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THE DIGITAL DIVIDE THROUGH THE LENS OF CRITICAL RACE THEORY:
THE DIGITALLY DENIED

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ABSTRACT

The purpose of this qualitative research study was to examine African American community college students' availability to technological resources and how that availability affects their success. In this study, technological resources include access to the internet, software, hardware, technology training, technology support, and community resources. This study included six community college professors and six African American community college students enrolled in a Midwest community college. A major tenet of Critical Race Theory, storytelling, was used to give voice to students who lack sufficient access to technological resources referred to as the digitally denied.

Data from this study can create an awareness of students that lack technological resources at community colleges, universities, and community libraries. This study could also be useful to community college leadership who set policies and procedures and determine curriculum requirements that call for technological resources.

The findings suggested that access to technological resources is a key factor that impacted the success of African American students in the community college.

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To my wonderful family, I love you and thank you for supporting me through this educational journey. To my son, Trevon, you started this journey with me in community college and I have always prayed that my journey shows you the importance of education and that no matter what obstacles we encounter we keep pushing. I love you with all my heart. To my Grandmother and Grandfather, I am so glad that both of you are celebrating this with me because I've always strived to make you proud and always will. I love you dearly. Mom, you are and always have been my biggest cheerleader in the entire world. I cannot thank you enough for the many days and nights that you literally cheered me on my way to class (with real hand clapping). I love you Mom, and I dedicate this to YOU. Last, but not least, I want to thank my husband and best friend, George. You've

supported me, encouraged me, and cheered for me every step of the way and I love you

forever.

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CHAPTER ONE: INTRODUCTION

A meeting was held at a higher education institution in the Midwest with the leadership team to discuss updating the college's general education block. In reviewing the list of courses, it was noted that no technology courses were included. A heated discussion about the importance of including a computer literacy course in the general education block ensued, with many verbal supporters in the room. After a few minutes of discussion, the most senior administrator in the room stated, "Well, your point is taken, but the students of the future will come with the technological savvy that they need." It was a complete surprise that the administrator was so removed from the very students served by the institution. How could a senior administrator be so unaware of the digital divide that students are experiencing?

As the group continued to share their goals of providing interdisciplinary and global education, there was clear agreement that businesses and employers were global because technology enables them to do so; technology is embedded in every system of the workplace and therefore, it should be included in the general education block. However, the leadership team, through the leadership and decision of a senior administrator, decided not to include a computer literacy course in the general education requirements.

I've been teaching at the university level for ten years. I have come to realize that there is a common misconception that all college students come to campus with technology skills and availability to technologies for the successful completion of their college careers. Because I am a technology and business professor, many African American students have shared their stories with me of hardships relating the lack of

access to the Internet, hardware, software, technology training, technology support, and community resources (technological resources).

Internet computer-related technologies (ICTs) are by far the most influential teaching and learning devices to make their way into U.S. schools to date. As of July 6, 2015, with more than 4.68 billion indexable pages, the Internet represents one of the largest reservoirs of information (Kunder, 2015). Unlike other educational technologies, the Internet is such a powerful medium that it has transformed the classroom and the U.S. school system (Frederick, 2007).

While the Internet has become a very important technology tool in education, there are several other technological resources which are essential for student success in education. Colleges require students to utilize a variety of technologies to complete projects, homework assignments, and to communicate with faculty and peers. Due to these requirements, availability to the technologies used in academia has become a necessary component in education. In addition to technologies that are required for face-to-face courses, colleges also offer online courses. These courses require knowledge of ICTs. Many students take online courses to accommodate for their busy lives, but some do not have the technological resources required to be academically successful.

Community colleges that are interested in improving availability and opportunity for African American students need to continue to monitor technology access because according to Camevale & Strohl (2013), African American students account for 68 percent of new enrollments to two-year and four-year open-access schools since 1995. In comparison to students who have access to technological resources, students who attend community colleges that do not have access are at a disadvantage when they work to

complete assignments, work on projects or communicate with professors in a timely manner.

The Digital Divide

The digital divide usually refers to unequal access between different groups of people who make use of ICTs. The groups are defined by descriptors such as socio-economic status (SES), education level, language, geographic location, age, and race. Norris (2001) defines the digital divide as a "multidimensional phenomenal" that includes a global divide, social divide, and a democratic divide. The global divide is the difference in Internet access of industrialized and developing countries, the social divide is the difference between the information rich and poor in a nation, and the democratic divide is the difference between those that do and do not have resources to "engage, mobilize, and participate in public life". Previous research, such as the National Telecommunications and Information Administration "Exploring the Digital Nation" report has shown disparities in equal access based on the aforementioned categories, but they do not normally conduct research beyond the descriptors.

ICTs are integrated into every level of education. With a vast amount of information available in digital formats, African Americans are potentially at a disadvantage. African Americans are less likely to go online than other demographics and also less likely to have high-speed Internet access. In 2011, according to the National Telecommunications and Information Administration and Economics and Statistics Administration (2013), 69% of Americans had broadband Internet connections at home; however, only 55% of African Americans had broadband Internet at home.

Hohlfeld, Ritzhaupt, Barron, and Kemker (2008) outlined a more detailed framework that categorizes the digital divide into three levels within a school. The first level addresses equitable access to hardware, software, the Internet, and technology support within schools and is often cited in terms of a student to computer ratio. Unfortunately, these are averages and don't show how technology is applied in the school setting. The second level addresses how often teachers and students utilize technology in the classroom, for what purpose, and the level of integration into their daily activities. This level is contingent on the first level and cannot be examined if the first level is not in place. The third level expands beyond the classroom and addresses how students are able to empower themselves with technology and determines if students can independently select the correct and most efficient ICTs to accomplish different and varying objectives. This is the most difficult level to address because it is difficult to determine measurements for "meaningful ways to weave technology into the curriculum."

Within the three levels, outlined by Hohlfeld, Ritzhaupt, Barron, and Kemker (2008), African American students suffer most. Inner-city schools that educate majority African American students lack adequate software, hardware, and Internet access. These schools also utilize technology differently by using lower level thinking drill and practice software. And finally, these schools do not allow for students to incorporate technology beyond the classroom which means students are not equipped to determine what technologies to utilize and when to use them.

"The Digitally Denied"

A consequence of the digital divide is a community that I have termed the "digitally denied" (Hollins, 2014). They are a marginalized community that experience

digital inequalities on a regular basis, and subjected to additional layers of inequity embedded in the fabric of our society. The digitally denied do not have current technologies available to them, which can include little to no access to the internet, software, hardware, technology training, technology support, and community resources.

"People sometimes find computers, televisions, and telecommunications frustrating because they expect these devices to radiate knowledge. But information technologies are more like clothes; to get a benefit, you must make them a part of your personal space, tailored to your needs" (Dede, 1995, p. 65). Communities without equal and consistent access to technological resources will be forever left behind in this highly technological and digital world.

Conceptual Framework

The Critical Race Theory (CRT) movement is a collection of activists and scholars interested in studying and transforming the relationship among race, racism, and power (Delgado & Stefancic, 2012, p. 3). CRT sprang up in the 1970s out of the work of two legal scholars, one white, Alan Freeman, and one black, Derrick Bell, who were distressed over the very slow pace of racial reform. Bell is the movement's father figure and a professor of law at New York University, and Freeman taught at the State University of New York at Buffalo law school.

CRT has five basic tenets with the first being the notion that racism is "ordinary, not aberrational – 'normal science,' the usual way society does business, the common, everyday experience of most people of color in this country." (Delgado & Stefancic, 2012, p. 7). This means that racism is embedded into our political, legal, and educational structures, which make it difficult to identify or address because it is so commonplace.

The second tenet is called "interest convergence", which is the idea that whites find places to get involved where the interests of whites and people of color intersect. The third tenant is the idea of whiteness as property, which basically means that race is socially constructed and that whiteness has value that other races do not have. The fourth, and more recent tenet, acknowledges differential racialization by the dominant society at different times in response to the society's needs and its consequences. The final tenant, storytelling, is a major tenet of CRT which adds contextual background to information that is not reflected in the objectivity of positivist perspectives.

Storytelling

Using stories gives voice to the marginalized and "helps us understand what life is like for others and invites the reader into a new and unfamiliar world" (Delgado & Stefancic, 2012, p. 48). Stories serve minority communities by giving a name to discrimination, which only then can be combated. "The purpose of a narrative is to redirect the dominant gaze, to make it see from a new point of view what has been there all along" (Taylor, 2009, p. 8). This research will utilize a major tenet of CRT, storytelling, to further explore the experiences of the digitally denied.

History of Critical Race Theory (CRT)

Critical Race Theory (CRT) was built out of the insights of critical legal studies and radical feminism. Principle figures in the movement include Derrick Bell, Alan Freeman, and Richard Delgado, who felt as though the civil rights era of the 1960s had stalled and that traditional legal approaches to addressing racism produced fewer gains than in previous times. Over the past decade, many subgroups such as Latinos, Asian Americans, and Indians have formed under the umbrella of CRT with their own body of

research, literature and set of priorities. Also, CRT began in the legal field, but many educators today use it to understand educational systems (Delgado & Stefancic, 2012).

Critical Race Theory (CRT) in Education

Solorzano and Bernal (2001) propose five themes that form the basic perspectives, research methods, and pedagogy of a Critical Race Theory (CRT) framework in education. The first theme is the intersection of race with other forms of subordination. This means that while race and racism are in the center, the intersections of racism with other forms of subordination are acknowledged. "Although race and racism are at the center of critical race analysis, we also view them at their intersection with other forms of subordination such as gender and class discrimination" (Crenshaw, 1993). Robin Barnes (1990) stated that "Critical race scholars have refused to ignore the differences between class and race as a basis for oppression…. Critical race scholars know that class oppression cannot account for racial oppression". The second theme is the challenge to dominant ideology that challenges white privilege and claims educational institutions make claims toward "objectivity, meritocracy, colorblindness, race neutrality, and equal opportunity" (Solorzano & Yosso, 2002). The third theme is the commitment to social justice and challenges us to envision social justice as the struggle to eliminate racism and other forms of subordination while empowering groups that have been subordinated. The fourth theme is the centrality of experiential knowledge which validates the experiential knowledge of people of color. It utilizes storytelling, history, and biographies as a way to tell the other side of the story and provide narratives for misinformed research. It gives voice to people of color. The final theme is the utilization of interdisciplinary approaches and "challenges traditional, mainstream analyses by

analyzing racism and other forms of subordination in education in historical and interdisciplinary terms" (Solorzano & Bernal, 2001, pp. 313-14). Yosso (2005) defines CRT in education as:

> A theoretical and analytical framework that challenges the ways race and
> racism impact educational structures, practices, and discourses. CRT is
> conceived as a social justice project that works toward the liberatory
> potential of schooling. This acknowledges the contradictory nature of
> education, wherein schools most often oppress and marginalize while they
> maintain the potential to emancipate and empower. Indeed, CRT in
> education refutes dominant ideology and White privilege while validating
> and centering the experiences of People of Color. CRT utilizes
> transdisciplinary approaches to link theory with practice, scholarship with
> teaching, and the academy with the community. (p. 74)

Statement of the Problem

The definition of the digital divide is too narrow and does not explain or include the differing levels of access to technological resources. The current digital divide research only focuses on descriptors such as SES, education level, language, geographic location, age, and race, but "there is a fundamental disconnection between the use of 'race', class, and gender as discrete, predetermined variables in digital divide research and how these factors are actually experienced in people's daily lives at the community scale" (Gilbert, 2010, p. 1003). The digital divide research doesn't include the experiences or narratives of individuals that have little to no access to technological resources.

A number of academics (DiMaggio et al. 1991; Kennedy et al. 2003; Gilbert & Masucci 2004, 2006; van Dijk 2005) have argued that digital divide research remains largely at the descriptive level. It describes those that have less access and those that use the Internet less in terms of demographic statistics, but does not explain how and why different groups have different levels of access and usage (Gilbert, 2010). Narratives about the digital divide are not included in current research in order to explain the varying levels of access to technological resources and how it affects African American community college students. Kim and Kim (2001) explain that the determinant on whether the divide is closing should be when all the users know how to use ICTs for the betterment of their quality of life.

Purpose of the Study

A previous research study of race and gender and their relationship to ICTs conducted by Jackson, Zhao, Kilenic, Fitzgeral, Harold, & Von Eye (2008) revealed wide gaps when looking at white verses African American children. This study also showed a statistically significant relationship between ICT usage and academic performance in children.

Community colleges enroll the majority of all minority students attending public universities, and nearly half of all students attending public universities in the United States (Dowd, 2003). A recent National Telecommunications and Information Administration report (2013) shows that Blacks and Latinos are more likely than whites to not have computers or Internet access at home. Prior to attending college, many of them have also not had the same level of availability to technological resources as their white counterparts.

