ABSTRACT

Liberal Education: A Qualitative Case Study on
HBCU Black Liberal Arts Students in a Tech Design Course

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The employability of liberal arts versus specialized degree-holders is a significant concern in a technology-driven labor market. As a result of the specialized market, there has been an immediate demand for science, technology, engineering, and mathematics (STEM) or STEM-related degree-holders. However, the demand for STEM-related skills also stressed the immediate and marketable salary gains available for graduates with these degrees. Therefore, a liberal arts education's significance has left public opinion to contemplate its value and existence. In return, the ongoing debate about the value of a liberal arts degree after college persists.

Employment outcomes have been difficult to explain for liberal arts disciplines post-graduation compared to specialized degrees. Liberal arts degree holders experience many different career outcomes immediately after graduation. These outcomes vary while the labor market attempts to understand the value of broad skills in a specialized market. As a result, employers are often looking to recruit specific skills. However,

liberal arts skills are equally marketable in various industries, including a specialized market.

This qualitative instrumental case study used the eight National Association of Colleges and Employers (NACE) Career Readiness Competencies as the theoretical framework to identify the qualities and skills liberal arts students at an HBCU contributed to a specialized course. In addition, the theoretical framework helped to distinguish the skills liberal arts students contributed to a technical user experience and user interface (UX/UI) design course. The study utilized concurrent triangulation to explore the qualities and skills of students from a liberal arts education.

The study conducted four data collection methods. The findings uncovered three themes linked to the NACE Career Readiness Competencies that supported the qualities and skills of liberal arts students in a UX/UI design course. These themes consisted of oral and written communication, teamwork and collaboration, and global and intercultural fluency. Congruently, these skills align with the needs of employers in the workforce. In addition, the results provide a better understanding of a multidisciplinary curriculum for liberal arts education that links with future workforce trends. Ultimately, this approach provides experiences for students to identify, demonstrate, and articulate their use in a competitive knowledge economy.

Keywords: liberal arts education, HBCUs, career readiness competencies, communication, teamwork, global and intercultural fluency, multidisciplinary approach

Liberal Education: A Qualitative Case Study on
HBCU Black Liberal Arts Students in a Tech Design Course

by

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LIST OF ABBREVIATIONS

AME: African Methodist Episcopal Church

HBCU: Historically Black Colleges and Universities

HEA: Higher Education Act

NACE: National Association of Colleges and Employers

NCES: National Center for Education Statistics

NEA: National Education Association

PWI's: Predominately White Institutions

UNCF: United Negro College Fund

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To my mom
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CHAPTER ONE

Background and Needs Assessment

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Introduction

There has been an ongoing debate concerning the best type of education, liberal arts, or specialized degrees in a highly technological labor market. The attraction to a specialized degree or science, technology, engineering, and mathematics (STEM) majors has gained popularity among politicians, academicians, students, and employers (Bevins, 2012). A specialized or STEM degree primarily prepares students for professional or career-specific opportunities (Carnevale et al., 2014). For example, majoring in nursing leads to a career as a nurse. In addition, most jobs in STEM yield an immediate return on investment through higher earnings and stable employment (Carnevale et al., 2014).

In contrast, most of the subjects in a liberal arts education are broad in scope, adaptable to various majors, and involve a limited application to a specific field (Bevins, 2012). As a result, a liberal arts education prepares students to develop critical thinking, problem-solving, and communication or soft skills that apply to various industries and not just one specific field (Association of American Colleges and Universities [AACU],

2020). In addition, four out of five employers believe that students should equally develop both broad and specialized knowledge (AACU, 2014).

Still, the trend for many students, including those attending a historical Black college and university (HBCU), has shifted toward selecting a major that has a direct career path to becoming employable. Therefore, students are forgoing liberal arts degrees for specialized or non-credential degrees that are STEM-related (Fong, 2020). Essentially, students choose majors based on earning potential (Writers, 2020). These majors include technology, healthcare, and education, or those aligned with a specific occupation that yields stable employment (Carnevale et al., 2014). Notably, recent and experienced graduates have a higher earning potential for majors with a specialized focus in technology, business, and healthcare (Carnevale et al., 2014). While students may choose a specialized degree based on the salary outcomes, the market still shows long-term salary gains equal, if not more competitive, for liberal arts degree-holders (Weise et al., 2021). Yet, the market still touts the importance of both liberal arts and specialized degrees. As the former career services director at a Mid-Atlantic HBCU, employer engagement and recruitment were mostly dedicated to specialized majors. However, Bevins (2012) believes that liberal arts and STEM or specialized education need to collaborate to enhance a student's employability.

This study's purpose is to detail the skills and qualities of liberal arts students from an HBCU participating in a user experience and user interface UX/UI design or technical course to demonstrate how they are employable in a specialized market. This course is the first and one of three courses offered in partnership with a technology streaming company, educational technology service, and an HBCU in the Mid-Atlantic

region. Though the other two courses held a restricted prerequisite and focused explicitly on specialized majors, Data Science and Java, the UX/UI design course was inclusive of all majors.

UX/UI design is an inter-discipline design knowledge divided into UX and UI functions. The UX design focuses on developing and understanding the product's application as well as the attitudes and behaviors of the users using the digital product (Bilousova et al., 2021). Meanwhile, the UI design focuses on the presentation, functionality, constant improvements, and product use (Bilousova et al., 2021). While the UX/UI design course primarily included specialized majors, this study examined liberal arts students' contributions in the course. The researcher chose to research the outcomes of liberal arts students partly because this pool of talent experience higher employer recruitment challenges than specialized majors at the HBCU. In addition, there is scant evidence that explains liberal arts students' employability challenges at the HBCU. Therefore, understanding a liberal arts student's lived experience in a technical course provides a view of the workforce's demands: a career-oriented and highly skilled labor market. Ultimately, this instrumental, single case study fills a gap in research regarding the employability of liberal arts students in a specialized market, specifically from an HBCU.

