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Inroads to Technology: Evening the Playing Field for the 21st Century - PRAG Publication

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Loyola University Chicago

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INROADS TO TECHNOLOGY
Evening the Playing Field for the 21st Century

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INROADS TO TECHNOLOGY

Evening the Playing Field for the 21st Century

Framing the Issue – The Digital Divide

Community access to technology has become a critical issue in the discussion of sustainable community development and the economic viability of communities in the 21st century. There is a great deal of literature emerging that refers to the so-called “Digital Divide” that threatens to engulf low-income communities in a sea of technological ignorance. President Clinton, Vice President Gore and a growing coalition of activists, educators, and elected officials are asking us to focus on the issue of community access. How accessible are technology resources at the community level? How aware are community residents of these resources, and what ranges of resources are available in low-income and underserved communities? The issue of universal access to technology may be the single most important issue of the 21st century, because from a policy perspective, this impacts the economic vitality of our country and our ability to compete effectively in the global marketplace.

Increasingly, community groups and working people are discovering that the much touted information revolution is not providing an equal bridge to the 21st century for everyone. Some of us are expected to stay on our side of the river and just stretch our necks to see over to the other side. The major institutions responsible for building these systems often ignore certain communities by withholding even the basic components to allow access to these resources. As a result, many communities are simply redlined out of technology in many aspects for years to come. From schools, libraries and community organizations to corporate offerings there has been a lack of support to local residents who do not count or cannot afford to pay for the basics in technology. Technological discrimination is the result and the current programs and offerings seem to only supply a quick fix to the problems. There are currently no models or standards in place which provide equal training and access to all. All of this makes it impossible for some to even have access to important resources at their schools, libraries, businesses, or homes.

The Benton Foundation’s latest study, “What’s Going On - Losing Ground Bit By Bit: Low-Income Communities In the Information Age,” warned that the lack of access to technology in low-income communities is pervasive and growing. Their findings revealed how community technology access initiatives are moving (or not moving) forward in Chicago—one of the nation’s largest cities with the second-largest school and library systems in the nation.

The simple fact is that poor communities are entering the Information Age far behind their wealthier neighbors. The same neighbors that lack infrastructure are comprised of households that are far less likely to have the tools of the Information Age. (Guslee, 2)

More recently, according to a Computer Intelligence Consumer Technology Survey (1998), 80 percent of families making more than \$100,000 have computers. By contrast, of those families making less than \$30,000 a year, only 25 percent have computers. A study led by Birdsell (1998) found significant disparities in the area of education: 53 per-cent of people with an undergraduate degree or higher use the Web, while only 19 percent of people with a high school education or less are Web users.

While demographic trends are changing quickly, there is some evidence that race and income may interact in troubling ways. A Vanderbilt University (1998) study based on Nielsen data from late 1996 and early 1997 indicated that racial inequities in computer ownership and Internet access jump significantly when household incomes drop below \$40,000. In such cases, African Americans were less than half as likely as whites to own a home computer and about 60 percent as likely to have Internet access.

Similar trends appear in telephone service, a much older technology that many poor Americans still don't have. While all but 6 percent of U.S. households have telephones, 43.5 percent of families who depend entirely on public assistance and 50 percent of female-headed households living at or below the poverty line lack even this basic technology. And African-Americans and Latinos lag about 10 percentage points behind their white counterparts in access to telephones even when income is held constant (Guslee, 3).

The Impact on Work

The current trend in inequitable distribution of information technologies clearly is becoming an important contributor to inequality in America. The Office of Technology Assessment (OTA) described the effect as "the concentration of poverty and the deconcentration of opportunity" (OTA, 1995, p. 223). Email, video conferencing, fax machines, and computer networks are making it easier for jobs to migrate from city centers to suburbs and beyond. These technologies are enabling industries that once had to be close to customers and related businesses to operate at greater distances. Similarly, they are allowing distributors and financial institutions like banks and insurance companies to consolidate operations and locate "back room" facilities far from their customers, eliminating many downtown jobs.

At the same time, new technologies have led to sweeping changes in manufacturing processes, making old factories in urban centers obsolete. The OTA estimated that the 28 largest counties in the Northeast and Midwest lost one million jobs in the 1980s (U.S. Congress 1995, Pg. 4). The city of Chicago alone has more than 2,000 unused manufacturing sites (U.S. Congress 1995, Pg. 229).

As employers take advantage of technological advances to relocate to suburbs, the labor market in many cities has become fractured. Many highly skilled managerial and professional jobs remain downtown because they require a great deal of face-to-face contact and networking. But increasingly, the only work for unskilled people consists of low paying, service sector jobs. Such jobs offer little hope of advancement, and intermediate jobs that would help less skilled workers climb career ladders are hard to find.

"We are witnessing the wholesale disappearance of work accessible to the urban poor," concludes Milton J. Little, Jr., executive vice president and chief operating officer of the National Urban League. His view was confirmed in 1996 by Harvard sociologist William Julius Wilson in "When Work Disappears: The World of the New Urban Poor"

But the city's loss has not been the rural area's gain. "Without intervention, unemployment, poverty, and out-migration will likely increase, exacerbating the structural problems typical of rural areas," the OTA warned in an earlier report, *Rural America at the Crossroads: Networking for the Future*. "Unlike routine manufacturing industries that migrated to rural areas in search of lower production costs, today's high-technology industries are attracted by a highly skilled workforce and communications networks to other economic markets and information centers. These are precisely what rural areas lack" (U.S. Congress 1991, Pg.135).

"Poor, rural communities are already isolated," observes Amy Borgstrom, executive director of ACENet, an organization dedicated to using networking technologies to open new markets for citizens in Appalachian Ohio. "There is low access in infrastructures."

Borgstrom argues that information technologies could enable isolated communities rural and inner city to compete economically with other regions. "But without infrastructure, training, and access, information technology and these opportunities will pass these communities by."

Who Suffers?

The technology gap is taking a toll on individuals, communities, and society at large. The cost to individuals is

most obvious. Larry Irving, Assistant Secretary of Commerce for Communications and Information, noted that the year 2000, 60 percent of jobs will require skills with technology. Moreover, the Office of Management and Budget reported that 75 percent of all transactions between individuals and the government—including such services as delivery of food stamps, Social Security benefits, and Medicaid information— would increasingly take place electronically. People without technology skills or access to electronic communications will be at a considerable disadvantage. The President of the Information Technology Association of America reported that 346,000 jobs a year were going unfilled for lack of trained workers and information technology professionals. Furthermore, the gap between wages for skilled and unskilled workers has been widening for some years as employers increasingly compete for well-trained workers who can use new technologies. Between 1979 and 1995, for instance, real wages dropped 23 percent for people with less than a high school education and 12 percent for those with only high school diplomas, while wages rose 4 percent for college graduates and 12% for people with advanced degrees.

Response to the Issue - The PRAG Working Group

In an effort to address such issues, the Policy Research Action Group (PRAG) established the Community Access to Technology Working Group to explore community access and training with regards to technology in the context of an increasingly louder clamor for action on the universal access front. Additionally, we wanted to find out how technology resources are distributed in Chicago with particular emphasis on access at community centers, schools and libraries.

PRAG Working Groups bring together CBO staff members and university faculty to identify research projects, a policy agenda, and an action program.

We began our investigation into the state of technology access within Chicago's inner-city communities in July 1997. The following assumptions guided our research:

- Poor and/or minority communities have less access to technology than do more affluent and/or majority communities.
- Community-based organizations (CBOs) provide superior community access and technology training than public institutions.
- Despite the superior performance records of community-based organizations the majority of public and private technology resources have been restricted to public schools and libraries.
- The technology gap between the haves and have nots is widening due in large part to inequity in public/private resource allocation policies.

Based on these assumptions the Community Access to Technology Working Group launched its investigation. Under the leadership of co-chairs Pierre Clark of New Galilee Technology Center, Bernice Taylor of DePaul University and research associate Derek Pasnick of Loyola University Chicago, a broad spectrum of academics, community activists, technologists, businesspersons, librarians, and teachers was assembled. An intensive exploration of the state of the problem was conducted including a literature review, site visits, personal observations, testimonies, and Internet searches. After all of the secondary research had been conducted the focus for the primary research emerged:

1. Which Chicago communities with predominantly poor and/or underserved populations currently have access to community technology centers and training in computer applications and which do not?
2. Which of the technology centers and training opportunities are provided by: community-based organizations, public schools, or libraries?
3. What is the nature and scope of community access and training provided at the centers and whom do they serve?
4. Where are the gaps in community access to technology and training in computer applications?
5. What are the factors that impact on the provision or lack of access to technology and training?

Methodology

Data were gathered from three major institutional sources: Schools, Libraries, and Community-based Organizations. Derek Pasnick conducted a general survey of schools, libraries and community-based organizations within Chicago that offered some form of access and/or training in technology. Derek specifically looked for institutions with a computer lab or technology center where individuals from the community could come in and have either open access and/or instruction in the use of various aspects of technology.

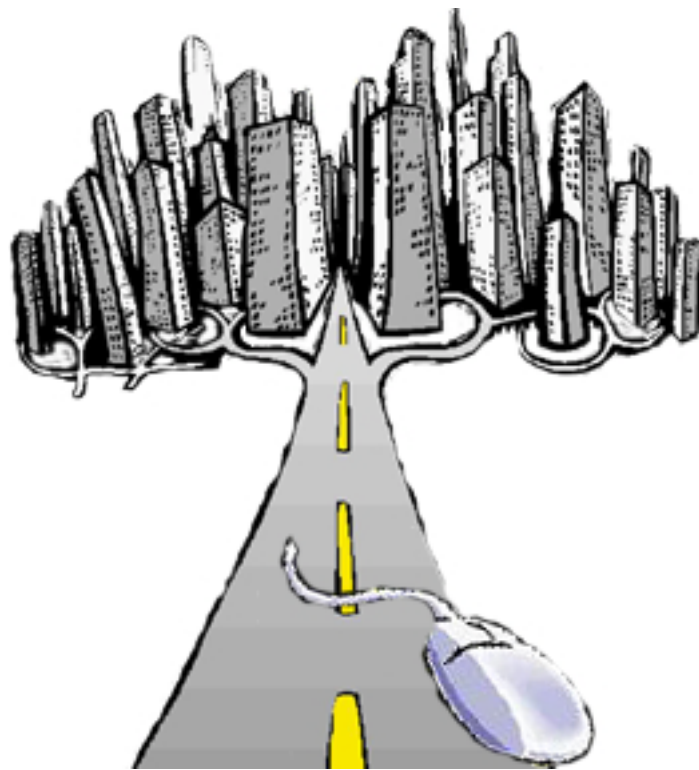
The first step was to solicit information from working group members and ask for referrals. This resulted in an eventual listing of ten Chicago area community centers providing some form of access and/or training with computers and technology, and seven public libraries. Subsequent calls to the Chicago Public Library System confirmed only seven libraries had official technology centers of over 80 public libraries throughout the city. The last step for compiling a listing dealt with getting a listing of Chicago public high schools with some sort of computer lab or technology center.

Unfortunately, numerous calls to the Board of Education provided no help. Even the Board of Education's Office of Technology had no listings or information regarding schools with technology centers. As a result, the working group members came together and compiled a listing of schools with technology centers. Subsequent calls indicated only eight schools with centers that catered to their faculty, staff and students.

After the initial data were collected the working group decided that additional data were needed. As a result, three additional community-based organizations with technology centers were contacted with only two responses. This brought the number of represented community-based organizations to twelve. Likewise, four additional high schools were added to the initial data. Due to the problems associated with gaining information from the schools it was decided to randomly pick a few schools from each region to expand the representation within the sample. Of the eight additional schools that were chosen only four provided information or chose to participate in this study. This expanded our listing of schools with computer labs/technology centers to twelve.

The survey covered topics in the areas of types of access, types of hardware, and funding issues to name a few. The hope was to get a general overview of the populations these labs were serving and in what capacity they were helping the various constituencies. It was also designed to determine how these three institutions differed from each other and who presented better solutions to community access to technology. The data was collected through telephone interviews, mailings, and by fax.

Findings Conclusion and Recommendations



Research Findings

Based on the sample used in this study, the following observations can be made concerning access to technology in Chicago and the quality of that access.

First of all, it is comforting to note that the city's youth appear to have the greatest access to computer technology. This is particularly due to the large number of high schools as compared to libraries or community centers. It is also true that this access applies primarily to in-school youth. With the high school dropout rate still hovering around 50%, many youth must look elsewhere for such access. Fortunately, at least half of the community based technology centers offer services to out-of-school youth.

Adults are not so fortunate. While they are welcome to use computers at their local public library, the number of workstations available to the public at any one location is extremely limited with only 7 libraries having computer centers available within the city. Furthermore, library staff are neither trained to be trainers nor do they have the time to attend to the need of those not already familiar with how to use a computer. Very few schools offer access or training for adults in their community and fewer facilities are open evening when adults would be available to learn. CBO's have clearly made the broadest effort to reach adults to provide access and training. They offer introductory computer courses, classes that are designed to assist low literacy adults to improve their language skills, and classes that are focused on workforce preparation. In general, CBO's have the hours to meet the needs of adult users.

In terms of availability of equipment or hardware, schools lead the way in numbers of workstations, but not in variety of computer related equipment available. A few observations about the number raise concerns. For example, the number of computers per school in the sample ranges widely, from 15 workstations at Garfield High School to 350 at Wells Academy, a recent benefactor of a federal grant. Furthermore, schools identified a range of 2-6 instructors available in their technology centers to work with an average of 500 users weekly. This means each instructor is handling 190-200 students each week or 38 per day. Most student contact with computers takes place in a structured classroom environment, where the focus is on basic keyboarding skills, word processing, and spreadsheets.

Opportunities for exploring the Internet are limited by time and connectivity constraints. Few schools in the sample offered after school access to students, and on average, there are four students for every workstation. That number is probably a lot higher without Wells in the sample.

At libraries, on the other hand, applications are available from most workstations, provided that users know how to take advantage of that access. But this availability is offset by the fact that the average number of workstations available to the public at the library technology center is 10; with 7 being more typical. With average weekly users estimated at 206 per site, this means there are about 21 users for every workstation. Consequently, there is often a waiting list to take one's turn at a computer. Additionally, Internet availability is typically limited to one or two workstations within the center making wait times even longer if this resource is needed. Little to no formal training is offered at libraries in computer technology.

CBO's seem to offer the widest range of training to the broadest range of community residents. (83% of CBO's offer general community access as compared to 33% of schools.) They have the best instructor-to-student ratio as well as the best workstation-to-user ratio, with only two users per workstation on average. On the other hand, they generally limit access to persons who are affiliated with their organization through some programmatic relationship. Completely open access, off-the-street, so to speak, is rare.

CBO's generally offer a wider range of training, including use of the Internet, web page design, and work with graphics and multimedia more than schools or libraries. They also offer more workplace specific training.

Research Findings

For the most part, all three types of sites have fairly sophisticated, up-to-date equipment. IBM PC's dominate about 2 to 1, but Macintosh based systems are available, especially at the schools. Generally, CBO's offer the most technologically diverse array of equipment. 67% have scanners; 33% have digital cameras available; 25% have CD Rom read/write capacity as well as access to video.

Connectivity is an issue most sites in the sample struggle with. A modem hook-up is still the most common (30% in general; 45% at CBO's) and probably the least flexible or reliable. An ISDN connection is available in 26% of cases, generally at libraries. Only 4% mentioned a cable connection and a few referred to a T1 line, which is expensive to maintain. Only libraries were hooked up to a wide area network (WAN) which is primarily made available to staff. Most schools and CBO's employed a local area network (LAN).

In a related area of human connectivity, most often described as collaboration, CBO's excel. 92% reported collaborative activities with schools, libraries, and other CBO's. Only 58% of schools acknowledged collaborative activities; only 29% with CBO's. Given what each category of provider has to offer, a collaborative strategy would seem to suggest a more effective and efficient deployment of resources to serve the most diverse population.

Such consideration is further amplified by the current funding scenario which has schools and libraries almost completely dependent on public funding. CBO's have been more successful in attracting private dollars, mostly out of necessity since they report that most public funding is restricted to schools and libraries. The public might better be served with a blend of funding all around.

Finally, a word about the construction of the sample. It had been the hope of the researchers, that the Office of Technology Development of the Board of Education of Chicago would have been able to provide a list of schools with technology centers. However, that office reported having no such list or knowledge of just what schools had centers or special technology programs. Consequently, schools included in the sample were identified by informants among the PRAG Technology Working Group members and then augmented by an effort to at least represent a reasonable geographic distribution.

The Chicago Public Libraries did have a list of libraries with technology centers which was readily provided. The libraries, however, had the least information concerning their computer user population. It should be noted that, based on the library's list, except for the Bee Branch, the south side is not being served with technology access through their libraries.

CBO's were most knowledgeable about other CBO's with technology centers, perhaps due to their penchant for collaboration. Mapping the sample of community-based technology centers reveals a north and south side cluster of organizations which probably reflects the composition of the working group and their informants more than anything else.

Conclusion

For those community members who are computer literate and require access only, libraries are an excellent and convenient resource. However, very limited training and technical assistance is provided for those community members unfamiliar or uncomfortable with technology. Furthermore, many more libraries should have technology centers.

Public schools have more resources in the form of hardware and software. However, access to those resources is primarily limited to in-school youths during school hours with little or no access for the general community.

Community-based organizations have open, if not walk-in access, for all segments of the community and offer a broad array of training. However, CBO technology centers tend to be fewer in numbers, serve fewer clients, and have limited access to resources both public and private. In spite of these limitations, there is documented evidence that CBO's outperform public schools and libraries in delivering training to community residents that is convenient, relevant, and that leads to placement in jobs in computer-related fields. CBO's are particularly well-positioned to play a leadership role in spreading technology in low-income communities, mainly because they already have strong local ties.

Despite the performance record of community-based organizations, they have been effectively shut out of the funding stream for those dollars that are set aside for universal access. Public schools and libraries continue to receive the bulk of the technology resources from both the public and private sectors while providing limited access and training opportunities for low-income residents of the inner-city. As a consequence, the technology gap between the "haves" and "have nots" is widening due in some measure to inequalities in public and private funding policies.

These findings validate the importance of community-based organizations in bridging the digital divide between marginalized and mainstream communities. Unlike public schools and libraries, the community-based organizations in this study had incorporated universal access to technology as part of their overall strategies for sustainable community development. If universal access to technology for poor, under-served communities is to become a reality in the 21st Century then all social institutions, public, private, and community-based, must be included in the distribution of resources earmarked for that purpose.

Recommendations

Members of the PRAG Technology Working Group hope the findings from this study will support the community's efforts to:

1. Influence a change in public and private funding policies to include CBO's in universal access, Welfare-to-Work, and other funding opportunities.
2. Encourage cooperative relationships between public institutions and CBO's to provide low-income residents with access to the broadest possible range of learning opportunities in the latest technologies.
3. Facilitate the development and delivery of industry specific curriculums that lead to the placement of community residents in jobs that provide living wages and opportunities for advancement.
4. Document the lessons learned from the examples of best practices as displayed by CBO's in this study (Erie Neighborhood House, New Galilee Center, Street Level Youth Media, and others) to demonstrate to funders the efficacy of supporting community-based technology initiatives.
5. Encourage the creation and support of more community technology centers in poor and under-served communities in Chicago (and throughout the nation) to address issues of universal access and to serve as catalysts for the economic viability of low-income communities in the 21st century.
6. Triple the number of libraries with technology centers from the current 7 (8.75%) to 21 (25%).
7. Increase the number of high school technology centers open to the community after school and in the evenings.

Section I

Totals



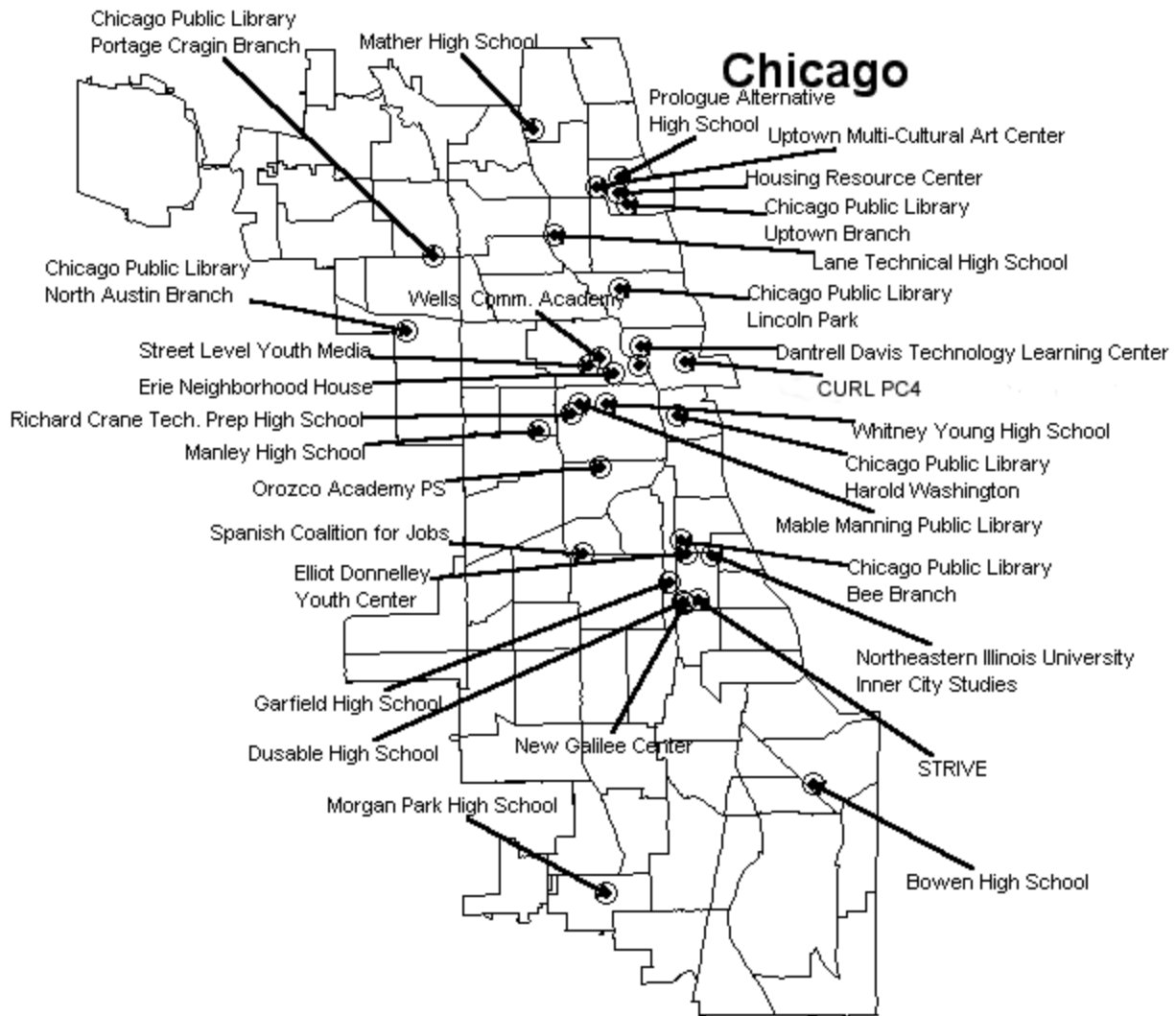
Total Results

This section represents the results for the total number of respondents and follows the format of the original survey.

Locations:

The following table and map illustrates the locations of all our respondents within the city of Chicago. These represent the 12 Community Centers, 7 libraries, and 12 schools. The most interesting and apparent aspects about this map has to do with the fact that a large portion of the south side remains underrepresented by these institutions. This supports one of our initial arguments that access and training has not been equally distributed or implemented throughout the city.

Community Centers	Libraries	Schools
<p style="text-align: center;">CBO Run</p> <p>Dantrell Davis Elliott Donnelly Youth Center Erie Neighborhood House Housing Resource Center New Galilee Outreach Advocacy Spanish Coalition for Jobs Street Level Youth Media STRIVE Uptown Multi-Cultural Art Center</p> <p style="text-align: center;">University Supported</p> <p>Center for Urban Research and Learning - Loyola University</p> <p>Chicago Teachers Center - North Eastern Illinois University</p> <p>Inner City Studies - North Eastern Illinois University</p>	<p>Bee Branch Harold Washington Lincoln Park North Austin Portage Cragin Uptown Mable Manning</p>	<p>Bowen High School DuSable High School Garfield High School Lane Technical High School Manley High School Morgan Park High School Mather High School Orozco Academy PS Prologue Alternative High School Richard Crane Tech Prep High Wells High School Whitney Young High School</p>



I. Access and Training

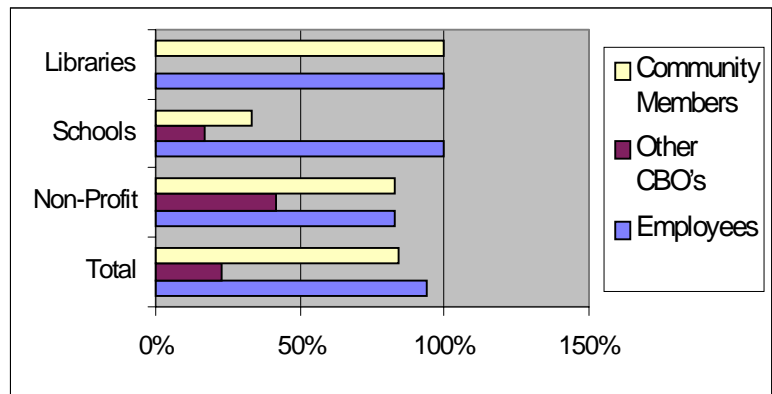
The purpose of this category is to better understand the types of access and training currently offered within these organizations. These include questions identifying the target populations, size of programs, types of access and training, and capacity.

