent computer ownership for families with more than \$75,000 per year income. The results are shown in Table 1.

**Table 1  
Computer Ownership by Income, U.S. 1997**

<b>Family Income</b>	<b>Percent</b>
< \$5K	16.5%
\$5K-\$10K	9.9%
\$10K-\$15K	12.9%
\$15K-\$20K	17.4%
\$20K-\$25K	23.0%
\$25K-\$35K	31.7%
\$35K-\$50K	45.6%
\$50K-\$75K	60.6%
\$75K+	75.9%

Source: National Telecommunications and Information Administration  
"Falling Through the Net II: New Data on the Digital Divide"

According to the same national survey, conducted by the U.S. Department of Commerce, 1997 fewer than 10 percent of U.S. households in the lowest income have Internet access, compared to 49 percent for families with more than \$75,000 per year income. The results are shown in Table 2.

**Table 2**  
**Computer Ownership by Education, U.S. 1997**

<b>Education</b>	<b>Percent</b>
Elementary	6.8%
Some H.S.	10.9%
HS Grad or GED	25.7%
Some College	43.4%
B.A. or more	63.2%

Source: National Telecommunications and Information Administration  
"Falling Through the Net II: New Data on the Digital Divide"

**Q. How bad is the digital divide based on levels of education completed by the head of household?**

A. Fewer than 10 percent of U.S. households where the head of household has less than a high school education own a computer, compared to 63 percent computer households where the head of household has a college degree or more. The results are shown in Table 3.

**Table 3**  
**Households with Online Service by Income, U.S. 1997**

<b>Family Income</b>	<b>Percent</b>
< \$5K	7.2%
\$5K-\$10K	3.9%
\$10K-\$15K	4.9%
\$15K-\$20K	7.0%
\$20K-\$25K	9.0%
\$25K-\$35K	13.9%
\$35K-\$50K	20.8%
\$50K-\$75K	32.4%
\$75K+	49.2%

Source: National Telecommunications and Information Administration  
"Falling Through the Net II: New Data on the Digital Divide"

Fewer than 5 percent of U.S. households where the head of household has less than a high school education have Internet access, compared to 38 where the head of household has a college degree or more. The results are shown in Table 4.

**Table 4**  
**Households with Online Service by Education, U.S. 1997**

<b>Education</b>	<b>Percent</b>
Elementary	1.8%
Some H.S.	3.1%
HS Grad or GED	9.6%
Some College	21.9%
B.A. or more	38.4%

Source: National Telecommunications and Information Administration  
“Falling Through the Net II: New Data on the Digital Divide”

**Q. How bad is the digital divide based on income of households in Illinois and the Chicago metropolitan area?**

A. In spite of the rapid diffusion of personal computer ownership, at present there is a dramatic, persistent demographic separation in computer ownership between the information “haves” and the information “have nots” in the State of Illinois and in the Chicago metropolitan area. Table 5 shows a very substantial difference in personal computer ownership between low income households in the State of Illinois (16 percent ownership) and high income households (57 percent ownership).

**Table 5**  
**Household Has a Personal Computer -- Illinois Adults 1994**

Family Income	Percent
Lowest Third (Up thru \$29,000)	16%
Middle Third	36%
Top Third (\$50,000 +)	57%

Source: MCIC Statewide Technology Survey, Autumn 1994

Table 6 shows that among households in the top third of the income distribution (\$60,000 per year or more in 1997) 78 percent own personal computers. By comparison, among households in the bottom third of the income distribution (\$34,000 per year or less in 1997) only 24 percent own personal computers.

**Table 6**  
**Household Has a Personal Computer -- Six County Chicago Metro Area 1997**

Family Income	Percent
Lowest Third (\$60,000+)	24%
Middle Third	52%
Top Third (up thru \$34,000)	78%

Source: MCIC Six-County Metro Survey

Table 7 shows a very substantial divide by income in the use of online services in the Chicago metro area. Among households in the top third of the income distribution (\$60,000 per year or more in 1997) about 75 percent have used online services. By comparison, among households in the bottom third of the income distribution (\$34,000 per year or less in 1997) about 40 have used online services.