The purpose of this study is to examine African American community college students' availability to technological resources and how that availability affects their success. The population that I wish to study is African American community college students and professors that teach at a community college. Using a major tenet of CRT, storytelling, personal stories from students interviewed will inform this study about the effects of the digital divide beyond the surface level descriptor of 'race' and will focus on African American students' experiences.

Guiding Questions

Qualitative case study research seeks to answer the "how" and "why" questions (Yin, 1993). Through a collection of data derived from interviews and observations, I will utilize a major tenet of CRT, storytelling, to find themes and patterns that can be used to describe the experiences of African American Community College students' availability to technological resources.

The overarching question for this study is:

How does the availability to technological resources impact African American students' ability to be successful at a community college?

Supporting research questions will include:

a) What is the availability to the Internet, software, and hardware for African American community college students?

b) What is the availability to resources, such as computer labs and community resources for African American community college students?

c) What assistance with technology is lacking for African American community college students?

d) What technology skills necessary for academic success do African American community college students lack?

Definition of Terms

The following definitions are provided in order to provide an understanding of terms used in this study.

Blackboard – A course management system used to facilitate learning in distance, hybrid, and technology supported courses.

Critical Race Theory (CRT) – CRT has five basic tenets with the first being the notion that racism is "normal, not aberrant, in American society". CRT sprang up in the 1970s out of the work of two legal scholars, one white and one black, who were distressed over the very slow pace of racial reform.

Digital Divide – Unequal access between groups of different demographics that make use of ICTs and is defined by descriptors such as socio-economic status (SES), education level, language, geographic location, age, and race.

Digitally Denied – A marginalized community that experiences digital inequalities on a regular basis and are subjected to additional layers of inequity embedded in the fabric of our society. This is a term I coined while creating a presentation about the Digital Divide through the lens of CRT (Hollins, The Digital Divide Through the Lens of Critical Race Theory, 2015).

Hotspot – A physical location that offers an internet connection for public use.

Internet Computing Technologies (ICT) – Technologies that provide access to information through telecommunications. They include the Internet, wireless networks, cell phones, and other communication devices.

Technological Resources – Includes the Internet, software, hardware, technology training, technology support, and technology resources in the community.

Significance of the Study

The study can serve as a guide for community colleges or universities in fostering African American student success. An awareness of the technology needs could improve the technology resources and availability of assistance on community college or university campuses for African American student achievement. The findings from this research could be useful to community college academic leaders who set policies and procedures and determine curriculum requirements, and community college stakeholders (board members, community leaders, and financial supporters) invested in improving availability to technological resources for African American students.

Summary

Students who do not have availability to technological resources necessary to be successful while pursuing their educational goals are digitally denied. James, Livingston, Marcella Gadson, & Buggs (2012) say that:

> "The denial of rights to anyone potentially violates the rights of all. In this
> new technological world, the denial of first class digital rights to those
> who are unserved and underserved impedes the rights of all Americans to
> enjoy the full benefit of an informed democracy and ultimately weakens
> the entire social fabric of our nation" (p. 6). They also define "Digital
> equal opportunity" as the principle that no person should experience "a
> disparate impact from lack of access to, or productive use of, high-speed
> Internet access because of membership in a group identified by geography,
> social-economic status, race or ethnicity, tribal status, language, age, or
> physical or mental ability. (p. 7)

All students should have the opportunity to begin at the same starting line and be equipped with the tools they need to make it to the finish line. There are various starting lines in the lives of African American college students that white students do not encounter. For example, many African American students come to college underprepared due to the racial and ethnic stratification of educational opportunity in the K-12 education system. A report by Hess and Leal (2001) found evidence that there are inequities in race and finances in addressing the racial digital divide and that "students in districts with a larger percentage of black students had less access to classroom computers". Additionally, African American students attend colleges where resources are scarce. White students are concentrated in the 468 most selective four year universities while African American students are concentrated in the 3,250 least funded two- and four-year colleges. The more selective colleges and universities spend two to five times as much per student, which ultimately provides funding for additional resources that African American students are denied (Carnevale & Strohl, 2013). Finally, as a college professor, I have observed that many African American students who have not had the opportunity to incorporate technology into their everyday lives, lack the technological skills necessary to navigate the systems that colleges utilize for instruction.

In an effort to help improve technological resources for African American students, the purpose of this study is to examine the experiences of digitally denied students at the community college and their level of availability to technological resources. This study, through the lens of Critical Race Theory (CRT), specifically storytelling, addresses the role of the availability to technological resources in the academic success of African American students.

CHAPTER TWO: REVIEW OF THE LITERATURE

The Digital Divide

Due to recent increases in Broadband and Internet access along with other technologies in schools, some may feel that the digital divide has closed and that race is not a factor. There are reports that include quantitative data which appear to reflect equality in access. An example is a report to the Bill & Melinda Gates Foundation U.S. Library Program based on phone interviews of 500 children ages 12-18 that stated "many of America's children have substantial access to computers and the Internet, most at home in addition to school libraries, school computing labs, classrooms, friends and relatives, as well as the public library" (Gordon, Moore, Gordon, & Heuertz, 2003). Gordon et al. concluded that "In a sense it appears that the digital divide for children has almost closed". The report casually acknowledges that minorities and low income homes will be left behind if disproportionalities in access among groups are not addressed. The quantifiable amount of access is not the only aspect that should be considered; the quality, availability, training, and support need to also be evaluated and researched.

Government produced reports, such as the National Telecommunications and Information Administration's *Broadband Technology Opportunities Program Quarterly Program Status Report* (2014), highlight investments made to enhance access to broadband and public computer centers; however, these initiatives are focused on economic growth and workforce development and not the specific needs of African American students, who drastically lag behind their counterparts in higher education. A U.S. Department of Commerce report (2013) reflects the digital divide narrowing between 2000-2011 with the differences between white non-hispanics and African

Americans going from 23 percent to 19 percent. However, this same report also reflects

that in 2011 whites were still 1.3 times as likely as African Americans to report Internet

use with white households at 76.2 percent vs. 56.9 percent for African Americans.

A report from the National Telecommunications and Information Administration

(2013) shows that at the time of the report, 76% of white households had access to the

Internet as opposed to African American households who lagged behind almost 20

percentage points lower, at 57%. The report also showed that 80% of whites own

computers while only 62% of African Americans did at the time of the report. Finally,

broadband adoption was at 74% for whites and 55% for African Americans. There is a

clear divide in access between whites and African Americans.
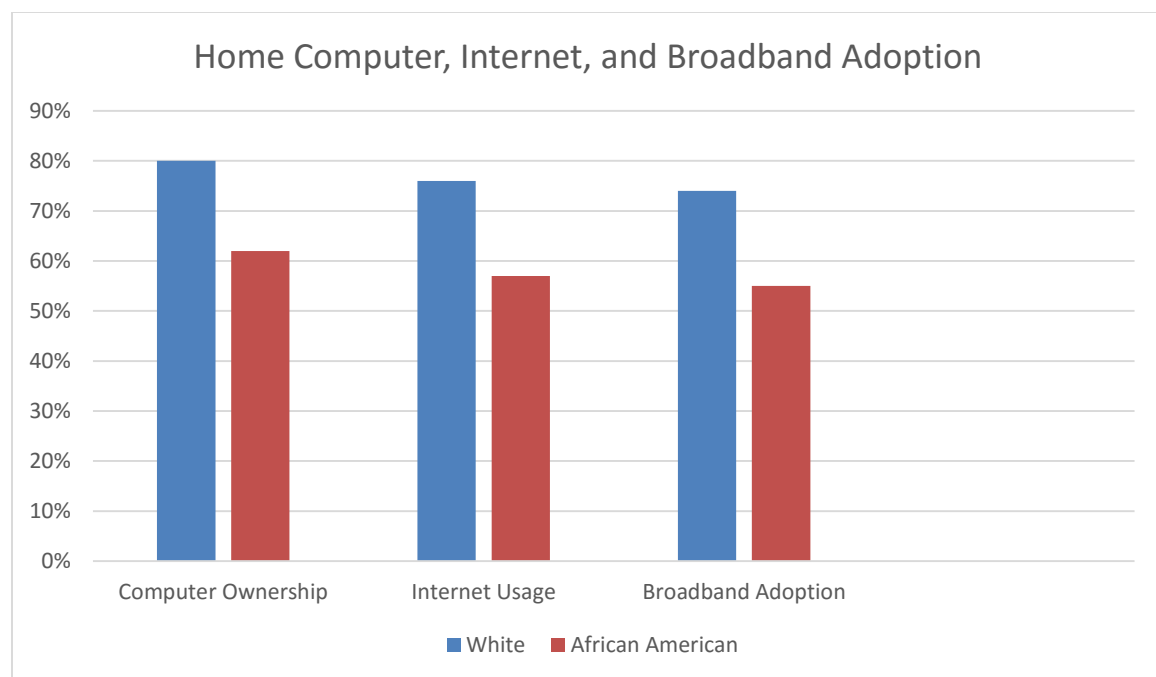
Access to hardware, software, the Internet, and technology is not equitable in

schools that reside in marginalized communities. In 2005, Parsad and Jones reported "the

ratio of students to instructional computers with Internet access was higher in schools

with the highest poverty concentration (percent of student's eligible for free or reduced-

price lunch) than in schools with the lowest poverty concentration" (p. 7). In addition, "fifty-four percent of schools with the highest poverty concentration had computers with Internet access available to students before school, compared with 82 percent and 80 percent of schools with the two lowest categories of poverty concentration" (Parsad & Jones, 2005).

Marginalized schools that have access to technology, such as computers, digital devices, and Internet access, utilize these resources differently. A study by Becker (2000) reported that low SES schools, in communities where mostly African Americans reside, used computers on a weekly basis mostly for remediation or drill-and-practice exercises and mastering skills that were just learned. On the other hand, high-SES schools, in communities where mostly whites reside, used computers for writing, making presentations, and analyzing information, which are higher-order thinking skills. This use of technology equates to busy work for many African American students and additional learning opportunities for white students.

Kim and Kim (2001) discuss the multiplicity of the digital divide and divides it into three levels and conditions including "media accessibility" which is the access to media devices and information, "information mobilization" which is the ability to use those devices and information resources, and "information consciousness" which is the eagerness to use those devices and information resources. Media accessibility such as hardware and software is what the digital divide focuses on in current research. Information mobilization focuses on the utilization of media, familiarity of software, and the ability to search for valid information. Information consciousness is the ability for an individual to determine if information is good or bad. Kim and Kim feel that this is where

the real divide is and that "the key to bridge the digital divide is not access to or utilization of high-tech information devices or facilities, but whether the user knows how to use them [ICT] for the betterment of their quality of life" (Kim & Kim, 2001). If students do not have access to ICTs, it is not possible for them to incorporate ICTs into their everyday lives and be empowered by them.

Previous research has identified that the ethnicity of a student is a dividing factor in the digital divide (Attewell, 2001). Ritzhaupt, Lui, Dawson, & Barron (2013) examined the digital divide identified by Holhlfeld, Ritzhaupt, Barron, and Kemker (2008) which explains how technology is used to empower students within the context of school. They found that "white middle school students are performing significantly better on ICT related tasks" and that "minority families are vulnerable to the consequences of the digital divide, especially relating to the third level" (Ritzhaupt, Lui, Dawson, & Barron, 2013, p. 301).

The Digital Divide and African Americans

When examining the digital divide "there is a fundamental disconnection between the use of 'race', class, and gender as discrete, predetermined variables in digital divide research and how these factors are actually experienced in people's daily lives at the community scale" (Gilbert, 2010, p. 1003). African Americans and Latinos are less likely to report having computer or Internet access or the skills to use them, even after controlling for factors such as education and income (Mossberger, Tolbert, & Stansbury, 2003). While broadband Internet use has expanded significantly, broadband Internet adoption is particularly low among African American households (National

Telecommunications and Information Administration and Economics and Statistics

Administration, 2013).

Tenets of Critical Race Theory (CRT)

CRT has basic tenets and begins with the notion that racism is "normal, not

aberrant, in American society" (Delgado, 1995). This means that racism is embedded into

our political, legal, and educational structures, and that makes it difficult to identify or

cure because it is so commonplace. Delgado (1995) gives examples of blatant racism

which include mortgage redlining, an immigration dragnet in a food processing plant that

targets low wage Latino workers, or the refusal to hire an African American PhD rather

than a white college dropout (p. 8). However, only blatant cases of racism such as those

can be remedied by rules or laws that insist on equality; it is much more difficult, if at all

possible, to put an end to "embedded" racism. Institutional racism exists when

institutions or organizations, including educational ones, have standard operating

procedures (intended or unintended) that hurt members of one or more races in relation to

members of the dominant race (Scheurich & Young, 1997).