Individuals with access to technology center (Question 1b):

The first section of this question pertains to the groups who have access to the particular center. This is broken up into employees, CBO's and community members and is based on a total number of 31 respondents. The subsection of this question pertains to the types of community members who currently have access and the centers purpose for providing their services. These are broken down into in school youth, out of school youth, workforce prep, low literacy, non-English, and other. This is based on a total number of 27 respondents who answered this question. An interesting note is the fact that 57% of these respondents used their labs for other purposes which included open access to all users and/or employee access. This question produced a variety of responses which will be covered in more detail in later sections.

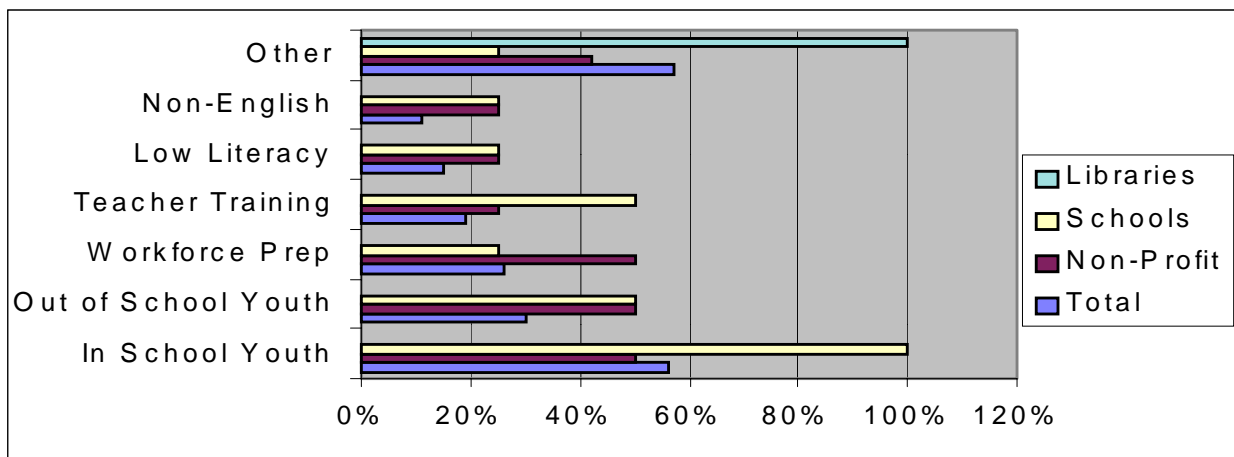
WHO HAS ACCESS		
Employees	Other CBO's	Community Members
94%	23%	84%

N=31



Note: %'s calculated based upon multiple selections for this question

Community Member Access					
In School Youth	Out of School Youth	Workforce Prep	Teacher Training	Low Literacy	Non-English
56%	30%	26%	19%	15%	11%



Note: %'s calculated based upon multiple selections for this question

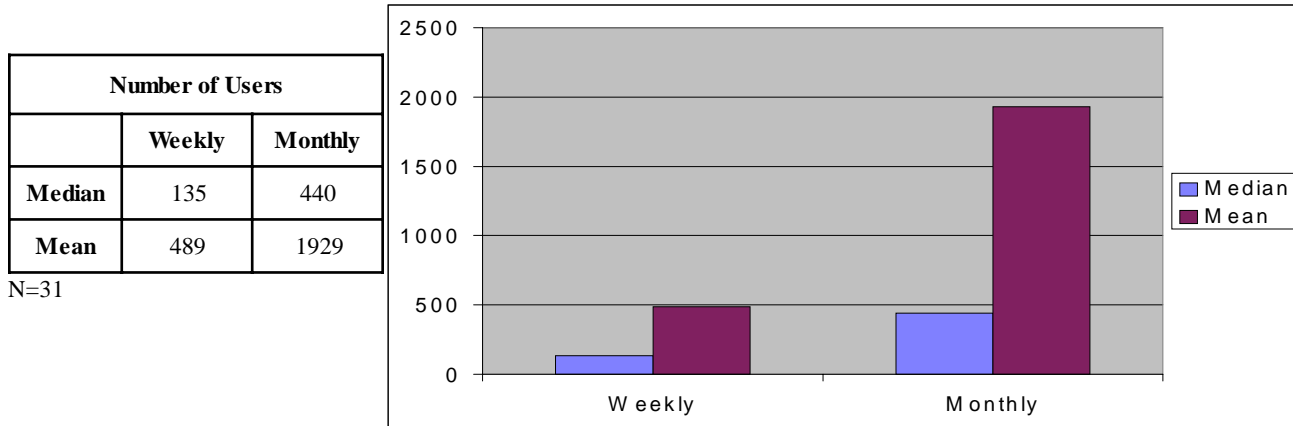
N=27

Totals

Section I - Access and Training

Number of visitors to center (Question 1c):

The number of visitors is based on the total number of respondents for this survey. The results are broken up into median and mean for estimated weekly and monthly use.

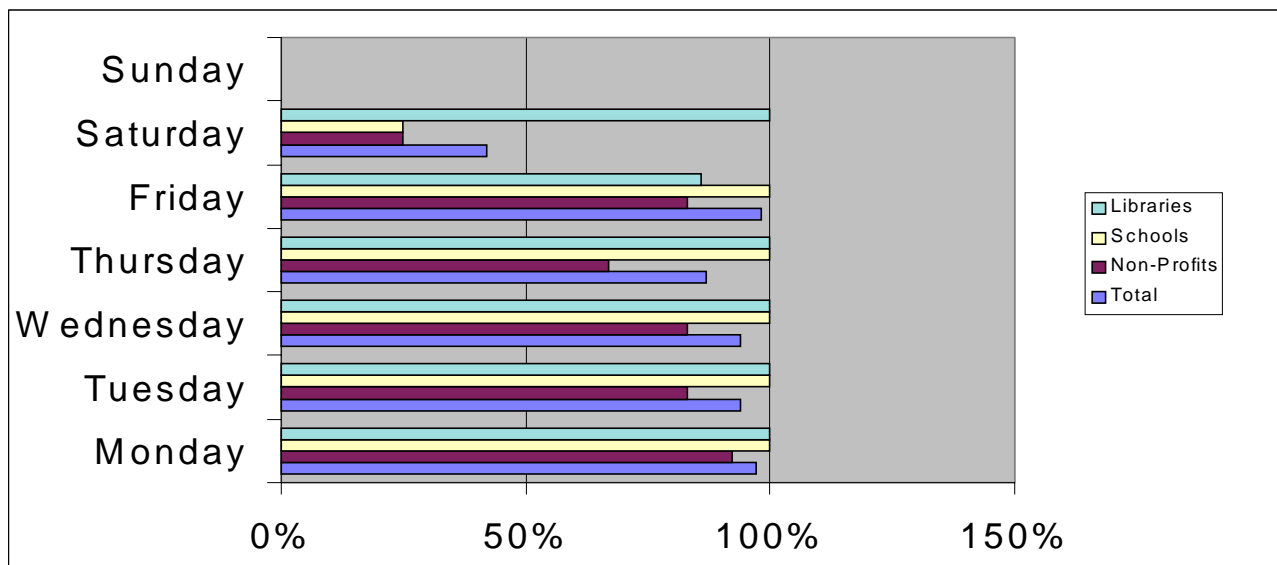


Days Open (Question 1d):

This question represents the percentage of total respondents centers open each day of the week. Of great interest is the fact that none of the respondents centers are open on Sunday and the varied responses for each day of the week.

Days Open						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
97%	94%	94%	87%	98%	42%	0%

Note: %'s calculated based upon multiple selections for this question
N=31



Hours centers were open varied greatly from organization to organization. However, it is interesting to note that the majority of community based organizations were open the longest with many open from as early as 8AM till 9PM. On the other hand the majority of schools and libraries were only open during working hours. The exception were a few schools that often stayed open an hour longer than usual school hours.

Totals

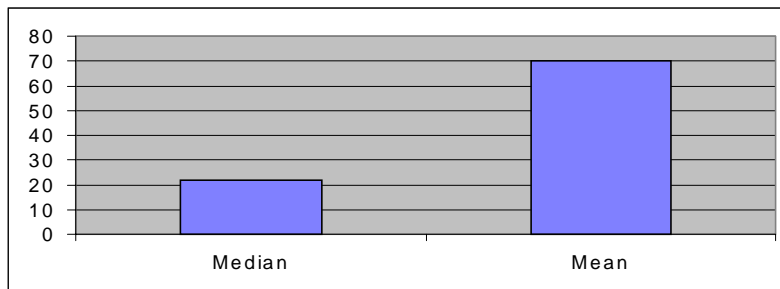
Section I - Access and Training

Number of Computers/Workstations Available (Question 1e):

The number of computers/workstations is based on the total number of respondents for this survey. The results are broken up into median and mean for estimated number of machines. The range of computers per organization varied from a low of 3 to a high of 300.

Number of Workstations/Computers	
Median	22
Mean	70

N=31

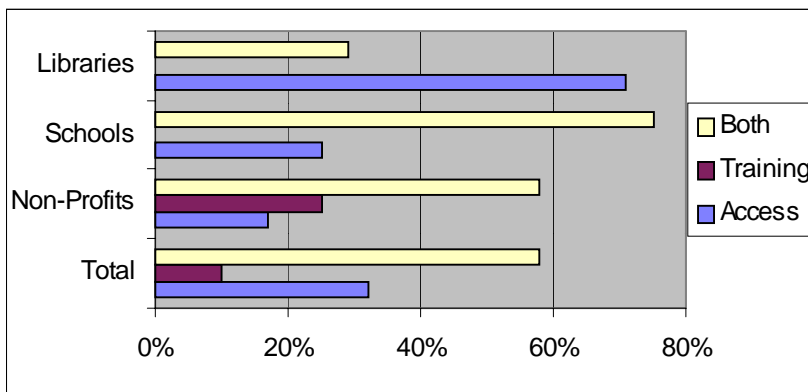


Access or Training (Question 1f):

This question represents the centers that provide either access to technology, training in technology, or a combination of these. Respondents who choose both are not recounted for access and/or training. The vast majority of respondents provide a combination of the two. It had been noted by a number of respondents that open access is typically provided to only those individuals who are part of their program and already being trained. The only exception to this are the libraries who traditionally provide access on a walk in basis and offered virtually no training to visitors.

Access/Training		
Access	Training	Both
32%	10%	58%

N=31



The following four topics and findings are based on the responses to the previous question. It goes into further detail about various aspects of training a particular organization may offer.

Instructors (Question 1f1):

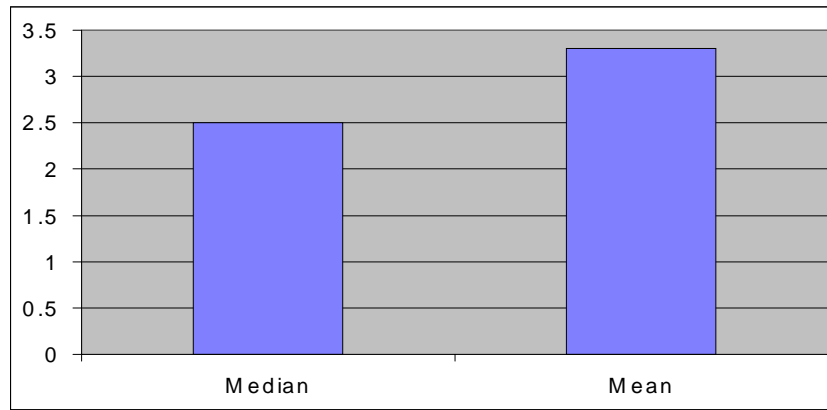
This question proved somewhat difficult for most respondents to answer. The primary reason was due to the fact that this number varied at any given point in time. Although most organizations had at least one instructor this number was likely to increase depending on who was available to help out at the center for the given day. The dynamics of this question varied for the various sections and will be discussed in further detail as the report gets to them. The calculation for this question was based on a total number of 16 respondents.

Totals

Section I - Access and Training

Instructors	
Median	2.5
Mean	3.3

N=16

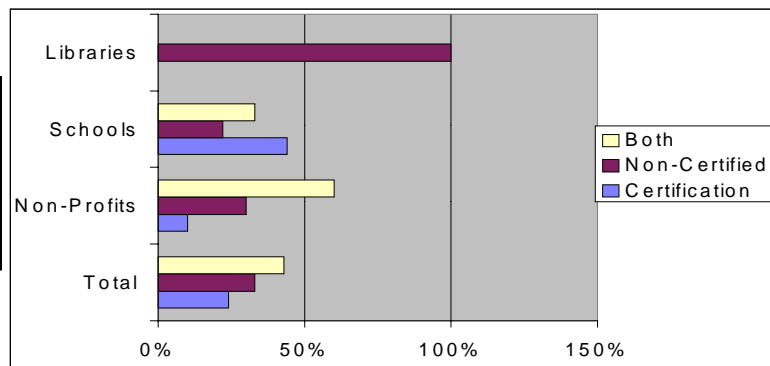


Instructor Certification (Question 1f2):

This question focuses on the certification of the instructors at a particular organization. Certification represents any type of certification in technology or technical training. This could vary from a degree from an accredited college to a certificate from a community college. Overall the results are pretty even with almost equal percentages for instructors with and without training. A large portion, 44%, have a combination of certified and non-certified instructors. This question is based on a total of 24 respondents.

Instructor Certification		
Certification	Non-Certified	Combination of both
24%	33%	43%

N=21

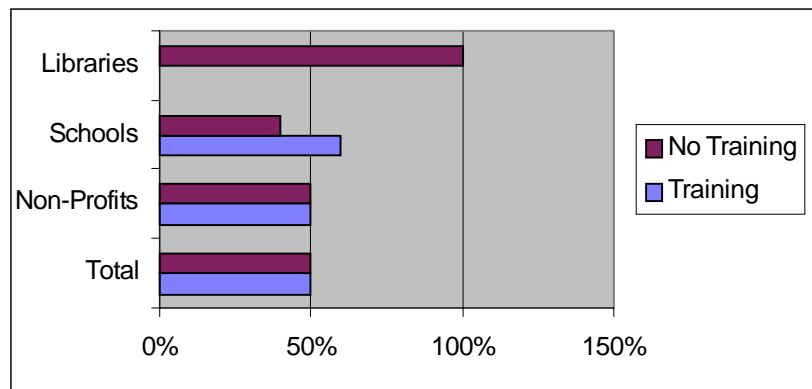


Staff Training (Question 1f3):

This question focuses on staff training. The percentages here are practically equal with almost half providing training for their staff and the other half making no provisions for training. This question is calculated based on a total number of 22 respondents who answered the question.

Provide Training	
Yes	No
50%	50%

N=22



Totals

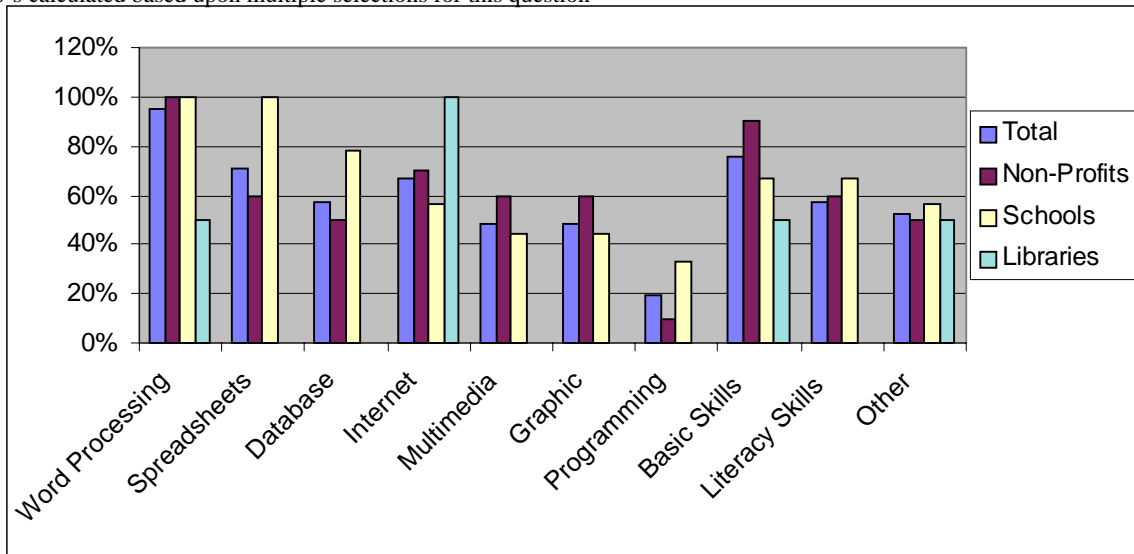
Types of Training (Question 1f6):

This question refers to the types of technology/computer training that a particular organization may provide. Overall the results are pretty much even with word processing offered the most and programming rarely offered. There is also a relatively high percentage for those organizations who selected other. This varies greatly depending on the section referred to. Schools and libraries typically had a greater focus on specialty software, such as ACT/SAT preparation and educational tools. CBO's tended to focus more on those applications presented in the selection with the exception of tools such as resume preparation. The percentages are based on a total number of 21 respondents who answered this question. Likewise, those institutions who answered this question and, do not provide official training, do provide assistance.

Types of Training									
Word Processing	Basic Skills	Spreadsheets	Internet	Database	Literacy Skills	Multimedia	Graphic	Programming	Other
95%	76%	71%	67%	57%	57%	48%	48%	19%	52%

Note: %'s calculated based upon multiple selections for this question

N=21



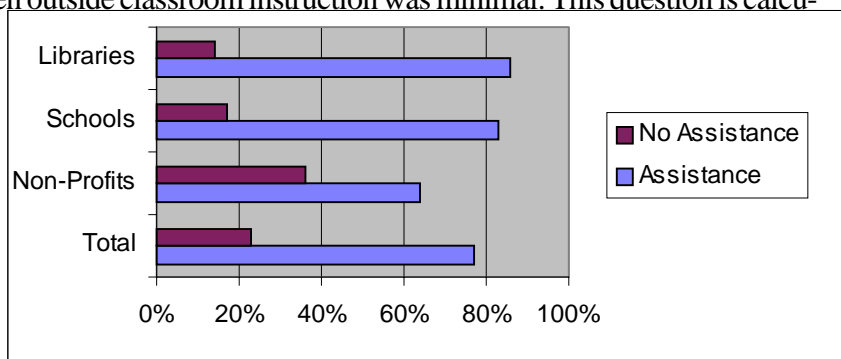
The above chart indicates that the majority of training focuses on the most basic of training in popular applications such as word processing and spreadsheets. Likewise, the majority of those surveyed lack significant training in advanced applications such as programming, multimedia design and graphic illustration.

Assistance Outside of Training (Question 1g):

This question pertains to all organizations that provide access to technology and whether or not they offer any types of assistance in these environments. This assistance could be anything from helping someone to print a document to trouble shooting an Excel spreadsheet. 77% of the sites offered some form of help. In most cases the level of support given outside classroom instruction was minimal. This question is calculated on a total of 30 respondents.

Assistance	
Yes	No
77%	23%

N=30



II. Hardware

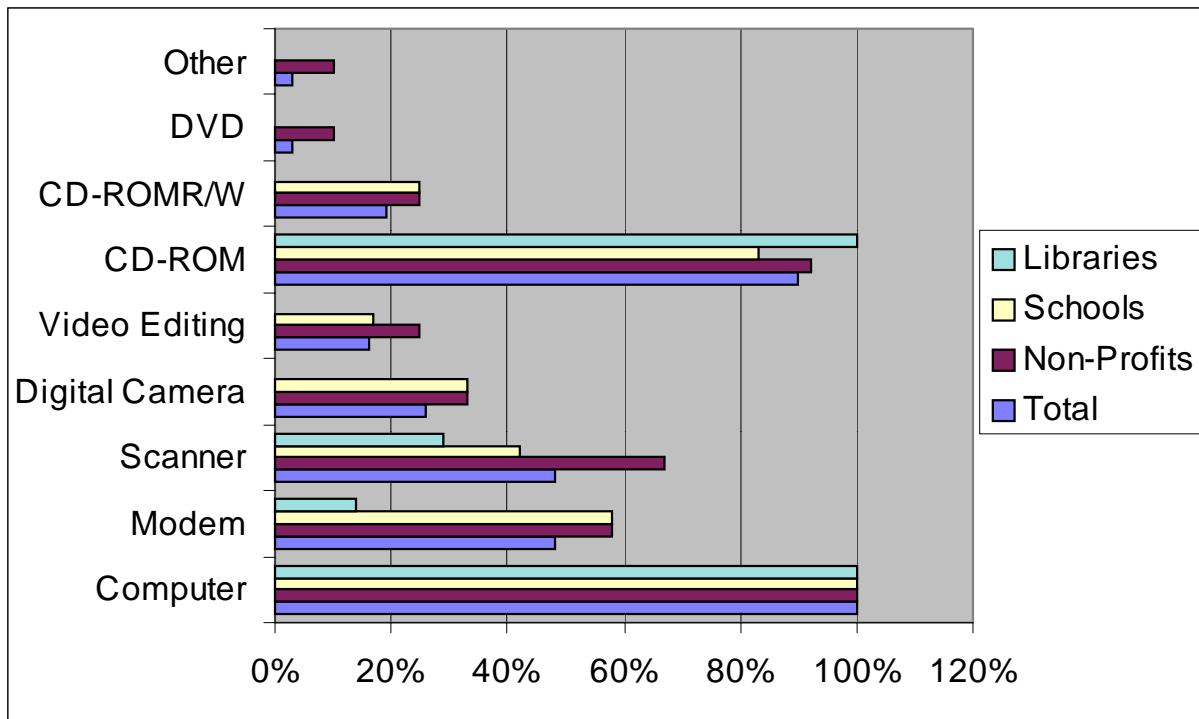
The purpose of this category is to better understand the types of hardware currently available in these various organizations. These include types of computers and peripherals available to the individuals they are catering to. In addition, this category explores the current status of each center in terms of upgrade plans and capacity.

Types of Technology (Question 2a):

This question explores the types of technology offered in each center. This question is calculated based on the total number of 31 respondents.

Types of Technology								
Computer	Modem	Scanner	Digital Camera	Video Editing	CD-ROM	CD-ROMR/W	DVD	Other
100%	48%	48%	26%	16%	90%	19%	3%	3%

Note: %'s calculated based upon multiple selections for this question
N=31

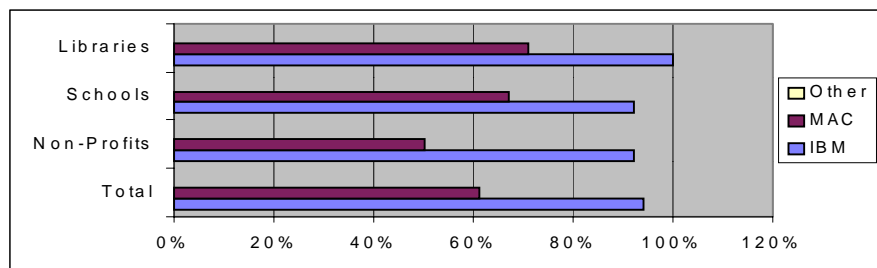


Types of Computers (Question 2b):

This question explores the types of computers offered in each center.

Types of Computers	
IBM	MAC
94%	61%

N=31



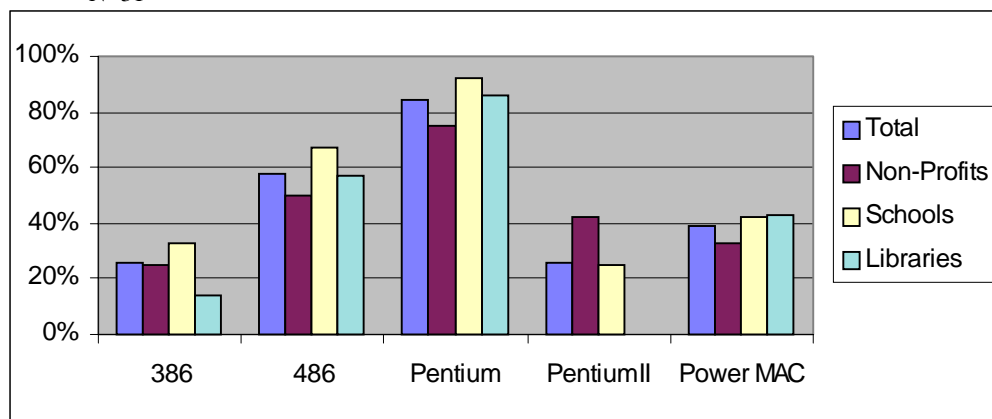
Note: %'s calculated based upon multiple selections for this question

Computer Class (Question 2c):

This question further explores the types of computers offered in each center by asking what class computer they have. With this we are exploring the relative speed of the systems being used. Older systems are represented by the lower numbers for IBM compatible machines such as 386 and 486. These are much less likely to run current applications as newer systems today. Overall, each center appears to be rather well equipped with either a 486 or Pentium based computer and/or a Power Macintosh. This question is calculated based on the total number of 31 respondents.

Class of Computers				
386	486	Pentium	PentiumII	Power MAC
26%	58%	84%	26%	39%

Note: %'s calculated based upon multiple selections for this question
N=31

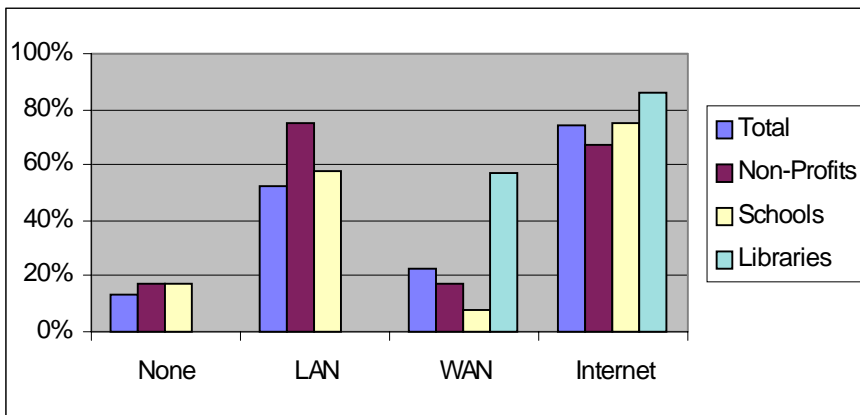


Network (Question 2d):

This question explores whether or not the computers are networked and the type of network connection they currently use. This includes local area networks, wide area networks, and Internet connectivity. The first section to this question asks for basic network information while the second section explores more detailed information about their Internet connectivity. The first section is based on all 31 respondents while the second is based on 27 respondents (those who were connected to the Internet).