**Table 7**  
**Have Used a Computer for Internet/Online Services-- Six County Chicago Metro Area 1997**

<b>Family Income</b>	Internet	Online Service
Lowest Third (\$60,000+)	41%	41%
Middle Third	56%	51%
Top Third (up thru \$34,000)	75%	73%

Source: MCIC Six-County Metro Survey

**Q. How does the use of computers and ownership of computers relate to the level of education attained?**

A. The digital divide is created and reinforced by the primary institutions of our society. Table 8 shows that statewide the digital divide runs parallel to the educational divide in our society – i.e., using and owning a personal computer are very strongly related to one’s level of education. Among those with less than high school education, fewer than 10 percent own computers and only a handful more have ever used them. Among college graduates more than three-fourths have used computers and more than half own them. The digital divide compounds and multiplies the advantage the well-educated already have in access to knowledge and valuable information.

The data show that the further one advances in the educational system, to more likely one is to have been significantly exposed to a personal computer; to understand the value of computers; to use a personal computer in one’s personal affairs; to use a personal computer at work; to be able to afford to buy one.

**Table 8**  
**Education and the Digital Divide -- Illinois Adults 1994**

<b>Education</b>	<b>Ever Used a Computer</b>	<b>Own a Personal Computer</b>
0-4 years	5%	5%
5-8 years	3%	5%
9-11 years	19%	11%
12 years, GED	34%	19%
Trade or Vocational School	50%	28%
College Classes	66%	38%
College Graduate	75%	49%
Post-graduate Classes	87%	58%
Post-graduate Degree	86%	60%

Source: MCIC Statewide Technology Survey, Autumn 1994

**Q. What in your opinion are the worst consequences of failing to eliminate or drastically reduce the digital divide in the near future?**

A. Unless corrective actions are taken, the dramatic, persistent demographic separation in computer ownership, computer access, and online access between the information “haves” and the information “have nots” will create a society in the next generation that is less open to opportunities for information access and self-advancement than in many previous generations. Unequal access to effective information technology compounds and multiplies the disadvantage the less well-educated and financially disadvantaged already suffer in access to knowledge and valuable information.

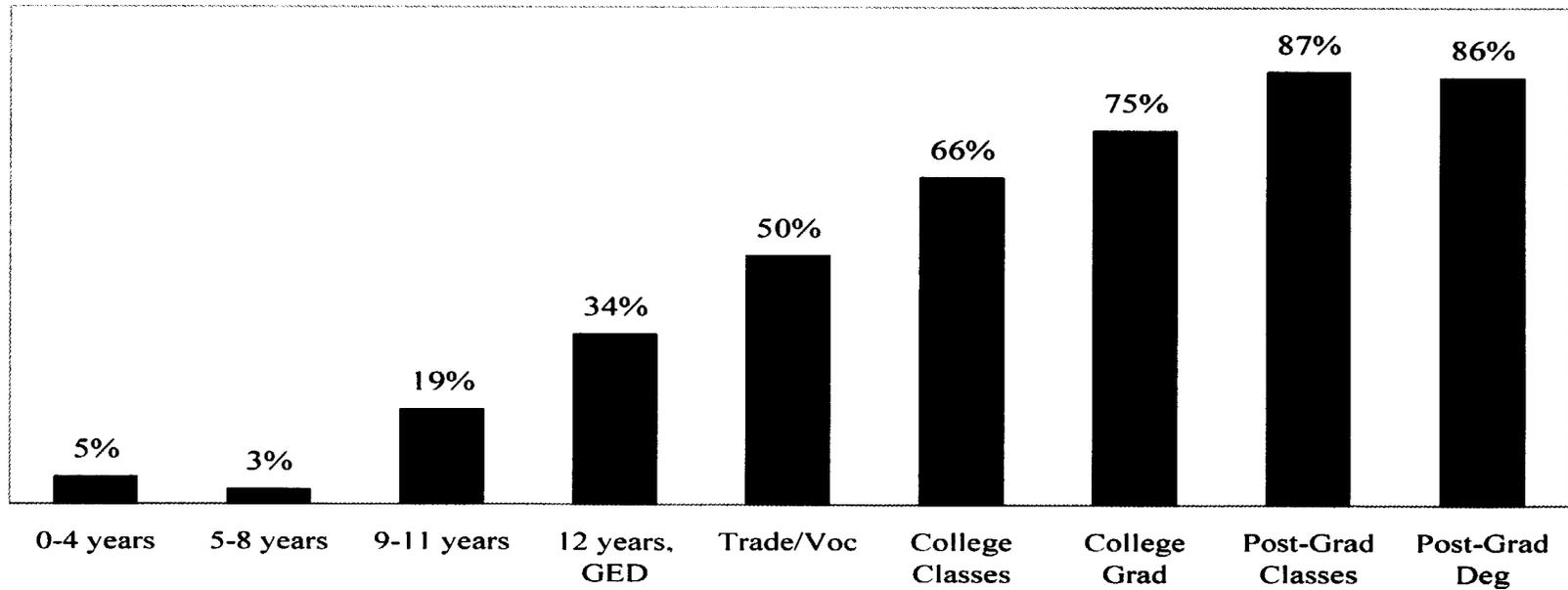
# Bridging The Digital Divide: Connecting The Disconnected