Another tenet of CRT is Bell's (1980) theory of interest convergence. This is the

idea that whites find places to get involved in racial equality where the interests of

powerful whites and African Americans intersect. Bell used the *Brown vs. Board of

Education* decision to demonstrate his interest convergence theory. During the Cold War,

images of racial abuses in the United States were televised around the world which made

it difficult for the U.S. to position itself as a leading force of anticommunism. The U.S.

wanted to be portrayed as the model democracy. However, "the Soviet Union, China, and

India regularly carried stories about the Ku Klux Klan, including vivid pictures of

lynchings, the deplorable living conditions of share-croppers, and chain gangs", which contradicted what the U.S. wanted to depict (Ladson-Billings, 2009, p. 9). Bell's theory was that in order to appear moral to the rest of the world, "it was time for the United States to soften its stance toward domestic minorities" (Delgado & Stefancic, 2012, pp. 22-23). Dudziak (1988) confirmed Bell's theory by researching and finding government documents that proved that the ruling was made because of foreign policy concerns and that it would be in the best interest of the U.S. to do so.

The third tenet of CRT, "the 'social construction' thesis, holds that race and races are products of social thought and relations" (Delgado & Stefancic, 2012). It basically means that race is based on common physical characteristics of an individual and is socially accepted. To illustrate this tenet, Ian F. Haney López (1994) shares the story of Hudgins v. Wright:

Under the jurisprudence of slavery as it stood in 1806, one's status followed the maternal line. A person born to a slave woman was a slave, and a person born to a free woman was free. In that year, three generations of enslaved women sued for freedom in Virginia on the ground that they descended from a free maternal ancestor. Yet, on the all-important issue of their descent, their faces and bodies provided the only evidence they or the owner who resisted their claims could bring before the court.

The appellees ... asserted this right [to be free] as having been descended, in the maternal line, from a free Indian woman; but their genealogy was very imperfectly stated ...The youngest….[had] the characteristic features, the complexion, the hair and eyes ... the same with

those of whites .... Hannah, [the mother] had long black hair, was of the right Indian copper colour, and was generally called an Indian by the neighbours…..

Ian F. Haney López (1994) continues telling the story of Hudgins v. Wright:

Because grandmother, mother, and daughter could not prove they had a free maternal ancestor, nor could Hudgins show their descent from a female slave, the side charged with the burden of proof would lose. Allocating that burden required the court to assign the plaintiffs a race. Under Virginia law, Blacks were presumably slaves and thus bore the burden of proving a free ancestor; whites and Indians were presumably free and thus the burden of proving their descent fell on those alleging slave status. In order to determine whether the Wrights were Black and presumptively slaves or Indian and presumptively free, the court, in the person of Judge Tucker, devised a racial test:

Nature has stampt upon the African and his descendants two characteristic marks, besides the difference of complexion, which often remain visible long after the characteristic distinction of colour either disappears or becomes doubtful; a flat nose and woolly head of hair. The latter of these disappears the last of all; and so strong an ingredient in the African constitution is this latter character, that it predominates uniformly where the party is in equal degree descended from parents of different complexions, whether white or Indians .... So pointed is this distinction between the natives of Africa and the aborigines of America, that a man

might as easily mistake the glossy, jetty clothing of an American bear for

the wool of a black sheep, as the hair of an American Indian for that of an

African, or the descendant of an African. Upon these distinctions as

connected with our laws, the burden of proof depends.

The fate of the women rode upon the complexion of their face, the texture of their

hair, and the width of their nose. Each of these characteristics served to mark their

race, and their race in the end determined whether they were free or enslaved. The

court decided for freedom:

[T]he witnesses concur in assigning to the hair of Hannah ...the long, straight,

black hair of the native aborigines of this country ....

[Verdict] pronouncing the appellees absolutely free ....

After unknown lives lost in slavery, Judge Tucker freed three generations of

women because Hannah's hair was long and straight. (pp. 1-2)

Most people still have a difficult time explaining what "race" really means. That

is because race is a term that was made up to separate and dominate groups of people and

"this story illustrates how the characteristics of our hair, complexion, and facial features

still influence whether we are figuratively free or enslaved" (Haney-López, 1994, p. 3).

The fourth tenet of CRT acknowledges differential racialization by the dominate

society at different times in response to their needs and its consequences. Delgado and

Stefanic (2012) give examples of society valuing Mexican and Japanese agricultural workers for labor at one point in time and valuing other groups of color for jobs in war when they are needed. "Everyone has potentially conflicting, overlapping identities, loyalties, and allegiances" (Delgado & Stefancic, 2012, p. 10).

The final tenant of CRT is storytelling. According to Solorzano & Yosso (2002) critical race theorists present storytelling with personal stories or narratives. This is when an individual shares their experience with racism and it is usually autobiographical. A second type of storytelling or narratives is when an individual shares another person's experience with racism. The final type of storytelling is composite stories or narratives and this is when there are a variety of sources or individuals used to create a group story. Storytelling pulls from the rich storytelling tradition of African American communities and exposes, analyzes, and challenges the "majoritarian stories of racial privilege" (Solorzano & Yosso, 2002, p. 32).

Critical Race Theory (CRT) in Education

CRT scholars believe that the analysis of race in education allows us to gain a deeper understanding of the educational barriers for people of color and explore how they can be overcome (Ladson-Billings, 2009). Solorzano and Villalpando (1998) write that:

> The overall goal of critical race theory in education is to develop a
> pedagogy, curriculum, and research agenda that accounts for the role of
> race and racism in U.S. higher education and work toward the elimination
> of racism as part of a larger goal of eliminating all forms of subordination
> in higher education. (p. 213)

Community Colleges

Community colleges, originally known as junior colleges, have been around since the beginning of the nineteenth century and were put in place to increase access to higher education and democratize the U.S. higher education system (Dowd, 2003). The community college is an open door for nontraditional, underrepresented, and low-income students. It has many different offerings which include, but are not limited to, certificate programs, degree programs, credits for transfer to four-year colleges, remedial education, and non-credit courses for self-improvement. In *Community Colleges as Gateways and Gatekeepers,* Dowd (2007, p. 4) discusses how states are now requiring community colleges with open access to report on transfer and completion rates, student persistence from term to term, and workforce readiness. Scholars have noted that the success of community college should be measured by enrollment (Bragg, 2001; Levin, 2001; Bailey & Morest, 2006); however, the focus of measurement has become student outcomes. Measuring different students' aspirations, including the ones that aren't clear upon enrollment, is a struggle for many community colleges. This new accountability model brings about an issue that Levin (1994) calls "outcome equity" and defines it as this:

> In all human populations there will be some variance in talents and
> attainments, even when all members are provided with exceptional
> opportunities to develop their talents. What that variance will be is
> certainly open to debate. More questionable, though, are the differences in
> educational attainments among populations born into different social,
> economic, and racial circumstances due to inadequate opportunities for
> human development. A reasonable criterion is that we have obtained

educational equity when representatives of different racial, gender, and

socioeconomic origins have about the same probabilities of reaching

different educational outcomes. (p. 168)

Access and Opportunity in Community Colleges

Community colleges might provide access to school for nontraditional students,

but they do not guarantee success for all populations. A report by Bailey, Jenkins, &

Leinbach (2005) summarized data derived from a longitudinal study of a cohort that was

followed for an eight year period from 1992-2000. From this cohort, they reported that

"50 percent of the white students starting in community colleges had a successful

outcome (degree, certificate, or transfer) by 2000, and only 28 percent of African

American students and 37 percent of Hispanic students had similar success" (p. 28).

The Digest of Education Statistics (Snyder & Dillow, 2013) reflects the large

disparity in academic achievement for African Americans in community colleges. The

data reflects that 55% of whites earned certificates by degree-granting and non-degree-

granting institutions while only 20% of African Americans earned a certificate. In

addition, Associate's degrees conferred by degree-granting institutions were awarded to

65% of whites and only 14% of African Americans.

Many African Americans students face barriers while attempting to obtain

degrees and certificates in colleges and universities. Barriers can include coming

unprepared to do college level work; not understanding the study skills and time needed

to be successful; the ability, or lack thereof, to navigate college systems; and lack of

availability to technological resources. These barriers must be addressed by providing the

students who face them with the resources needed for success.

African American students who come to community colleges lacking access to technology resources may not be able to achieve the same level of success as their white counterparts who have access to these resources. "Higher education is far from achieving outcome equity, which, it should be emphasized, calls not for equal outcomes for all students but for equal outcomes on average for different socioeconomic groups" (Dowd, 2003, p. 21). Dowd also believes that "in order to attain outcome equity, students with greater educational needs require greater resources in order to achieve at rates equal to those with fewer needs" (Dowd, 2007, p. 4). If African American students don't begin their college careers at the same starting line as their white counterparts, then how can they be measured against the same finish line?

The Digitally Denied

Without availability to necessary technological resources in education, the digitally denied (Hollins, 2014) may not be as successful as their white counterparts. A longitudinal field study by Jackson et al. (2006) shows that low-income children (mostly African American) with access to the Internet after one year had higher GPAs. The study also found that reading achievement on standardized tests increased after 6 months of Internet use.

Many professors at community colleges are under the misconception that students have the technological resources that they need in order to be academically successful because there are computer labs on campus. In order for these students to be successful, technology, such as hardware and software, support, and community resources have to be available in the right place and at the right time.

The Digitally Denied in Education

In March of 2012, a group of students from five schools that comprised the Black Male Academy and Council on Youth Research empowered themselves by raising funds on Kickstarter, a fundraising website, to attend a Digital Media conference and demanded that they receive the same technology access the privileged students received. They described their frustrations with prohibitive policies regarding the use of technology and the dismal condition of their schools equipment. One of the students shared that their cell phone had better Internet access than the school's computers. Another student reported that their school had 14 computers, 10 of which worked, and only 3 of which could print. They had 3 laptop carts and only 10 of the 30 laptops could access the Internet. One of the students from Morningside High in Los Angeles said:

> I demand that my peers and inner city school kids have a fair chance at life, furthering their education like privileged communities. Give us the resources we need. Because there are children like me who give a damn about our future. (Public Media for Northern California, 2012, para. 7)

Another student said:

> If our school has technology and equitable resources, our graduation rates and college attendance rates will increase. This means we'll have more prepared students for our democracy, and we'll have more public conversations about equity. (Public Media for Northern California, 2012, para. 9)

"Digital equal opportunity" is the principle that no person should experience "a disparate impact from lack of access to, or productive use of, high-speed Internet access because of membership in a group identified by geography, social-economic status, race

or ethnicity, tribal status, language, age, or physical or mental ability" (James, Livingston, Marcella Gadson, & Buggs, 2012, p. 7). An African American student revealed to me that when they leave the campus they have a much lower level of access, cell phone Internet access only. While libraries provide an opportunity for her to connect so that she can complete her assignments, there are barriers. Local libraries have limited hours of availability, blocked websites, lack of technological expertise, and a one-hour time limit for individuals that use library computers. When I asked the student if they used their community library and they stated:

> The library works for me sometimes, except on Friday's it's horrible because I really need them later on Friday's and I can never get what I need done because they close at 5. Then, Saturday's they close early too and it seems like I'm doing the running and by the time I, you know, things calm down where I can go get there, the hours are over. When I get there, I really need like three hours on the computer and I'm cut off after an hour, so then I gotta get back in line, and that messes up my whole focus because I gotta get back in tune with everything I was doing. (personal communication, September 26, 2013)

A high level of access to technology could prepare this student to become a creator, innovator, and contributor in society. However, as a low level user, this student is positioned to become merely a consumer of technologies.

The Digitally Denied Beyond College

We are living in the information age. This is a time in which the utilization of technology is the source of wealth. According to Reich (1991), there are three categories of workers: 1) routine production workers such as data processors, payroll clerks, and factory workers; 2) in-person service workers such as janitors, hospital attendants, and taxi drivers; and 3) symbolic analysts, such as scientists, engineers, executives, lawyers and consultants. All these workers have to navigate through sophisticated technology systems and live in a very connected digital world.

According to Levy and Murnane's (2004) study on occupational patterns, census data shows that from 1969 to 1999 the demand for jobs requiring complex communication rose nearly 14%, and the demand for jobs requiring expert thinking rose about 8%. In the same period, the demand for jobs requiring manual or routine cognitive tasks fell by 2% to 8%.