Statement of the Problem

Employability is often hard to describe for many higher education professionals, employers, and students. Compared to specialized degrees, the employability of liberal arts education remains unclear. Essentially, a problem exists in triangulating the attitudes

about employability among higher education professionals, employers, politicians, students, and graduates about a liberal arts education (Rosenberg et al., 2012).

The perception between the degree held and the type of career gained, particularly the salary outcome, is somehow linked to the degree's value. According to Strada Education Network, employability post-graduation has been challenging for liberal arts students (Weise et al., 2021). More than 70% of liberal arts degree holders change careers between first and second jobs (Weise et al., 2021). In contrast, only 53% of specialized degree holders from technology, health, and education change their careers (Weise et al., 2021). Therefore, liberal arts degree holders experience a higher rate of changing jobs than specialized degree holders.

Consequently, the scrutiny over a liberal arts education and the investment outcomes from selecting a major often connects to public policy (Pasquerella, 2019). Politicians and policymakers have made claims to defund liberal arts education (Welch, 2021). Many political leaders believe that technical degrees are the answer to financial prosperity and job security (Schneider & Townsend, 2013). One governor in a mid-western state in the United States believed that diverting funding to the STEM fields is a greater investment in the economy, especially for engineering majors, than a liberal arts degree like one in French literature (Schneider & Townsend, 2013). The governor believed that state funding and taxpayer dollars are better suited to support an education that yields better financial outcomes (Schneider & Townsend, 2013). The disendowment claims towards liberal arts education would only add to the growing pains for colleges and universities, especially for underrepresented and first-generation faculty and students (Dutt-Ballerstadt, 2019).

Still, the future of liberal arts degree holders is positive. Most liberal arts graduates' salaries start to increase later in life, around their 30s and 40s (Weise et al., 2021). Despite employability's importance, liberal arts students experience difficulties with identifying and marketing their abilities in a specialized market. Faculty and career practitioners must create learning experiences and soft skills development centered around career pathways and 21st-century career readiness practices for students (Markos, 2021). Since there are one million jobs open to liberal arts graduates, additional opportunities can be available if students add or enhance their technical skills (Sigelman, 2016). Technical skills can be gained quickly through experiential opportunities, including internships or non-credit courses (Sigelman, 2016).

Although there is substantial literature on specialized education, few studies have investigated the impact of liberal arts education at HBCUs and its contributions within a specialized market. In part, there has been a long history of the great debate on liberal arts education. Therefore, this study will explore HBCU liberal arts students' skills and qualities as they participate in a UX/UI design technology course to demonstrate their employability.

Literature Review

This literature review provides scholarly research on historically Black colleges and universities and the most relevant understanding of liberal arts education and its connection to employability. The study covered four distinct areas connected to a liberal arts education. The first section describes the historical and current trends of degree offerings at HBCUs. Second, the section explains liberal arts education. The third section overviews the skills that illustrate the necessity and value of a liberal arts education.

Finally, the fourth section examines employability, hiring trends and results of liberal arts degree-holders. Together these sections support the importance of a liberal arts education and inform the study's protocols and participant interpretations.

Historical and Current Trends of Degrees offered by HBCUs

HBCUs have a 180-year history of educating diverse students. This section provides a history of HBCUs in three parts. First, it explains the establishment, purpose, and response to the American higher education infrastructure. Second, it describes higher education's federal laws and accessibility through the Higher Education Act of 1965. Third, it tells the link between HBCUs and liberal arts education.

Establishment of HBCUs. The presence of HBCUs dates back to post-Civil War America. Many Black Americans experienced opposition through policy and statutory limitations from receiving an education (U.S. Department of Education Office for Civil Rights, 1991). Before the Civil War and racial unrest, only three Black institutions could educate "free" Black men and women: Cheney University, Lincoln University in Pennsylvania, and Wilberforce University in Ohio (Albritton, 2012). The first HBCU established was Cheney University in 1837. The other two institutions followed, Lincoln University in 1854 and Wilberforce University in 1856 (U.S. Department of Education Office for Civil Rights, 1991). Research from the U.S. Department of Education Office for Civil Rights (1991) reports that early engagement mainly focused on elementary and secondary education for those Blacks with limited or no formal education. The curriculum included basic reading and math skills (Mbajekwe, 2006) and history that storied Black America. The close alignment of the practical education offered at HBCUs

parallels the curricula foundation of liberal arts education, broad knowledge in English, math, writing, and history.

During the Reconstruction period, the federal support agency for newly freed slaves, the Freedman's Bureau, helped to operationalize colleges for Blacks in the South, such as Howard University, Clark Atlanta University (formerly known as Atlanta University, 1865), and Morehouse College (Albritton, 2012). With the help of missionaries, these universities provided education and training in liberal arts education. The liberal arts education at the HBCUs provided opportunities for economic mobility, personal development, and skills that emboldened students to challenge the country's injustices towards people of color (Albritton, 2012).

HBCUs' historical essence of educating disenfranchised Black students provided access to affordable education and the development of citizens within the Black communities. Once thought incapable of learning, Blacks had a denial of formal education. However, HBCUs mainly support a relaxed or open admission process to help engage Black students (Kim, 2002) that may not seem "college-ready" for Eurocentric college standards. However, the level of acceptance within HBCUs provides a supportive atmosphere for students of color to embrace their richness, culture, and history. Essentially, HBCUs serve as a place, like the Black church, where students' voices can be heard and celebrated (Albritton, 2012).

Higher Education Act of 1965. HBCUs' place in American education earned significant gains through political power and infrastructure. The *Higher Education Act of 1965 (HEA)* established the designation of historically Black colleges and universities before 1964 as accredited institutions of higher learning (Thurgood Marshall College

Fund, n.d.). The purpose of an HBCU is to serve as a reliable and accrediting body to train, develop, and educate Black Americans (Thurgood Marshall College Fund, n.d.). In addition, HEA provides educational resources and financial assistance for students in post-secondary institutions (Thurgood Marshall College Fund, n.d.). As a result of the HEA, several low to middle-income students could engage in need-based opportunities, including work-study, outreach programs such as TRIO, and access to federal student loans and Pell grants (Flannery, 2015). With over $100 million in investments toward the program, reauthorizations have occurred, but the ongoing lobbying for additional reforms remains constant (Flannery, 2015). The United Negro College Fund (UNCF) and other organizations such as the National Education Association (NEA) continue to advocate for more access and affordability of post-secondary education for diverse students.