By  
Metro Chicago Information Center  
360 N. Michigan  
Chicago, IL 60614

And

Don S. Samuelson Associates  
310 N. Milwaukee Ave.  
Lake Villa, IL 60046

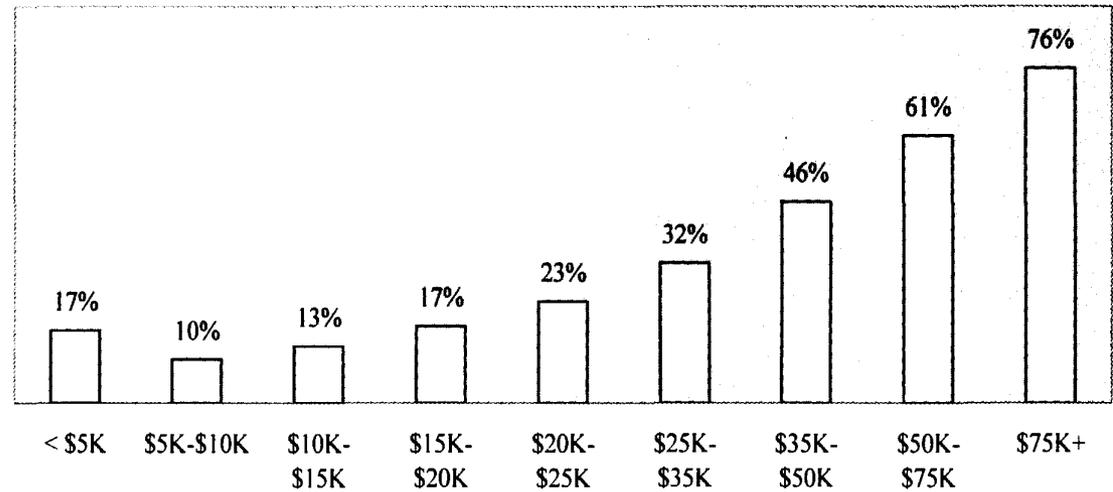
## Education and Computer Use, Illinois, 1994



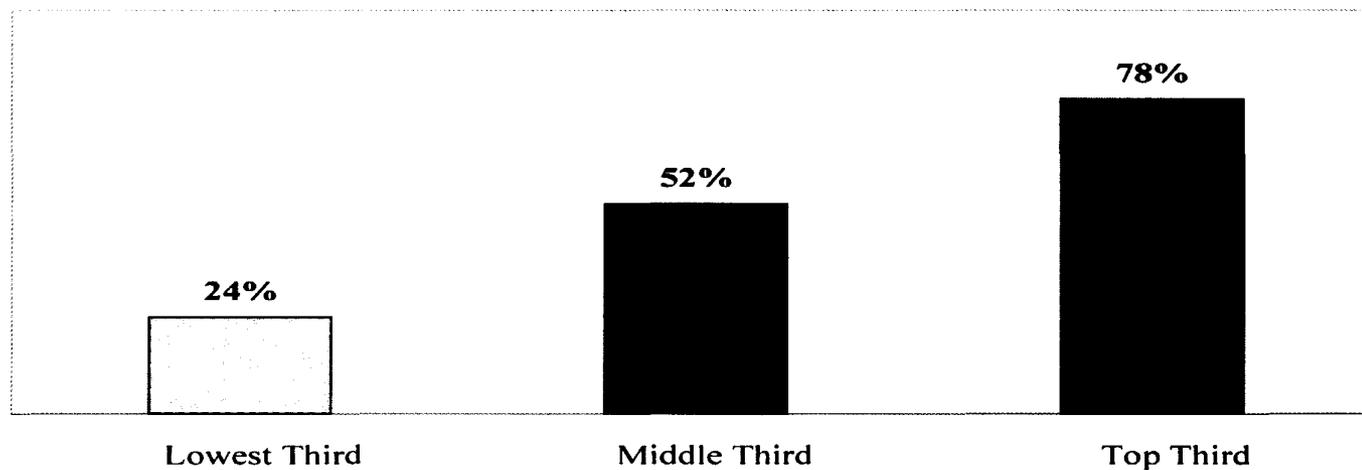
## The Equity Issue: Effective Access to Technology