Symbolic analysts have the rising share of wealth in our country as the income and status of production workers and in-person service workers are slowly diminishing. The digitally denied will not be able to obtain symbolic analysis positions if they are not able to incorporate technology into their lives on a consistent basis. They will continue to be considered for lower level income and status positions, maintaining the second class citizenship that they have experienced for their entire lives.

Chapter Summary

The literature and narratives of African American community college students document that there is a clear digital divide in regard to technological resources. The research literature indicates that we should not declare victory in the closing of the digital

divide because it still exists, and that the most persistent divide is race. Those who believe there is digital equal opportunity need to examine it beyond the general descriptors used in most of the current discussion and research. For African Americans, a low level of access to technological resources denies them opportunities and provides an additional barrier to academic success. It is another layer of inequity that is embedded in the fabric of our society and results in a community called the digitally denied.

CHAPTER THREE: METHODOLOGY

ICTs are incorporated into almost every area of our personal lives and are vital in organizations, businesses, government agencies, and especially education. Because of the increasing dependency on ICTs, there is a "concern that digital inequalities have profound implications for economic, political, and social stratification in the United States" (Gilbert, 2010, pp. 1000-1001). A great deal of research has been conducted on the digital divide and Critical Race Theory (CRT) individually. However, the digital divide has not been researched through the lens of Critical Race Theory, from institutional perspective, more specifically in the community college setting. Community colleges interested in improving technology access and resources for African American students should address unique needs and barriers that hinder them from attaining their educational goals. As an African American educator employed at a community college, I feel convicted to examine the digital divide beyond surface level descriptors and explore the effects on African American community college students through the use of a major tenet of Critical Race theory, storytelling.

Research Questions

According to Merriam (2009), qualitative research focuses on people's experiences and their perspectives. Researchers go into the field to collect data in an attempt to gain the whole picture. They start with broad questions and seek a complete understanding of what is being researched. The overarching question for this study is:

How does the availability to technological resources impact African American students' ability to be successful at a community college? Supporting research questions will include:

a) What is the availability to the Internet, software, and hardware for African American community college students?

b) What is the availability to resources, such as computer labs and community resources for African American community college students?

c) What assistance with technology is lacking for African American community college students?

d) What technology skills necessary for academic success do African American community college students lack?

Rationale for Qualitative Research

This research will examine and convey the intricate details of how African American community college students navigate through their college careers with varying levels of access to technological resources. Through these voices, this research could enlighten educators, community college leaders, and stakeholders about African American community college students and their access to technological resources.

With storytelling as one of the central tenets of CRT, qualitative research provides a valuable tool that will help give voice to the digitally denied. Qualitative research includes observations, interviews, and surveys and the type of data that researchers use in this genre of research is words. These words are a reflection of the subject's knowledge, understanding, insight, opinions, and feelings. This type of research records events, actions, activities, and personal exchanges. According to Creswell (2007), in case study research, a qualitative approach is used by a researcher that explores a case or cases over a period of time and utilizes detailed data collection methods such as observations and

interviews from multiple sources of information. Strauss and Corbin (1990) note five

reasons for conducting qualitative research that are still applicable today:

1. The convictions of the researcher based on research experience

2. The nature of the research problem

3. To uncover and understand what lies behind any phenomenon about which
   little is yet known

4. To gain novel and fresh slants on things about which quite a bit is already
   know

5. To give intricate details of phenomena that are difficult to convey with
   quantitative methods (p.19)

Population and Sample

I wish to study African American community college students' access to

technological resources. The sample for the study will be African American students who

are currently enrolled in a Midwest suburban community college and professors who

teach at that same college. The community college has 3 main campuses and several

satellite buildings with limited course offerings.

Data Collection and Instrumentation

All interviews, observations, and surveys will be administered on one campus that

has a high number of African American students. Professors will be asked to administer a

short survey that will help to identify students who do not have access to technologies off

campus. Since this study focuses on African American students, the questionnaire will

include a question about racial/ethnic background. The questionnaire will also offer

students the opportunity to participate in the study or allow them to opt out of the study.

Six to eight students who fit the criteria for the study will be contacted and will have to complete consent forms that inform them about the study and of their obligation of being interviewed and observed.

A community college Center for Teaching and Learning will be contacted to help identify three to four professors that infuse technology into their courses and require students to use those technologies to complete assignments outside of the classroom. They will also sign a consent form that will inform them of the study and their obligations of being interviewed and observed.

The data collected will include interview, survey, and observation data. The data collection will focus on the experiences of African American community college students who lack access to technological resources. Interviews will be semi-structured and will include a combination of structured questions and open ended question. The largest portion of the interviews will be flexible and conversational. Storytelling, a central tenet of CRT, will be utilized to give voice to the digitally denied.

Data Analysis

Merriam (2009) asserts that qualitative research is not a linear process and that collection and analysis occurs simultaneously. As a qualitative researcher, I do not know what will emerge, all the questions that I will ask, or where to look before the process begins. Observations, interviews, and insights in qualitative research "direct the next phase of data collection, which in turn, leads to the refinement or reformulation of questions" (p. 165). I will collect data and analyze it immediately to find patterns so that I can find direction as the study progresses. After the first interview, I will reflect on the purpose of my study, make notes and comments about the data, and create a memo that

captures possible themes and ideas. I will also make note of what I want to do differently in the following interviews.

The information gathered in this research study will be analyzed using an interpretational method. I will look for patterns and themes obtained during interviews, surveys, and observations. Data gathered from all students and professors will help identify African American community college students' experiences with technological resources and how it affects their success in a community college setting.

Limitations

Because I am an African American and an educator in a community college who believes in equality in education, I will be taking an emic (insider's) perspective. This qualitative research will detail interactions between the researcher and participants, and provide rich, thick description that coincides with the researcher's conclusion. Six students will be selected as participants based on their responses to a short survey and generalizations are limited by the selection process. Students will be selected if they are African American, do not have access to a computer or Internet access when they left the college campus, and are interested in being interviewed.

Chapter Summary

This chapter discussed the rationale for case study methodology, how it will be utilized to research African American community college students' access to technology and storytelling, a central tenet of CRT that will be utilized to give voice to the digitally denied. Research questions, population and sample, and data collection and instrumentation were discussed and I concluded with data analysis, biases, and assumptions.

CHAPTER FOUR: ANALYSIS OF DATA

The digital divide refers to unequal access between groups of different demographics that make use of ICTs and is defined by descriptors such as SES, education level, language, geographic location, age, and race. The purpose of this study was to investigate the effects of the digital divide beyond the surface level descriptor of 'race' and understand the impact of technology for African American community college students. Included in this chapter is a review of the research design and questions, data collection and instrumentation, data analysis, campus environment and participants included in the study. Critical Race Theory in Education will also be discussed and storytelling, a major tenet of Critical Race Theory, will be used to enable the participants' "voice" to be heard throughout this analysis of data.

Study Design

This qualitative case study was conducted in a Midwest suburban community college and examined how access to technological resources impact African American students at the community college. The college has four main campuses and satellite locations. Faculty members from one campus surveyed their students to identify individuals that had little to no access to computers when they left the campus. The disciplines in which students were surveyed included Information Systems, Criminal Justice, Accounting, and Business. The faculty members associated with these disciplines were selected because they utilize current technologies in their courses, such as course management and proprietary software supplied by textbook publishers.

Six students were selected as participants based on their responses to a verbal survey that was administered during their class period. Students were selected if they

were African American, did not have home access to computers when they left the

college campus, and were interested in being interviewed.

Data Collection

Prior to conducting interviews, the researcher completed the University of

Missouri-St. Louis (UMSL) institutional review board (IRB) application. The last

requirement for the IRB application for UMSL was the approval and signature of the

president of the community college campus in which the research would be conducted.

At that time, the President of the community college notified the researcher that there was

another IRB application that needed to be completed at the community college level. The

researcher completed the IRB application at the community college level and was granted

provisional approval pending final approval from UMSL. After all approvals were

finalized, the researcher began collecting data. Surveys (Appendix A) were administered

to the faculty members to distribute in their courses. When surveys weren't returned by

the professors, the researcher decided to visit the classrooms and conduct a verbal survey

and interviews were immediately scheduled with participants. Informed consents were

signed by students before they were interviewed and they also received a typed transcript

of their recorded interview after it was transcribed. Interviews were conducted in the

researcher's office or in an unoccupied classroom.

CRT scholars believe that the analysis of race in education allows us to gain a

deeper understanding of the educational barriers for people of color and explore how they

can be overcome (Ladson-Billings, 2009). Solorzano and Villalpando (1998) say that:

The overall goal of critical race theory in education is to develop a

pedagogy, curriculum, and research agenda that accounts for the role of

race and racism in U.S. higher education and work toward the elimination

of racism as part of a larger goal of eliminating all forms of subordination

in higher education. (p. 213)

Based on this theory, the overarching question for this study is "How does the access to technological resources impact African American students' ability to be successful at the community college?" Supporting research questions will include the following:

a) What is the availability to the Internet, software, and hardware for African American community college students?

b) What is the availability to resources, such as computer labs and community resources for African American community college students?

c) What assistance with technology is lacking for African American community college students?

d) What technology skills necessary for academic success do African American community college students lack?

Interviews and data gathered were analyzed and helped to provide patterns and themes presented.

Data Analysis

Verbal surveys in several classrooms on campus revealed that there is a significant number of African American students on campus who do not have access to computers or the Internet when they leave campus. Six professors and six students were

selected from these classes to be interviewed. For the purpose of this study, all participant names have been changed to protect confidentiality.

Faculty 1: Professor Angie

Professor Angie is a Caucasian female professor in the Sociology department who teaches sociology, race and ethnicity courses. She has been with the college for five years and has a strong connection with the students she serves. She has been a leader and activist on campus addressing racism in the community by hosting "listening circles" in which students have the opportunity to share their experiences with other people in the circle, which includes students and faculty. This forum provides students with an opportunity to talk about their frustrations in their communities.

In regard to technology, Professor Angie states that she uses technology in her face-to-face classes even though students aren't notified that face-to-face classes will require technology. She states,

> "So the conversation usually happens at the beginning of the
> semester. On the first day I say this is how the course is set up, and
> (tell them) what they have to do online. They are always provided
> with 5 days to get it done and it always includes at least two days
> where we see each other face-to-face. So that means, I say things
> like, if you don't have access to a computer off campus then that
> means being here to take this quiz within the next five days and
> here is your opportunity to use computers on campus. I don't
> though, I've never taken and inventory of my students, like who

has access to this technology at home. But I have those

conversations all the time. Most students either, usually are talking

to me and telling me, "Oh, I'm going to go complete an assignment

after this class", and they kind of set up a rhythm for themselves.

So I know on Thursdays, they also have the option of taking their

quizzes with me, so some students come in and we use my

computer. I've set up dates where I meet students at another time

to use the computer. But, I don't ever take an official inventory.

I've only ever said, this is how you get around it if you don't have

technology at home" (Anonymous, personal communication, April

23, 2015).

Professor Angie shares that even though she teaches mostly face-to-face that the

majority of her assignments and all of her assessments and course information are posted

online and students have to be able to access this information in order to be successful in

her course. Professor Angie is a social justice advocate, cares deeply about the students

she serves, but works in an institutional system that requires technological resources that

many African American students do not have access because it seems "normal".

Institutional racism exists when institutions or organizations, including educational ones,

have standard operating procedures (intended or unintended) that hurt members of one or

more races in relations to members of the dominant race (Scheurich & Young, 1997). She

reflected,

"What's interesting to me is that, so I teach online and then I teach

face-to-face. But my face-to-face class, I utilize Blackboard more

or less, depending on the semester. So all of my intro classes take

quizzes online, my race and ethnicity class has to access videos

and information online through Blackboard, and then sometimes if

I can't be there for a day or something happens, I post videos for

them online. And so what's interesting to me is that, I don't know

when I reflected on it, but I thought, my class says face-to-face and

we meet Monday and Wednesday, it's not a hybrid, there is

nothing that tells my students ahead of time that technology will be

required. So that's just been interesting to me that I think about.

They just come in on day one and I am saying this is how we do it.

I think that most of what I set up is accessible. We figure out how

to make sure it's accessible for everyone, and I make sure that I

don't do these really quick deadlines so that you can access public

computers. However, there still really is nothing to kind of

forewarn the student or prep them for technology. Like hey, it's

gonna be used in my class, like, all the time."

Professor Angie also admits that she doesn't like learning to use

technology and that it takes about three weeks to incorporate new technologies

into her classes for that reason. When I wondered about why she used technology

in her class, she said that it was for selfish reasons,

"I don't like learning about technology. So, the only reason I use

technology is because I'm selfishly wanting more face-to-face time

in my class. So by putting the quizzes online, I don't have to quiz

them in class. And it's like built in that. I'm trying to teach them

how to study incrementally for their test. So, it's me trying to

scaffold their learning and teach them how to do that for

themselves, so technology allows me to do that."