HBCUs profile. The profile of an HBCUs is defined but diverse. Though the opportunities for hope and resilience do not come easy, HBCUs are groundbreaking institutions in the American educational ecosystem. Roughly 89% of HBCUs are in the southern region of the United States, and they serve as many as 300 to over 11,000 students; thus, the classification of the institutions varies (Thurgood Marshall College Fund, n.d.). The specialized institutions have various types of colleges and universities, including public to private, single-sex, research, land grants, independent and liberal arts (Thurgood Marshall College Fund, n.d.). In addition, Many HBCUs offer a wide range of undergraduate and graduate degree programs.

Through ongoing reauthorization advocacy and reform, HBCUs continue to grow. The Thurgood Marshall College Fund (n.d.) reports 101 HBCUs in the United States. Over 75% of enrolled students are funded through Pell grants, and nearly 13% rely on

PLUS loans to support additional educational needs (Thurgood Marshall College Fund, n.d.). Reliance on federal aid is pivotal to educating Black Americans. According to the U.S. Department of Education Office for Civil Rights (1991), access to many HBCUs and tuition cost is much more affordable than most predominately White institutions (PWIs). The affordability helps to engage many Black or minority students in higher education. According to the Thurgood Marshall College Fund (n.d.), the student demographic of HBCUs includes about 52% first-generation students, 71% low-income Pell grant students, and 94% students who receive financially funded college assistance. Therefore, the *Higher Education Act of 1965* and reformation significantly affect enrollment and possibly the existence of HBCUs.

HBCUs commit to educating and graduating Black students. The UNCF reports HBCUs' ability to retain and graduate low-income and first-generation Black students surpass other institutions (UNCF, 2020). A Gallup-Purdue poll reflects that those students felt more supported during their academic careers at HBCUs (UNCF, 2020). Their financial aspirations beyond college are more palpable than students from their peer institutions (UNCF, 2020). Reportedly, HBCUs graduate over 20% of African Americans (Thurgood Marshall College Fund, n.d.). Additionally, they garner over 130,000 jobs locally and regionally and generate over $14 billion in the U.S. economy (UNCF, 2020). With over 4,000 colleges and universities in the U.S., representing 3% of the higher education structure, HBCUs establish their value in postsecondary education (UNCF, 2020).

HBCUs and liberal arts education. One of the many accomplishments of liberal or classical education is its contribution to many Black colleges and universities'

educational structures. By 1865, colleges for Black students began to emerge with the assistance of the AME and AME Zion Church, which founded Morris Brown College, Allen College, Paul Quinn College, and Livingstone College (Goings & O'Connor, 2010). All institutions were initially Black-owned and controlled. Many institutions assembled through the private system of liberal arts colleges (Anderson, 1988). By 1879, twenty-eight Black colleges and universities materialized. These colleges used a New England academic model that emphasized a classical education (Goings & O'Connor, 2010). Prominently, the liberal arts education structure prepared students at HBCUs for endless opportunities in their communities.

Liberal arts training is pivotal to African American students' personal and community well-being. Gasman and McMickens (2010) suggest that African Americans have extensive opportunities to earn liberal arts education to impact their communities. Students can contribute to their communities using developed skills, such as problem-solving or broad research experiences, to address concerns drawn from their interdisciplinary training (Gasman & McMickens, 2010). Furthermore, liberal arts graduates can challenge the status quo that will help advocate for and move African American communities forward (Gasman & McMickens, 2010). While specialized curricula may have higher and immediate financial benefits, the call for liberal arts education for citizens focuses more on new knowledge that contributes to social change.

The involvement of social change and the quest to be a model citizen applies to a liberal arts education structure. This belief empowers students to be leaders in their communities. The Association of American Colleges and Universities (AACU, 2020) proclaims to restore and transform a liberal arts education worldview within the 21st-

century. AACU (2020) further explains that this type of education serves as a democracy. Liberal arts education helps students acquire knowledge and essential skills to become problem-solvers during conflicts and constructive communicators throughout the discourse, considering intercultural awareness and respect for change (AACU, 2020). Although a formal college education essentially consists of learning the basics in reading and math (Albritton, 2012), HBCUs provide an environment that feeds students' professional, personal, and social well-being.

The inclusive educational experience at an HBCU for students is empowering. Many students' identity and confidence mature in the learning environment at HBCUs (Albritton, 2012). Therefore, students are comfortable talking about injustices in Black communities. The schools' duality involves educating Blacks and serving as a haven of social justice, activism, and empowerment for students (Albritton, 2012). In fact, at the turn of the century, and with the support of many of those emboldened students, the social, political, and economic gains of the Civil Rights movement afforded more opportunities for the once uneducated to gain access to education once denied to them (Albritton, 2012).

Liberal Arts Education

Liberal arts education closely resembles its roots in Western civilization and adopted a design to train leaders and promote citizenship. Historically, liberal arts education has served as an education supporting free-thinking (Hadzigeorgiou, 2019). Throughout the evolution of liberal arts education, liberal arts provide research and introduction to the humanities and understanding of human experience (Hadzigeorgiou,

2019). Therefore, an ongoing debate about the value of a liberal arts degree has emerged over time, causing challenges for the employability of many liberal arts students.

Difference between liberal arts and specialized education. Today, the comparison between liberal and specialized education is ongoing. Liberal education has a long history of being a relevant form of education in American higher education (Bevins, 2012). The classical training style goes beyond learning patterns, focusing more on oral and written forms of communication (Bevins, 2012). Most of the subjects are broad in scope, adaptable to various majors, and involve the limited application of a specific subject (Bevins, 2012). However, conservative academics perpetuate a stance that liberal academics prompt a laissez-faire approach to classical education—organizations such as AACU advocate for a broader and inclusive core curriculum (Peterson, 2012). There is a push for curricula to adhere to the traditional Western-world origin (Peterson, 2012). As hegemonic anger over proposed approaches to general education escalates, many academic institutions revised the curriculum that once focused on a broader range of knowledge. Since the content of general education varies, the fundamental commitment to the program is that the inclusion of general education followed by a concentration in a major field of study remains consistent (Peterson, 2012). Compared to other programs worldwide, the liberal arts program structure is the most unique in U.S. higher education (Peterson, 2012).

