# The Effects of Modern Information Technology on Learning Outcome of African American Students

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## Introduction:

In the African American community, obtaining access to technology is scarce. In adequate means such as lack of resources, funds and programs are reasons why the African Americans aren't able to maximize the usage of modern information technology.

This study will focus on the effects that the digital divide has created among different ethnic and racial groups. Specifically, this study will emphasize how African American students learn. It will also examine the technological advancement of these students and how it affects their learning processes.

The definition of the digital divide is most commonly defined as the gap between individuals and communities accessing information technologies that in multiple ways is transforming our lives. Present date the groups are formed into what is now known as the "Haves" and "Have Not's." The divide can be broken into individuals: Internet usage at home, Internet usage at other locations, home computer ownership, computer accessibility, Internet subscription in household and broadband or dial-up Internet subscription. The divide has been separated into various levels. A Digital Divide differs between user and non-user ability usage and access to information. A Duel Digital Divide involves users and non-user but has more than one barrier, such as disabled and living in rural area or someone of senior citizen status.

The Second Digital Divide consists of the same principles as the original divide with newly emerging differences within the technology in the user groups.

There is a difference between productive and consumptive use by people.  The

determining factor of the type of user depends whether someone is a consistent and

or passive user.  These gaps show individual, household, business and geographic

areas access information in a wide variety of ways.  The various definitions of digital

divide refer to the inequality of access to the technologies and resources available

which distribute the information to those able to obtain it.

The digitalization of the society and its economy may vary in rich and poor

countries.  The digital divide can be viewed to some as lack in: network access,

human capability, knowledge, software usage, hardware ownership, and technology

expertise and technology usage in business sectors.

These criteria can be challenged because some people may not see the need

to use their time learning from others.  Often, people with little to a great deal of

expertise just "play with" the technology, yet they are able to master that device.

The digital divide stems into a surreal realization, whether or not we have a "real"

life or living in our digital life.

Problem Statement:

Is there now a Digital Divide 3.0? If so, what informs it, and how does it affect

African American student learning?

## Background:

The digital divide is a social gap that continuously transforms and is an issue alluding to the difference in how much information is between those who have access to the Internet and those who do not have access; some specially look at broadband access. There are a number of solutions that can be applied to solve local, national and international digital divides. Some of these initiatives could be programs like: 'One laptop per child', 'One computer to a disadvantaged home', Technology centers in less fortunate communities and low-price internet centers for families in rural/urban areas to name a few. These programs are not fully successful and there are still a lot of ways we can help and work on this issue. We can start from the basics and lend help to the local communities. Some of my ideas would be able to assist that is in need by: collecting computers that are no longer used by some people, fix them and distribute them out to local neighborhood facilities and schools. Raise local technological awareness by providing training for people who lack information technology skills. Corporate companies can help donate refurbished machines to employed families who do not have a computer at home. Bestow funds for assisting the state in constructing small or public computer centers.

## Theory:

Some solutions that focus on increasing broadband availability should do so in both lightly populated rural regions as well as densely populated underserved communities such as inner-city areas. Broadband proliferation should be reinforced

by efforts to make high-speed Internet access and computers more affordable. Programs to teach digital literacy, computer training and outreach should be encouraged.

Current Challenges The Pew Internet & American Life Project has found that poorer Americans and minorities are less likely than the affluent to have a high speed Internet connection. Although African-Americans and English-speaking Hispanics have begun to close the access gap with whites, Latinos with limited English are less likely to use high speed Internet than either white or black Americans. The cost of computers, broadband access, and lack of digital skills serve as barriers to broadband adoption, even where the service is available. Sparsely populated rural areas often lack the financial incentive for Internet service providers to invest in costly high-speed telecommunications infrastructure.