When Professor Angie reflected on how she finds out that some of her

students don't understand or have access to technology away from campus, she

discussed how digitally denied students approach her individually and usually

after class. She said that she works with them one-on-one in the classroom at the

teacher's station and recalled a particular student who purposely waited until after

class dismissed to discuss her technology concerns,

"It wasn't until I had a student, I would say she's probably in her

70s with a high fear expressed to me after everyone had left

because she didn't want to out herself in front of everybody, that

she just really doesn't understand computers, that I realized that I

just kind of was assuming that my students can. She was a student

who, we met every Friday of the semester to work through it and

that was really rewarding for me and really cool. However, she

also chose to contact me. I also have students tell me all the time

that their kids help them figure it out. And usually they mean their

adult kids. So it's my students that are in their 50s and 60s that are

saying that their daughter comes over and helps them. So I don't

necessarily feel that well skilled at teaching someone how to use

technology. But I do it enough for them to be able to do what is

required in my class. But I would also say this, that the type of

access that students are used to is not always helpful for the

classroom. They'll come up to me and say oh, I messed up on that

quiz I was taking on my phone and I couldn't see and I

accidentally hit…so the idea that they are trying to do coursework

on the phone is something that I haven't addressed systematically

but I do when it happens one on one. So sometimes, their ability to

access information is there, but their understanding of academic or

professional use of Blackboard is lacking."

Faculty 2: Professor Black

Professor Black is a young African American male professor that is the Program

Coordinator for the Criminal Justice program and teaches courses in that program. He has

been with the college for five years and has a strong connection with the students he

serves. Professor Black works close in proximity to my office and we see each other on a

daily basis. When Professor Black first started with the college, I would see him with

stacks of handouts and he would have to do lot of manual grading. Within his short

tenure at the college, he has quickly learned that the use of Blackboard would make his

life easier. He has since incorporated Blackboard into all of his face-to-face classes and

no longer accepts paper for any of his assignments. When asking Professor Black about

what used to be his large pile of handouts he stated,

"In the last year or so, I've gone away from printing out handout

assignments. I pretty much put them on Blackboard and I generally

tell them that I don't want any paper. I don't even want an email,

just submit it on Blackboard."

Professor Black also stated that he gives all of his exams and quizzes online through Blackboard and they are not proctored in a classroom equipped with computers. Students have a given time in which they have to complete the quiz or test and are referred to labs to get the completed. When I asked Professor Black if he provided a "technology equipped" space for these quizzes and exams, he said,

"Usually, I do not take them to the computer lab or a class, but I

have done it before. Usually, I give them a timeframe where they

have to complete it. I encourage them to use the computer lab on

campus for a couple reasons. One, is because they are on campus

and more likely to be productive. But also, I think there is a little

more integrity if they say "the test went out on me" and they're in

a computer lab and there is an assistant there I feel a little bit more

comfortable when they say yes, I did see this. As opposed to…

(student) I was doing it (the test) didn't like it and decided to start

it over. And you can trust the Internet connection as opposed to

people's houses and phones."

Professor Black does, however, at the beginning of the semester show his students where the Business computer lab is in the building. He states,

"I say that there are computer labs on campus but I always refer

them to the one here in our building (Business building). And

every semester, I take my class, at the beginning of the class, down

to the computer lab. I keep the syllabus on Blackboard, and their

assignment when we go down there is to log into Blackboard and

print off the syllabus. That way I know that they have their access,

I know that they can get on Blackboard. So that they can find their

class as well, and then Doug (the lab assistant) will give them a

quick tutorial about the computer lab."

When I asked Professor Black if he thought that his students really understood

how to use the technology that businesses require today, he felt that his younger students

did but that the older students struggled. He said that in those instances, he always

referred them to the computer lab for help. Professor Black stated that he didn't think that

students getting his work completed was an issue "because of the multiple computer labs

on campus" and that because he provided a reasonable timeframe for students to get work

completed that "if a student just doesn't want to do it they just aren't doing it."

I shared with Professor Black that I used to think the same thing until I began to

have conversations with my students about their lack of access to technology when they

left campus and realized that for some people it was difficult to remain on campus after

class. I told him that I wondered that since we ask our students to do so much online if we

have the "access to technology" conversation enough with our students. I then asked him

if he had ever had a conversation with his students about computer and Internet access,

and obligations that take them away from campus. Mr. Black compared his lack of

knowledge about his student's lack of access to his light bulb moment when he realized

his students didn't know how to study. He recalled,

"Now that I'm thinking about it, I hadn't really thought about it,

but that's probably true. Because, and I'll just use an analogy, of

when I started teaching and I would tell students to study, after I

took some kind of training or workshop, I had the realization that

students don't understand what that means, they don't know what

that is. So, it's probably a good point, and I'll probably have this

conversation next class period."

Mr. Black is a true advocate for students on campus, especially in

the legal system. I was pleased that at the end of our interview he realized

that he was working in an institutional system that did not recognize the

digitally denied because his practices were "normal". Another instance of

an institution having operating procedures (intended or unintended)

hurting members of one or more races.

Faculty 3: Professor Clay

Professor Clay is a Caucasian male professor that teaches business courses and is

Department Chair for the Business Department. He has been with the college for five

years and teaches many courses that transfer to four-year universities. Professor Clay has

infused Blackboard into his face-to-face courses and requires students to interact with it

on a regular basis. He says,

"I would say that I put the PowerPoints up on Blackboard, I put all

of the announcements about assignment due dates, quizzes and

tests, that's up on Blackboard. A lot of times, like sort of a handout

packet of problems where we work on in class, I put that on
Blackboard. Sometimes I put bonus problems on Blackboard. I do
handout things as well, but there is, depending on the class, a lot of
stuff that I ask them to go to Blackboard to access it. I have
sometimes done online assessments, even in a face-to-face class.
And they never complain about that because it's sorta like I say
we're kinda running out of time, what if you all do the last exam
on your own online and they don't have Connect (textbook
publisher software) for the classes because it's been a f2f class so I
just have to put it in Blackboard the old fashioned way."

Professor Clay feels like his students are tech savvy, he stated that he
serves a diverse group of students, but that there is a misconception about younger
students. He says:

"I think that people always think that the younger generation is
way ahead on technology and I just think they're not really truly
correct about that. I think they're really good with posting stuff on
Facebook and whatever…Twitter…whatever they use, but I don't
think they're really good with practical skills that really translate to
the workplace. Some of them know Excel a lot and for some of
them, it's really kind of new when we go in there (the computer
lab)."

Professor Clay was very concerned about the direction that the college was going and that he'd been asked by his Dean on several occasions to update his course materials to go completely digital. That would mean that students wouldn't have hard copy textbooks as an option. Textbooks would be e-books and the textbook publisher software would be used for all assignments, assessments, and course materials. He expressed his concern with this stating,

> "I will tell you that the Dean would like us to go more technology for face-to-face (classes). I don't know about you all, but he wants us to basically get rid of the print text and go to digital text. I've been resisting it and the publishers have been saying they are gonna do that and I've been telling them if you do that to soon, I don't think we're gonna be ready and we may have to find another solution. I mean, everybody can go to a lab but if you're talking about needing to do that every time you're going to read something in a text, well that can be…. we may not have enough lab space for everybody and it's inconvenient."

Professor Clay seemed to recognize the digitally denied when addressing the push from leadership to move to an all-digital solution. While his practices in the classroom still support the institutional norms of requiring technology for all of his assignments, even though many African American students don't have access to technological resources, he did see a problem with going completely digital realizing that this would not be feasible for the digitally denied.

Faculty 4: Professor Kay

Professor Kay is from Albania and is the Program Coordinator for the Accounting program and teaches accounting courses that transfer to four year universities. Everything that she assigns is online because she utilizes textbook publisher software. All assignments and assessment must be completed online and require an Internet connection. She says,

> "All of the assessments in my classes are computer based. Publishers allow us to use their related classroom management system where they have many study tools. But we also have assessment tools like homework, quizzes, and tests and all of those are administered online… 100% of them. I tell them to use any and all of the computer labs available on campus. I do not require them or do not tell them to use their phones and devices, they can, but being aware of the cost of technology nowadays, the use of data on their phones to complete assignments can become very expensive on the data… you know, the usage of data, so I don't promote that. Everything's online and it has to be using the computer because in my classes, the discipline is accounting and accounting is 100% technology these days. So that is the only way that they will develop the technology skills that they need."

She also discusses other technologies used in her course,

"We use Excel extensively, we use Blackboard for all

communications and a lot of instruction materials that are

submitted online, for announcements, for emails, and any changes

that happen throughout the semester, they are communicated

through Blackboard and it sends out emails to every student in

class. Then we use Excel, we use Quickbooks, but those, I do not

require the students to be able to use Excel at home because Excel

is not always part of the software package that comes with the

computer if they have their own. So I tell them to, if they don't

have their own that we need to develop those Excel skills, then

they need to go to a public library or one of the computer labs that

we have available on campus."

Professor Kay works with a diverse group of students with different levels

knowledge of technology. But she does feel that the majority of her students are lacking

the technology skills that are needed: She says,

"They need more computer skills, most definitely. The students

that are served by areas of, uh, the metro areas where they are a bit

underserved, so let's say African American students or students

that come from schools in the North County or the city, they are

less prepared. Students that come back to school after having

worked, they are less prepared. Students that come from

traditionally, socioeconomic classes where the funding or the

finance resources might have allowed for more exposure to technology, they are always better in regard to preparation."

Professor Kay has a very close relationship with her students and gets to know them very well during the semester. The relationships that she builds with them allows for her to know about their access to technology when they leave campus. She shares information about this semester's students,

"We have conversations all the time… constantly. I can just say that I know the situation of every single one of my students. What kind of access do they have and there are many….. Currently, I would say that there are, in my three face-to-face classes, I would say there are 17 students that the only place where they can do work is while on campus and they have to squeeze that between time that they have to run to work, time they have to go pick up their children from daycare, if they have managed to have that arranged, and the bus schedule…they have to run for the bus. You know, making the concession is harder done than said because you want to teach them discipline that is not for the sake of the class but the skills that they are going to need in life and in the workplace. So you want to tell them that, when you work, your supervisor would not make allowances if you tell them I have to go run to catch the bus. But work needs to be done. So this is what I say to the class, but when I work with students individually, then yes, I do make concessions. I will extend the time, I will work with

them while they are in class or after class if they can. I will sit

down with them while they're working on their assignment and

help them along."

Professor Kay is very in tune with her students and recognizes the

digitally denied. Her class requires one of the highest level of technology

than all of the professors interviewed and she recognizes that this is an

institutional barrier for many of her students. She does make

considerations for her students and could be a role model for other

professors that struggle in this area.

Faculty 5: Professor Lee

Professor Lee is a Caucasian male professor in the Information Systems

department and teaches computer classes. He is very reserved and this resulted in a very

short interview, but it was worth noting that students who don't have access to

technology when they leave campus eventually disappear before the end of the semester.

When I asked him if he had explicit conversations with his students about access he

states:

"Yes, I have conversations. We talk about the library, we talk

about who's computers they've been using. Um, are they

successful? I would actually say, the ones I can recall is that those

are the students that want to succeed and I have a conversation

with so, I think that in general, if we have a lengthy conversation, I

believe they are successful. I haven't done any polls, but I would

say, I would guess a good number of our unsuccessful students

probably do not have much access outside of class, but

unfortunately, they kind of disappear quickly so we don't get to

have those conversations."

Professor Lee's interview revealed the sad reality that many of the digitally

denied do not make it to the end of the semester because they don't have the

technological resources necessary to keep up and be successful in the courses that he

teaches.

Faculty 6: Professor Washington

Professor Washington is an African American female professor in the Information

Systems department and teaches computer classes. She is very aware of some the

obstacles that her students encounter in regard to technology and access. She is the co-

advisor of a student club on campus that provides free technology assistance to students

who have software issues. Due to the discipline that Professor Washington teaches in, she

is always on the computer with her students and all of her work is completed and

submitted electronically using both Blackboard and textbook publisher software.

"I use Blackboard. So, in order for them to upload and download

assignments from Blackboard, I have a lot of assignments where

they are required to download files and save them on their PC and

do the work. After the work is complete, they have to upload back

into blackboard. And then we have publisher software, which is

web-based software, so they need the Internet, they need access to

the Internet in order to access a lot of the web based software that they use from publishers. That includes assignments and tests as well."