At present, in spite of the rapid diffusion of personal computer ownership there is a dramatic, persistent demographic separation in computer ownership between the information "haves" and the information "have nots" in the U.S., in Illinois, and in the Chicago metropolitan area.

### Computer Ownership by Income, U.S. 1997

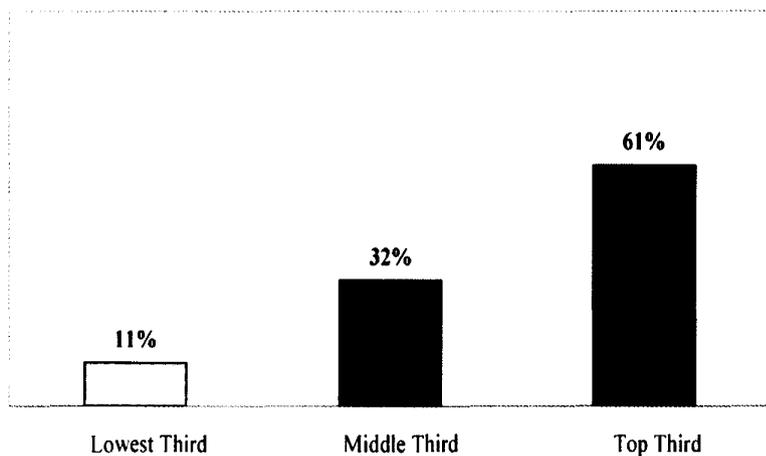


### PC Ownership by Income, Chicago Metro Region, 1997

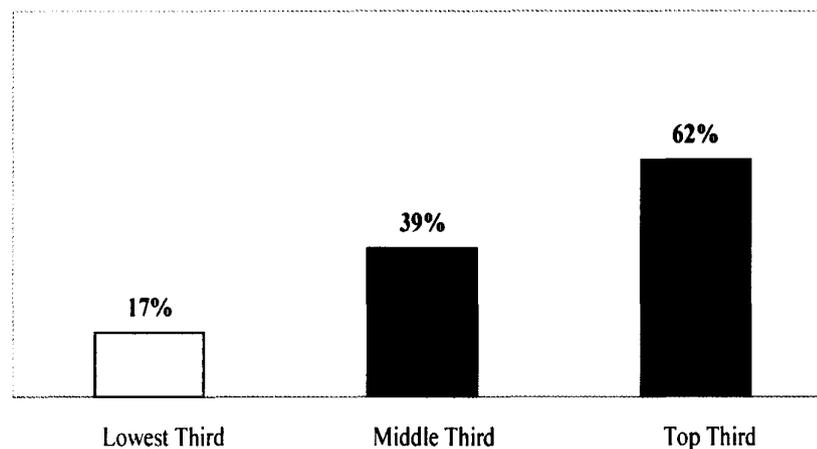


At present the have/havenot disparity in effective access – i.e., access to quality and potential time for learning and usage -- is on the order of 100:1. Those who are fortunate enough to come from households in the upper third of the of income scale, or who have completed college are 10 times more likely than others to use the Internet.