<u>Literature Review:</u>

According to Attewell (2001), poor and minority families are less likely to have access to computers or the internet, thus creating a technology gap between the "information haves" and "information have-nots." As a result, many African Americans and other minority groups lack the opportunity to participate in the modern economy. Poor and minority youth are disadvantaged in education because their schools often lack sufficient and updated computers and internet access. I think it varies in the racial groups but for most of the majority employees they have much newer, and better, computers, cell phones and software at home than they

have at work.  Now days some companies are looking to cut costs by requiring their

employees to purchase their own equipment.  These sudden trends are changing the

way companies handle technology in the workplace and for those who do not have it

puts them at a disadvantage.  Even though computer access is problematic in their

schools, rural/urban students rely more on this access than their suburban school

counterparts.  According to Attewell (2001) even limited access to computers

allows students to develop their math, reading, science and critical thinking skills.

In October 2009, according to the Census Survey, 63.5 % (75.8 million) households

used high speed internet and this statistic had increased by 25 % in just two years.

45.9 % of Black households use broadband internet, ranking third in 2009 among

other ethnic groups.  Studies show that people with the highest levels of education

use high-speed internet the most often (U.S. Department of Commerce, 2010).  Tests

show that students of all races/ethnicities who study more tend to heavily rely on

the internet. When a computer is in a home, experience with technology and access

to information is made easier (Korgen, 2001).


Significance of this Research:

        This study will focus on the effects that the digital divide has created among

different ethnic and racial groups. Specifically, this study will emphasize how

African American students learn.  It will also examine the technological

advancement of these students and how it affects their learning processes.  This

study will look at what is the financial need to assist those in need.  The world is

changing rapidly and a lot of people aren't utilizing the internet for jobs, education

and other opportunities, so it will be important to find out how we can connect people with opportunities through technology.  A major concern of mine is connecting seniors and what's the outcome.  This can be very time consuming and a big issue.  For example, my personal life has proven it to be difficult to transition my mother and grandmother into using text message on the mobile devices.  This led the following research question will be examined: Are women less interested in technology then men?  ; Do men learn technology faster than women? ; How do African Americans engage technology?

## Research Objective:

The objective of this study is to somehow give back to the literature by connecting underserved communities through technology.  In reciprocal, we would be able to go in a direction of developing better learning opportunities for African American students.

## Methods:

Data will be gathered from a survey of University of Wisconsin-Whitewater students.  This study will involve 50 student participants, 25 white and 25 black.  Availability sampling will be utilized.  This survey will emphasize these students' technological knowledge and how it affects their learning experience.  Data will be collected in the Fall 2010 semester and analyzed in Spring 2011.  Some projected sample survey questions would be:

Did you grow up in a household with a desktop computer?

Did your parents use computers on their jobs?

What kind of internet provider did you have at home?

Did you remember using computer labs in grades K-12?

Where there enough computers for all students to use in school?

At what age did you start using computers?

## Hypotheses:

An analysis of the literature led me to three hypotheses. First, there will still be a Digital Divide for generations to come. The extent of this divide will depend on one's racial and social economic status. Understanding the benefits of utilizing information technology will result in an improved national economy, as well as advance the education and lifestyles of African American students, providing them with a greater global awareness. Second, the first version of the digital divide does not exist anymore. A lot of African Americans are unable to afford to buy a home computer but can scramble for the latest mobile device or Smartphone to stay connected. This implied that the hardware requirement has been met. Thirdly, there will not be a need to install software manually through a disc anymore. Cloud computing will be the available service to access information.

## Potential Solutions:

In the idea if "Bridging the Gap" information and communication technologies are vital to obtain in our sociological lifestyle. Some suggest that the

Internet and other computer helpdesk operations are somehow transforming society, improving our mutual understanding, and eliminating power differentials. Literacy is arguably such an element, although it is not related to any new technologies or latest technological devices. It is a very widely shared view in many societies that being literate is essential to one's career, to self-guided learning, to political participation, and to Internet usage. Economic equality some think that the access to the Internet is a basic component of civil life that some developed countries aim to guarantee for their citizens. Social mobility is computer and computer networks play an increasingly important role in their learning and career, so that education should include that of computing and use of the Internet. Without such offerings, the existing digital divide works unfairly to the children in the lower socioeconomic status. In order to provide equal opportunities, governments might offer some form of support.