Network Connectivity			
None	LAN	WAN	Internet
13%	52%	23%	74%

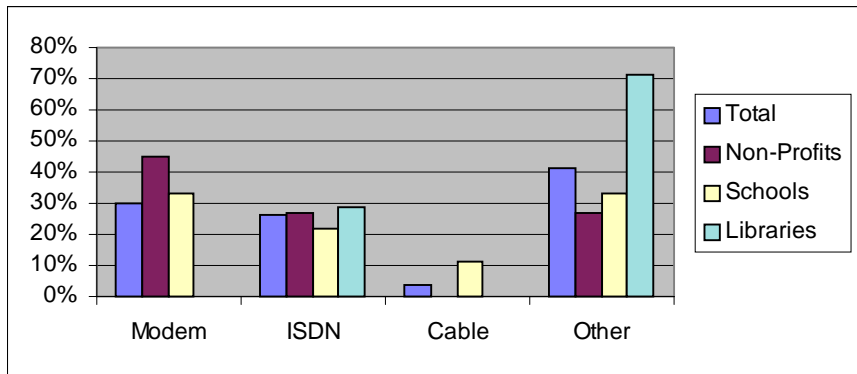
N=31



Note: %'s calculated based upon multiple selections for this question

Internet Connectivity			
Modem	ISDN	Cable	Other*
30%	26%	4%	41%

N=27



Note: %'s calculated based upon multiple selections for this question

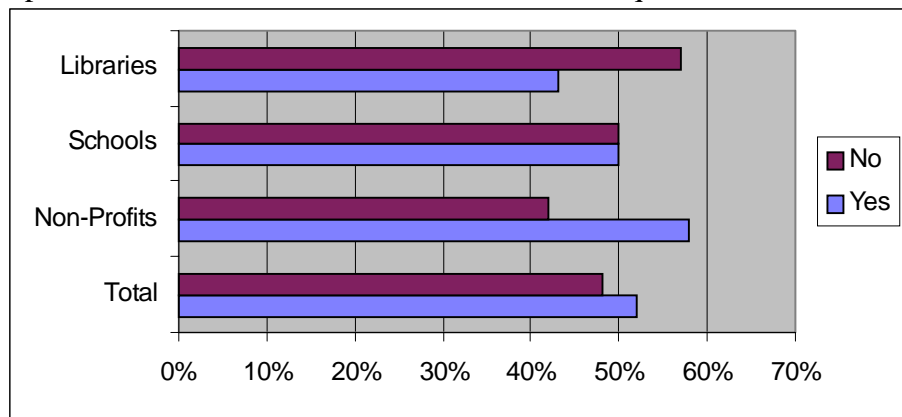
* Other indicates any other type of connection that was not pre-chosen for this survey. In the majority of cases the respondents did not know what type of Internet connectivity they had. However, others had specific, and rarely used, types of connectivity such as T1 lines and ADSL. These however made up for a minority of cases.

Upgrade Plan (Question 2e):

This question explores the issue of upgrading hardware and software. The results are pretty much split in half with half having a plan established while the other half does not. This question is calculated on all 31 respondents.

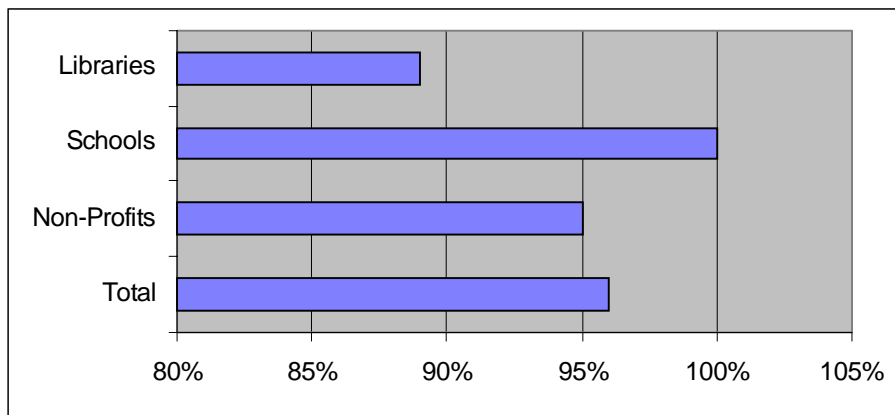
Upgrade Plan	
Yes	No
52%	48%

N=31



Percentage of Computers Running (Question 2f):

This question examines the percentage of computers currently working at the time of the survey. It was found that 96% of all machines for all organizations were running at the time of this survey. This question is calculated based on all 31 respondents to this survey. One interesting note is the high (100%) percentage of running machines among schools. This is especially the case when compared to a report by the The Chicago Panel indicating that there is a lack in support for computer maintenance and that the duties are often shared by teachers and students (School Technology 14).



Note: %'s calculated based upon multiple selections for this question

III. Organization

The purpose of this category is to better understand the type of organization surveyed and their capacity in terms of collaboration, awareness, and funding.

Type of Organization (Question 4a):

This question simply asks what type of organization was being surveyed. It includes non-profit, high school, library, college/university, and grade schools. Community Training Center is classified as a non-profit agency who caters only to providing and training technological skills. This question is calculated based on the total number of 31 respondents.

Organization Type					
Non-Profit	Community Training Center	High School	Library	College/University	Grade School
42%	10%	35%	23%	3%	3%

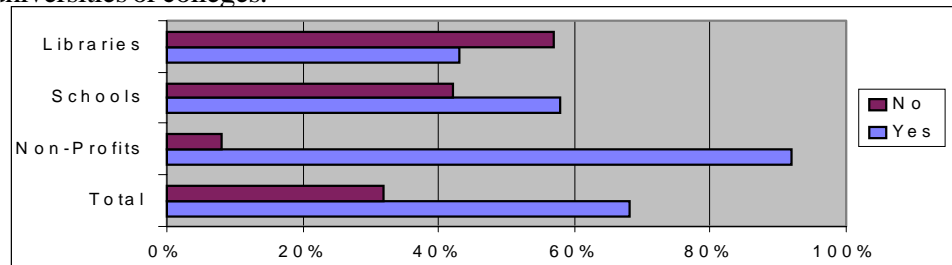
N=31

Collaboration with Other Organizations (Question 4c & 4c1):

This question examines the capacity of collaboration with other organizations. In many cases this could simply be offering their center to other organizations for training or presentations. This question is split into two parts. The first part is based on the total number of 25 respondents and simply asks whether or not the organization does collaboration. The second part explores in more detail who the organizations collaborate with and is based on 15 respondents who answered yes to the first question. Please note the difference between schools and educational institutions. Educational Institutions are classified as any higher level educational facility such as universities or colleges.

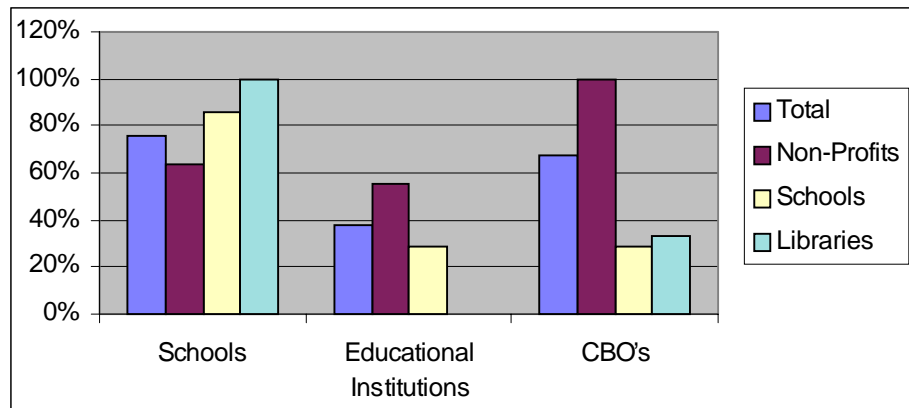
Collaboration	
Yes	No
68%	32%

N=31



Collaboration With		
Schools	Educational Institutions	CBO's
76%	38%	67%

N=21



Note: %'s calculated based upon multiple selections for this question

Totals

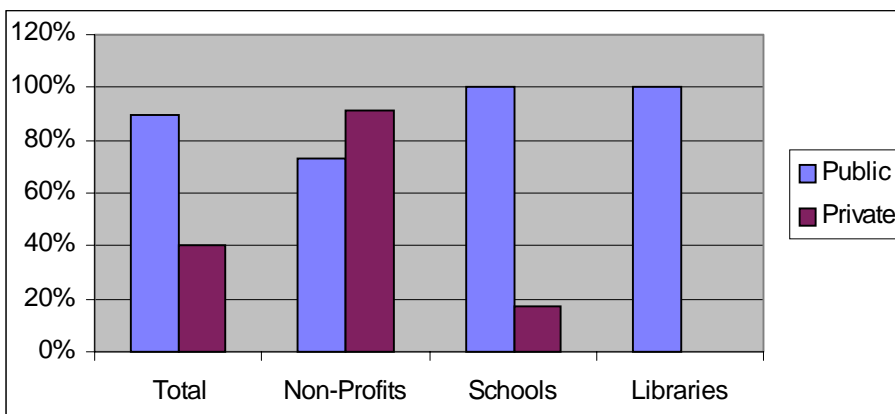
Section III - Organization

Funding (Question 4e):

Initially this question was to explore the types of funding in more detail than eventually collected. The majority of organizations *did not* want to specify in detail the types of institutions and grants they were getting. Therefore this question has been limited to the selection of either public or private funding and based on 24 respondents.

Funding	
Public	Private
90%	40%

N=30



Note: %'s calculated based upon multiple selections for this question

Observations

- Equipment not the issue but connectivity is
- Geographic distribution clustered in activist communities (i.e. Uptown, West Town, Near West, Douglas Grand Boulevard (Bronzeville)).
- In school youth have greatest access; out of school youth next; adults least served
- Libraries open to all but minimum training offered; staff least prepared for instruction
- Libraries and CBO's are open on the evenings but have limited times on Saturday while schools are primarily only open during school hours.
- Word Processing common and then drops by 20% with Basic skills and spreadsheets. Another 10% drop for Internet training. Only half offer multimedia and graphical training and less than 20% offer programing training. These are the fastest growing sectors in the technology field along with the highest paying jobs.

Section II

Libraries



Note From a Local Area Librarian

Suzanne Wheldon works at the Harold Washington Library in downtown Chicago. Her involvement with the working group has been instrumental to understanding the Chicago Public Library (CPL) systems in relation to computer technology issues. Suzzan submitted the following to be included in the report. She felt it important to report her views of this study and her experience as a librarian in the Chicago Public Library (CPL) system:

An interesting note from CityFile in last week's Reader stated that according to a recent report done by the Chicago Public Schools, one Power Mac or Pentium level computer is available for every 63 students. It would be interesting to look at the number of computers available to communities through the library because we might find that one computer is available for every 25,000 community members or so.

At the Harold Washington Library Center (HWLC) the situation is pretty desperate due to several factors. Our number one problem is too few computers per capita and only one small computer lab with perhaps eight or ten computers linked to the Internet. With appointments, computers are sometimes booked up to two weeks in advance, seriously limiting access. The lab is terribly understaffed and also acts as the help desk for the entire library system! Also, computer connection has only one librarian-manager and four or five tech people of varying abilities. Absolutely no instruction is offered and such instruction is actively discouraged by the head of Library Automation. Further, software is terribly limited. We basically offer MS Office.

Nowhere is there appropriate access for those with disabilities except vision impairments (one computer on the fifth floor) and all furniture is inappropriate for computer use and lacks the capacity for individual adjustment. Access is a very serious issue with many computers offered at stand up counters. Children, those with disabilities and the elderly therefore have reduced opportunity to access the Internet. The Hughes Children's Library has a few computers but the comfort level and ease of use could be a problem

Elsewhere in the library there are only two or three (Internet) computers available on each floor and these are frequently down due to viruses, tampering or network problems. Staff training has been slow and inadequate with heavy use of outside consultants for no apparent reason. A major problem has been an almost total unavailability of Internet workstations for use by the reference staff at public service desks and a serious scarcity of same for work areas. Most departments have one workstation for a group of twenty - thirty librarians. Until very recently e-mail was essentially unavailable, but we recently got Pine.

This summer we have had numerous visitors from other cities and other countries. Many of these people have followed a similar pattern and come to the main library to check their mail shortly after they arrive in Chicago. Often they leave in utter frustration because they cannot get to a working computer and quickly and easily check mail. The library does not support mail per se but if a person can utilize a web-based mail service, he can get mail. Computer shortages and break downs, however, make access to this critical service very problematic for our guests and users and are creating a potential PR nightmare for CPL.

The library has recently introduced some web-based indexes and search tools and is making access possible from home. This may strain our already overburdened services even further and will only create a heavier demand on the too few workstations and printers at the central library. A recent article in Library Journal reported that while many public libraries existed very nicely on \$20 per capita when the world was print-based, it will cost a great deal more per capita to support an adequate level of electronic resources. One very interesting figure to identify might be some sort of per capita level of support for the library system. Perhaps we could determine what this figure was five years ago, what it is now and what it is expected to be five years in the future? We could then compare the level of support to other major urban library systems. In the past CPL has not done very well when such comparisons were drawn.

Library Results

This section represents the results for the total number of libraries with technology centers that responded to our survey. The majority of these locations were acquired from a list of computer centers put out by the Chicago Public Library System. These technology/computer centers differ greatly from both the schools and CBO's in that almost all provided simple access to computer and basic software packages. All libraries with the exception of two, Portage Cragin and North Austin, provided only basic access with no training or in depth assistance available. The only assistance given dealt with basic trouble shooting such as changing print cartridges or trouble shooting basic problems with hardware and/or software.

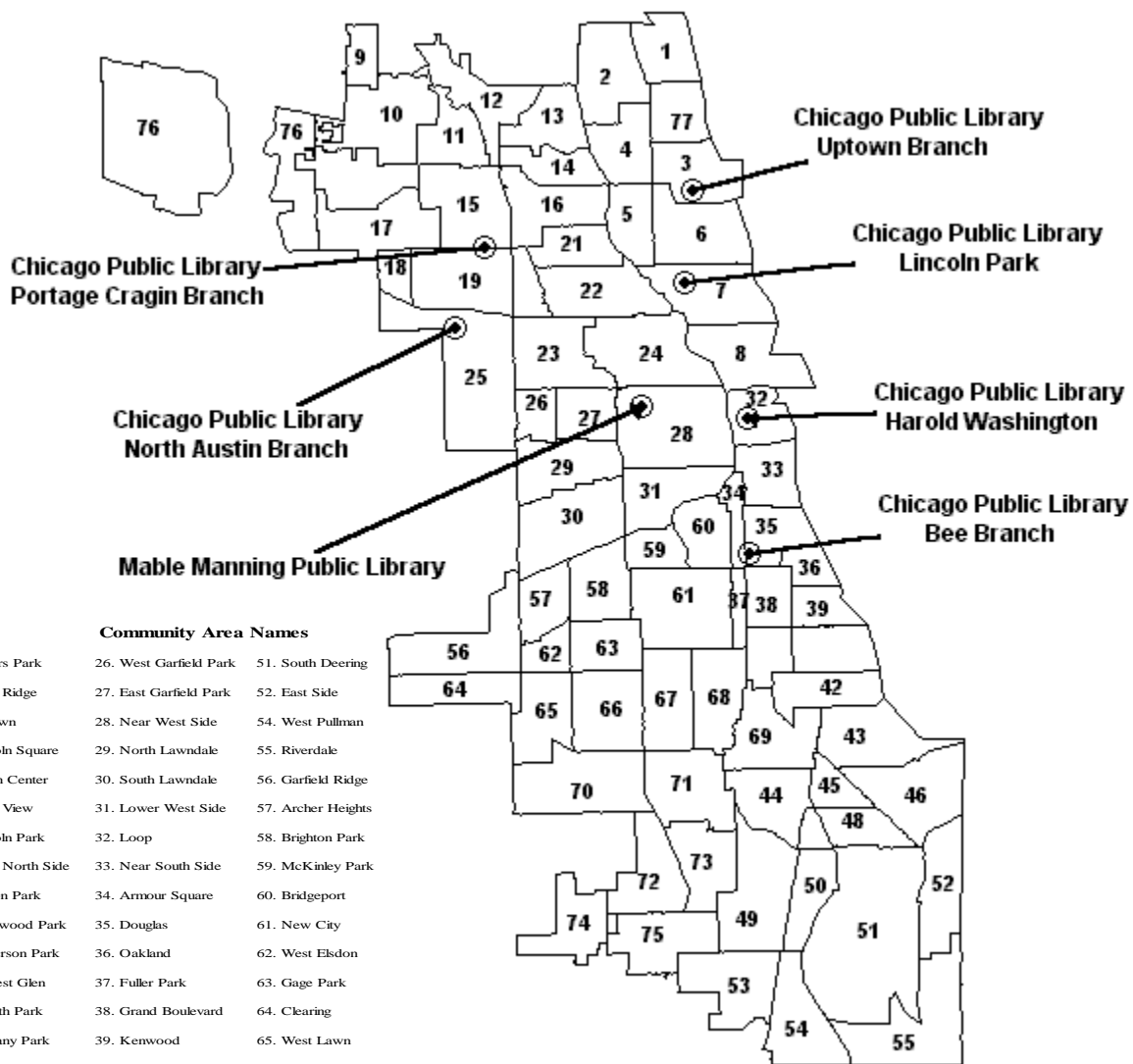
The only two libraries that provided any in-depth support were the Portage Cragin and North Austin Branches. The North Austin Branch provided basic training in computer skills and Internet. Unfortunately, at the time this survey was conducted they were no longer able to provide these classes due to a lack of staff. On the other hand the Portage Cragin Branch continuously provides classes in Internet Basics and a workshop on creating resumes. The only other training that all of these centers provide is by the way of software-based tutorial packages that are mainly focused on children's learning.

None of the locations charged fees or even required potential users to hold valid library cards. Most all centers were open one hour after and closed one hour before their regular hours. Although most offered their equipment to individuals on a walk-in basis, few required users to reserve workstations in advance due to the center's popularity.

Locations:

The following table and map illustrates the locations of all 7 Chicago Public Libraries containing technology centers. Although not clustered, this map portrays the lack of technical availability on the south side of the city with only the Bee Branch providing these services.

Chicago Public Library-Bee Branch	3647 S. State St.
Chicago Public Library-Harold Washington	400 S. State St.
Chicago Public Library-Lincoln Park	1150 W. Fullerton Ave.
Chicago Public Library-North Austin Branch	5724 W. North Ave.
Chicago Public Library-Portage Cragin Branch	5108 W. Belmont Ave.
Chicago Public Library-Uptown Branch	929 W. Baena Ave.
Mable Manning Public Library	6 S. Hoyne St.



Community Area Names

- | | | |
|--------------------|------------------------|----------------------------|
| 1. Rogers Park | 26. West Garfield Park | 51. South Deering |
| 2. West Ridge | 27. East Garfield Park | 52. East Side |
| 3. Uptown | 28. Near West Side | 54. West Pullman |
| 4. Lincoln Square | 29. North Lawndale | 55. Riverdale |
| 5. North Center | 30. South Lawndale | 56. Garfield Ridge |
| 6. Lake View | 31. Lower West Side | 57. Archer Heights |
| 7. Lincoln Park | 32. Loop | 58. Brighton Park |
| 8. Near North Side | 33. Near South Side | 59. McKinley Park |
| 9. Edison Park | 34. Armour Square | 60. Bridgeport |
| 10. Norwood Park | 35. Douglas | 61. New City |
| 11. Jefferson Park | 36. Oakland | 62. West Elsdon |
| 12. Forest Glen | 37. Fuller Park | 63. Gage Park |
| 13. North Park | 38. Grand Boulevard | 64. Clearing |
| 14. Albany Park | 39. Kenwood | 65. West Lawn |
| 15. Portage Park | 40. Washington Park | 66. Chicago Lawn |
| 16. Irving Park | 41. Hyde Park | 67. West Englewood |
| 17. Dunning | 42. Woodlawn | 68. Englewood |
| 18. Mont Clare | 43. South Shore | 69. Greater Grand Crossing |
| 19. Belmont Cragin | 44. Chatham | 70. Ashburn |
| 20. Hermosa | 45. Avalon Park | 71. Auburn Gresham |
| 21. Avondale | 46. South Chicago | 72. Beverly |
| 22. Logan Square | 47. Burnside | 73. Washington Heights |
| 23. Humboldt Park | 48. Calumet Heights | 74. Mount Greenwood |
| 24. West Town | 49. Roseland | 75. Morgan Park |
| 25. Austin | 50. Pullman | 76. O'Hare |
| | | 77. Edgewater |

I. Access and Training

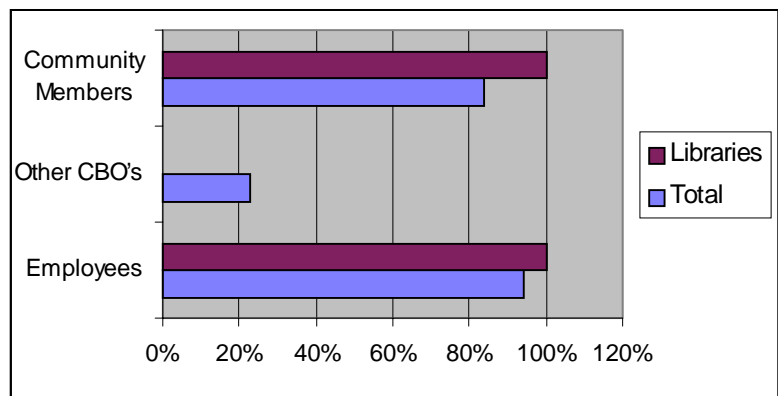
The purpose of this category is to better understand the types of access and training currently offered within these organizations. These include questions identifying the target populations, size of programs, types of access and training, and capacity. Due to the limited number of libraries who supply any sort of training this question was primarily limited to issues regarding access.

Individuals with access to technology center (Question 1b):

This question is broken up into two parts. The first section of this question pertains to the groups who have access to the particular technology center/computer lab. This first section was broken up into three main sections (Employees, CBO's, and Community Members) and is based on the total number of 7 respondents for this section. Due to the nature of these labs, with free and open access to all members, none of the respondents picked CBO's as a selection. The subsection to this question pertains to the types of community members who have access and the centers purpose for providing their services. Again, since none of these centers offer any specific types of access or training all selected other and specified that anyone has access on a walk in basis. The number of respondents for the subsection was 6.

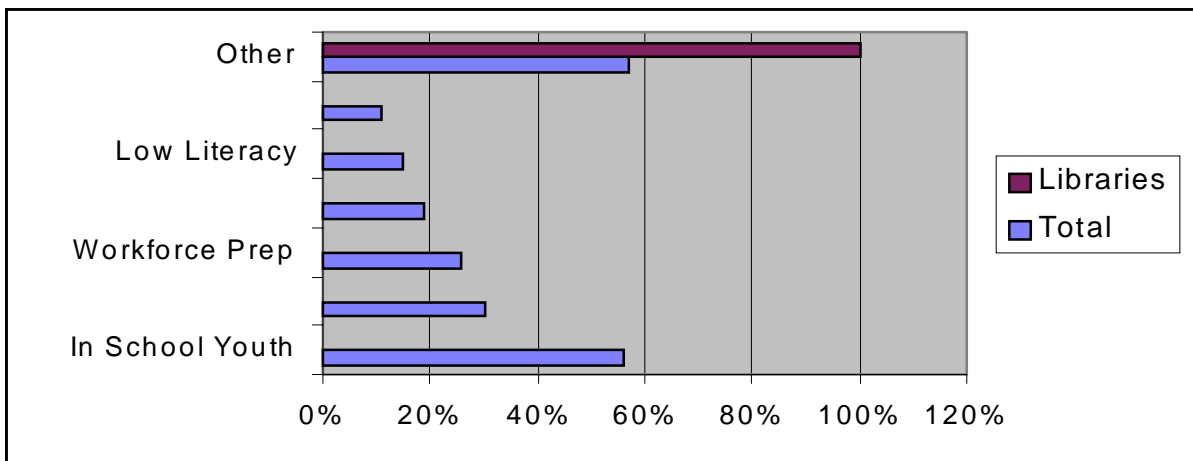
WHO HAS ACCESS		
Employees	Other CBO's	Community Members
100%	0%	100%

N=7



Note: %'s calculated based upon multiple selections for this question

Community Member Access						
In School Youth	Out of School Youth	Workforce Prep	Teacher Training	Low Literacy	Non-English	Other
0%	0%	0%	0%	0%	0%	100%



N=6

Note: %'s calculated based upon multiple selections for this question

Number of visitors to center (Question 1c):

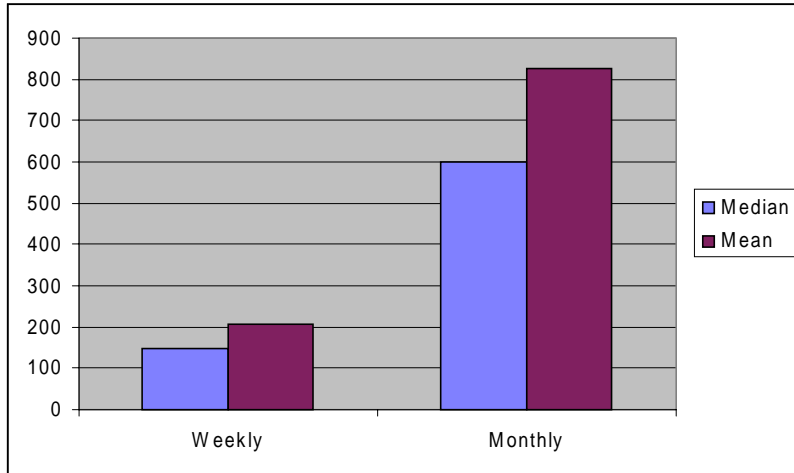
The number of visitors is based on the estimated total number of respondents for this survey on a monthly and weekly basis. The results are broken up into median and mean for estimated weekly and monthly use. The range for visitors during a week had a low of 40 and a high of 525. Likewise the range for visitors in a month had a low of 160 and a high of 2100.