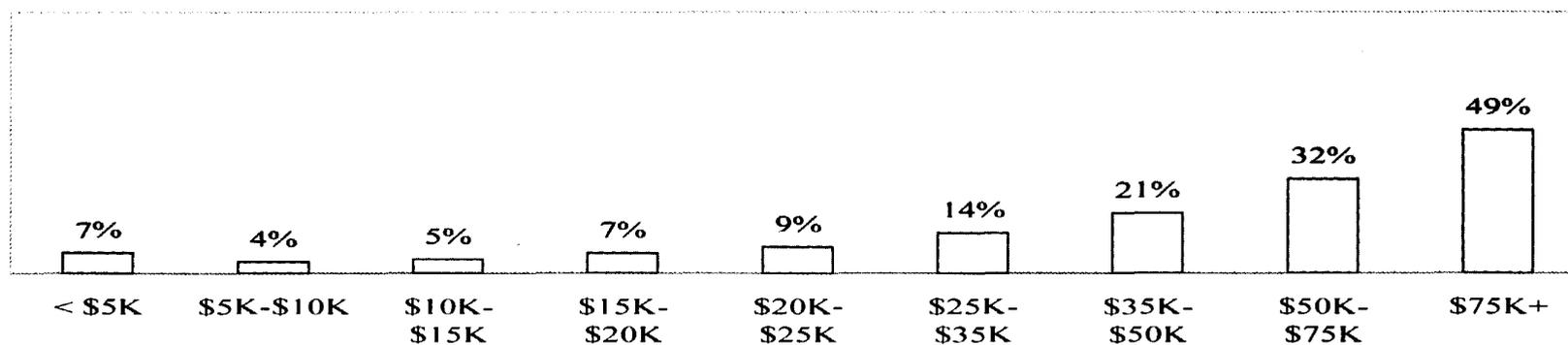
**Modem Ownership by Income, Chicago Metro Region, 1997**



**Internet Use by Income, Chicago Metro Area, 1997**



**Households with Online Service by Income, U.S. 1997**

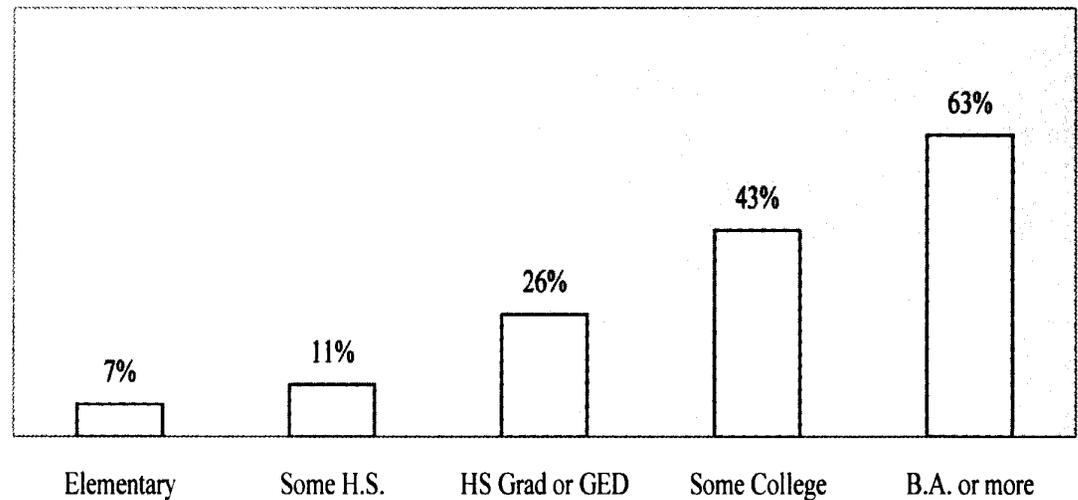


Unequal access to effective information technology compounds and multiplies the advantage the well-educated already have in access to knowledge and valuable information.

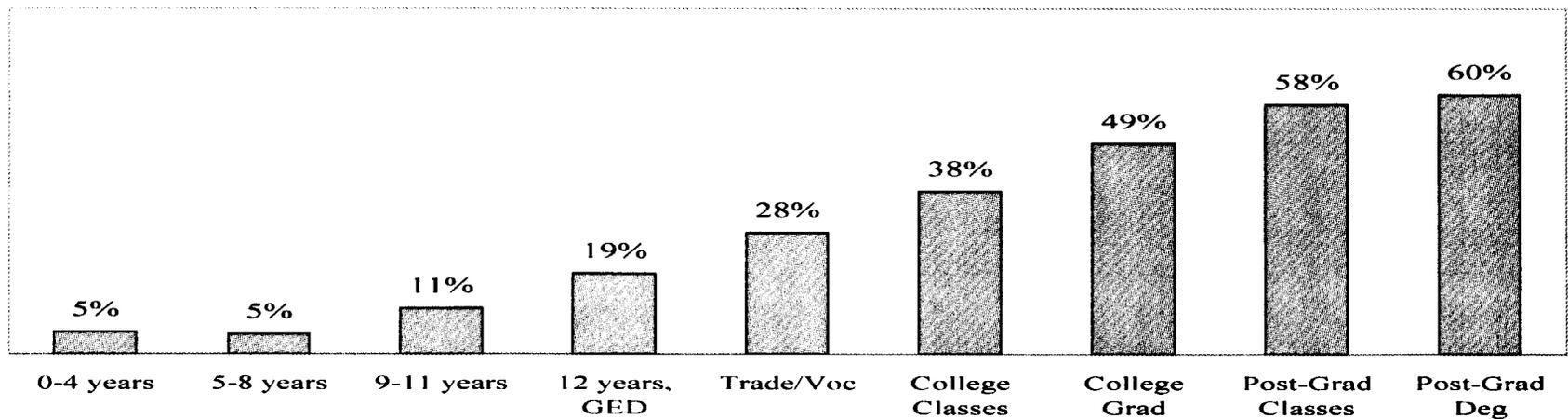
The further one advances in the educational system,  
The more likely one is:

- to have been significantly exposed to a personal computer,
- to understand the value of computers,
- to use a personal computer in one's personal affairs,
- to use a personal computer at work,
- to be able to afford to buy one.

### Computer Ownership by Education, U.S. 1997



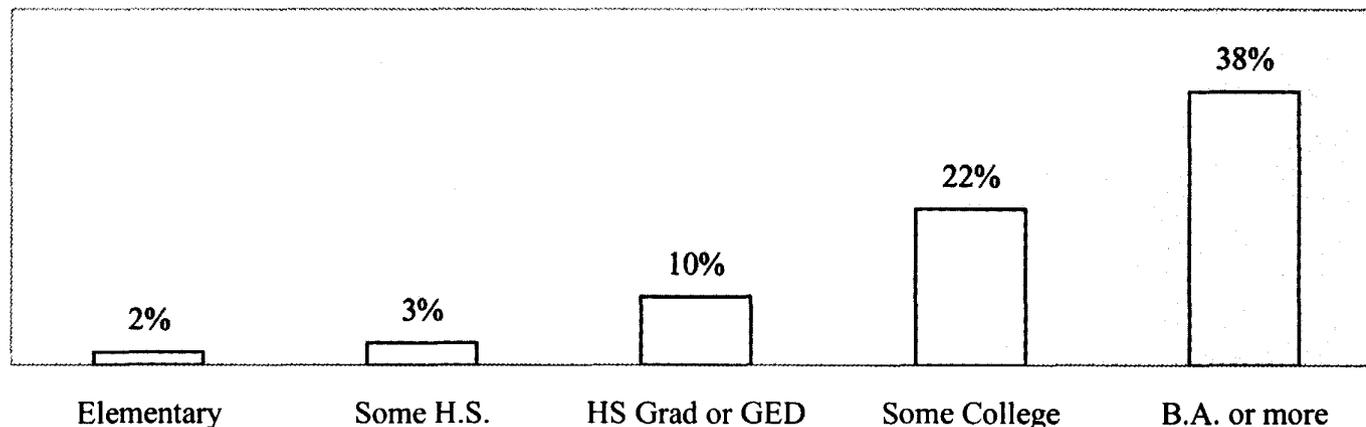
### Education and Computer Ownership, Illinois, 1994



Differences by income level in job tasks, and the information technology resources used at work, reinforce differences in people's households and personal lives. Those in the upper third of the income scale or from a college background are more likely to have Internet access at home and at work.<sup>1</sup> The information have-nots get access through schools and libraries where quality of resources is less and potential time on task is more restricted.

If we multiply the ten-fold difference in ownership of quality information technology produces by the ten-fold difference in access time and opportunity to explore and learn about the medium by those who have Internet available, the outcome is a disparity on the order of 100:1 between the haves and the have note in effective access to technology.

### Households with Online Service by Education, U.S. 1997



<sup>1</sup> Among employees in the lowest income category, 42 percent use computers at work. Among employees in the top income category, 72 percent use computers at work.

## **Technology and Regional Planning: The Challenge**

In any labor market and business community, connectivity is a major economic asset.

Technology access and training is a regional planning issue.

Chicago has to mitigate the digital divide in order to be a first rate player in the global business environment.

Alleviating the digital divide is in the natural interest of business, workers, and neighborhoods.

- If firms can't get skilled employees, the region won't prosper. Business needs skilled workers to achieve its goals and to maximize shareholder values.
- If employees don't have technology skills, they won't prosper. Business needs skilled workers to help neighborhood residents achieve their goals and to continue to develop their neighborhoods.

**B**