Conclusion:

People will not be convinced that technology will be a solution to fixing poverty. By ensuring that underserved individuals and communities can access tools to improve education and the quality of their lives certainly is a critical piece of the answer. With this research I hope to extend on the literature on this subject to help find ways to decrease the digital divide gap. I would also like to educate African American students on the importance and ever changing status of technology.

Bibliography:

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<u>Solutions:</u>

Benefits of High Speed Internet to Underserved Communities

Education: With the accessibility of high speed broadband, students in the most impoverished inner-city neighborhoods and distant rural regions can take advantage of the same Internet resources as students in the most affluent suburbs. Living on a farm hours away from city libraries would no longer put students at an educational disadvantage.

Economic Development: Broadband availability creates wealth and opportunity for underserved low-income areas by attracting businesses that want to locate near a high speed Internet network, such as IT and communications companies that cannot operate competitively without broadband. A study by the Brookings Institution shows that for every percentage point increase in broadband penetration, employment expands by almost 300,000 jobs.

Public Health: With a broadband connection, those without health insurance (who are more likely to live in areas without high speed Internet) could access general information about healthcare to manage their health and gain understanding of their condition(s) and options for care. Telemedicine offers cost-effective health care solutions for urban and rural residents.


Dimensions of the Divide

Broadly speaking, the difference is not necessarily determined by the access to the Internet, but by access to ICT (Information and Communications Technologies) and to Media that the different segments of society can use. With regards to the Internet, the access is only one aspect, other factors such as the quality of connection and related services should be considered. Today the most discussed issue is the availability of the access at an affordable cost.  The problem is often discussed in an international context, indicating certain countries such as the U.S. are far more equipped than other developing countries to exploit the benefits from the rapidly expanding Internet.  The digital divide is not indeed a clear single gap which divides a society into two groups. Researchers report that disadvantage can take such forms as lower-performance computers, lower-quality or high price connections (i.e. narrowband or dialup connection), difficulty of obtaining technical assistance, and lower access to subscription-based contents.


Bridging the Gap

The idea that some information and communication technologies are vital to quality civic life is not new. Some suggest that the Internet and other ICTs are somehow transforming society, improving our mutual understanding, eliminating power differentials, realizing a truly free and democratic world society, and other benefits. In many countries, access to the telephone system is considered such a vital element that governments implement various policies to offer affordable telephone service. Unfortunately some countries lack sufficient telephone lines.  Literacy is arguably another such element, although it is not related to any new technologies or latest technological devices. It is a very widely shared view in many societies that being literate is essential to one's career, to self-guided learning, to political participation,

and to Internet usage.  There are a variety of arguments regarding why closing the digital divide is important. The major arguments are the following:

Economic equality

Some think that the access to the Internet is a basic component of civil life that some developed countries aim to guarantee for their citizens. Telephone is often considered important for security reasons. Health, criminal, and other types of emergencies might indeed be handled better if the person in trouble has an access to the telephone. Another important fact seems to be that much vital information for people's career; civic life, safety, etc. are increasingly provided via the Internet. Even social welfare services are sometimes administered and offered electronically.

Social mobility

Some believe that computer and computer networks play an increasingly important role in their learning and career, so that education should include that of computing and use of the Internet. Without such offerings, the existing digital divide works unfairly to the children in the lower socioeconomic status. In order to provide equal opportunities, governments might offer some form of support.

Democracy

Some think that the use of the Internet would lead to a healthier democracy in one way or another. Among the most ambitious visions are those of increased public participation in elections and decision making processes.

Economic growth

Some think that the development of information infrastructure and active use of it would be a shortcut to economic growth for less developed nations. Information technologies in general tend to be associated with productivity improvements. The exploitation of the latest technologies may give industries of certain countries a competitive advantage.

Rural areas access

The accessibility of rural areas to the Internet is a test of the digital divide. But nowadays there are different ways to eliminate the digital divide in rural areas. Use of Power lines (PLT and PLC) and satellite communications offer new possibilities of universal access to the Internet, and lack of telephone lines will not limit access. Lower access prices are required to bridge the ICT divide.

Disabilities

Disabilities of potential Internet users constitute another type of divide and care should be taken to avoid that persons with disabilities be left out of Internet access.