Number of Users		
	Weekly	Monthly
Median	150	600
Mean	206	826

N=7

Number of Workstations/Computers*	
Median	7
Mean	10

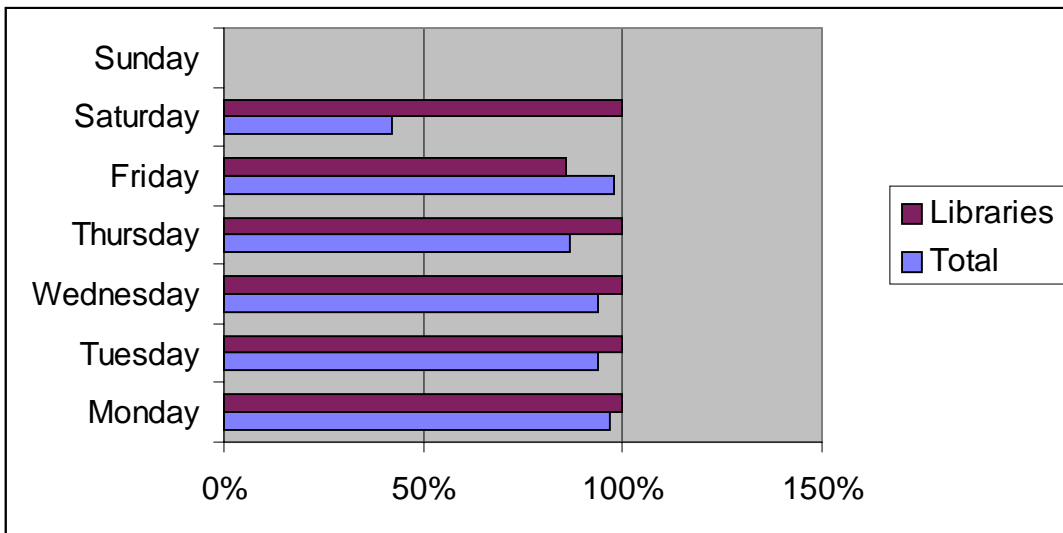
N=7



* This chart was taken from a question on the next page titled “Number of Workstations/Computers”

Days Open (Question 1d):

This question represents the percentage of respondents centers open each day of the week. Of great interest is the fact that none of the libraries centers are open on Sunday and that Friday only represents 86% of those libraries surveyed. Although no center was open on a Sunday the Portage Cragin Branch was the only respondent not open on Fridays leading to the lower percentage. Computer labs for each center were open one hour before closing and after opening.



Note: %'s calculated based upon multiple selections for this question

N=7

Number of Computers/Workstations Available (Question 1e):

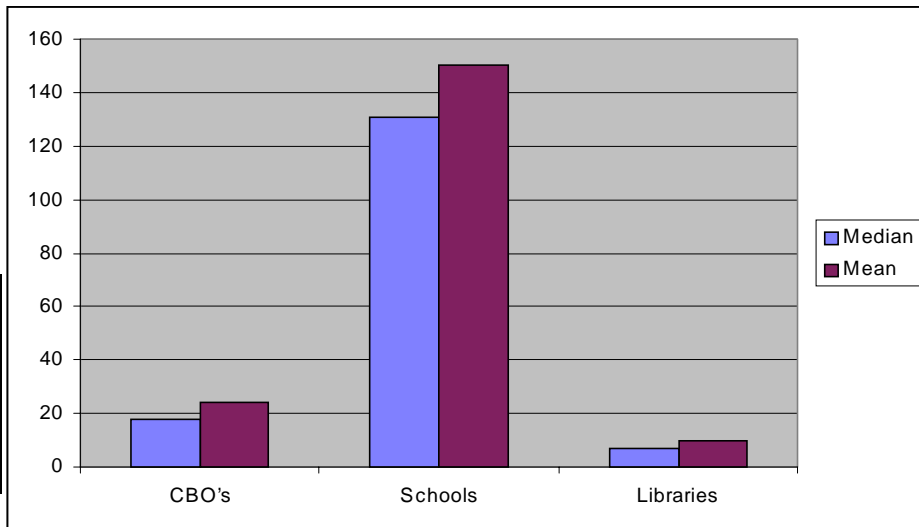
The number of computers/workstations is based on the total number of libraries for this section. The results are broken up into median and mean for estimated number of machines. Libraries are lacking in the total number of available computers as compared to CBO's and schools. The range varied from a low of 3 computers to a high of 28 computers in a given library. Additionally, the ratio of visitors to computers in a given day was 3.57.

Number of Workstations/Computers	
Median	7
Mean	10

N=7

Number of Users*		
	Weekly	Monthly
Median	150	600
Mean	206	826

N=7



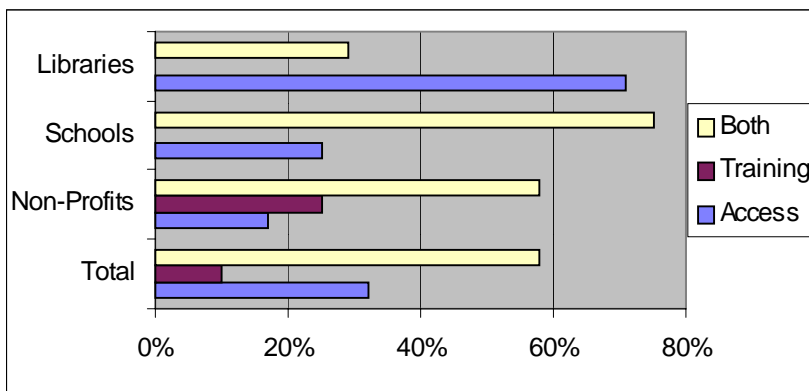
* This chart was taken from a previous question titled "Number of Users"

Access or Training (Question 1f):

This question portrays the number of libraries that offer either access to technology, training in technology, or a combination of these. Respondents who choose both are not recounted for access and/or training. The majority of libraries provide simple access to technology with only two libraries, North Austin and Portage Cragin Branches, provide a combination of access and training. In either case, these services were provided to the communities free of charge without any need for membership or affiliation. This differs from either the CBO's or schools who generally do not provide any sort of walk in access. Most of them provide their services only to those individuals affiliated with their organizations to various capacities.

Access/Training		
Access	Training	Both
71%	0%	29%

N=7



The following four topics and findings are based on the responses to the previous question. It goes into further detail about various aspects of training a particular organization may offer. Only 2 Libraries answered these questions.

Instructors (Question 1f1):

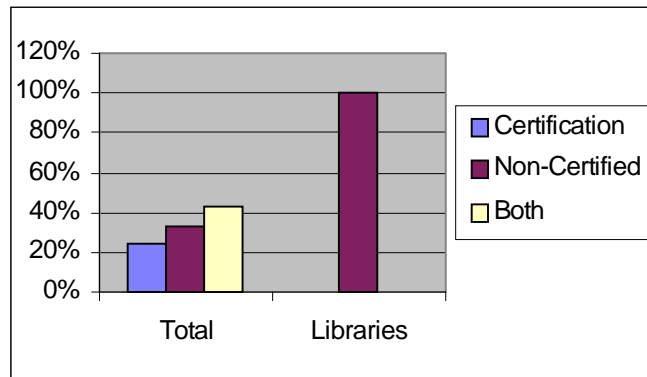
This question proved somewhat difficult for most respondents to answer. The primary reason was due to the fact that this number varied at any given point in time. This was especially true with the libraries surveyed due to the short supply of staff on hand. Many librarians were responsible for many tasks including overseeing the equipment and offering training in addition to their regular tasks. The North Austin Branch is a case in point when they had to stop providing their training temporarily due to a lack of staff. Due to the limited number of libraries providing training only two are represented in this question. The median number of instructors was 1.5. Likewise the range of instructors varied from a low of 0 to a high of 2 within a given library.

Instructor Qualifications (Question 1f2):

This question focuses on the certification/qualification of the instructors at a particular organization. Certification represents any type of certification in technology or technical training. This could vary from a degree from an accredited college to a certificate from a community college. Neither library surveyed indicated instructors with any technical certification.

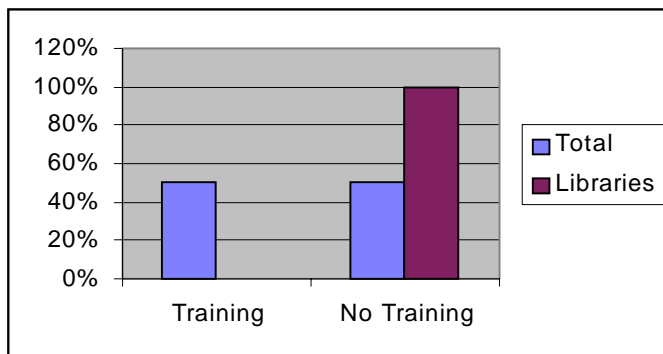
Instructor Qualifications		
Certification	Non-Certified	Combination of both
0%	100%	0%

N=2



Staff Training (Question 1f3):

This question focuses on staff training in which neither of the respondents provided training for their staff. This question is calculated based on a total number of 2 respondents who answered this question.



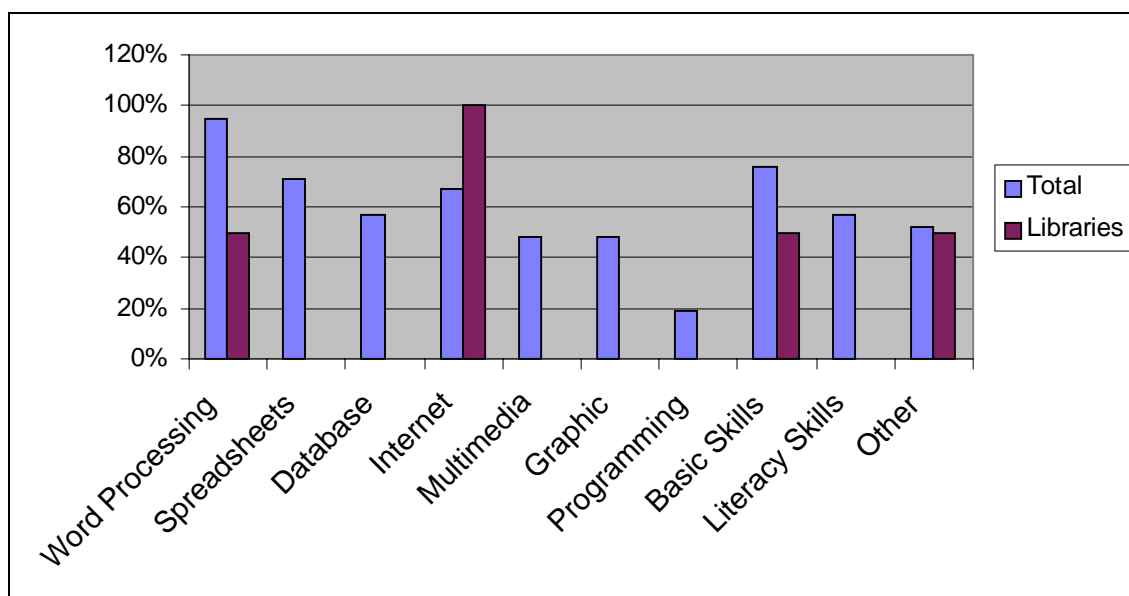
N=2

Types of Training (Question 1f6):

This question refers to the types of technology/computer training that a particular organization may provide. The Internet presents the largest percentage for training in libraries with word processing, basic computer skills and tied for second widely taught applications. There is also a relatively large percentage for those libraries who selected other. This primarily consisted of teaching individuals how to create a resume using specific applications. To a lesser extent these libraries offered specific educational titles (representing the ‘other’ category) as a means of training which eliminates the need for an instructor. The percentages are based on a total number of 2 respondents who answered this question.

Types of Training									
Word Processing	Spreadsheets	Database	Internet	Multimedia	Graphic	Programming	Basic Skills	Literacy Skills	Other
50%	0%	0%	100%	0%	0%	0%	50%	0%	50%

Note: %'s calculated based upon multiple selections for this question
N=2



Open Access Assistance (Question 1g):

This question pertains to all libraries who provide access to technology and whether or not they offer any types of assistance. This assistance could be anything from helping someone to print a document to trouble shooting an excel spreadsheet. In most cases the only support given outside classroom instruction was rudimentary. This question is calculated on a total of 7 respondents.

Assistance	
Yes	No
86%	14%

N=7

II. Hardware

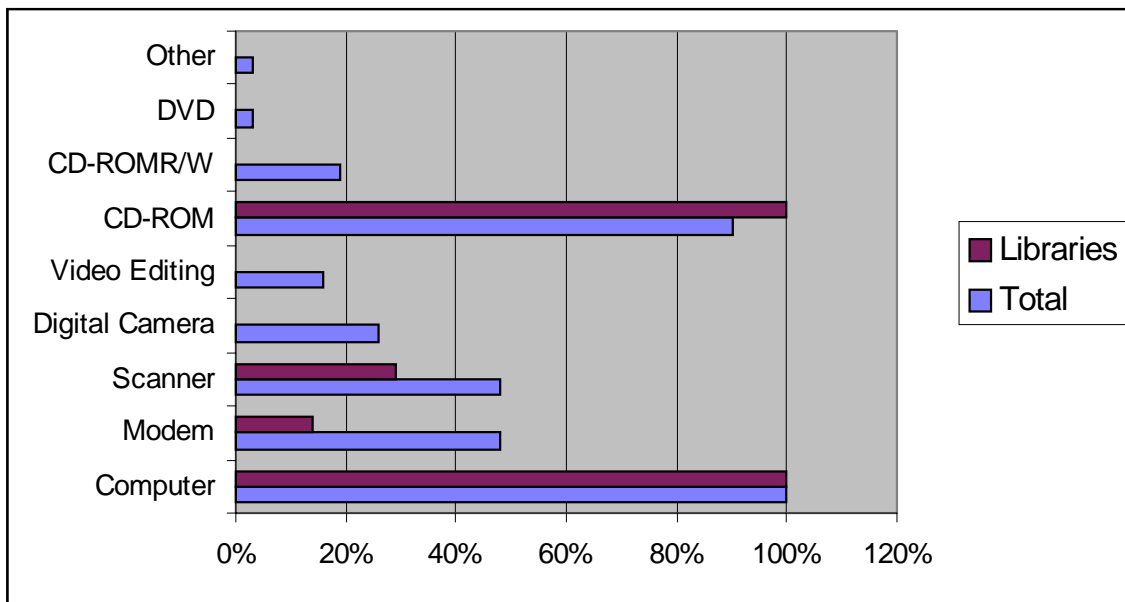
The purpose of this category is to better understand the types of hardware currently available in these various organizations. These include types of computers and peripherals available to the individuals they are catering to. In addition, this category explores the current status of each center in terms of upgrade plans and capacity.

Types of Technology (Question 2a):

This question explores the types of technology offered in each of the libraries technology centers. Most libraries surveyed for this report possessed the most basic peripherals such as computers and cd-rom drives. A few had scanners and only one location had a modem available for use. This question is calculated based on the total number of 7 respondents.

Types of Technology								
Computer	Modem	Scanner	Digital Camera	Video Editing	CD-ROM	CD-ROMR/W	DVD	Other
100%	14%	29%	0%	0%	100%	0%	0%	0%

Note: %'s calculated based upon multiple selections for this question
N=7

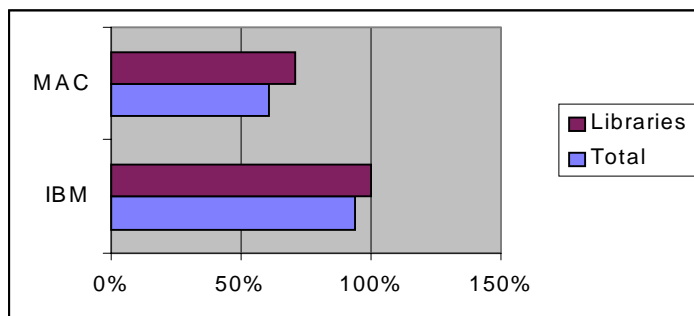


Types of Computers (Question 2b):

This question explores the types of computers offered in each center. Most all of the libraries had a combination of IBM compatible computers and Macintosh based systems. However, in most all instances the Macintosh based systems were limited to one or two per library and used primarily for children to run educational titles on. This question is calculated based on the total number of 7 respondents.

Types of Computers	
IBM	MAC
100%	71%

N=7



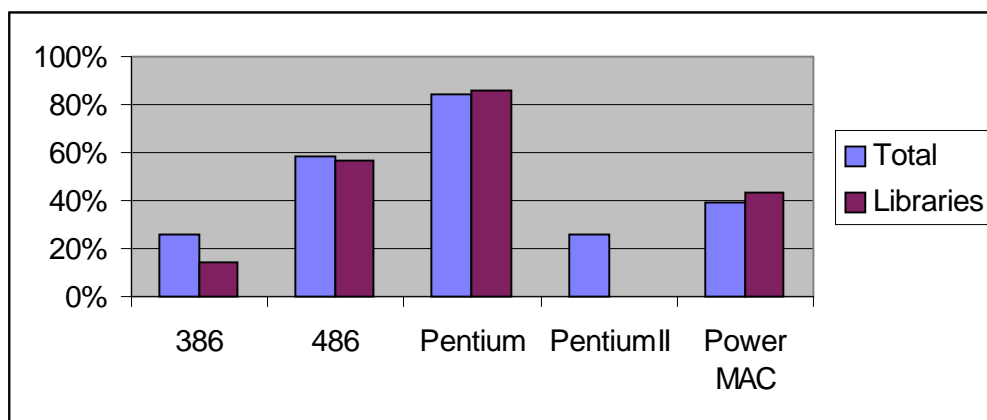
Note: %'s calculated based upon multiple selections for this question

Computer Class (Question 2c):

This question further explores the types of computers offered in each center by asking what class computer they have. Overall most libraries appear to be relatively up to date with the equipment that they have. The majority have Pentium based machines with 486 systems taking up the remainder of the IBM compatible systems. The same is not true with the Macintosh based systems with only 43% of all libraries having Power PC's. This question is calculated based on the total number of 7 respondents.

Class of Computers				
386	486	Pentium	PentiumII	Power MAC
14%	57%	86%	0%	43%

Note: %'s calculated based upon multiple selections for this question
N=7

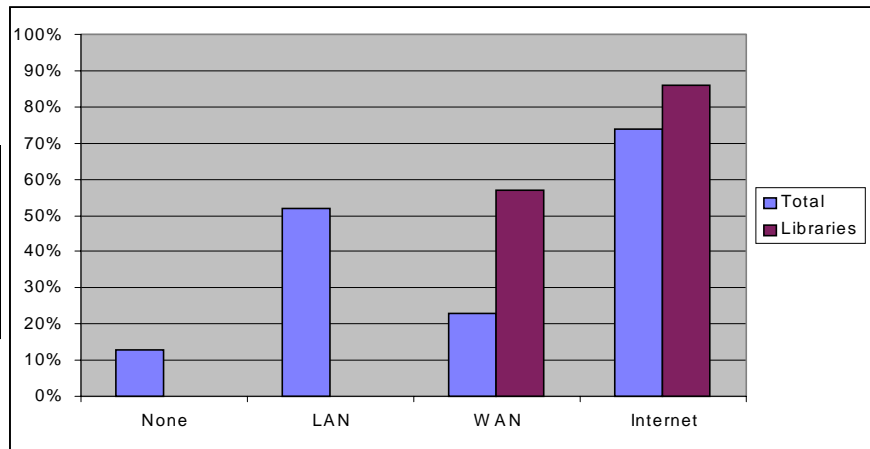


Network (Question 2d):

This question explores whether or not the centers computers are networked and the type of network connection they have. This includes local area networks, wide area networks, and Internet connectivity. The first section to this question asks for basic network information while the second section explores more detailed information about their Internet connectivity. All libraries surveyed had some sort of network connection established with through a Wide Area Network and/or the Internet. However, most were connected to the Internet through a wide variety of methods including ISDN lines and Wide Area Networks. Those who responded ‘other’ for the type of internet connection were primarily connected through the main Chicago Public Libraries wide area network. Most all of those respondents did not know exactly what that entailed but few stated it was through an ISDN connection. The first section is based on all 7 respondents while the second is based on 6 respondents (those who were connected to the Internet).

Network Connectivity			
None	LAN	WAN	Internet
0%	0%	57%	86%

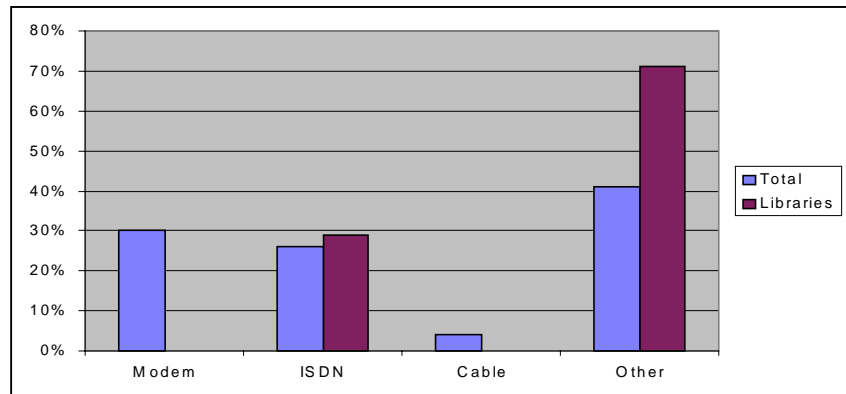
N=7



Note: %'s calculated based upon multiple selections for this question

Internet Connectivity			
Modem	ISDN	Cable	Other*
0%	29%	0%	71%

N=6



Note: %'s calculated based upon multiple selections for this question

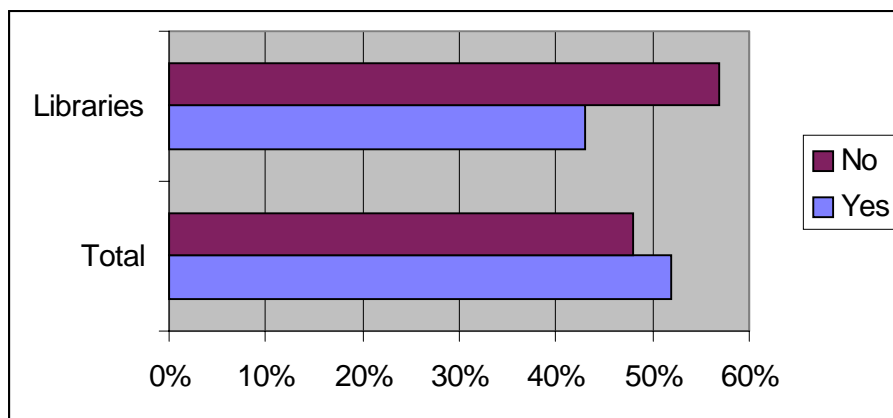
* Other represented libraries who connected to the Internet via different means of those categorized for this survey. Most connected through the Wide Area Network provided by the Chicago Public Library system. However, others did not know.

Upgrade Plan (Question 2e):

This question explores the issue of upgrading hardware and software. Although all Chicago Public Libraries have an upgrade plan through the library system, this question was asked in the context of whether or not they have an upgrade plan of their own. Most felt that the plan offered by the Chicago Public Library system was not sufficient for their needs and developed a plan to supplement the one already implemented. With this, almost half (43%) had additional plans for upgrading. Not many could offer an exact plan due to budget and other limitations but most did state that it included upgrading software and hardware when needed. This question is calculated on all 7 respondents.

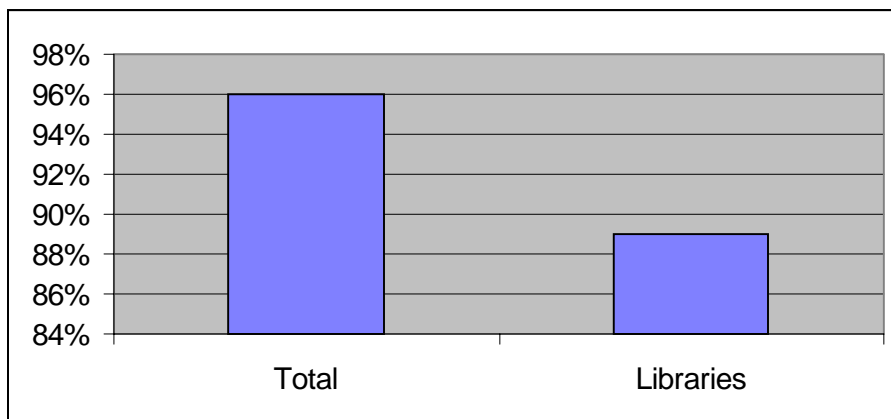
Upgrade Plan	
Yes	No
43%	57%

N=7



Percentage of Computers Running (Question 2f):

This question examines the percentage of computers currently working at the time of the survey. It was found that 89% of all computers/workstations in the libraries were running at the time of this survey. This question is calculated on all 7 libraries.



Note: %'s calculated based upon multiple selections for this question
N=7

III. Organization

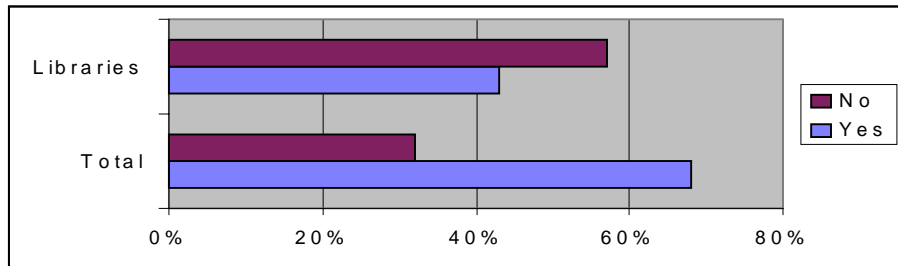
The purpose of this category is to better understand the type of organization surveyed and their capacity in terms of collaboration, awareness, and funding. In this case the organizations were libraries and this category examines their current capacity for the issues described above.