In contrast, specialized education is more experiential and aligns with a hands-on application through technology and communication (Bevins, 2012). During the industrial age, apprenticeships were the standard practice under specialized training but have since evolved. (Bevins, 2012). The attraction of STEM training has gained interest from

"politicians, academicians, students, and the general population" (Bevins 2012, p. 12). A deeper connection to the specialized disciplines impacts technological and economic advancements (Bevins, 2012). Still, the call for a liberal or specialized education varies. Its importance for a thriving global economy will outweigh if the two were linked (Bevins, 2012).

Value of a liberal arts education. A long debate continues about the importance of liberal arts education. Zakaria (2015) suggests that liberal arts education has few supporters. Conservatives believe that liberal arts education is too liberal, and liberals fear it is elitist (Zakaria, 2015). Zakaria (2015) also reports increased talk from many politicians, business leaders, and educators about specialized training, technology, and globalization. Texas, Florida, North Carolina, and Wisconsin have announced their reduced support for funding liberal arts at state universities (Zakaria, 2015). Essentially, technology is now a competitive advantage for students and provides a more reliable view of workplace skills. Zakaria (2015) reports that in 1971, 7.6% of all bachelor's degrees conferred were in English language and literature. However, the numbers dropped by 2012 to 3%, while business degrees conferred rose from 13.7 to 20.5% (Zakaria, 2015). This shift in degree choice shows that many students are now focusing on areas of study with a distinct career path.

However, critics feel that the pursuit of ideas is essential, but students must also graduate with practical skills that afford them financial stability (Gasman & McMickens, 2010). Inevitably, the mission of HBCUs was to educate Blacks and change American societal norms of racism and marginalization of people from the enactment of Jim Crow laws (Allen et al., 2007). During this time, Blacks were not allowed to attend White

institutions of higher education (Wallenstein, 2011). Education, however, was also a symbol of hope for many Blacks. Albeit a symbol of hope, HBCUs often struggled with the type of education they should model, liberal arts education or vocational (Allen et al., 2007). A liberal arts education approach was a clear choice from W.E.B Dubois to train talented college-educated Blacks (PBS, 2019). W.E.B. Dubois believed that a liberal arts education was the best education for African Americans (Schneider, 2004). Dubois firmly wrote about and expressed his commitment towards a general education for all students, especially people of color, to better compete in a capitalistic environment (Johnson, 2000). In contrast, Booker T. Washington served as a strong supporter of Blacks' receiving vocational or industrial education for prosperity and acceptance (PBS, 2019). The two leaders had opposing views about the type of education but similar intentions for Blacks' well-being within the American economic and social structure.

Today, financial stability after graduation is essential for college graduates. A recent Gallup study by Bates College indicates students' disdain about some of the work expectations after graduation (Gallup, Inc., 2021). Students discovered, post-college, that the pursuit of undergraduate academic majors requires further education on a mastery level (Gallup, Inc., 2021). Also, earned salary expectations are alarming compared to the student loan debt obligation. Angeles and Roberts (2017) point out that liberal arts graduates may face more significant employment challenges than specialized disciplines, but career development is essential regardless of the majors. NCES (2020) revealed that, in 2018, the median annual earnings for liberal arts bachelor's degree holders in humanities and human services were just over $40,000 and considered the lowest in most fields.

Give voice in a democracy. Liberal arts education often connects with independent thinking and adapting to change in a free and enterprising society. As such, liberal arts education by civic engagement fosters a sense of democracy and stewardship for others (Rhoads, 2003). Historically, foundational skills developed in a liberal arts education, such as creativity, problem-solving, and empathy, work to build responsible, personal, and civic-minded individuals (Lawrence & Pasquerella, 2020). In addition, the characteristics developed in postsecondary education through a liberal arts major often lead to the reluctance to embrace authoritarian behaviors and attitudes (Lawrence & Pasquerella, 2020).

On the other hand, specialized majors influence a linear perspective. The liberal arts education approach focuses on abstract knowledge rather than a linear practice related to specialized education. According to Carnevale et al. (2020), students who pursue majors in specialized degree programs, such as business and STEM, typically display and attract more authoritarian approaches. An authoritarian linkage connects to a sense of threats involving opposing opinions, ideologies, and perceptions of significant impact on life, safety, and financial security (Carnevale et al., 2020). As a result, these worldviews often point to a linear tolerance of social norms. Typically, HBCUs yield their structure and practices to a democratic approach, as evident in their institutions' historic make-up.

Skills Offered and Degrees Conferred

The skills offered by a liberal arts degree are broad, but employers want them in the workplace (AACU, 2014). However, the pursuit of obtaining a liberal arts degree has faced uncertainties significantly since the market has evolved to automation. With the

fast-paced and ever-changing world of liberal arts, students must reformulate how the industry views their degrees and pursue a connection between the arts and sciences, technology, and the effects the environment has on humanity (Hemmy & Mehta, 2021). Nevertheless, despite the uncertainty of liberal arts education, the future workplace demand for liberal arts skills remains positive.

Liberal arts degrees versus specialized degrees. Liberal arts and specialized education have specific curricula, and debates remain constant. Traditionally, liberal arts education includes the arts, humanities, and science (Balmer, 2006). Meanwhile, specialized, or technical training focuses on industrial or vocational training (Balmer, 2006). Baker and Baldwin (2015) point out that liberal arts colleges have swayed back and forth with an increased need for highly specialized knowledge and demand for more professional education programs and degrees. However, the belief that technical training and skill development independently guarantee students develop the habits and spirit needed to be lifelong learners, engaged citizens, and practical, resilient leaders are debatable (Baker & Baldwin, 2015). However, the inquiry on how equally balanced the best of liberal and professional education is an ongoing discussion within the higher education community (Association of American Colleges and Universities, 2011; Humphreys & Kelly, 2014 as cited in Baker & Baldwin, 2015).