Her face-to-face courses include a very limited amount of lecture and the rest of the class period is used as lab time. She shares,

"In most of my classes I am only lecturing 20 minutes, at max, and the rest of the time we are on the computer doing something. Most of the lectures are based on things that I know are coming up on the course syllabus that they are going to have to know. So I lecture to let them know these are something that you are going to have to do, or it might be something that they struggled with the night before, and we would cover that. But for the most part they are on the computer working."

When discussing the type of assignments that Professor Washington assigns and some of her student's obstacles, she discussed the fact that some students' grades are actually lower because they don't have the most current version of software on the computer that they need to complete their work. Because her assignments are auto graded the software is looking for specific format and points are deducted for students who have a version that doesn't include that specific format as an option. She says:

"….projects, office applications….. So, not only do they need the application, but they need the most up to date application, so software becomes an issue if they have an older computer with

older software. For example, we are using Microsoft Office 2013

and a lot of the formatting options that are in 2013 may not be in

2010, Office 2010, then they miss those points which makes their

grades lower and that can sometimes be discouraging because they

are doing the work but they know that they are at a disadvantage."

Professor Washington uses most of her class for lab time because she feels that

students are not coming to the college with technology skills that are necessary to be

successful in school or in the workplace. She feels that her students' computer skills are

lacking,

"They need a lot a computer skills. I think they come in knowing

the basics of what a computer is, and they know some of the

potential of a computer, but they struggle with how to download

files from the Internet, and how to upload them back to me. They

don't understand the basics of when they're saving to the computer

or when they are saving to a flash drive, how to organize their files

from my class to another class, so we spend a lot of time trying to

get the basic fundamental skills of organizing their files. Basic

concepts of when they or dealing with a web based software and

when they or dealing with a software that is already installed on

their pc that they need to use. How they access that different

software at home vs. when they are in the classroom."

Professor Washington also struggles with retention for students who do not have access to technological resources when they leave campus. She does identify those students at the beginning of the semester and try to work with them, but states,

> "This semester my keyboarding class, more than half of my class
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> did not have access to a computer off campus. So we started with
>
> 13 students who actually bought the software, started working, and
>
> then found out that they could not keep up with the work because
>
> they didn't have access at home. So of those 13, only probably
>
> about 6 to 7 or going to actually successfully complete the course.
>
> And as the workload picks up most of them, before midterm
>
> realized that they would not be able to catch up.

The other thing I identified as an issue this semester was, in our course catalog we say you have to have Internet access or you need access to a computer, most students relate that their telephone. They say, yeah, I have access because I can get on the Internet with my phone. But coursework doesn't work well from a telephone, and it might work well from a tablet, but you can't do it all on your cell phone."

She goes on to share about a student and her specific struggle due to her lack of transportation,

> "This particular student, when she leaves class, she catches the bus
>
> to pick up her children from day care. After she picks them up on

day care, she gets on two more buses to get home. So on average

she doesn't get home until 7:00 or 7:30 at night. And she does not

have a computer at home. Because my first suggestion was, well

you could have a laptop, use a laptop on the bus since you spend a

lot of time on the bus, but she doesn't have a laptop. She was

hoping she would have enough money left over from financial aid

to get a laptop."

Professor Washington seems passionate not only about her students, but technology as well. She works in her classes to explain to students how important technology is in their lives. She tells them different ways that it shows up in their daily lives, how it is used in business and how it affects them. She shares this with them that,

"It doesn't matter whether we like technology or not it is a part of

our lives in every aspect. Banking online, if you want to fill out

applications for jobs it's now online, if you need to go to the Social

Security Office, they first refer you to online. You go into the

Social Security Office there are two people, and this is a recent

experience, and 25 clients, and the first thing they do is hand you a

piece of paper that says you can do this all online."

Professor Washington is very aware of the digitally denied and the institutional barriers that they face in regard to technological resources. Because she teaches in the technology field, she recognizes the many obstacles that students have when trying to complete their assignments outside of the classroom.

Six students who have little to no access to technological resources when they leave campus were interviewed and the following are their narratives.

Student 1: Belle

Belle is a digitally denied African American female returning student. She is a mother of a young child and does not have access to computers when she leaves campus. Her daughter attends school in Illinois, where she used to live, so she frequents the library there. She stated that in Illinois the library is not that crowded, but they do have a two hour time limit that can be frustrating at times, so she comes to campus more often because that particular community resource is not sufficient.

Belle does have Internet access on her cell phone and checks her email from her device. However, this device is not equal to a desktop computer or a laptop because she could not complete all of her homework on this limited digital device. When I asked her about completing assignments using her cell phone, she said:

> "Yes, I have email and my email is actually on my cell phone so I always have access to that when people send me email. My SWIC (Southwestern Illinois College) email, I can check it on my cell phone, but the only thing about that is that it is so little."

She went on to discuss how certain functionality didn't work on her cell phone and what some of the benefits would be if she had a computer with Internet access at home:

> "Like with Banner, it's like certain things you can't do, like even enrolling in classes. I came up here to enroll in my classes versus

staying at home in the comfort of my own home enrolling in

classes. If I had one at home, I would be further ahead. I wouldn't

have to worry about it, and I would save gas (laughing). I could be

at home just doing it and I would probably be further ahead,

instead of it being like a rushed thing."

Belle only has classes on Mondays and Wednesday but comes to campus on

Tuesdays and Thursdays for about six hours on both of those days to complete all of her

assignments. She uses the Internet for all of her assignments and also uses computer

programs like Word and Excel. Belle is pretty computer literate. She attended a four year

university in the area and was in their TRIO program. She shared that the university

provided laptop rental and it was a huge benefit for her. She said,

"TRIO here is totally different than TRIO there. You can actually

go in TRIO and get a weekly rental of a computer and it had all the

programs and stuff that you needed. You could take it off campus.

You actually take it home. You look at a video about that about

how not to leave the merchandise in your car and in different areas.

Yes, so that was great!"

Student 2: Erma

Erma is a digitally denied young African American female student who has a one-

year old child and also has a second child on the way. Erma does not have access to

computers when she leaves campus. She uses the computer labs on campus in two

different buildings, depending on which one has availability for her at the time she needs

to use it. Erma shared that most of the time she can't stay after classes because her babysitter has to leave and she has to get home to take care of her child. She does not have transportation and just recently bought a bus pass so that she could come to school on her off days in order to get work completed.

Erma's only community resource, the library, denies her access to use their computers because of a past fine. When I told her that I didn't realize that fines could keep them from access the computers in the library, she said:

"Yes, because, like, I would um, rent books, but then like,

sometimes, you don't have gas and it's hard for you to take it back,

so it's a fee. So I took the book back, but we haven't been back

since then."

Erma does have Internet access on her cellphone but discussed how she can't do things that professors ask her to do using her cellphone. She also doesn't have access to a printer and her English teacher requires printed papers. She shared an experience in which her grade was affected because she didn't have a computer with Internet access and in this case attempted to use her cellphone:

"Like, when I tried to type up my paper for English and tried to

email it to him from my student account, it didn't send it to him, so

I got an F for that assignment. I try to let my teachers know that I

understand that you guys need it and I know this is my

responsibility, but I try to explain that my situation is different. I

try to stay at school as much as I can to do my homework, but

when you have doctor appointments, and the babysitter has to

leave, and not have access at home, it's hard. Mr. Ed doesn't take

late work, so that's the only thing that affects me."

Erma continued to share how her lack of access to a computer and Internet access

has affected her grade in her math course:

"You know she (her Math professor) tells us to go home and do

homework, but now that I don't have a computer, cause we did

have one, but the laptops we had, I was on there doing homework

for myMATHlab (textbook publisher software) and all of a sudden

my screen just went blue. So it's like, I couldn't do homework

anymore."

Erma was very concerned about her grades and directly related her lack of

access to technological resources to her lack of success in her courses and said,

"If I had a computer and a printer it would make things a lot better.

I would be able to get home, type up everything, and take care of

my son at the same time. That's why I have a 56% in English and

only 14 points in math. But it's kinda hard when you know that

first of all, you're not so good at math or don't understand it, and

it's hard doing English and I'm expecting again (whispering) and

high risk. So, the doctor's appointments that I have, I have to do

that because it has something to do with my life. But it's like now,

my teachers are not understanding. My mom was telling me to just

talk to a counselor."

Student 3: Jasmine

Jasmine is a digitally denied young African American female young student who does not have access to a computer or the Internet when she leaves campus. She normally uses the computers on campus in the library. She does not have transportation or use the library in her community and discusses why:

"They're usually packed. Like after school with the high school

students. It's like a hangout spot, so they will have their friends

sign up for the time after them so that they can stay on the

computer. So there are usually no computers available. And with

transportation and all, I don't have a way to get to a computer

outside of the community."

Jasmine shared that she often has to leave when class is over because she has someone to take her home after class. She is currently in a keyboarding class and discussed the fact that while she's supposed to be completing her work for that class, she sometimes uses that class to get papers typed and homework completed for other classes because that's the only time she has to use a computer. Jasmine is not a fan of computers. She says:

"I'm not familiar with computers because I don't get on one often

and when I get on computers it's like a nervous breakdown. Like

when I applied for a job, they asked me to access the computer and

I could not access the computer in the way that they wanted me to.

When I don't have access off campus it makes me nervous about

passing my classes. Like last semester I did not have access to a

computer off campus it put me at a point where now I'm on

(academic) warning because I was not able to complete certain

assignments that would involve using a computer. I would have to

hurry up and come in that morning, a hour early, but even coming

in an hour early didn't do me any good because the lab didn't open

up until class started and you can't be late for class so it really

didn't help. So yeah, basically just put me in a bad position where

this semester I have to pass all my classes, but I'm still having a

difficult time because I still do not have access to a computer."

Jasmine is one of the digitally denied students who has never had the opportunity

to make technology a "part of her personal space, tailored to her needs" (Dede, 1995) and

because of that lacks technology experience and knowledge.

Student 4: Liz

Liz is a digitally denied African American female returning student who does not

have access to computers when she leaves campus. She does have a cell phone but it does

not have Internet access, so when she leaves campus, she is completely disconnected. She

has a family and a child with special needs and struggles to find time to get to computer

and Internet resources in order to get her assignments completed. She considers a laptop

or a computer with Internet access in her home a luxury,

"I think it would be a luxury, honestly, to have it at home, because

I have a family. You know, my kids come home from school and I

could not ONLY help them with their homework, but I could do

mine as well. I have one son that has ADHD, and he does need

help and I'm trying to stretch my time so thin between myself and

them and my husband as well, it's just so much to have to endure,

and I'm telling you to have it, it would be a luxury."

Liz uses the campus library computers and a local library to complete her assignments. She does work in the community library often because it is more convenient for her, but she talked about how difficult it is to get timed tests completed when she's there due to the time limits,

"Yes, you have to, first register to reserve a computer, and you get

an hour window. If there is not many people then you get possibly

more, like 15 minute increments of time. But sometimes that just

kills you…you're trying to take a test or something that's uh online

and it's time limited, it will cut you off in the middle of it. And…

wow."

Liz has a full load which includes a college composition course and accounting course. The accounting course is completed entirely on publisher software which requires Internet access. Her college composition course requires her to do research and type papers. She spends the majority of her time on the computer in order to complete her

assignments. She spoke about the length of time that it takes to get just one assignment completed,

> "I'm like every day, like for hours on end, like 2-3 hours on end at
>
> the minimum, because when it comes to doing the financial
>
> accounting, you could be doing ONE homework assignment, not
>
> the quiz, not the test, and you may be taking anywhere from an
>
> hour to an hour and a half of your time out of the day to do it."

In addition to Liz utilizing computer and Internet resources wherever she can, she struggles with technology. Because she has not had the opportunity to incorporate technology into her life, she feels like she still has a lot to learn. She talks about her struggling with a very basic function of the Microsoft Word program:

> "I still have to figure out some things. I mean like, just yesterday
>
> right, I was on Word. I don't know if it was 2010 or 2013 and I
>
> was trying to figure out how do I double space my essay and I'm
>
> like what is these icons and I kinda had to move the mouse put the
>
> arrow on it and let the icon pop up and tell me what the icon
>
> actually stood for. And when I got there I was like, oh, I didn't
>
> know that you could space it like 1.0, 1.5, you know 2.0, 2.5. I said
>
> you know what I betcha 2.0 would be the double space
>
> (laughing)."

She also talked about how disappointed she was in her 8th grade son's lack of knowledge in regard to technology because he couldn't help her figure it out and said,

"My son who is in the 8th grade couldn't tell me how to find the double spacing on Word. And I'm like, honey, when I was like in the 5th grade generations ago, I would have already known how to find double spacing because that's what Kirkwood taught us. And you guys aren't (computer literate), you are in 8th grade about to go to high school and you don't know yet. I said, they have failed you. And that's the way I feel."