Collaboration with Other Organizations (Question 4c & 4c1):

This question examines the capacity of collaboration with other organizations. In many cases this could simply be offering their center to other organizations for training or presentations. This question is split into two parts. The first part is based on the total number of 7 respondents and simply asks whether or not the organization does collaboration. The second part explores in more detail who the organizations collaborate with and is based on 3(43%) respondents who answered yes to the first question. These three libraries did some collaboration with schools and CBO's. In most all of the cases this involved offering their technology centers for training and/or workshops that these other organizations may have wanted to provide to their members.

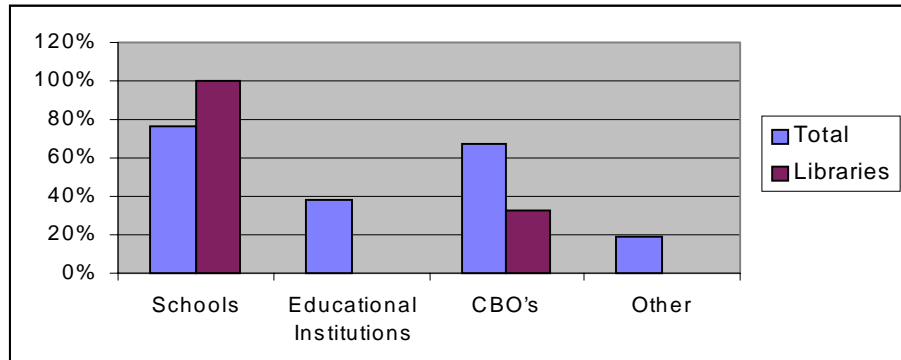
Collaboration	
Yes	No
43%	57%

N=7



Collaboration With			
Schools	Educational Institutions	CBO's	Other
100%	0%	33%	0%

N=3



Note: %'s calculated based upon multiple selections for this question

Funding (Question 4e):

Initially this question was implemented to explore the types of funding an organization receives in more detail. However, the majority of organizations did not want to specify the types of institutions and grants they were getting in any detail. Therefore, this question has been limited to the selection of either public or private funding and based on 7 respondents in this section. None of the libraries indicated getting any type of private funding. All received funding from the Chicago Public Library system.

Funding	
Public	Private
100%	0%

N=7

Observations

- Libraries are an excellent resource for those individuals who are already comfortable with computers and only require access.
- Practically none of the libraries provided any training and the training that was provided was basic and sporadic.
- None of the centers were open on weekends and most all opened and closed one hour before and after library hours.

Section III

CBO's



Note From a Community Based Leader in Technology

Kent Unruh is a local community activist for equal access to technology within the city of Chicago and the director of Erie Neighborhood House's community technology center in the West Town area of Chicago. Being an advocate of community based technology centers, he had submitted the following voicing his opinions of this survey and his experiences within the community:

Community-based Technology Centers provide a critical link for access to important technology tools and resources. For years, community based not-for-profits have filled the gap in education and training for low-income community residents. They have provided education to at-risk youth, literacy to adults, training skills and job placement to the unemployed, and educational enhancement programs for young children. Schools and municipal social service organizations consistently look to community-based organization to reach critical need community residents, who have fallen through the cracks of other public programs.

Community-based organizations were some of the first institutions in the community to discover the importance of technology as a learning resource. The integration of computers into existing training and educational enhancement programs expanded the scope of the educational services provided. Access to online services enhanced the quality of the services by providing access to concise academic content and in some cases reducing the turnaround time for the deliverables directly to program participants. For example, at Erie Neighborhood House, the academic counselor now files all her students' financial aid via the Internet which reduces the approval period by 3-4 weeks for federal financial aid. In addition, her students have access to full-text, indexable library resources to compensate for the limitations of a small 2-room branch library. Other community-based organizations are committed to an exclusive focus on Technology. Street-Level Youth Media, for example, excels in providing technology-based arts services to youth. On the south side of Chicago, the New Galilee Center provides access and training on PC applications and repair.

Despite their pioneering role in implementing technology, community-based organizations are typically left out of many funding opportunities. Federal, state, and other public monies are often earmarked exclusively for schools and libraries to support their ability to provide access to online resources. While schools and libraries are important, they often do not provide the combination of comprehensive technology training during non-school hours that community-based organizations provide on a regular basis. In addition, community-based organizations focus on providing services to program participants not already connected with schools and libraries. Out of school youth, parents who work swing shifts, and low-literacy students can all receive access to technology through community centers. The flexibility of community-based organizations provides these individuals with quality access to technology, in a non-threatening environment, at the particular times that they are available to learn.

Community Center Organization (CBO) Results

This section represents the results for the total number of CBO's that responded to our survey. The majority of these locations were identified by working group members, and through the use of snowball sampling. These technology/computer centers differ greatly from both the schools and libraries in that they represented a wide array of models and capabilities. All provide some sort of training in technology to varying degrees. Some provide in-depth training in all aspects of the computer such as StreetLevel Youth Media and Erie Neighborhood House. Yet others provide training in specific areas such as employment (STRIVE) or basic graphic design and Internet training (the Multicultural Center.)

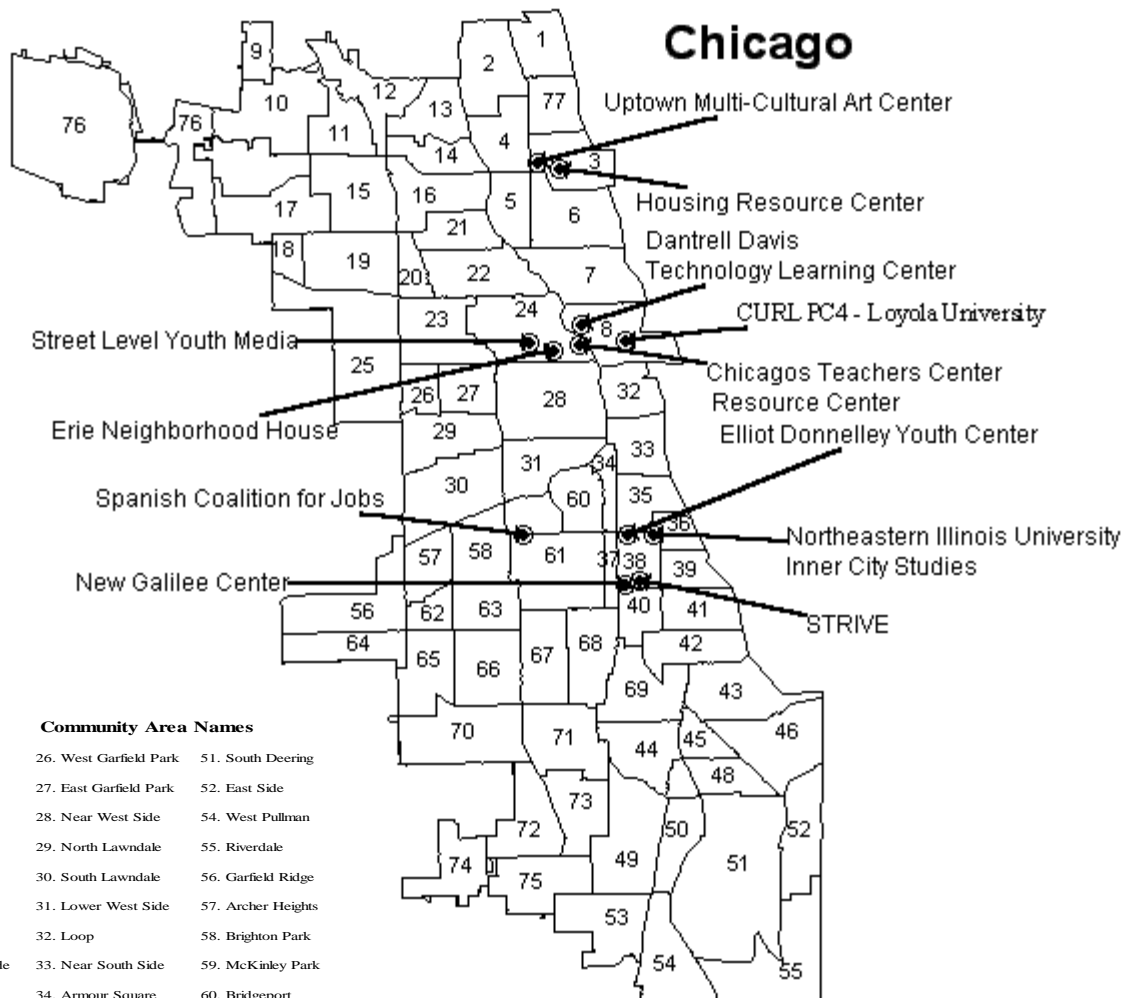
Practically all provide open access to their centers to members of their programs and employees during specific hours when classes and/or training is not taking place. Membership and access to these resources varied greatly from exposure through programs within the existing organization to referrals from other organizations. None of the centers surveyed for this report offer free and open access to anyone off the street. In all instances there had to be some prior exposure and knowledge of the centers services to take advantage of the programs and technology. Nevertheless these centers are much more open and available to the community than the schools and provide much more useful support and instruction than the libraries offer in their centers.

Most of the centers offer their services free of charge for participants signed up for their programs and services. Additionally, most want to expand their services and make them available to all individuals in the community. However, due to limitations in hardware, staff, and funding expansion plans go unrealized. Given current resources these centers articulated an eagerness to cater fully to the needs of their communities.

Locations:

The following table and map illustrates the locations of all 12 Chicago area CBO's containing technology centers surveyed for this report. An interesting aspect about this map is that most of these organizations are situated in clusters around the city. The map on the following page displays three predominant clusters on the north, central and near south sides. However, large sections of the of the city on the west and south sides of the city that are not represented by any of the CBO's surveyed for this report.

Center For Urban Research and Learning - PC4	820 N. Michigan Ave.
Chicagos Teachers Center Resource Center	770 N. Halsted St.
Dantrell Davis Technology Learning Center	735 W. Division St.
Elliot Donnelley Youth Center	3947 S. Michigan Ave.
Erie Neighborhood House	1347 W. Erie St.
Housing Resource Center	4429 N. Clifton Ave.
New Galilee Outreach Advocacy Technology Resource Center	5001 S. Wabash
Northeastern Illinois University-Inner City Studies	700 E. Oakwood Blvd.
Spanish Coalition for Jobs	2011 S. Pershing Rd.
Street Level Youth Media	1856 W. Chicago Ave.
STRIVE	4910 S. King Drive
Uptown Multi-Cultural Art Center	1630 W. Wilson Ave.



Community Area Names

- | | | |
|--------------------|------------------------|----------------------------|
| 1. Rogers Park | 26. West Garfield Park | 51. South Deering |
| 2. West Ridge | 27. East Garfield Park | 52. East Side |
| 3. Uptown | 28. Near West Side | 54. West Pullman |
| 4. Lincoln Square | 29. North Lawndale | 55. Riverdale |
| 5. North Center | 30. South Lawndale | 56. Garfield Ridge |
| 6. Lake View | 31. Lower West Side | 57. Archer Heights |
| 7. Lincoln Park | 32. Loop | 58. Brighton Park |
| 8. Near North Side | 33. Near South Side | 59. McKinley Park |
| 9. Edison Park | 34. Armour Square | 60. Bridgeport |
| 10. Norwood Park | 35. Douglas | 61. New City |
| 11. Jefferson Park | 36. Oakland | 62. West Elsdon |
| 12. Forest Glen | 37. Fuller Park | 63. Gage Park |
| 13. North Park | 38. Grand Boulevard | 64. Clearing |
| 14. Albany Park | 39. Kenwood | 65. West Lawn |
| 15. Portage Park | 40. Washington Park | 66. Chicago Lawn |
| 16. Irving Park | 41. Hyde Park | 67. West Englewood |
| 17. Dunning | 42. Woodlawn | 68. Englewood |
| 18. Mont Clare | 43. South Shore | 69. Greater Grand Crossing |
| 19. Belmont Cragin | 44. Chatham | 70. Ashburn |
| 20. Hermosa | 45. Avalon Park | 71. Auburn Gresham |
| 21. Avondale | 46. South Chicago | 72. Beverly |
| 22. Logan Square | 47. Burnside | 73. Washington Heights |
| 23. Humboldt Park | 48. Calumet Heights | 74. Mount Greenwood |
| 24. West Town | 49. Roseland | 75. Morgan Park |
| 25. Austin | 50. Pullman | 76. O'Hare |
| | | 77. Edgewater |

I. Access and Training

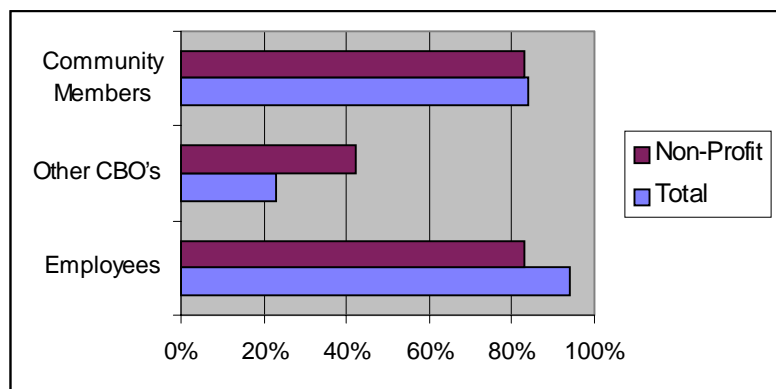
The purpose of this section is to better understand the types of access and training that is provided by various community based organizations with computer technology centers/labs. These include questions identifying the target populations, size of programs, types of access and training, and capacity. It was important to identify these in order to compare to schools and libraries since this is the core of what is being offered within these communities.

Individuals with access to technology center (Question 1b):

The first section of this question pertains to the groups who have access to these centers. This question is broken up into two main sections. The first section explores three main categories on who has access to the centers (employees, CBO's, and community members) and is based on a total number of 12 respondents. Because of the particular nature of CBO's they catered to all categories within this section and did the most work with community members. Neither libraries or schools did as much collaborative work with other organizations or provided as many services to the community. The subsection of this question pertains to the exact types of community members who have access and the centers purpose for providing their services. It is clearly indicated that outside of in school youth and low literacy (related to in school youth) that CBO's provide more overall services. This is particularly true when compared with libraries. It is also true in regards with schools whose primary purpose is to cater to youth. The number of respondents for this subsection was 12.

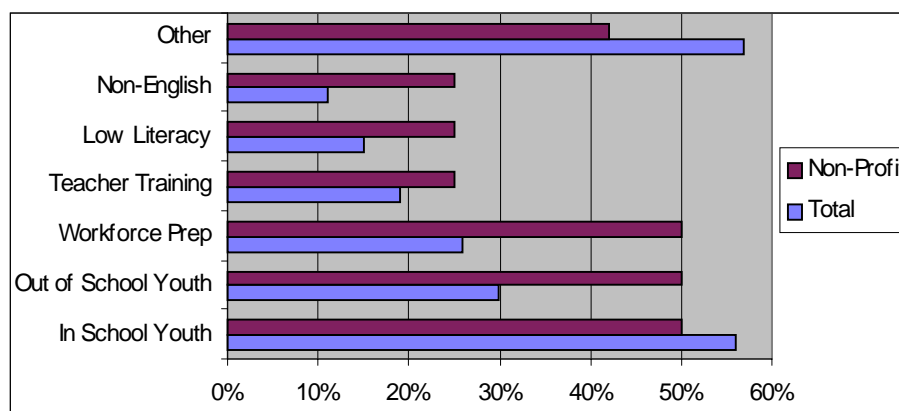
WHO HAS ACCESS		
Employees	Other CBO's	Community Members
83%	42%	83%

N=12



Note: %'s calculated based upon multiple selections for this question

Community Member Access					
In School Youth	Out of School Youth	Workforce Prep	Teacher Training	Low Literacy	Non-English
50%	50%	50%	25%	25%	25%



Note: %'s calculated based upon multiple selections for this question

N=12

Number of visitors to center (Question 1c):

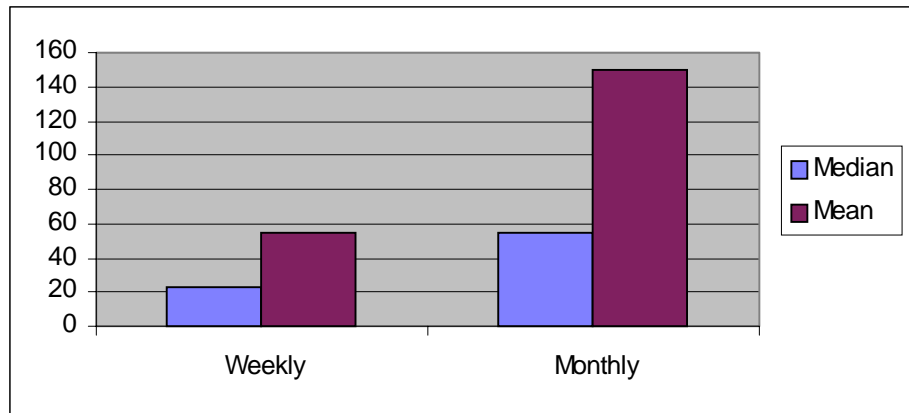
The number of visitors is based on the estimated total number of CBO respondents for this survey on a monthly and weekly basis. The results are broken up into median and mean for estimated weekly and monthly use. The range for visitors during a week had a low of 2 and a high of 200. Likewise, the range for visitors in a month had a low of 8 and a high of 600.

Number of Users		
	Weekly	Monthly
Median	23	55
Mean	55	150

N=12

Number of Workstations/Computers*	
Median	18
Mean	25

N=12



* This chart was taken from a question on the next page titled "Number of Workstations/Computers"

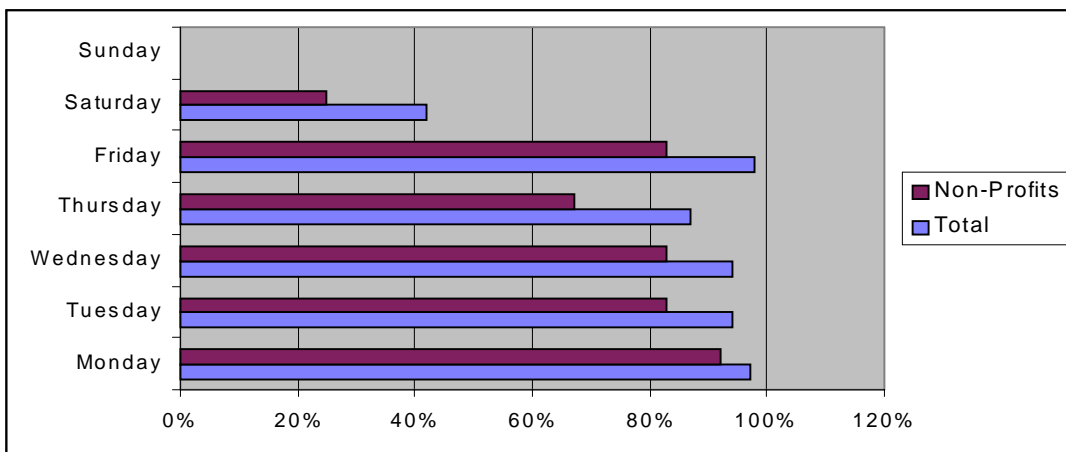
Days Open (Question 1d):

This question represents the percentage of respondents centers open each day of the week. As mentioned in previous sections the most interesting aspect of this question is that none of the centers are open on Sundays. Additionally, relatively few, except for libraries, are open on Saturdays, which does make it more difficult for many individuals whose only free times are on the weekends. One interesting aspect with CBO's is that due to lack of resources and funding they are typically unable to stay open every day of the week. However, considering what many of these organizations have in terms of resources they do not fall that far behind with the others for the days that they are open. The majority of CBO's were open later than either schools or libraries. Some opened their doors as early as 7am and a few stayed open as late as 9pm in order to cater to all individuals within their community.

Days Open						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
92%	83%	83%	67%	83%	25%	0%

Note: %'s calculated based upon multiple selections for this question

N=12



Number of Computers/Workstations Available (Question 1e):

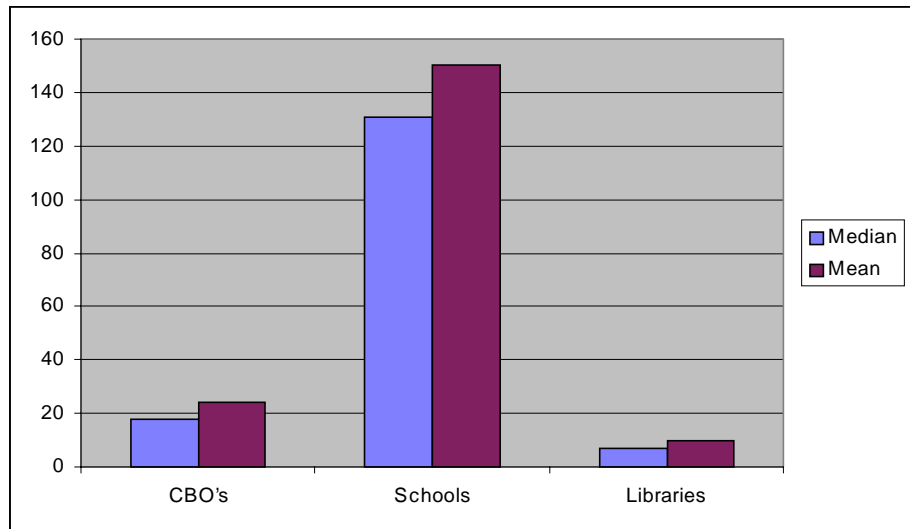
The number of computers/workstations is based on the total number of CBO's for this section. The results are broken up into median and mean for estimated number of machines. These charts show that CBO's have more capacity than Libraries, but far less then the typical school. Most respondents stated that there was a great need for more machines to keep up with demand of their centers. However, donations and funding proved a significant factor in the types and number of machines available. The number of computers for CBO's ranged from a low of 5 to a high of 75 per organization. The range of machines available varied from a low of 6 to a high of 75. Finally the ratio of visitors to computers in a given day was 1.28.

Number of Workstations/Computers	
Median	18
Mean	25

N=12

Number of Users*		
	Weekly	Monthly
Median	23	55
Mean	55	150

N=12



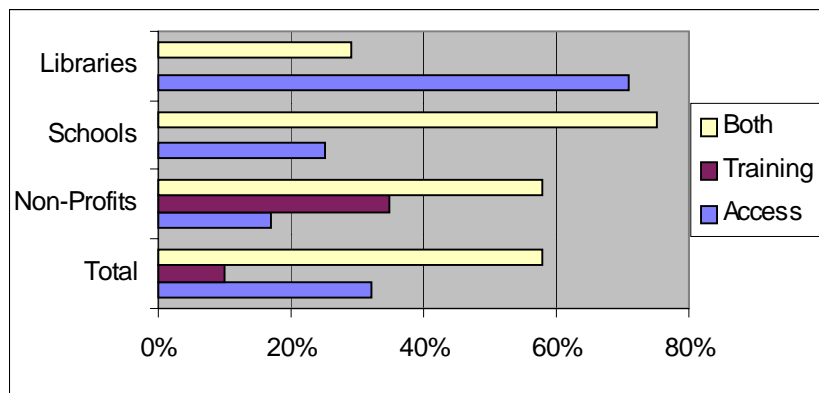
* This chart was taken from a previous question titled "Number of Users"

Access or Training (Question 1f):

This questions portrays the number of CBO's that offer either access to technology, training in technology, or a combination of both. Respondents who choose both are not re-counted for access and/or training. The vast majority of CBO's offer both access and training for their members. However, two organization, Housing Resource Center and Chicago Teachers Center, offer simple access to direct members due to insufficient resources in staff and equipment. Training if referred to as any type of structured teaching in regards to computers. Access on the other had refers to simple access to the technology without any structured enviornment for learning. The equipment is provided as a resource to be used to fulfill personal needs. Many organizations, 60%, offer a combination of access and training.

Access/Training		
Access	Training	Both
10%	30%	60%

N=12



The following four topics and findings are based on the responses to the previous question. It goes into further detail about various aspects of training a particular organization may offer. Ten CBO's answered these questions.

Instructors (Question 1f1):

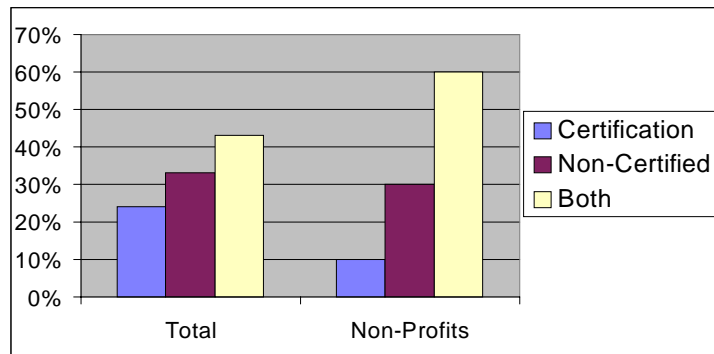
As with the previous section, this question proved somewhat difficult for most respondents to answer. A relatively high percentage 83% of respondents had instructors available in their centers. The primary reason that the number varied and among the types of services and access the particular organization provided. Those CBO's that offered actual training and classes were much more likely to have more staff on a regular basis. In most cases these organizations relied on staff to perform a variety of tasks and duties. The median number of instructors was 2; 2 instructors at a time depending on their training schedules.

Instructor Qualifications (Question 1f2):

This question focuses on the instructor's certification at a particular organization. Qualifications is understood to be any type of certification in technology or technical training. This qualification could vary from a degree to a certificate from an accredited university or community college. Only 10% of CBO's had instructors who had certification while 30% had a combination of instructors with without certification. As a result, most CBO's had at least one instructor or staff member on hand who had certification or some form of training.