The labor market desires a skilled workforce ready to work. In today's workforce, employers want graduates to have skills in the field and be ready to work on arrival (Sigelman, 2016). Therefore, specialized degree programs often base their curriculum on industry needs and include specific professional and technological courses in the curriculum (Sigelman, 2016). Although a liberal arts education curriculum involves a

practical learning application, it also offers the skills employers express they expect to find from graduates (Sigelman, 2016).

Research done by scholar E.P. Davis on liberal arts education shows that HBCUs began to include a practical component in the early 1930s (Gasman & McMickens, 2010). He and other institutions believed in this inclusion. However, John Davis's research on Black land-grant colleges, those institutions focused on agricultural instruction, notes that many African Americans associated a practical education with laborious work often connected to slavery and forced labor (Gasman & McMickens, 2010). Though the thought of a practical education presents contemplation, African Americans believe its pursuit would yield better financial stability and opportunities for freedom (Gasman & McMickens, 2010).

There are mixed opinions about the best type of degrees for African Americans. Historically, many contend that liberal arts education curricula for African Americans during the mid-twentieth century prepared students for a world that restricts their advancement due to race and color (Gasman & McMickens, 2010). Overall, the advantages of a liberal arts education encapsulate the creative thought process for African Americans to contribute critically to issues that directly influence the broader community and their own. Meanwhile, a specialized education provides a greater outlook on financial stability for many African American families. The highest-paid jobs were mainly in the STEM areas (Ngo, 2019). Whereas the second-lowest salaries were majors in human services or community organizations with an average salary of $39, 000 (Carnevale et al., 2016). Including both practical and liberal arts education offers an experiential and critical thought component that could benefit Black communities from a micro and macro

level. Arguably, the downfall is that too much of each will provide an unrealistic educational experience minimizing intellectualism's utility (Gasman & McMickens, 2010).

Skills students can acquire in a liberal arts curriculum. Liberal arts education is known for its broad study of various subjects in the arts and humanities. In addition, school officials believed that liberal arts education is well suited for the elite and vocational training (Schneider, 2004). Though the pedagogy landscape for a liberal arts education has evolved from the 20th-century disciplinary silos, the new curriculum involves intellectual inquiry, social responsibility, and integrative teaching (Schneider, 2004).

A liberal arts education curriculum may have evolved, but the basics still include training and learning that supports inquiry (Halleran, 2010). Intellectual inquiry involves faculty creating curricula using blended teaching forms across the curriculum. This approach provides face-to-face or online teaching practices that enhance writing, technical, quantitative, and ethical reasoning skills (Schneider, 2004).

Much of the focus in liberal arts education highlights service learning, while other disciplines emphasize career development and research (Painter & Howell, 2020). Experiential and service-learning opportunities include social responsibility and civic involvement (Schneider, 2004). These experiences develop civic-minded participation, perspectives of diversity and inclusion, global thinking, and social responsibility (Schneider, 2004).

Integrative learning links courses that connect liberal and professional development (Schneider, 2004). Students develop a cross-connection of social, scientific,

and human capital experiences (Schneider, 2004). This approach also enhances students' problem solving from an interdisciplinary perspective, decision-making, critical thinking, and reflexivity (Klein, 2005). Meanwhile, the activities in this area include learning communities, capstone projects, and e-portfolios (Schneider, 2004).

Notably, liberal arts education trains students for skills that employers seek; however, there seems to be a gap between acquiring these skills and how they appear in the workplace. According to NACE Staff (2016), career practitioners or counselors must help students connect their skills to a career path. Based on the Job Outlook survey from NACE (2019), as shown in Figure 1.1, employers rate the top four out of eight career competencies (three years in a row): critical thinking, problem-solving, teamwork and collaboration, professionalism/work ethic, and oral and written communications. Similarly, the top four career competencies resemble liberal arts students' skills from their degree programs. Surprisingly, digital technology landed fifth, followed by leadership, as basic skills employers seek in students (NACE Staff, 2019). The digital technology skills ranking is the direct opposite of the Workforce's future, a heightened technology-driven labor market.

The core competencies are key to students' readiness, especially for liberal arts students. It plays a crucial role in drawing connections to skills development, and the skills demand of employers. According to NACE (2019), employer engagement is part of the career development of students. Employers' participation in college advisory committees contributes to career readiness discussions. Integrating the competencies within an employer's internship programs reinforces skills and evaluates performances.

The competencies also set a standard hiring criterion that provides a collective framework for colleges, employers, and students to follow (NACE, 2019).

COMPETENCIES	WEIGHTED AVERAGE RATING*		
	2019	2018	2017
Critical thinking/problem solving	4.66	4.62	4.58
Teamwork/collaboration	4.48	4.56	4.43
Professionalism/work ethic	4.41	4.46	4.56
Oral/written communications	4.30	4.30	4.43
Digital technology	3.84	3.73	3.78**
Leadership	3.65	3.82	3.86
Career management	3.38	3.46	3.47
Global/multi-cultural fluency	2.78	3.01	2.85

Figure 1.1. NACE career competencies which employers value. Reprinted from Newsletter Spotlight (NACE, 2019). *The four career competencies employers value most*. Used with permission from the National Association of Colleges and Employers. https://www.naceweb.org/career-readiness/competencies/the-four-career-competencies-employers-value-most/.

Skills desired as articulated by employers. The skills gained in a liberal arts education are what employers want in students and graduates. The Association of American Colleges and Universities Liberal Education and America's Promise (LEAP) initiative results from previous employer surveys validate employers' emphasis on broad learning and interdisciplinary skills (Pasquerella, 2019). For example, according to NACE Staff (2020), employers are looking for students with the following quantifiable

skills and attributes on their resumes: problem-solving and teamwork and collaboration skills. Rounding out the top five qualities from the survey that employers are looking for in students include strong work ethic, analytical, and written communication skills (2020). Equally, Baird and Parayitam (2019) identified the top six skills that employers in the New England region of the United States found essential: interpersonal skills, problem-solving, listening skills, communication, professionalism, and motivation.