Liz said that none of her professors have asked about her access to technology away from campus which is another instance of an institutionalized and embedded problem. She says,

"The instructors didn't ask you if you have the access to this type of software or even to the Internet at all. And I'm just like, you know what, a lot of times, they think that because, you know, there are so many young kids straight from out of high school who are coming into college that, you know, "hey, they've got time to come up to this school, and use the resources that we provide for them", what they fail to realize is there are a lot of people especially in the 70s and 80s generation that are returning back to school after taking a huge break, a 10-15 year break. And they

have, like myself, have families, have other obligations and responsibilities. You need to go to work, you have to provide, you have to pay the bills. It's not going to stop happening because you decided you want to go and further your education. It's not gonna just pause for you."

Liz shared her feelings about her success as it relates to access and how it has affected her for the last two semesters,

"I'm struggling, I mean I am struggling. Well, honestly, I've had so much stuff happen within this semester and last semester to where, I believe if I had a computer at home, there were tests that I missed in financial accounting that I know that if I had a computer at home that was working, that was operable, that more than likely wouldn't have happened. Okay, because it would have been more convenient even after the times that the schools closed, I still have time until midnight or until 9 o'clock or 10 o'clock the next morning. Yeah, you know, so it's like I was at a slight disadvantage.….(sigh) my younger brother was killed just last semester. Yeah, and you know, it threw me for a loop. My mind was everywhere but when I finally got to myself to a point where I could sit down and take a breath, all of my responsibilities started coming back, like hey, don't forget you go this, this stuff is going on to now. If I had my computer at home at that time, I could have immediately… well, I had dropped financial accounting, well, I

didn't drop it, I actually failed it. I came back this semester to re-

take it, but (deep breath) it's ok though because when you're

determined, you have a goal, you're going to do what you have to

do. It's still a hump though. Hump day is every day for me."

Student 5: Harold

Harold is a digitally denied returning African American male student with a

family at home. He does not have access to computers or the Internet when he leaves

campus. He did have access to a laptop and was using a neighbor's Wi-Fi connection

until the neighbor moved. Even though he had access to the laptop, it had software issues

that kept him from being productive and did not have technology support to assist him

with software issues,

"I had been using my daughter's computer, she's got a laptop, but

sometimes it, she's got an older version, so sometimes, it be

crashin' and it don't kick in all the time. And then, at first we were

on Directtv, then we was dealin' with AT&T. Actually, we didn't

even have access, we was gettin' it, but she was getting it from

next door and I didn't even know. But they moved so that just

killed that and I come up to the library a lot of times, then at the

times I come, it be crowded."

Harold uses a computer for all of his classes, which includes a fitness class

that requires him to type his papers about nutrition. He does use community

libraries but shared that it is difficult to get a computer because the ones in his area have closed for remodeling. He stated,

"Yeah, they remodeling them. Uh, the one on Lewis and Clark, that one closed too so, the only one open right now that I can really go to is the one on New Florissant Road. But everybody from those two branches in the area kinda converging into that one and it be hard to get on them. Yeah, you only can be on there for an hour at a time, then you gotta register and it might be a list and you might not be able to get back on for another two hours."

Harold stays on campus most days after class due to his family obligations. He has a son with special needs and has to take care of him when he gets home. Harold says:

"Majority of the time I have to stay after, because I'd rather go'on stay and get it done, then try to go home, then try to get to doing basic life stuff, then have to stop that and get to the library and hope that it's a time slot open or it's not packed. See my son, he got cerebral palsy, so I be havin' to take care of him and that's a 24 hour job. That's why I'd rather stay a couple hours after class, cause once I get there, it's gone be hard to come back."

Harold said that being successful in class would be much easier if he had a computer with Internet access and discusses missing a whole section of homework in one of his classes:

"It would be very easy, because you gotta put in the commute time, back and forth. You know and then there is no guarantee that I'm going to be able to get on a computer at the time I really want to get on there, because I'm at the mercy of somebody else. It's first come, first serve. So if somebody else get there before me, I gotta wait and if I only have two hours, I'mma have to wait 45 minutes just to get on the computer or an hour. They really do them like an hour at a time at the public library. Over the weekend, spring break, I ended up missing, in my applied accounting class, a whole homework section. Due to, I didn't have Internet access at home, then the school was closed, then my only option was the public library, and then it was hectic because everybody was there."

Harold's interview was another reminder that institutional systems are requiring the digitally denied to complete work that require technological resources that are not available to all. In addition, the same institution does not provide those resources at the times that would be beneficial for the digitally denied.

Student 6: Jerome

Jerome is a digitally denied young African American male student who did have a computer with Internet access initially but ended up with a virus that stopped it from working. He is another student who does not have access to technology support or expertise in his community. Even though he only has classes two days a week, he stays on campus until about 8:30pm Monday through Saturday in order to complete all of his

homework. He is striving to get a 4.0 this semester. He also uses a community library on

Sundays, but stated that it can be frustrating because it's usually very crowded and the

time limit doesn't allow for him to take his timed quizzes. His community library has a

one-hour time limit which does not provide enough time for him to complete his

assignments. Jerome does not have transportation and catches the bus. He does feel like

that cuts into his productivity time and says,

> "When I don't have to go to school, it's difficult, and it's like a
>
> waste of time and I feel like just transitioning from the bus to the
>
> school is wasting like 30 minutes and I feel like for them 30
>
> minutes to an hour, I could be actually doing work."

He talked about his biology course and professor that required him to take a test

online, but he ran into a problem with the campus library computer. Yet, another instance

of the problem being embedded into the educational intuitional,

> "I was trying to take a test for biology, because we never took a
>
> test online, and she wanted us to take it online since we was
>
> running out of time and we only had 3 weeks left so, um, it's no
>
> way that I could disable the pop-ups so I asked one of the
>
> librarians about it and he basically said that you couldn't. So that's
>
> when I went to the one downstairs, the accounting lab."

Jerome says that when he gets enough money to get a computer that he will and said,

> "I'll say that when I eventually get enough money, that I can
>
> actually set aside for a computer then, I will get one, because like

going to a county (library), especially when it gets filled up, it

would be more better if I had a laptop and I won't have to wait or

have to worry about getting kicked out, especially having a quiz or

a test that's timed and within that time limit, if I get kicked out

then I don't have as much time as other people who do it at school

or who do have a computer at home."

He feels as though his professors just assume that all students have a computer with Internet access at home:

"I do think based on how long professors thinks it takes to do our

homework that they think we should have enough time to at least

on campus to do it. So that question really never came up. So, even

in my biology class when we took our test it was just an

assumption, especially when I told her about the pop-ups. She

probably assumed that you would probably have a computer at

home since we are in college and that's one thing that's

necessary."

Jerome also works on campus and said that if he was offered a job off campus he wouldn't take it because it would take even more time away from his studies. Working on campus keeps him close to the technological resources he needs in order to be successful in his classes.

After all interviews, transcriptions, the analysis of this data, the researcher sought to find common themes. These themes include off campus access to

technology and computer skill level, sufficient home access, low grades, lack of time, campus computer labs, and community libraries.

Conclusion

Analysis of data, data collection, and data analysis were discussed in Chapter Four. The use of storytelling, one of the major tenets of CRT, was used in this chapter and the participants' voice was presented. Chapter Five will discuss findings and conclusions based on the data analysis themes. It will also present implications and recommendations for future study.

CHAPTER FIVE: FINDINGS AND CONCLUSIONS

This qualitative case study examined how the availability to technological resources impact African American students' ability to be successful at the community college. Data from interviews of both faculty and students produced several themes. These themes include off campus access to technology, community library access, sufficient home access, campus computer labs access and support, and student computer skill level. A summary of the findings of the study based on the data analysis will be covered in Chapter Five. Also, the conclusions, implications, and recommendations will be discussed.

Findings

The overarching question for this study was "How does the availability to technological resources impact African American students' ability to be successful at the community college?" This study was viewed through the lens of Critical Race Theory (CRT).

CRT has five basic tenets with the first being the notion that racism is "normal, not aberrant, in American society" (Delgado, 1995). This means that racism is embedded into our political, legal, and educational structures, which make it difficult to identify or address because it is so commonplace. The second tenet is called interest convergence, which is the idea that whites find places to get involved where the interests of whites and people of color intersect. The third tenant is the idea of whiteness as property, which basically means that race is socially constructed and that whiteness has value that other races do not have. The fourth, and more recent tenet, acknowledges differential

racialization by the dominant society at different times in response to the society's needs and its consequences. The final tenant, storytelling, is a major tenet of CRT which adds contextual background to information that is not reflected in the objectivity of positivist perspectives.

Supporting research questions included:

a) What is the availability to the Internet, software, and hardware for African American community college students?

b) What is the availability to resources, such as computer labs and community resources for African American community college students?

c) What assistance with technology is lacking for African American community college students?

d) What technology skills necessary for academic success do African American community college students lack?

What is the availability to technological resources for African American community college students?

Professors assume that students have access to technological resources when they leave campus. One of the most striking revelations was that it is now common practice for face-to-face classes to use Blackboard to manage all of their announcements, assignments, assessments, and media presentations. Yet, of all twelve of the participants interviewed, both students and faculty, stated that they had not had explicit conversations in regard to the use of technology in their courses. This reflects a tenet of CRT, that racism is normal and embedded into our political, legal, and educational structures.

While it is assumed that students enrolling in online courses have the technology required to complete their assignments, students in face-to-face courses are not forewarned that they will need to use technology for the majority, if not all of their coursework. It was also assumed that students have the knowledge needed to navigate through the various software systems utilized by the college. Students also shared their fear of technology due to the infrequent use and lack of training on current hardware and software technologies.

According to students interviewed, lack of access to technological resources resulted in lower grades, missed assignments, and failed classes. Also, family obligations and lack of transportation was directly connected to their lack of access to technological resources. Students who don't have computers at home but have families that they have to manage can't stay on campus to utilize campus resources. Additionally, students without transportation coupled with children at home cannot use additional time and resources to get to community libraries or technology centers. Those students shared that if they had Internet access and up-to-date hardware and software at home, they could be more successful in their courses. Several students previously had computers but had been attacked by a virus and didn't have technology support to repair or upgrade their hardware and software.

Digitally denied students gave examples about professors who had given Blackboard assignments that were to be completed during spring break, however, campus computer labs were closed during that week so the student had no way to access the assignments. Students discussed professors that did not post assignments until late in the evening after they had left campus that were due in the next class period. That particular

professor deducted a letter grade for late work, so the student automatically received a "B", at most, on all of those assignments. Students talked about having to re-enroll in classes that they had failed the previous semester because they had missed so many assignments due to their lack of access to technological resources.

Digitally denied students also shared their stories about complications with community resources such as libraries that have time limits for computer use, overcrowding, and limited hours. They discussed cell phone use for coursework and that it was not sufficient for completing assignments, tests, or communicating with professors due to limited functionality. Cell phones should not be considered an "equal" technological resource when stating that the digital divide is closing.

What is the availability to technological resources, such as computer labs and community resources for African American community college students?

One of my African American students came to tell me that she did not have a computer or Internet access on her cell phone and that she could not access Blackboard on her cell phone to complete my online assignment. During this conversation, she stated that the majority, if not all, of her assignments required a computer with Internet access. It was clear that she was a well-intended student and took her work seriously. She was visually upset and after we talked for a while, I asked her if she would give me a statement about how having limited access to computers and the Internet affected her that semester and this is what she shared:

"Technology affects my ability at school because, my math class is in an in-person class but all the work is online. When we go to class, we don't have access to the Internet because he lectures and then he posts the

homework later in the evening. I talked to him and asked him to post the

homework as soon as class was over before my other class starts so that

could have time to at least print it out so that I could do it at home and

then find a way to come to campus to put it in. But sometimes he's too

busy to do it so at those times, I always, always only can get 75% on it,

because it's (considered) late. Versus, if I didn't have that time limit or it

wasn't online and I could do it at home on paper, I would make very good

grades." (personal communication, November 19, 2013)

It was very clear to me that the professor for this course did not take into account

that students without Internet access off campus were being denied the opportunity to get

an A or B on their homework assignments.

All professors interviewed referred their students to campus computer labs, by

walking them to the labs, or by informally stating that they are around campus. Professors

stated that they usually allowed five days to a week to complete assignments that required

technology, such as Word, Excel, or Blackboard. However, students interviewed revealed

that there were several factors that kept them from using campus computer labs.

Returning students were typically older with children who had to be picked up from

school and needed help with their homework. Family obligations were discussed quite a

bit, with at least two of the students tending to children with disabilities. Several students

discussed their lack of transportation and were constrained to the bus schedule. Some

students spent hours on the bus in order to attend classes and pick up their children, with

one not getting home until 7:00pm in the evening. Other students discussed work

obligations that required them to leave directly after class. The digitally denied not only lack technological resources, but have other obligations that overlap with this issue.