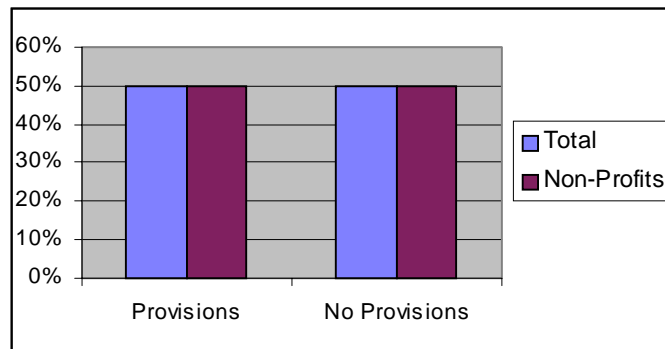
Instructor Certification		
Certification	Non-Certified	Combination of both
10%	30%	60%

N=10



Staff Training (Question 1f3):

This question focuses on whether or not the organization provides technology training for employees and volunteers both outside and including those individuals officially assigned to technology centers. Limited resources greatly restricted such training and many employees and volunteers provide seek out training on their own.



N=10

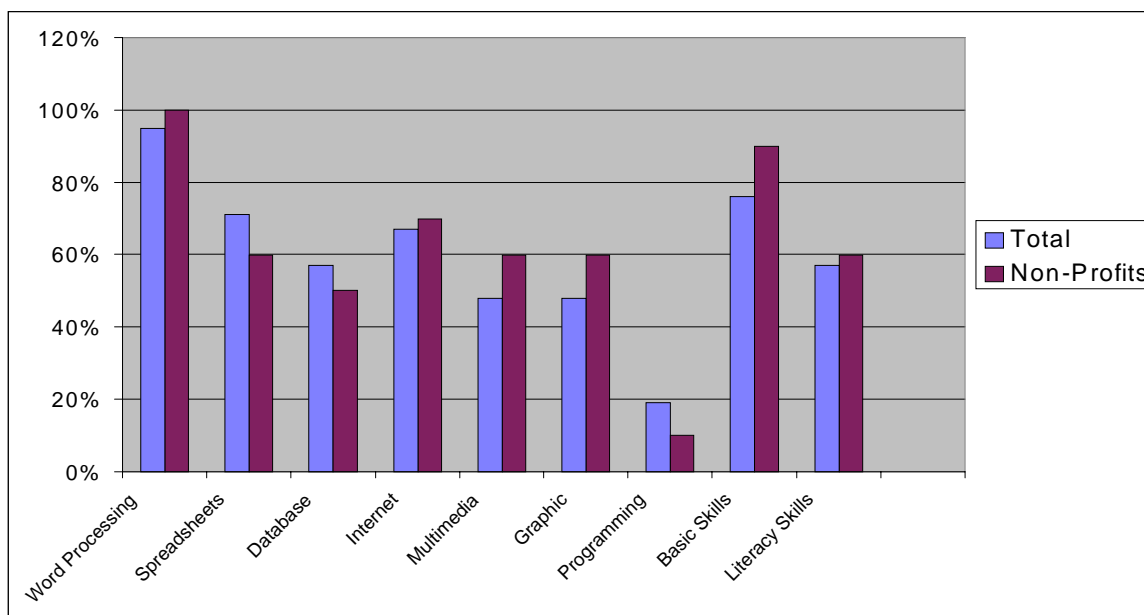
Community Based Organizations
Types of Training (Question 1f6):

Section I - Access and Training

This question refers to the types of technology/computer training that a particular organization may provide. Word Processing and Basic computer skills represent the largest percentage of training provided with programming and database design presenting the least. The majority of CBO's indicated that the greatest need was basic skills in a variety of applications. None of the respondents indicated any training in computer hardware repair and/or design. The majority of the response "other" represented basic computer skills and specialty training in educational packages.

Types of Training								
Word Processing	Basic Skills	Internet	Graphic	Multimedia	Spreadsheets	Literacy Skills	Database	Programming
100%	90%	70%	60%	60%	60%	60%	50%	10%

Note: %'s calculated based upon multiple selections for this question
 N=10



Open Access Assistance (Question 1g):

This question pertains to all of the CBO's who provide access to technology and whether or not they offer any types of assistance. This assistance could be anything from helping someone print a document to trouble shooting a spreadsheet. In most cases the only support given outside instruction was basic troubleshooting and assistance.

Assistance	
Yes	No
64%	36%

N=11

II. Hardware

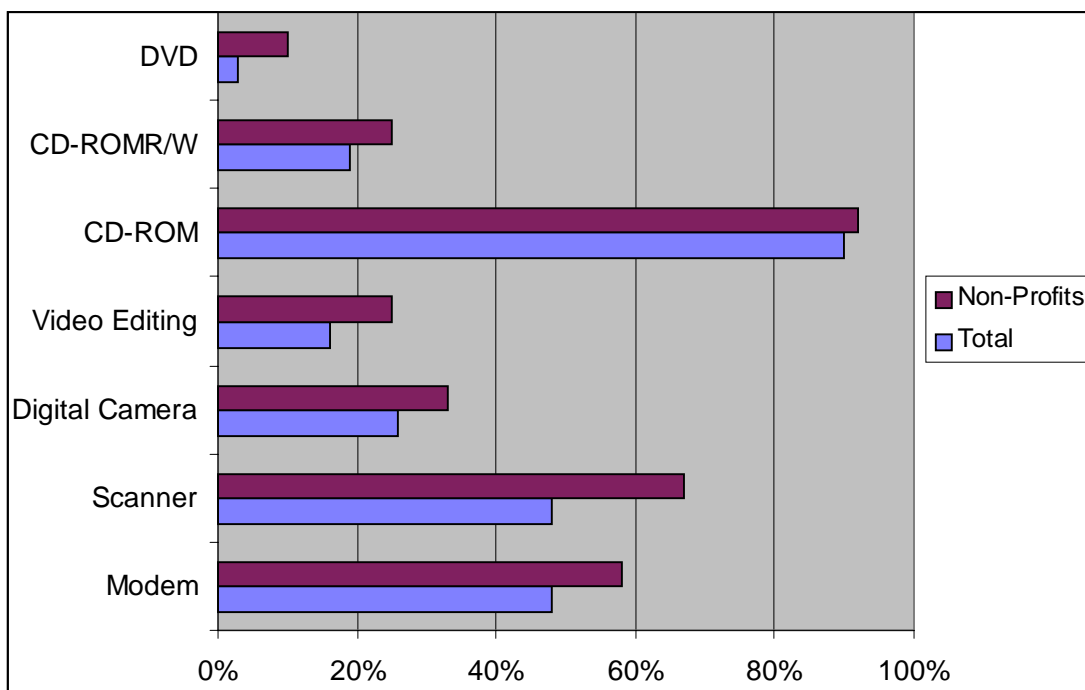
The purpose of this category is to better understand the types of hardware currently available in these various organizations. These include types of computers and peripherals available to the various individuals they cater. In addition, this category explores the current status of each center in terms of upgrade plans and capacity.

Types of Technology (Question 2a):

This question explores the types of technology offered by each of the CBO’s surveyed. Overall, these organizations were much more technologically diverse than the libraries and schools. This is evident in their capacity in regards to equipment such as DVD drives. “Other” represented technologies not represented in the categories and included items such as video cameras and specialty hardware for video conferencing via the Internet.

CD-ROM	Scanner	Modem	Digital Camera	CD-ROMR/W	Video Editing	DVD
92%	67%	58%	33%	25%	25%	10%

Note: %’s calculated based upon multiple selections for this question
N=12

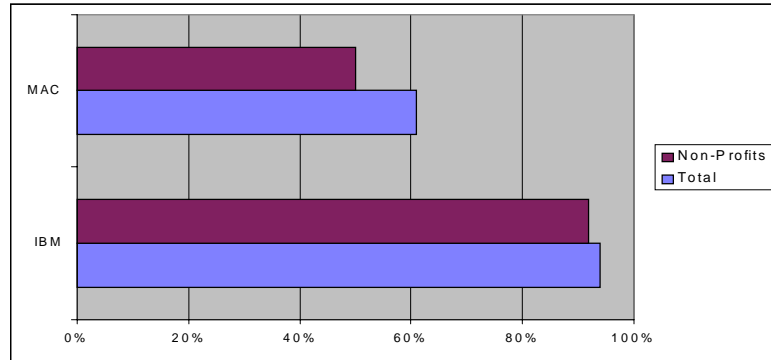


*Community Based Organizations
Types of Computers (Question 2b):*

This question explores the types and kinds of computers offered in each center. Most CBO's had a combination of IBM compatible and Macintosh based systems.

Types of Computers	
IBM	MAC
92%	50%

N=12



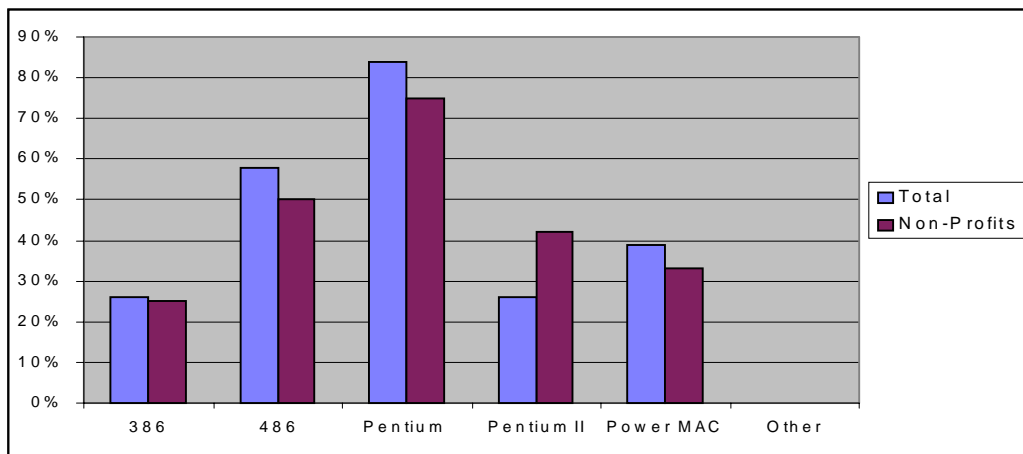
Note: %'s calculated based upon multiple selections for this question

Computer Class (Question 2c):

This question further explores the types of computers offered in each center by asking what class of computer they have. Most CBO's seem up to date in computer technology with the majority utilizing Pentium based systems. However, many also have to use some on older systems such as 386 based machines. Because many organizations reported they rely on donations from a variety of sources to provide them with their equipment, they work with a brood range of equipment in all classes.

Class of Computers					
386	486	Pentium	PentiumII	Power MAC	Other
25%	50%	75%	42%	33%	0%

Note: %'s calculated based upon multiple selections for this question
N=12



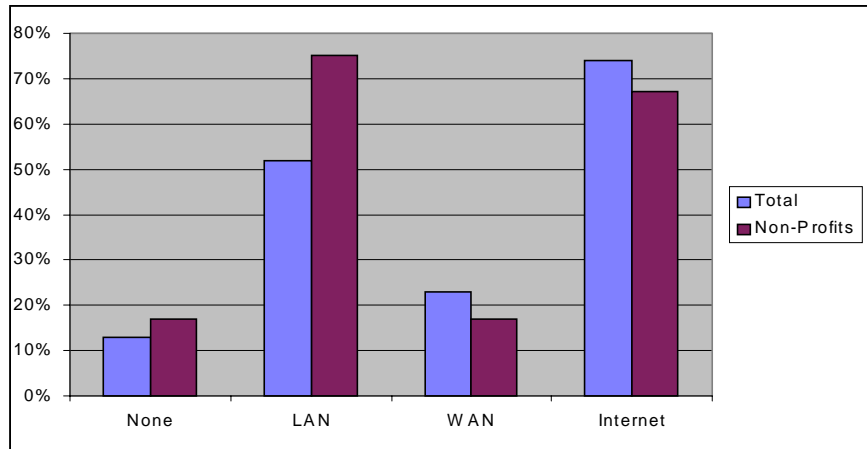
**Community Based Organizations
Network (Question 2d):**

Section II - Hardware

This question explores whether or not centers have network capabilities and the types of network connections that they have. This includes local area networks, wide area networks, and Internet connectivity. The first section to this question asks for basic network information while the second section explores more detailed information about their Internet connectivity if they have it. All CBO's surveyed had some sort of network connection established whether it be a local, wide or Internet based connection. 80% of all respondents had both local area networks established and some sort of Internet connection. The vast majority of those organizations connected to the Internet do so over basic phone lines using a modem. The remainder had ISDN or dedicated connection such as T1 lines. Of those organizations that stated "other" only one indicated the use of a T1 line. The other respondents knew they were connected to the Internet but did not know the type of connection they had. The first section "network connectivity" is based on a total of 12 respondents while the second section "Internet connectivity" is based on 11.

Network Connectivity			
None	LAN	WAN	Internet
17%	75%	17%	67%

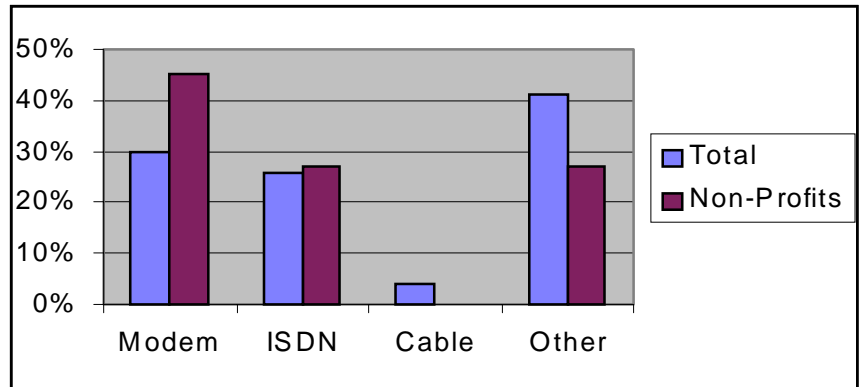
N=12



Note: %'s calculated based upon multiple selections for this question

Internet Connectivity			
Modem	ISDN	Cable	Other*
45%	27%	0%	27%

N=11



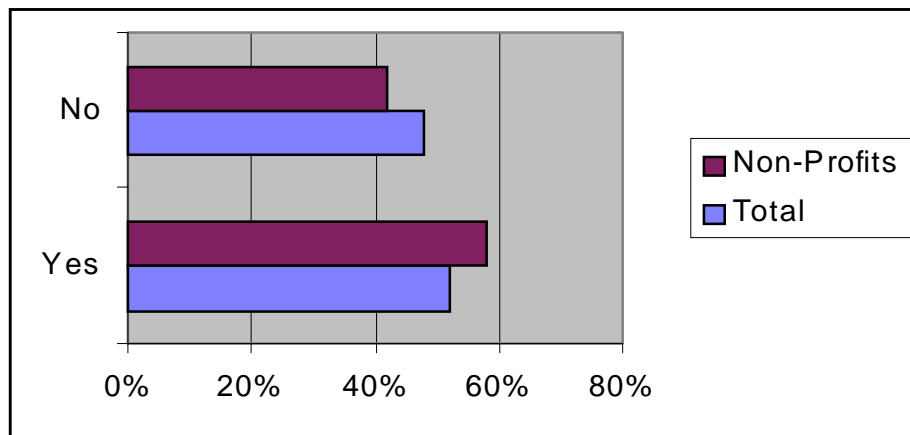
Note: %'s calculated based upon multiple selections for this question

* Other represented CBO's who connected to the Internet via different means of those categorized for this survey. Most did not know how they connected to the Internet. However, only one indicated a connection through a T1 connection.

This question explores the issue of upgrading hardware and software. More than half of the CBO's have an upgrade plan (52%) at the time this survey was taken. Unfortunately, a large percentage (48%) were unable to put any such plan into effect due to a lack of resources, donations, and/or funding. Many stated that they would like to incorporate an upgrade plan but are simply unable to do so.

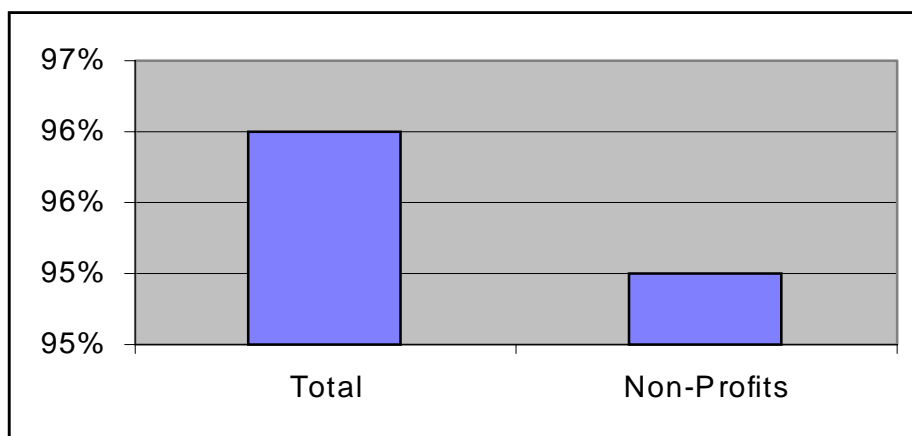
Upgrade Plan	
Yes	No
52%	48%

N=12



Percentage of Computers Running (Question 2f):

This question examines the percentage of computers currently working at the time of the survey. It was found that 95% of all computers/workstations in the CBO's were running at the time of this survey. This question is calculated on all 12 CBO's surveyed for this report.



Note: %'s calculated based upon multiple selections for this question
N=12

III. Organization

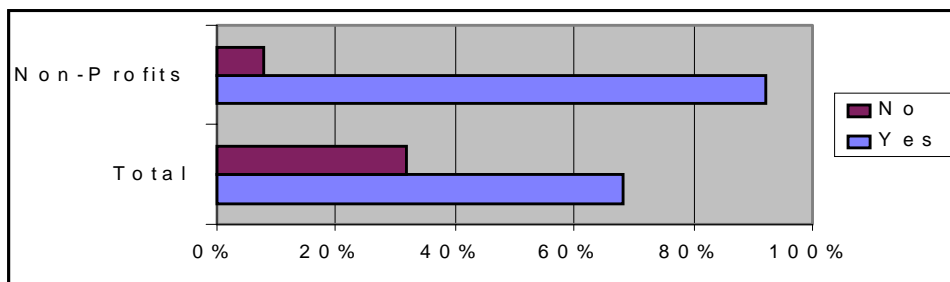
The purpose of this category is to better understand the type of organization surveyed and their capacity in terms of collaboration, awareness, and funding.

Collaboration with Other Organizations (Question 4c & 4c1):

Collaboration could simply be offering their center to other organizations for training or presentations. This question is split into two parts. The first part is based on the total number of 12 respondents and simply asks whether or not the organization does collaboration. The second part explores in more detail who the organizations collaborate with and is based on 11(92%) of respondents who answered yes to the first question. In the case of CBO's this type of collaboration varied greatly. This varies from working with other organizations on particular projects to offering their labs for training or specific use of applications or equipment. Additionally, all community based organizations who responded yes to collaboration did so with other community based organizations with the majority remaining doing some kind of work with schools or educational institutions. The difference between educational institutions and schools are subtle depending on the institutions own definition. With this, schools are defined as accredited educational institutions such as grammar schools and high schools while educational institutions represent universities and non-profit based educational facilities.

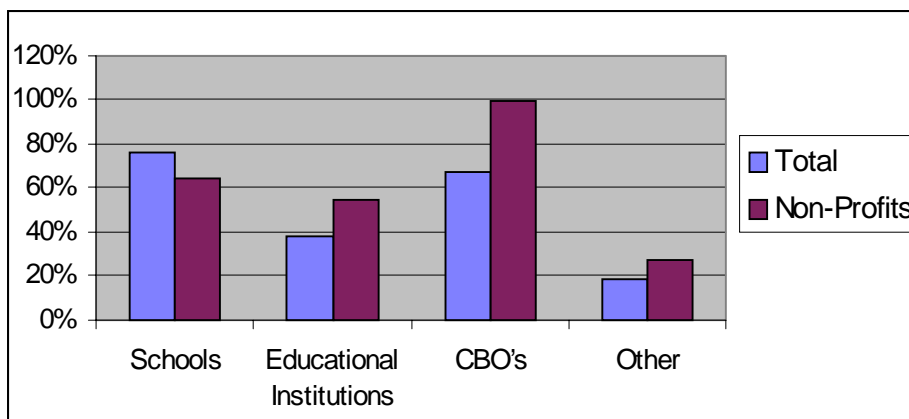
Collaboration	
Yes	No
92%	8%

N=12



Collaboration With			
Schools	Educational Institutions	CBO's	Other
64%	55%	100%	27%

N=11



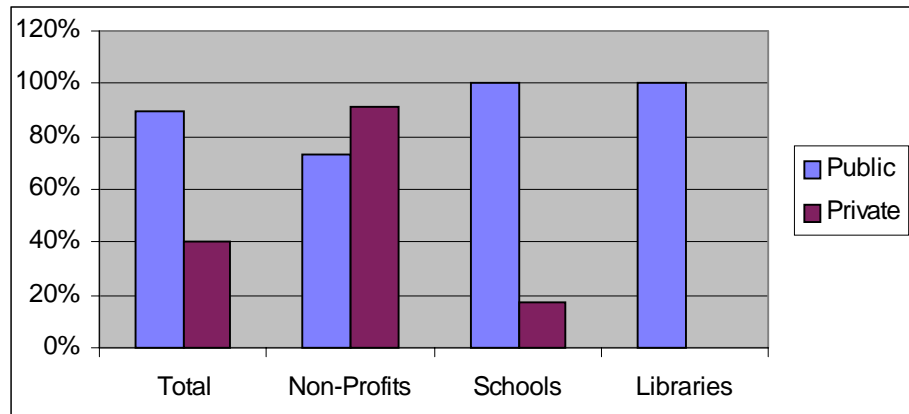
Note: %'s calculated based upon multiple selections for this question

Funding:

This question explores the types of funding an organization receives public or private funding. CBO's are most dependent on private funding. Additionally it is important to note that public funding is spread across all programs within a particular organization and not limited to technology.

Funding	
Public	Private
73%	91%

N=11



Observations

- Most CBO's have open access but this is only available to individuals who are already connected with the particular organization. Most do not provide training and/or access to individuals right off the street.
- There appear to be clusters of CBO's located in the north side, near north side and mid south sides of the city.
- Funding was a major limitation in the services and resources that CBO's could provide to community members but many were able to stretch their existing resources. Likewise, they are more dependent on private funding.
- CBO's offered a broader selection of services and resources for a variety of purposes.
- CBO's set themselves apart from Libraries and Schools in the fact that they provide more access to a cross-section of community residents and provide a better combination of training and open access to those residents.
- Most are active in using technology as a component of workforce preparation.

Section IV

Schools



School Results

Acquiring a list of school locations with technology centers proved difficult. Several calls to the Office of Technology at the Board of Education proved fruitless since they do not have any list of such schools. The only help they could offer was a listing of all the public schools located within the city. As a result, we turned to members and CBO's to help provide us with the list of schools that had centers. As with the other sections we also relied on adding additional schools through the contacts we had already made through our original listing. Unfortunately, there is no way of knowing the extent this listing represents the true number of schools with technology centers. Additionally, since the majority of our contacts provided us with listings of high schools, the majority of this sample focused on such institutions.

Most schools only offered their resources to the students. In some cases parents of students were offered access to these centers but this was the exception and not the rule. Only four schools (Prologue Alternative High School, Garfield High School, Wells and Mather) had programs that offered their resources to members within the surrounding community otherwise it was simply limited to student and teacher use. (Note: prologue is a privately organized school that currently operates under a charter granted by the Chicago Public Schools) These were the only schools in the survey to expand their services to individuals outside of the classroom. These community programs offered access as well as training to individuals outside of the schools, typically on weekends, when students would not be requiring those resources.

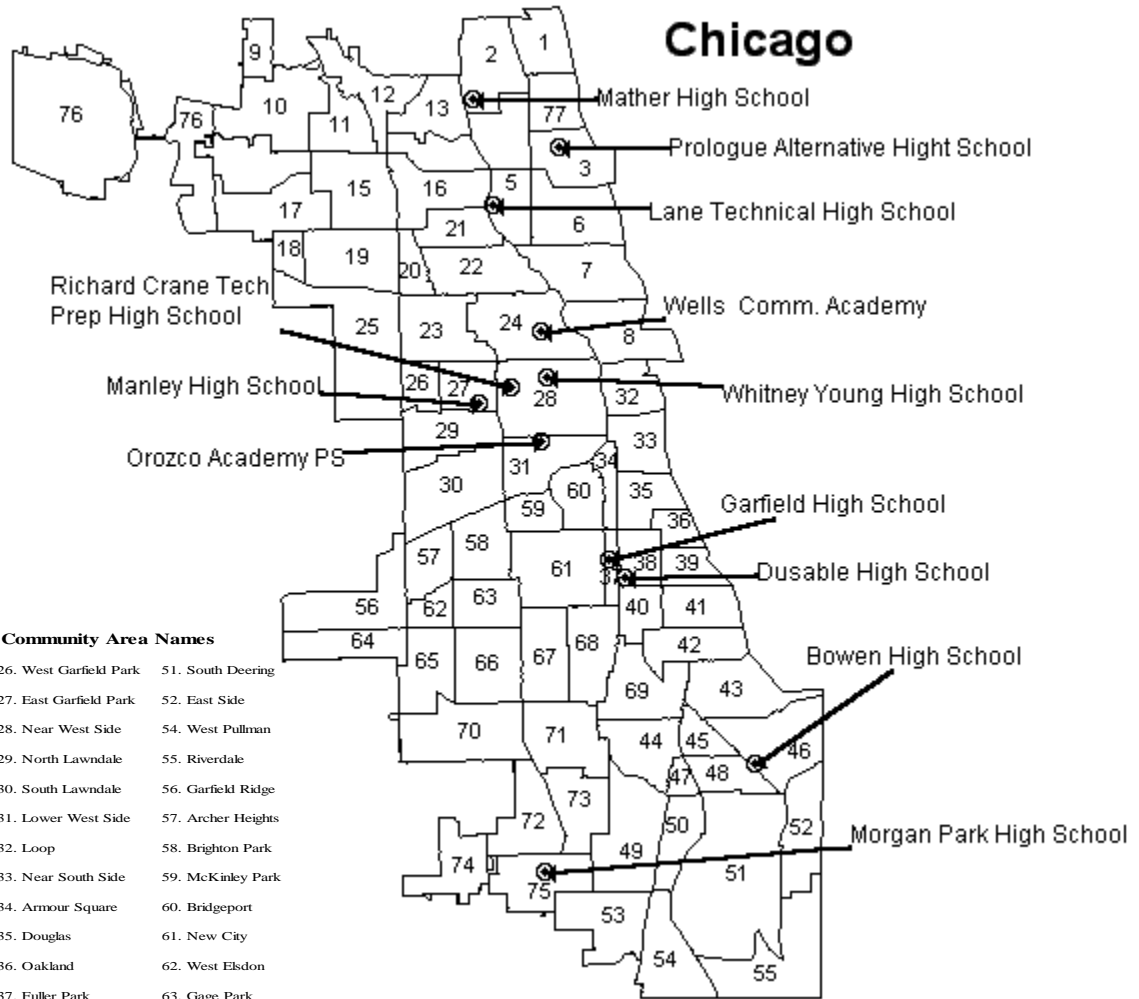
Most schools reported relatively high figures for their capacity and ability to offer equipment, training and resources to their students. However, it is difficult to understand these abilities in the light of their limited resources. With an average of two instructors per school it is difficult to imagine the ability to keep up with a median of 400 students per week. In addition there was never any mention of programs available for training teachers to embrace and utilize the technology available.