Many employers seek common workplace skills in candidates. Since employers seek core workplace skills, they emphasize their recruiting practices to identify talent with interpersonal, critical thinking, and problem-solving skills (Baird & Parayitam, 2019). However, the challenge is that higher education practitioners need to play a more significant role in helping students understand their employability by connecting curricula and co-curricular activities inside and outside of the classroom with employer demands (Lowden et al., 2011). Such skills may appear within the course curriculum, but uncertainties surround whether the students understand and draw a connection to its application (Hill et al., 2019). Arguably, higher education's efforts toward including these essential skills within the curriculum can appear undetectable (Hill et al., 2019).

Therefore, soft skills training is what the labor market desires. Soft skills can apply to various professions and are qualities and skills that include social skills, problem-solving, teamwork and collaboration, and basic technology awareness (Zueva, 2019). The disconnect between employers' wants in the labor market and liberal arts education offerings can impact degree holders' outcomes. Therefore, higher education must stay connected to labor market demands (Sigelman, 2016). In addition, most industries emphasize soft skill attainment and often base recruiting practices and

performance evaluations on them (Dogara et al., 2020). Soft skill attainment is why many technology companies consider liberal arts students (Johnson, 2019).

Worldwide, employers are looking for a skilled workforce that includes soft and hard skills. Many students are focused on demanding or specialized skills, while employers are looking for graduates to coalesce both hard and soft skills (Binsaeed et al., 2016). Of the soft skills, employers are often looking to hire and promote those that have interpersonal skills, are fast learners, are ethical, and have solid communication skills (Binsaeed et al., 2016). Essentially, soft skills development often occurs within a liberal arts education. In research by Axelrod et al. (2001), heterogeneous ideas and opportunities encapsulate experiences that foster creativity, autonomous learning, and critical thinking in the social sciences. Arguably, these skills should be integrated and taught in specialized degree programs (Axelrod et al., 2001).

Employability and Liberal Arts Education Outcomes

Compared to specialized degrees, the employment outcomes of liberal arts majors vary. These employability outcomes may result from factors including self-improvement, higher education training, and labor market influences. The outcomes are partly due to the complexities of marketing broad skills liberal arts degrees offer. Alternatively, most specialized degrees explicitly define the career path even in the major, such as engineering, suggesting a future career as an engineer. Although liberal arts education does not always represent a direct career path, graduates with a liberal arts degree perform better in the labor market those with less education (Weise et al., 2020). In addition, the career mobility of liberal arts education exceeds any other major (Weise et

al., 2020). Therefore, the next section describes various employability outcomes of a liberal arts education.

Employability in higher education. Hillage and Pollard (1998) described employability as the proficiency to gain introductory employment, maintain, and obtain new employment, if applicable. However, understanding the term from an employer's perspective highlights a person's qualities, skills, and abilities (McQuaid & Lindsay, 2005). These employability skills are the essential competencies that are useful within the labor market (Rosenberg et al., 2012). Considering the employer's perspective, applying these essential competencies or employability skills is what students expect to gain upon entry into college and project upon graduation to obtain and retain employment (Rosenberg et al., 2012).

In parallel to the employer's perspective, "high impact activities," such as college and career readiness, contribute to students' employability (Brown, 2015). Many colleges and universities incorporate curricula, co-curricular, and experiential opportunities, including career development sessions, research, skills-building training, and internship courses, to enhance student employability (iResearchNet, 2016). However, liberal arts students struggle to articulate these experiences with employers during interviews (Lowden et al., 2011).

Although liberal arts education provides diverse skills for various careers, these skills are more marketable with additional education and training. A liberal arts undergraduate degree is not enough for most liberal arts disciplines (Angeles & Roberts, 2017). In most cases, liberal arts undergraduate degrees prepare students for graduate or professional degrees (Angeles & Roberts, 2017). While specialized or STEM degrees are

in greater demand because of their relevant and immediate training for professional careers in the field, skills learned from a liberal arts education develop and are more valuable over time (Patnaik, 2012). The value of a liberal arts education appears later in life in the form of higher salaries because of upskilling or re-skilling through job training, professional development, or additional education over time (Weise et al., 2020).

Hiring trends and recruiting efforts. Hiring and recruiting practices must align with the skills demand that employers are seeking. Employers must be more intentional with hiring practices. Liberal arts degree completer's employment and earnings upon graduation are much lower than those with specialized degrees. Historically, liberal arts graduates have consistently experienced a higher unemployment rate than specialized degree holders (Sigelman, 2016). Carnevale and Cheah (2015) report that disciplines with unemployment rates exceeding 7.5% were liberal arts education (Carnevale & Cheah, 2015; Sigelman, 2016). Sigelman (2016) outlined the unemployment rates for the following degrees: communication and journalism (8.2%), humanities and liberal arts (8.4%), law and public policy (8.6%), psychology (9%), arts (9.5%), and social sciences (10.1%). Corresponding research by Schneider and Sigelman (2018) supports that liberal arts graduates are also overqualified and found working in positions that do not require a degree. Compared to other college degree disciplines, 20% of liberal arts graduates are likely to be underemployed. They are also more likely to work in low-skilled jobs with far lower earnings than those in specialized fields (Schneider & Sigelman, 2018).

In terms of salary outcomes for recent graduates, they are initially lower than specialized degrees. Carnevale and Cheah (2015) report that earnings for recent graduates in arts and psychology averaged $31,000, while technical degrees such as engineering

were $57,000 (Carnevale & Cheah, 2015). Salary expectations are even lower for Black graduates. Carnevale et al. (2016) show that about 20% of Black degree earners represent fields with lower salaries, including human services and community services ($39,000). Though human services fields are a noble profession, many liberal arts degree holders experience a low return on investment.