Another factor related to campus computer labs were the hours of operation. Many of the students noted that the best time for them to get work completed was during the late night hours after their work and family obligations. However, computers labs on campus closed by either 9:00pm or 10:00pm depending on the lab. Related to computer lab issues were the different platforms and software available in the different labs. Some labs blocked pop-ups that were required for software to function properly, and some labs had older versions of software that didn't have the functionality needed to complete certain tasks.

Some computer labs were not matched with the personnel resources needed to complete assignments. For instance, if a student is in the library working on a math assignment, there is no math faculty member in that area to assist the student with their math problems or textbook publisher software required for that class. If a student is working in the business computer lab on a public speaking presentation, they could have been more productive in a communications lab with a dedicated communications faculty member that could assist the student with presentation requirements. One of the students stated that they had attempted to work in the math lab in order to have the faculty member in the room to assist, but it was full which caused them to have to work in a different lab. Students who take several classes in different disciplines have to move to different labs depending which homework assignment they are completing.

Community libraries were recommended by professors on a regular basis. However, the digitally denied students interviewed that frequented them were extremely

frustrated with this option. Students reported that libraries were overcrowded, mostly with younger neighborhood kids during the time that they needed to work on their assignments.

Most of the libraries have a one-hour time limit and one student who uses the library in Illinois had a two-hour time limit. Students who needed to complete timed tests or quizzes noted that they were sometimes cut off in the middle of their test because they had reached their time limit on the computer. They discussed the fact that sometimes it takes fifteen minutes just to figure out what they need to do for the assignment which left a mere forty-five minutes to get their assignment completed.

There were other issues with community libraries noted, such as several libraries within the same community were closed for renovation. That meant consolidation of all of these people into two remaining branches which caused even more overcrowding. Another student discussed her fine for an overdue book, that she had returned, kept her from being able to use the community library computers.

What assistance with technology is lacking for African American community college students?

Every digitally denied student discussed a desire for sufficient access to technology at home. Many of the students had, at one time, a computer with Internet access in the home. A common problem was that students had a computer that had become infected with a virus which in turn had made their system inoperable. Students interviewed did not have technology support or the financial resources in order to get their computers or laptops repaired. Students shared that when they did have computers, usually they did not have the correct software in order to complete their assignments.

The cost of Wi-Fi access was also an issue for students who could not afford to have this service. One student shared that they had been using the neighbor's Wi-Fi until they moved and the student no longer had access.

Cell phone access has not proved to be helpful in the community college setting. Most of the students interviewed did not have Internet access on their cell phones, but the ones that did said it was no help for completing or submitting homework assignments. With Internet access, cell phones have limited ability and screen size in order to type papers, work on publisher software, submit attachments, and upload and download assignments in Blackboard.

What technology skills necessary for academic success do African American community college students lack?

Most of the professors interviewed revealed that students do not have the business technology skills required to be successful in class or in the work setting. They discussed the high level of expertise that students have with social networking sites, but not with business software such as Word, Excel, textbook publisher software, and classroom management systems. One professor stated that she noticed the difference in skills based on race and the community in which the students attended high school. The professor specifically stated that African American students from the local school district and the city school district struggle more.

In regard to online students and the community college, there is currently no required assessment to determine if students are technologically prepared for the online environment. The college also does not provide online students with an orientation to online learning or the Blackboard system. Students can simply sign up for an online

course even if they don't have access to technological resources. Professors shared their struggles of working with online students who at some point in the course reveal that they don't have a computer or the proper technology in their home environment to be able to successfully complete all of their assignments.

Qualitative research includes observations, interviews, and surveys and the type of data that researchers use in this genre of research is words. This type of research records events, actions, activities, and personal exchanges. According to Creswell (2007), in case study research, a qualitative approach is used by a researcher that explores a case or cases over a period of time and utilizes detailed data collection methods such as observations and interviews from multiple sources of information. Storytelling, a central tenet of CRT allows the participant's voice to be heard. The following conclusions are derived from the research findings of how the availability to technological resources impact African American students' ability to be successful at the community college.

Conclusions

The first conclusion is that the digitally denied are not acknowledged by their professors which creates another barrier to their success. This campus serves a community that is globally recognized as an area that serves low income minorities. Many of them are African American students who have a very low level of trust for the institutional systems that serve them. Many of them are the first to attend college in their families and have many obstacles to overcome. Those obstacles include family obligations, lack of technological resources, and lack of transportation.

The second conclusion is that campus support labs, in their current form, aren't sufficient for digitally denied community college students. Currently, campus labs are

segregated by discipline and have limited hours. Students who need to complete work for three different courses would need to visit three different computer labs in order to have discipline-specific support while working on a particular assignment. Also, campus computer labs close at 9:00pm or 10:00pm and many digitally denied students work and have children and aren't able to work on their assignments until late hours when the labs are closed.

The third conclusion is that the digitally denied do not have sufficient community computer labs or technology support in their communities necessary to complete community college assignments. Libraries are not a logical community resource for digitally denied community college students. Community college students are told in orientation that they need three to four hours of time outside of each one of their classes to complete assignments. For a student with a full load, this can amount to twelve to sixteen hours of work that requires technological resources. The one-hour time limit at community libraries does not accommodate the workload of a community college student.

The final conclusion is that the digitally denied do not have the level of business technology skills they need in the community college setting. Professors and students both noted that their technology skills are not up to par when completing their homework assignments.

Implications

The implications for practice could have an impact on community colleges as they address the issue of access to technological resources for African American students. The study findings show the importance of the awareness professors have in regard to the

digitally denied. African American students who already battle many obstacles need additional support and options for completing assignments that require technological resources. Professors should consider having explicit conversations with their students about their access to technological resources and obligations in order to identify students who need additional support. Professors should work with those students to create a plan that would help the student to be more successful. Similar to an Honors Contract which outlines what a student should do to acquire honor status in a particular course, colleges should consider Digital Contracts or clauses in the syllabus for those students who do not have access to technological resources when they leave campus. This type of contract or clause could outline additional options or provide extended deadlines so that students have a better chance at being successful.

Another finding articulated the importance of providing the digitally denied with the technological support that they need in order to be successful in the community college environment. What was particularly evident was that many face-to-face courses at the community college have now become a hybrid type of course that requires a considerable amount technology. Community colleges could benefit by researching other colleges and universities that have implemented the practice of providing students with the technological resources that they need when they leave the campus environment.

Community colleges that are concerned about the success of African American students should consider implementing a systematic change of creating interdisciplinary computer labs with support from all disciplines in every lab. These labs should have textbook publisher software for all courses and have the most current version of productivity software such as Word, Excel, PowerPoint, and Access on the computers.

For instance, instead of having all of the computers that have the math software loaded in one lab, divide them among the labs on campus and do this with the other disciplines as well and work with faculty and/or tutors to support students in those labs.

A third finding that the study clearly revealed was the lack of community computer labs and technology support. While public libraries have become a resource for gaining access to computers and the Internet, they are overcrowded and the time limit placed on users is not sufficient for community college students. In addition, a common situation for the digitally denied is that their computer becomes infected with a virus, and that is the end of access for them at home. Communities need technology experts, within their neighborhood, to provide computer support and services at little to no charge in order to keep them connected. They also need free Wi-Fi access to remove the burden of this additional hidden cost for education. Communities and individuals interested in the success of African American community college students should advocate for more technology centers and free hotspots in their communities by petitioning their legislators and community leaders.

A final study finding indicated that students do not come to community college with the business technology skills needed to be successful. Many faculty members are spending a good amount of class time teaching students about the technology needed in order to complete their assignments which takes away from valuable teaching time. Community colleges that are interested in the success of African American community college students should include a computer literacy course in their general education block that would be required in their first semester. This course would orient students to

the course management software system used at the college and also give students the basic technology skills needed to succeed in their college career and in the workforce.

Recommendations for Future Research

A question that still needs to be investigated is, "What impact does the lack of access to technological resources have on African American student retention, graduation rates, and grade point averages?" A further study could track a group of African American students who do not have access to technological resources and determine if there is a relationship between the lack of access to technology and retention rates, graduation rates, and grade point averages.

Concluding Overview

This qualitative case study examined how the availability to technological resources impact African American students' ability to be successful at the community college. The findings suggested that access to technological resources is a key factor that impacted the success of African American students in the community college. Through interviews, the researcher found that technological resources are important to the success of African American students. However, the approach to addressing access to technological resources should be addressed holistically. Providing software, hardware, and Internet access only would not address the other issues addressed in this research. This includes taking the additional circumstances of the digitally denied into consideration when creating assignments and deadlines due to family obligations, transportation issues, overcrowding in community resources, lack of technology support, services and training, and mismatched resources, such as faculty and software, in campus computer labs.

There are several answers to the question, "How does the availability to technological resources impact African American students' ability to be successful at the community college?" Based on the findings of this study, the availability to technological resources significantly impact African American student's grades, the quality of work they submit, their technology skill level, and the amount of time they have to complete assignments.

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Appendix A – Student Survey Questions

Name _____ Date _____

1. Do you have access to a computer at home?   YES   or   NO

2. Do you have access to the Internet at home?   YES   or   NO

3. Do you use campus computers?   YES   or   NO

4. Do you identify as African American?   YES   or   NO

5. Are you interested in being interviewed?   YES   or   NO

Appendix B – Informed Consent for Participation in Research Activities

The Digital Divide Through the Lens of Critical Race Theory: The Digitally Denied

Participant _____   HSC Approval Number _____

Principal Investigator _Stacy Gee Hollins__PI's Phone Number   314-680-2301_

_____

1.   You are invited to participate in a research study conducted by Stacy Gee Hollins under the supervision of Carl Hoagland, Professor of Technology and Learning. The purpose of this study is to examine African American community college students' level of availability to technology and how that affects their success.

2. a) Your participation will involve
➢ Participating in one recorded interview comprised of 15 questions. The interview will be transcribed and portions of it will be reported in a research paper.

➢ Interviews will be conducted in my office on the St. Louis Community College at Florissant Valley campus in the Business Building, Room 234.

   Approximately 6 individuals may be involved in this research.

   b) The amount of time involved in your participation will be about 30-45 minutes.

3.   There are no anticipated risks associated with this research.

4.   There are no direct benefits for you participating in this study. However, your participation will contribute to the knowledge about access to technology and African American community college students.

5.   Your participation is voluntary and you may choose not to participate in this research study or to withdraw your consent at any time. You may choose not to answer any questions that you do not want to answer. You will NOT be penalized in any way should you choose not to participate or to withdraw.

6.   By agreeing to participate, you understand and agree that your data may be shared with other researchers and educators in the form of presentations and/or publications. In all cases, your identity will not be revealed. In rare instances, a researcher's study must undergo an audit or program evaluation by an oversight agency (such as the Office for Human Research Protection). That agency would be required to maintain the confidentiality of your data. In addition, all data will be stored on a password-protected computer and/or in a locked office.

7.   If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Stacy Gee Hollins at 314-680-2301. You may also ask questions or state concerns regarding your rights as a research participant to the Office of Research Administration, at 516-5897.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above.

Participant's Signature	Date	Participant's Printed Name

Signature of Investigator or Designee	Date	Investigator/Designee Printed Name

Appendix C – Student Interview Questions

1. Where do you access computers to get your homework completed?

2. Do you use community library computers? If so, which library?

3. Do you need the Internet to complete assignments?

4. Do you access the Internet every time you use the computer?

5. Do you have a computer at home? Internet access?

6. How often do you use computers?

7. How often do you use computer resources on campus or at the library?

8. What type of things do you do on the computer?

9. When you get to a computer, how long are you usually on it?

10. Do you have an email address? If so, do you use it and communicate regularly?

11. Do you feel like you are experienced on the computer, do you feel like you are good at using computers?

12. When you begin working on them are you excited about it or are you thinking, I've got to figure some stuff out?

13. Do you ever use the lab or lab resources such as the people in the lab to help you?

14. If you had an option to have your own computer and Internet access at home, would you choose that over coming to campus? Why or why not?

15. How do you think that not having access affects you when trying to get things done that you want to?

Appendix D – Faculty Interview Questions

1. Do your students need a computer and/or the Internet to complete your assignments?

2. Do you refer your students to computer resources on campus or at a local library? If so, which ones do you refer them to?

3. What type of assignments do you have them complete that require a computer?

4. Do you feel like they are experienced on the computer or need more computer skills?

5. How do you think that not having computer access off campus affects your students?

6. Do YOU feel comfortable with technology?

7. Is there anything else you would add to this conversation?