Locations:

The following table and map illustrates the locations of all 12 Chicago public schools surveyed containing technology centers.

Bowen High School	2710 E. 89th St.
Dusable High School	4934 S. Wabash
Garfield High School	220 W. 45th Pl.
Lane Technical High School	2501 W. Addison St.
Manley High School	2935 W. Polk St.
Mather High School	5835 N. Lincoln
Morgan Park High School	1744 W. Pryor Ave.
Orozco Academy PS	1645 W. 18th Pl.
Prologue Alternative High School	1105 W. Lawrence Ave.
Richard Crane Tech. Prep High School	2245 W. Jackson Blvd.
Wells High School	936 N. Ashland Ave.
Whitney Young High School	24 S. Laflin St.

Chicago



Community Area Names

- | | | |
|--------------------|------------------------|----------------------------|
| 1. Rogers Park | 26. West Garfield Park | 51. South Deering |
| 2. West Ridge | 27. East Garfield Park | 52. East Side |
| 3. Uptown | 28. Near West Side | 54. West Pullman |
| 4. Lincoln Square | 29. North Lawndale | 55. Riverdale |
| 5. North Center | 30. South Lawndale | 56. Garfield Ridge |
| 6. Lake View | 31. Lower West Side | 57. Archer Heights |
| 7. Lincoln Park | 32. Loop | 58. Brighton Park |
| 8. Near North Side | 33. Near South Side | 59. McKinley Park |
| 9. Edison Park | 34. Armour Square | 60. Bridgeport |
| 10. Norwood Park | 35. Douglas | 61. New City |
| 11. Jefferson Park | 36. Oakland | 62. West Elsdon |
| 12. Forest Glen | 37. Fuller Park | 63. Gage Park |
| 13. North Park | 38. Grand Boulevard | 64. Clearing |
| 14. Albany Park | 39. Kenwood | 65. West Lawn |
| 15. Portage Park | 40. Washington Park | 66. Chicago Lawn |
| 16. Irving Park | 41. Hyde Park | 67. West Englewood |
| 17. Dunning | 42. Woodlawn | 68. Englewood |
| 18. Mont Clare | 43. South Shore | 69. Greater Grand Crossing |
| 19. Belmont Cragin | 44. Chatham | 70. Ashburn |
| 20. Hermosa | 45. Avalon Park | 71. Auburn Gresham |
| 21. Avondale | 46. South Chicago | 72. Beverly |
| 22. Logan Square | 47. Burnside | 73. Washington Heights |
| 23. Humboldt Park | 48. Calumet Heights | 74. Mount Greenwood |
| 24. West Town | 49. Roseland | 75. Morgan Park |
| 25. Austin | 50. Pullman | 76. O'Hare |
| | | 77. Edgewater |

I. Access and Training

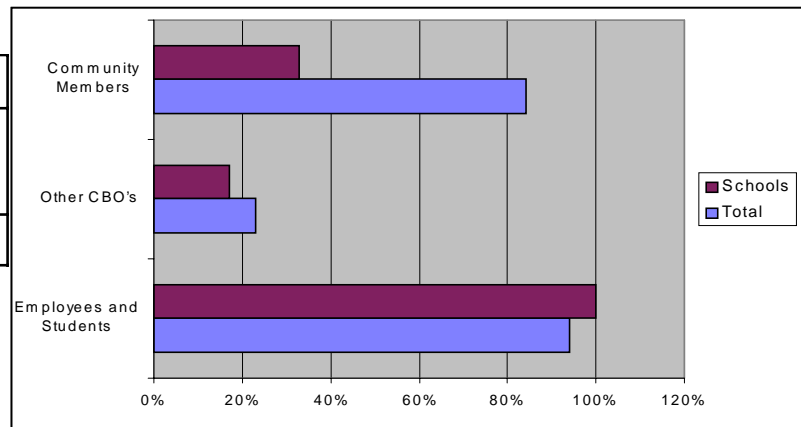
The purpose of this category is to better understand the types of access and training currently offered within the schools. These include questions identifying the target populations, size of programs, types of access and training, and capacity.

Individuals with access to technology center (Question 1b):

The first section of this question pertains to the groups who have access to these centers. This question is broken up into two sub-sections. The first section explores three main categories on who has access to the centers (employees and students, CBO's, and community members) and is based on a total number of 12 respondents. Schools practically did not offer any of their resources or services to those outside of the school system except for four (Prologue Alternative High School, Garfield High School, Wells and Mather) had provisions for community members. The subsection of this question refers to their focus in providing access to community members in offering access and training. School youth and literacy training were the categories most serviced in this subsection while the others were utilized by at least one of the two schools. Overall the schools primarily catered to those within a structured learning environment. The number of respondents for this subsection was 4.

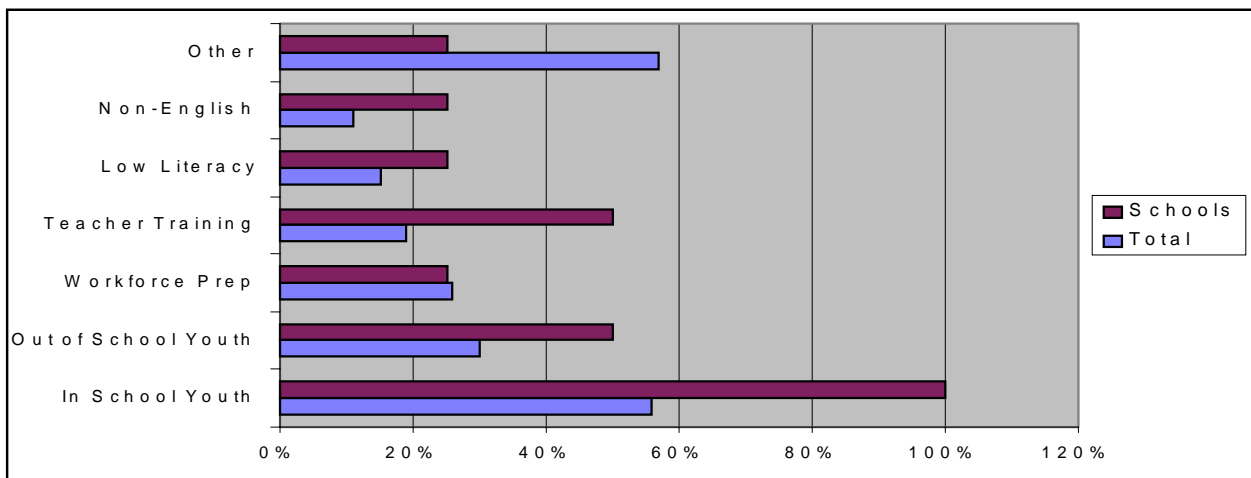
WHO HAS ACCESS		
Employees and Students	Other CBO's	Community Members
100%	17%	33%

N=12



Note: %'s calculated based upon multiple selections for this question

Community Member Access						
In School Youth	Out of School Youth	Workforce Prep	Teacher Training	Low Literacy	Non-English	Other
100%	50%	25%	50%	25%	25%	25%



Note: %'s calculated based upon multiple selections for this question

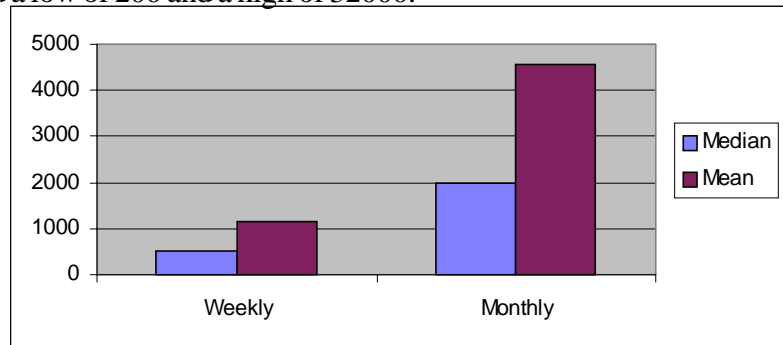
N=4

Number of visitors to center (Question 1c):

The number of visitors is based on the estimated total number of respondents for this survey on a monthly and weekly basis. The results are broken up into median and mean for estimated weekly and monthly use. The schools serve a larger population. However, questions are raised when these numbers are compared to the number of trainers that each school has for their centers. With a median number of 500 students a week and one instructor. This means that one instructor would have to cater to roughly 100 students per day within the center. Wells High school reported having approximately 8000 visitors to their computing center each week. This almost double, 3200 more users, than Mather who reported having 4800 weekly visitors to its lab. The range for visitors during a week had a low of 50 and a high of 8000. Likewise, the range for visitors in a month had a low of 200 and a high of 32000.

Number of Users		
	Weekly	Monthly
Median	500	2000
Mean	1143	4571

N=11



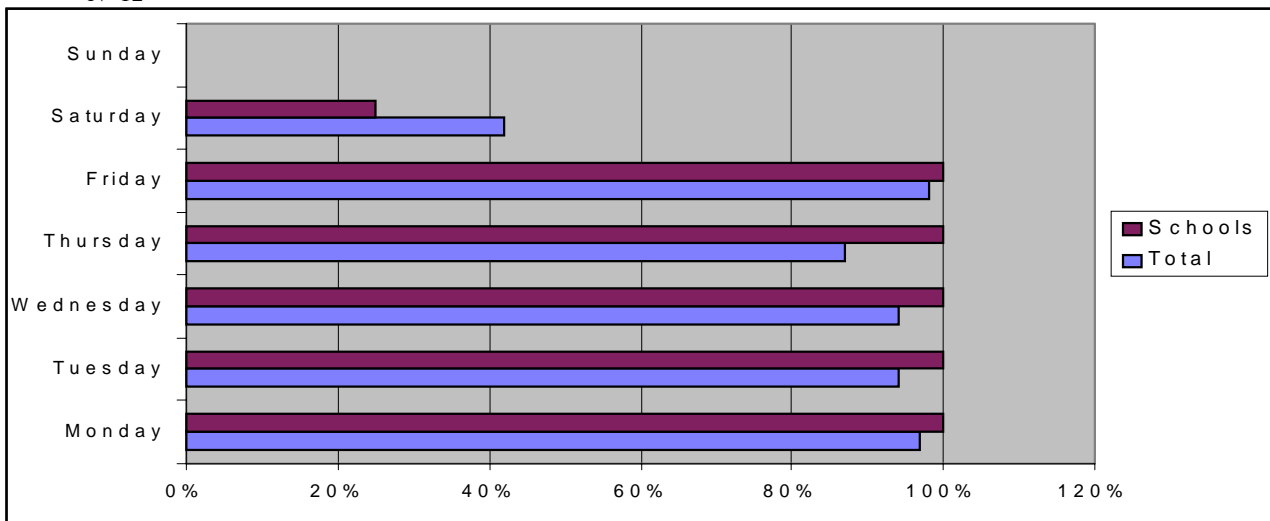
Days Open (Question 1d):

This question represents the percentage of centers open each day of the week. As mentioned in previous sections, the most interesting aspect of this question is that none of the centers are open on Sunday, which makes it difficult for students or parents to access during their free time. Many schools stated they offer their labs to parents, during their free times. This is especially true of parents in these communities who often have to work during the week. What makes it even more difficult is the fact that the majority of centers close around the same time the school does with few staying open an hour or two longer. The only real exception was Prologue Alternative High School and Wells High School which had flexible hours and would stay open till nine in the evening and was open on Saturdays which were open till 4 or 5 P.M. on weekdays and had weekend hours.

Days Open						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
100%	100%	100%	100%	100%	25%	0%

Note: %'s calculated based upon multiple selections for this question

N=12



Number of Computers/Workstations Available (Question 1e):

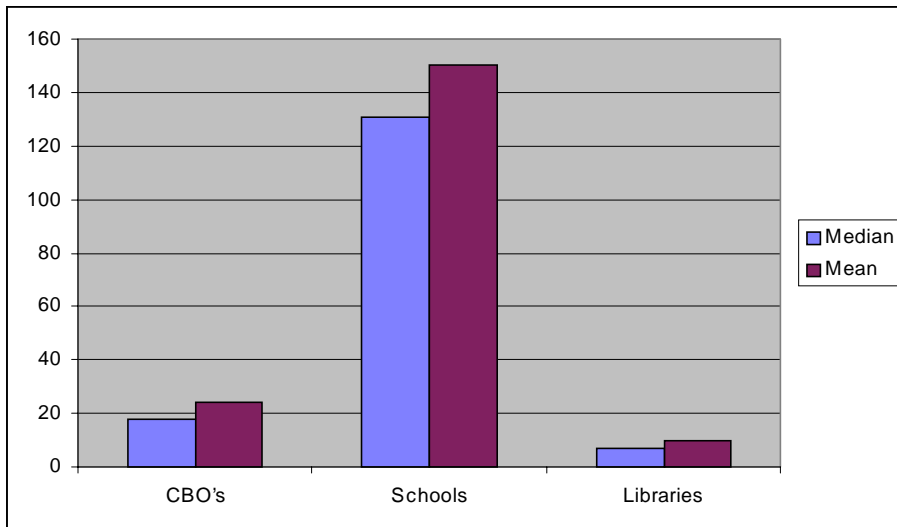
The number of computers/workstations is based on the total number of schools for this section. The results are broken up into median and mean for estimated number of machines. Schools clearly have the lead in terms of computers and equipment when compared to libraries and CBO's. The range varied from a low of 15 computers for Garfield to a high of 350 computers for Wells High School. The ratio of visitors to computers in a given day was .636.

Number of Workstations/Computers	
Median	131
Mean	150

N=12

Number of Users*		
	Weekly	Monthly
Median	500	2000
Mean	1143	4571

N=11



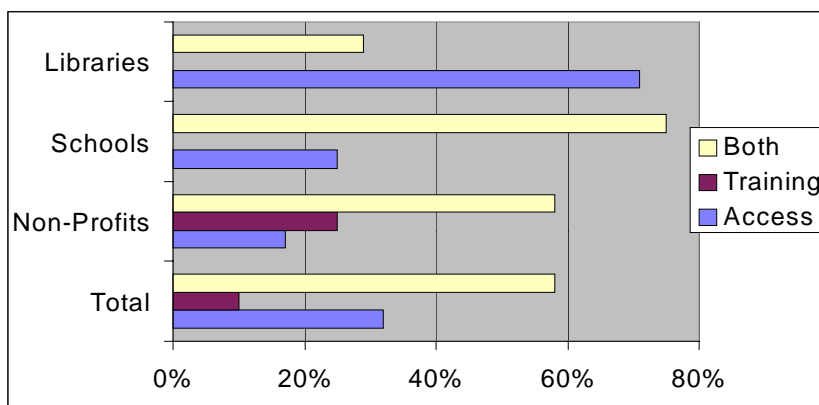
* This chart was taken from a previous question titled "Number of Users"

Access or Training (Question 1f):

This question refers to the number of schools that offer either access to technology, training in technology, or a combination of these. Respondents who choose both are not recounted for access and/or training. All schools provided a combination of access and/or training. However, most training was done as part of classroom instruction and specific instruction to computers or technology was not indicated. Additionally, the labs were typically open for short periods of time, one or two hours, after school with the exception of Prologue and Wells High Schools. These centers were only available to employees, students and in some cases parents.

Access/Training		
Access	Training	Both
25%	0%	75%

N=12



The following four questions are based on the respondents selection for the last question. It goes into further detail about various aspects of training a particular organization may offer. Due to the nature of these centers in the libraries surveyed only two are represented in the following questions.

Instructors (Question 1f1):

Some of the schools that were contacted had some difficulty answering this question due to the organization and nature of the center. Most centers had one or two dedicated instructors, but also had teachers who helped out with instruction. This was especially the case when the lab was used as part of classroom instruction. However, most of these instructors were also responsible for general maintenance and upkeep of the equipment as well. The number of instructors ranged from a low of 0 to a high of 10.

Instructors	
Median	05
Mean	2.6

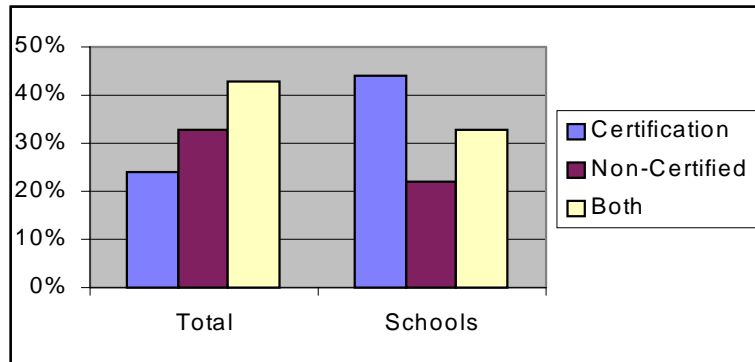
N=10

Instructor Qualifications (Question 1f2):

This question focuses on the instructor’s certification at a particular school. Qualification is understood to be any type of certification in technology or technical training. This qualification could vary from a degree to a certificate from an accredited university or community college.

Instructor Certification		
Certification	Non-Certified	Combination of both
44%	22%	33%

N=9

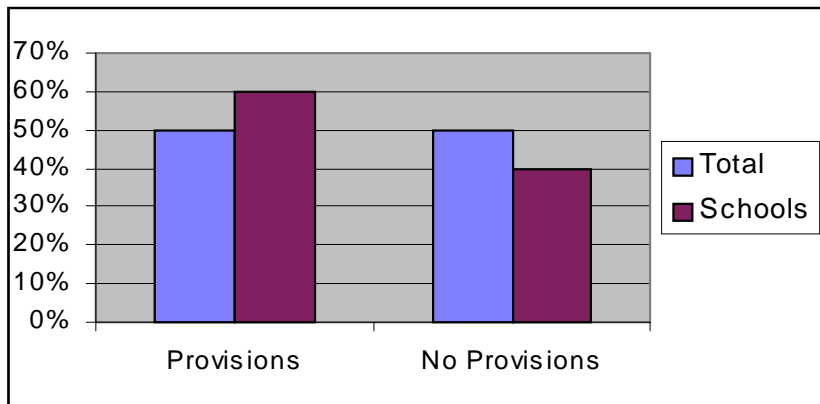


Staff Training (Question 1f3):

More than half of the schools surveyed stated that they would provide training to their staff but do not have the in house expertise to do so.

Provide Training	
Yes	No
60%	40%

N=10

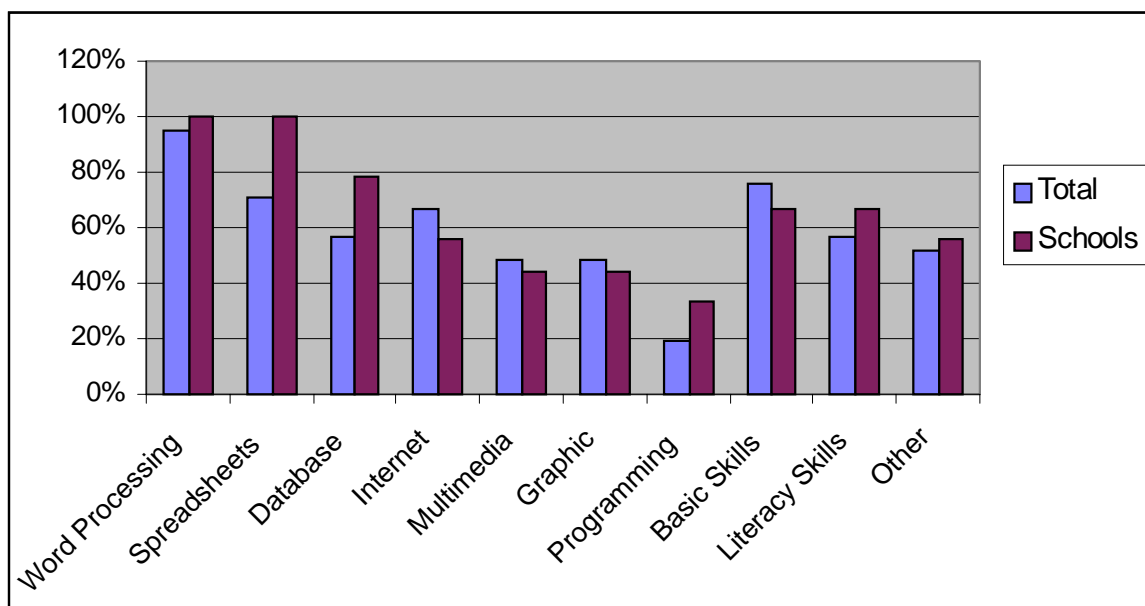


Types of Training (Question 1f6):

This question refers to the types of technology/computer training that a particular school may provide. Word Processing and Spreadsheet skills represented the largest percentage of training provided with programming presenting the least taught among schools. The “other” category represented specific software skills that are taught as part of classroom instruction. Details regarding this was not given but of those listed are high school GRE preparation applications and various educational titles. None of the respondents indicated any training in computer hardware repair and/or design.

Types of Training								
Word Processing	Spreadsheets	Database	Basic Skills	Literacy Skills	Internet	Multimedia	Graphic	Programming
100%	100%	78%	67%	67%	56%	44%	44%	33%

Note: %'s calculated based upon multiple selections for this question
N=9



Open Access Assistance (Question 1g):

This question pertains to all of the schools that provide access to technology and whether or not they offer any types of assistance. This assistance could be anything from helping someone print a document to trouble shooting a spreadsheet. In most cases the only support given outside instruction was basic troubleshooting and assistance.

Assistance	
Yes	No
83%	17%

N=12

II. Hardware

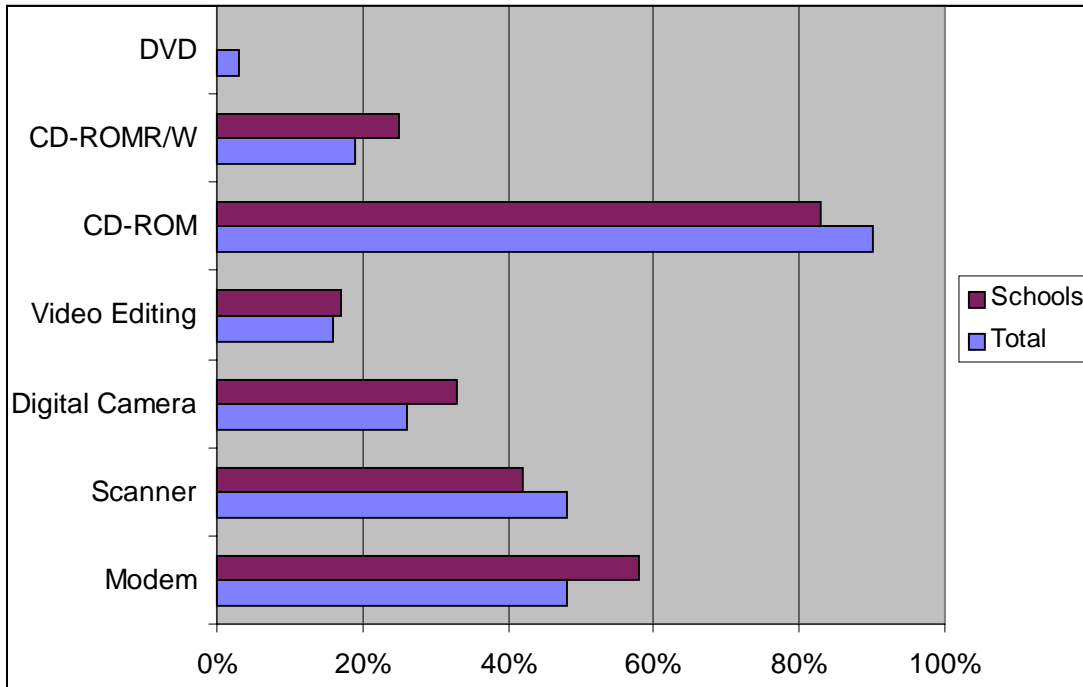
The purpose of this category is to better understand the types of hardware currently available in these various schools. These include types of computers and peripherals available to the students, staff, and parents. In addition, this category explores the current status of each center in terms of upgrade plans and capacity.

Types of Technology (Question 2a):

This question explores the types of technology offered in each of the schools surveyed. Overall, schools had a broad range of technologies but primarily focused on basic computers and CD-Rom drives. Very few schools had scanners, digital cameras, CD-RomR/W. Additionally, none had DVD drives. The schools, although better than libraries, do not match the offerings that community based organizations have in terms of equipment offered and availability.