Career services supporting student development and branding. The insecurities associated with the outcomes of liberal arts students require attention from higher education practitioners. Learning for students within and outside of the classroom impacts employability, contributing to the debate over a liberal arts education value. The broad knowledge and skills developed in a liberal arts education are evident in a curriculum by instructors but confound students during the job search process (Brown, 2015). Inevitably, higher education professionals cannot assist students with describing the skills gained within the discipline during interactions with external stakeholders and employers (Brown, 2015). Thus, faculty need to create opportunities for students to reflect on their interests and connect them with classroom experiences to develop identifiable skills and career paths (Brown, 2015).

One approach to helping students find a career path is through career exploration. Career exploration helps students to collect occupational information and engage in professional development activities to determine the best career fit (Iftikhar et al., 2015). Information gathering is a prerequisite to selecting a career (Werbel, 2000). The information collection and developmental activities may occur in many forms: career information sessions, career assessments, career seminars, job shadowing, job site tours, informational interviews, internship, and externships. Moreover, professional, or

experiential opportunities support students in becoming marketable (Prehar & Ignelzi, 2012). Typically, students with experiential experiences, such as internships, have a more significant earning potential (Prehar & Ignelzi, 2012). Many of the resources for career exploration, planning, and development exist on college campuses, together with the career services office.

Liberal arts degrees conferred. Liberal arts education continues to evolve, and the data reflects an interest in classical education. During the 2017–2018 academic year, institutions granted 2 million bachelor's degrees, with more than half of the degree programs within five disciplines (National Center for Education Statistics [NCES], 2020). The five disciplines in ranking order consisted of business, with 386,000 degrees; health professions and related programs with 245,000; social sciences and history included 160,000; engineering, with 122,000; and biological and biomedical sciences, with 119,000 (NCES, 2020). The third-largest number of conferred degrees, social sciences, and history, aligns with the liberal arts education disciplines, but specialized fields in business and STEM include the most awarded degrees. Thus, this data reports a higher concentration in specialized degrees.

According to NCES (2020), HBCUs awarded 48,300 degrees in the 2017–2018 school year. Of those degrees, 68% were bachelor's degrees, and 81% were Black graduates (NCES, 2020). In examining the latest data reported on the bachelor's degree conferred by degree-granting HBCUs concerning race, ethnicity, major field of study, and gender for all areas, NCES (2020) reported 28,846 conferred degrees in 2001–2002. A mere 693 (2.4%) were liberal arts or general studies degrees (NCES, 2020). There has been no report by major field of study for HBCUs since this year, and the lack of recent

data on outcomes of HBCUs in the major field of studies reflects a gap in liberal arts degree research.

Trends of income immediately following graduation in contrast to a decade after graduation. Starting salaries for recent graduates vary based on the economic climate. For over 55 years, NACE has reported recent college graduates' starting salaries through the annual Salary Survey Report (Koncz, 2016). From 1960 to 2015, the report (2016) captures bachelor's degree holders' annual earnings shown in Figure 1.2. Early reports emphasize the salary outcomes mainly for specialized degrees, such as business and engineering, and only distinguished women's salary earnings starting in 1974 (Koncz, 2016). The report has evolved and now updates over 100 bachelor's degree majors during a five-year cycle (Koncz, 2016).

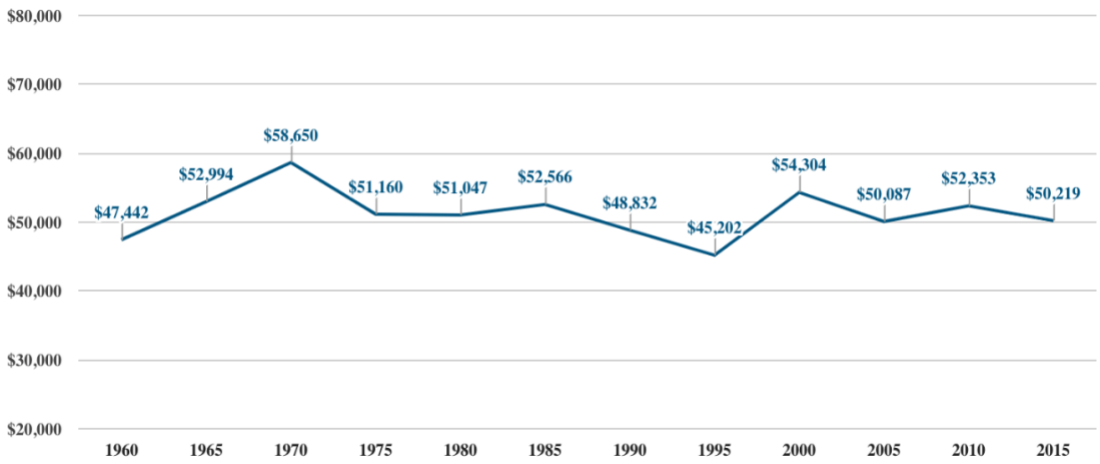


Figure 1.2. NACE's salary survey overall average salaries from 1960–1975. This figure is taken from the article Koncz A. (2016). *Salary trends through salary survey: A historical perspective on starting salaries for new college graduates.* Used with permission from the National Association of Colleges and Employers. https://www.naceweb.org/job-market/compensation/salary-trends-through-salary-survey-a-historical-perspective-on-starting-salaries-for-new-college-graduates/

Koncz (2016) revealed that during the 1960s and 1970s, the country experienced an economic recession. During the recession, the average salary range for recent graduates was in the high $40,000 to $50,000 range (Koncz, 2016). From the mid-1970s to about the 1990s, the salary range remained stable from $51,000, only showing a slight decrease to $48,000 by the early ‘90s (Koncz, 2016). However, the annual salary experienced its lowest in 1995 after the recession (Koncz, 2016). Some economic improvements occurred from 1996 to 2000, and the average annual salary rose to $54,304 (Koncz, 2016). The information age and emergence of the computer software industry contributed to some earning growth for recent graduates. However, the stock market crash in the late 2000s, a downfall in the dot.com industry, and a decline in recent college graduate recruitment caused another drop in overall income by 2015 (Koncz, 2016).