CD-ROM	Modem	Scanner	Digital Camera	CD-ROMR/W	Video Editing	DVD	Other
83%	58%	42%	33%	25%	17%	0%	0%

Note: %'s calculated based upon multiple selections for this question
N=12

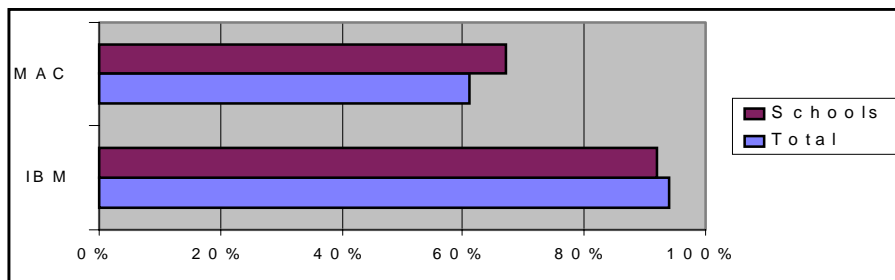


Types of Computers (Question 2b):

This question explores the types and kinds of computers offered in each center. Most schools had a combination of IBM compatible and Macintosh based systems.

Types of Computers	
IBM	MAC
92%	67%

N=12



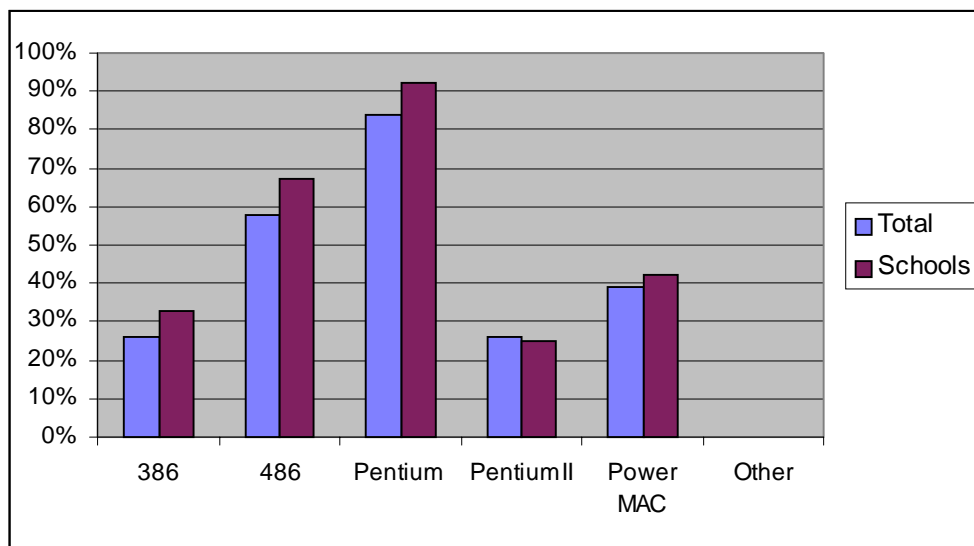
Note: %'s calculated based upon multiple selections for this question

Computer Class (Question 2c):

This question further explores the types of computers offered in each center by asking what class of computer they have. Community based organizations seem to be in the lead in offering more modern computer equipment having a larger percentage of Pentium II based systems. Additionally, schools have a larger percentage of 386 and 486 taking the lead from community based organizations and libraries

Class of Computers					
386	486	Pentium	PentiumII	Power MAC	Other
33%	67%	92%	25%	42%	0%

Note: %'s calculated based upon multiple selections for this question
N=12

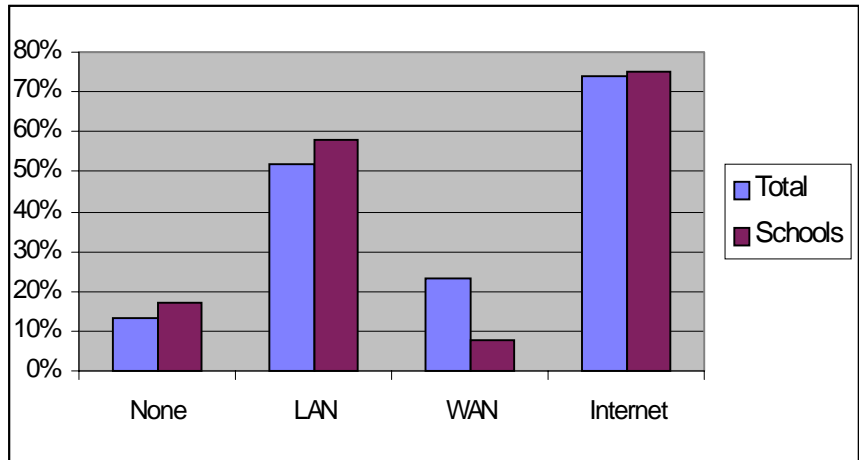


Network (Question 2d):

This question explores whether or not centers have network capabilities and the types of network connections that they have. This includes local area networks, wide area networks, and Internet connectivity. The first section to this question asks for basic network information while the second section explores more detailed information about their Internet connectivity. Almost all schools surveyed had some sort of network connection established whether it be a local, wide or Internet based connection. Only 2 schools indicated no network connection. Half of all schools had local area networks and a large percentage (75%) had access to the Internet. Half of those with Internet connections were connected over basic phone lines using a modem while the remainder indicated 'other' for connectivity. Of these schools two were connected via a dedicated T1 line and the remaining respondent did not know. The first part is based on a total number of 12 respondents and the subsection is based on a total number of 9 respondents.

Network Connectivity			
None	LAN	WAN	Internet
17%	58%	8%	75%

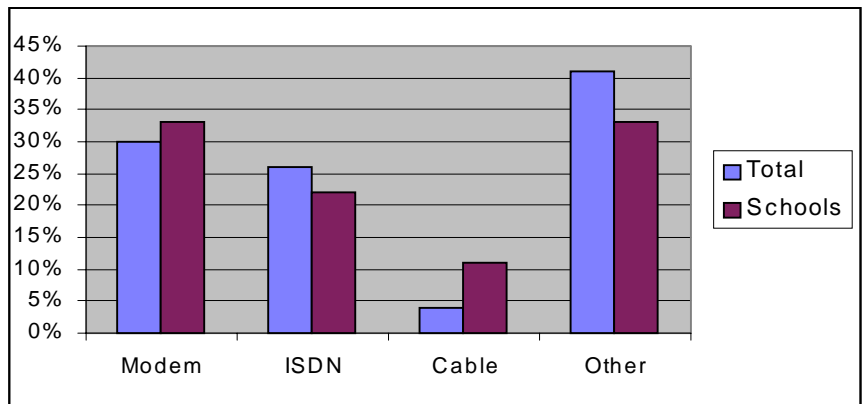
N=12



Note: %'s calculated based upon multiple selections for this question

Internet Connectivity			
Modem	ISDN	Cable	Other
33%	22%	11%	33%

N=9



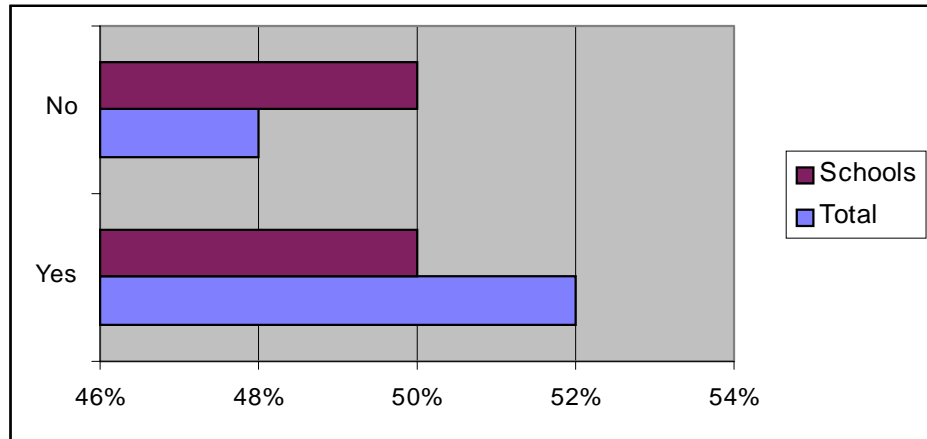
Note: %'s calculated based upon multiple selections for this question

Upgrade Plan (Question 2e):

This question explores the issue of upgrading hardware and software. Half of the schools had an upgrade plan for their equipment and software. However, half did not have any set plans to update their systems. This presented a curious question since the majority of schools receive far more funding than local area community based organizations who have a higher instance of upgrade plans for their equipment. This category is calculated out of a total of 12 respondents.

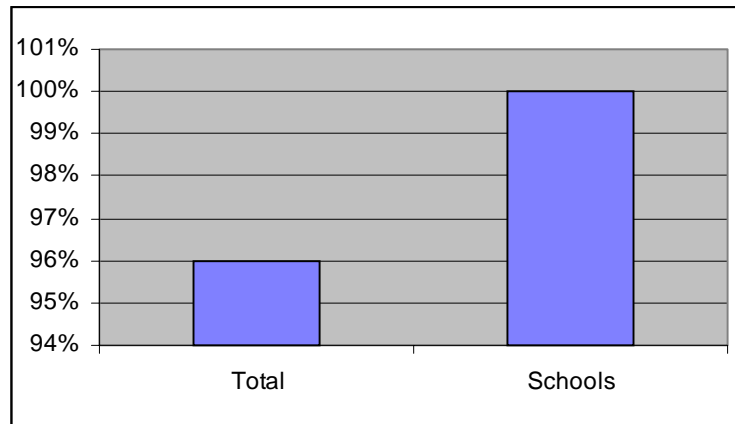
Upgrade Plan	
Yes	No
50%	50%

N=12



Percentage of Computers Running (Question 2f):

This question examines the percentage of computers currently working at the time of the survey. It was found that 100% of all computers/workstations in the schools were running at the time of this survey. Given the state of computers in an open environment with many users this perfect percentage strikes one as rather odd. This is especially so with the low numbers reported for volunteers/staff in the computer labs for schools.



Note: %'s calculated based upon multiple selections for this question
N=12

**Schools
Organization**

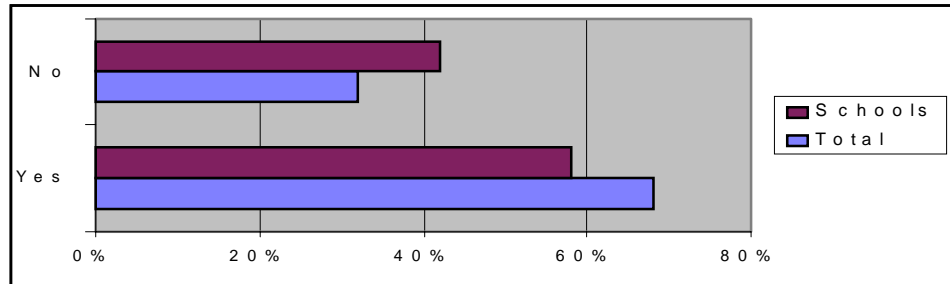
The purpose of this category is to better understand the type of organization surveyed and their capacity in terms of collaboration, awareness, and funding. In this case the organizations were schools and this category examines their current capacity for the issues described above.

Collaboration with Other Organizations (Question 4c & 4c1):

In many cases this could simply be offering their center to other organizations for training or presentations. This question is split into two parts. The first part is based on the total number of 12 respondents and simply asks whether or not the organization does collaboration. The second part explores in more detail who the organizations collaborate with and is based on 58% of the respondents who answered yes to the first question. In the case of schools the collaboration they performed dealt primarily with other schools and educational institutions. They primarily offered their computer centers/labs for use with other schools. Relatively few did any work with community based organizations which primarily focused on working on specific projects. The first part of this question is calculated from 12 respondents and the second is calculated from a total of 7 respondents.

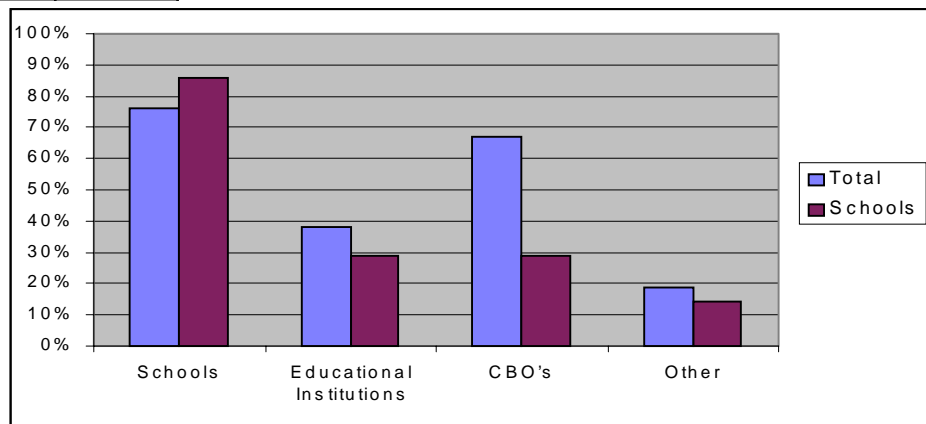
Collaboration	
Yes	No
58%	42%

N=12



Collaboration With			
Schools	Educational Institutions	CBO's	Other
86%	29%	29%	14%

N=7



Note: %'s calculated based upon multiple selections for this question

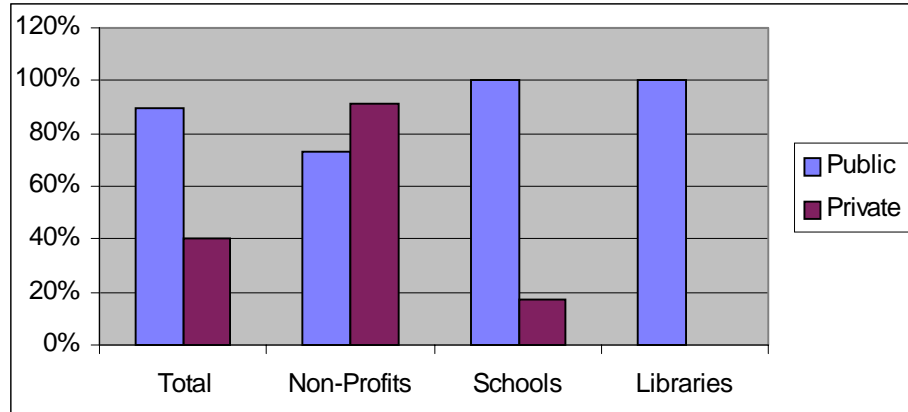
Schools

Funding:

This question was implemented to explore the types of funding an organization receives in detail. However, due to the fact that most organizations were skeptical about giving specifics in regards to the types of funding they received this question was changed to explore only the type of funding an organization receives. As expected all public high schools receive public funding with relatively few, 17%, writing grants to private foundations to supplement their funding. This question is calculated from a total of 12 respondents.

Funding	
Public	Private
100%	17%

N=12



Observations

- Schools have the most resources in terms of hardware available to them and are capable of providing better services than either libraries or CBO's, but only to in school youth.
- Most schools only provided their services to those individuals associated with the school like teachers, youth and, in some cases, parents.
- Schools appear to be limited in the types of training that they can provide due to a limited number of instructors.
- Hours and days of availability for open access is limited. Most centers only extend their times by a few hours after classes end.
- There is an extremely high student to instructor ratio which greatly reduces the likelihood of any one-on-one support.

Appendix

Survey

Policy Research Action Group Technology Center Survey rev. 1g

Name:

Title:

Organization:

Site:

#of Sites:

Address:

Phone/Fax:

E-Mail (if applicable):

1) Access/Training

a) Briefly describe the functions of your organization?

b) Who currently has access to your center and technology?

Employees(a) Other CBO's(b)

Community Members(c) – please indicate your target populations:

In School Youth(c1) Out of School Youth(c2)

Workforce Prep(c3) – adult Teacher Training(c4)

Low Literacy(c5) Non-English(c6)

Other(c7) – please specify:

Other(d) - please specify:

c) Briefly describe who you provide access to and under what conditions and criteria you they are able to receive this access/training? (eg. Registration; Fees; Walk In; etc...)

c-1) Please indicate approximatly how many individuals you cater to by week/month?

Monthly_____

Weekly_____

c-2) If you charge fees for access to your center please indicate the conditions and charges incurred by the participant?

d) Please indicate hours/days your center is available and who has access during these times?
__Monday(a):____ __Tuesday(b):____ __Wednesday(c):____ __Thursday(d):____
__Friday(e):____ __Saturday(f):____ __Sunday(g):____

e) How many workstations/computers are available in your center?

f) Please indicate whether or not you provide access to technology, training or a combination of both?
(access is defined as open workstations for individuals without any structured classes – training is defined as structured classes which focus on a specific topic/lesson of computer technology)
__Access to technology(a) __Training(b) __Both(c)

***If you indicated you offer training or a combination of access and training please answer the following questions otherwise skip to question g**

f-1) How many instructors/trainers do you currently have?

f-2) Do your instructors/trainers have certification in the particular area they provide training?
__Yes(a) __No(b) __Combination of both(c)

f-3) If you indicated yes in the above question please briefly describe what kinds of training/certification they currently have?

f-4) Does your organization make any provisions to train your staff? (i.e. Sending them to classes, workshops etc...)

__Yes(a) __No(b)

f-5) Do you have sufficient instructors/trainers – if not please indicate your current limitations and how many more instructors/trainers you need?

f-6) Please indicate what types of training in computer technology you provide?
 Word Processing(a) Spreadsheets(b) Database(c) Internet(d)
 Multimedia Design(e) Graphic Design(f) Programming(g)
 Basic computer skills(h) Literacy Skills(i)
 Other(j) – Please specify:

g) If you offer open access please indicate whether or not you provide any assistance/support for individuals having trouble?
 Yes(a) No(b)

g-1) If you answered yes to the above question please indicate under what circumstances you provide this support and the depth of the support you provide (how in-depth is your support)?

2) Hardware

a) What types of technology does your center currently possess?
 Computer(a) Fax(b) Modem(c) Scanner(d) Digital Camera(e)
 Video Editing(f) CD-ROM(g) CD-ROMR/W(h) DVD(i)
 Other(j) - please specify:_____

b) What types of computers does your center currently contain?
 IBM Compatible(a) Mac(b)
 Other(c) - please specify:_____

c) What class computers does your center have(mark all that apply)?
 386(a) 486(b) Pentium(c) PentiumII(d)
 PowerPC(e) – specify:_____
 Other - please specify:_____

d) Please indicate whether or not your computers are connected to a network – If they are connected to eachother?
 None(a)
 Local Area Network(b)
 Wide Area Network(c) – Specify:_____
 Internet Connectivity(d)
 Indicate type of connection
 Modem(d1) ISDN(d2) Cable(d3)
 Other(d4) – specify:_____

e) Does your organization currently have an upgrade plan for hardware and software?

Yes(a) No(b)

e-1) If you answered yes to question e please briefly describe what this plan entails – include any issues regarding resources and funding?

f) Please indicate an approximate percentage of how many workstations(computers) are currently running and not in need of repair?

3) Future Goals

a) Please describe your future goals and where you would like to see your center in the near and distant future?

4) Organization

a) How would you classify your organization?

Non-Profit(a) Community Training Center(b) High School(c)
 Library(d) College/University(e) Grade School(f)

b) How many individuals are currently employed or volunteering in your organization?

c) Do you collaborate with other organizations on projects etc...?

Yes(a) No(b)

c-1) If yes to question c please check all that apply?

Schools(a)
 Educational Institutions(b) – specify: _____
 CBO's(c) – specify: _____
 Other(d) – please specify: _____

d) How do you bring about awareness to the computer access/training services you provide? (If you have a World Wide Web page please indicate its address)

e) Please describe and indicate how you receive funding? (There is no need to provide detailed information – we simply want to get a general idea of funding issues in regards to technology training)

e-1) Public Funding(a):

e-2) Private Funding(b) (foundations etc...):

Glossary of Terms

ADSL:

Asymmetric Digital Subscriber Line: Like ISDN, ADSL uses standard phone lines to deliver high-speed data communications. But while ISDN's transmission speed is limited to 64kbps, ADSL technology can deliver upstream (from the user) speeds of 640kbps and downstream (to the user) speeds of more than 6 mbps. Even better, ADSL uses the portion of a phone line's bandwidth not utilized by voice, allowing for simultaneous voice and data transmission. However, as of late 1996, ADSL was still in development and not widely available.

Cable Modem:

Speed is something we all want on the Internet, and it also explains the allure of cable modems, which promise speeds of up to 80 times faster than an ISDN line or 6 times faster than a dedicated T1 line (the type of connection most large corporations use). Because cable modems provide Internet access over cable TV networks (which rely primarily on fiber-optic or coaxial cable), they are much faster than modems that use phone lines. But cable modems are expensive—they're expected to cost between \$200 and \$250 when they hit the retail shelves in mid-1998. And the fees from your local cable company could include a \$50 to \$100 installation fee, while the service itself costs around \$40 per month, if the service is offered at all. Some cable modem testers complain that the service is neither as fast nor as consistent as promised.

On the bright side, in March 1997, the Multimedia Cable Network Systems (MCNS) released cable modem specifications in an attempt to establish standards, which will guarantee interoperability between different manufacturers' modems and should reduce cable modem prices due to increased competition. And some cable companies may rent the modems to consumers, which could give you the opportunity to test out the service before you make a purchase.

CD-ROM Drive:

A computer peripheral that plays back CD-ROMs and—with the right software—audio CDs. It consists of a spindle that revs up the disc, a laser that flashes onto the disc's uneven surface, a prism that deflects the laser beam, and a light-sensitive diode that reads the flashing light. Since the audio CD standard calls for data transfer of 150 kilobytes per second (KB/sec), all CD-ROM drives can handle this speed, and most can manage 2X (double-speed, or 300 KB/sec) or 4X (quad-speed, or 600 KB/sec) rates. There are also 6X (900 KB/sec) and even 8X (1,200 KB/sec) drives, but since most CD-ROM titles are squarely aimed at transferring data within the 2X/4X bandwidth, you'll usually not see much advantage to drives with higher transfer rates than with a 4X drive.

DVD:

digital versatile disc: Originally referred to as digital video discs, these high-capacity optical discs are now used to store everything from massive computer applications to full-length movies. While similar in physical size and appearance to a compact disc or a CD-ROM, DVD is a huge leap from its predecessor's 650MB of storage. A standard single-layer, single-sided DVD can store a whopping 4.7GB of data. But it doesn't stop there—DVD also has a two-layer standard that boosts the single-sided capacity to 8.5GB. And there's more! DVDs can be double-sided, ramping up the maximum storage on a single disc to 17GB. Unfortunately, to use DVDs, you'll have to buy a new drive, but that new hardware will also read your older CD-ROMs and audio CDs.

ISDN:

Integrated Services Digital Network: The plain old telephone system doesn't handle large quantities of data, and the phone companies realized this a long time ago. So the ISDN spec was hammered out in 1984 to allow for wide-bandwidth digital transmission using the public switched telephone network. Under ISDN, a phone call can transfer 64 kilobits of digital data per second. But it's not always easy to adopt.

LAN:

local area network: A local area network is a short-distance network used to link a group of computers together within a building. 10BaseT Ethernet is the most commonly used form of LAN. A piece of hardware called a hub serves as the common wiring point, enabling data to be sent from one machine to another over the network. LANs are typically limited to distances of less than 500 meters and provide low-cost, high-bandwidth networking capabilities within a small geographical area.

Modem:

A modem is an external box or internal circuitry that converts computer data into sound that can be transmitted over phone lines. First used to send telegrams, early modems alternated between two different tones. This is called modulation, and the process of modulating (and demodulating at the receiving end) gave the modem its name. These days modems transmit data with lots of different tones, signals, and complex mathematical processing, so modem is a bit of a misnomer.

Pentium:

Intel's superscalar successor to the 486. It has two 32-bit 486-type integer pipelines with dependency checking. It can execute a maximum of two instructions per cycle. It does pipelined floating-point and performs branch prediction. It has 16 kilobytes of on-chip cache, a 64-bit memory interface, 8 32-bit general-purpose registers and 8 80-bit floating-point registers. It is built from 3.1 million transistors on a 262.4 mm² die with ~2.3 million transistors in the core logic. Its clock rate is 66MHz, heat dissipation is 16W, integer performance is 64.5 SPECint92, floating-point performance 56.9 SPECfp92.

It is called "Pentium" because it is the fifth in the 80x86 line. It would have been called the 80586 had a US court not ruled that you can't trademark a number.

The successors are the Pentium Pro and Pentium II.

Scanner:

An input device that takes in an optical image and digitises it into an electronic image represented as binary data. This can be used to create a computerised version of a photo or illustration.

Server:

The business end of a client/server setup, a server is usually a computer that provides the information, files, Web pages, and other services to the client that logs on to it. (The word server is also used to describe the software and operating system designed to run server hardware.) The client/server setup is analogous to a restaurant with waiters and customers. Some Internet servers take this analogy to extremes and become inattentive, or even refuse to serve you.

Spreadsheet:

A type of application program which manipulates numerical and string data in rows and columns of cells. The value in a cell can be calculated from a formula which can involve other cells. A value is recalculated automatically whenever a value on which it depends changes. Different cells may be displayed with different formats.

T1:

If ISDN isn't enough digital carrier for you, T1 offers faster speeds. T1 is a term coined by AT&T for a system that transfers digital signals at 1.544 megabits per second (as opposed to ISDN's mere 64 kilobits per second). Of course, if T1 doesn't cut it, there's always T3. (T2 seems to have been bypassed altogether.)

WAN:

wide area network: Take two local area networks, hook them together, and you've got a WAN. Wide area networks can be made up of interconnected smaller networks spread throughout a building, a state, or the entire globe.

Workstation:

A general-purpose computer designed to be used by one person at a time and which offers higher performance than normally found in a personal computer, especially with respect to graphics, processing power and the ability to carry out several tasks at the same time.

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