Meanwhile, specialized salary outcomes were competitive, including business, engineering, and math disciplines (Koncz, 2016). Business disciplines, such as accounting, business administration and management, and marketing, showed a range in 2004 of $47,492 to 2015 of $49,494 (with no data reported before 2004 for the business category). Peak annual salary outcomes in 2006 showed $59,127, and in 2012, $54,304 (Koncz, 2016). Engineering disciplines, especially chemical, electrical, and mechanical, ranged from $48,846 in 1960 to $67,593 in 2015. Annual peak periods for engineering occurred in 1970 ($58,650), and 2000 ($54,304). The area of mathematics ranged from $52,994 in 1965 to $56,440 in 2015. Mathematics experienced three peak periods during the fifty-year span: 1985 ($53,161), 2000 ($56,945), and 2015 ($56,440). Specialized degree programs yield the highest earnings for recent graduates in over 50 years.

Compared to the overall average salaries of all majors, humanities had a long history of earning the lowest wages (Koncz, 2016). From 1960–1973 humanities and biological sciences showed the lowest on the Salary Survey report shown in Figure 1.3 (Koncz, 2016). In 1963, liberal arts became a category, and from 1964 to 1973, social sciences and the humanities disciplines blended into one category (Koncz, 2016). English and history majors separated in 1988 (Koncz, 2016). Nevertheless, the overall variance of categories still marked an ongoing trend in the salary results of the humanities disciplines compared to the annual average salaries. Humanities showed a steady trend of starting salaries for recent graduates and a lower range than specialized degree programs (Koncz, 2016). For over 50 years, the salary range for humanities reached its highest peak in the 1970s, the upper $50,000 range. However, this range remains consistent. From 1975 to 1985, the salary range maintained a low $50,000 range. During the 1990s, the average salary dropped from the upper $40,000 in 1990 to the mid-$45,000 range by 1995. Although this average salary drop was temporary in the 1990s, the 2000s to 2015 experienced an average salary range from mid to low $50,000.

According to Grasgreen (2014), the career paths of liberal arts graduates may not be like other disciplines. The journey can be more complex and filled with the opposite expectations of these graduates. Postgraduate results include lower wages, unemployment, and underemployment results (Grasgreen, 2014). However, over time and with advanced degrees, the income for liberal arts students exceeds those in specialized industries. The earning potential for liberal arts is $20,000 more a year (Grasgreen, 2014).

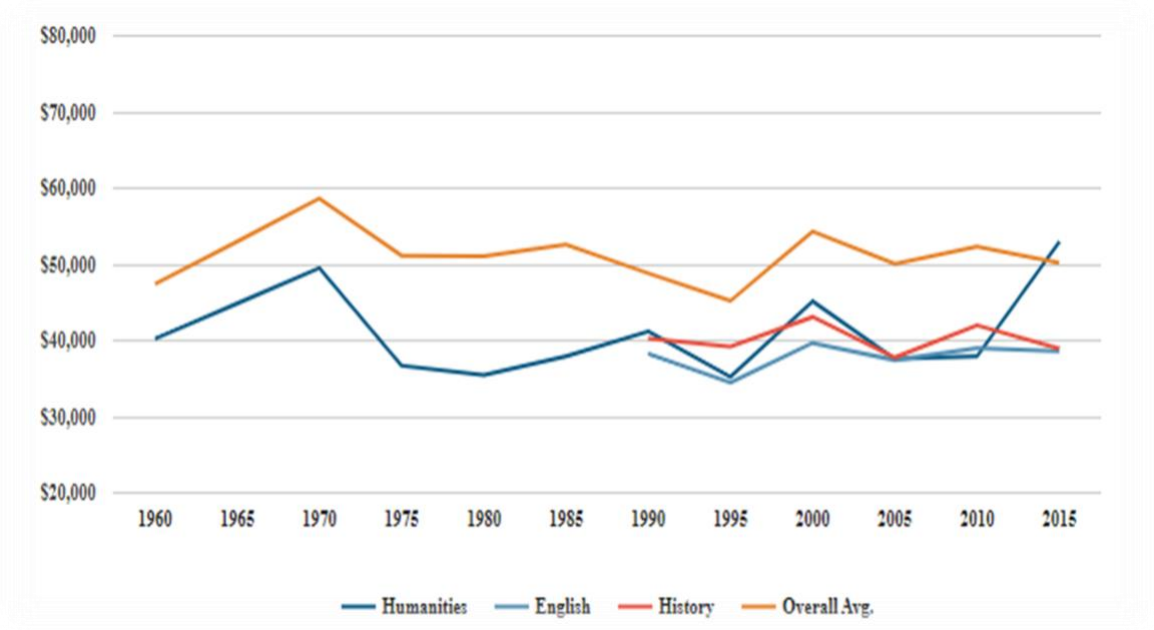


Figure 1.3. Salary trends for humanities (Koncz, 2016).

According to the Georgetown University Center on Education and the Workforce (2014), liberal arts degree holders should obtain a graduate degree to position themselves competitively. AACU (2017) recommends that liberal arts degree holders add specific skills, including coding, marketing, or social media, to enhance earning potential upon graduation. Typically, liberal arts graduates will experience salary growth over time or during their second or third job, where their human and technical skills evolve (Johnson, 2019). Moreover, one of the most important advantages for liberal arts graduates is that they have the skills employers want in the workforce.

Outcomes exhibited in the workforce with a liberal arts degree. The eternal debate about the future of the Workforce and its preference for specialized or classical education persists. However, research shows that liberal arts graduates are "long haulers" and have a blossoming career trajectory over time (Weise et al., 2020). Typically, liberal

arts graduates' employability advances over time to more skilled and in-demand careers (Whitford, 2018). Overall, they have a median salary of $55,000, which is $20,000 more than high school graduates and $5,000 less than college salaries (Whitford, 2018).

Liberal arts graduates are more educated than specialized degree graduates and pursue graduate degrees to improve their employment and earning potential. Nevertheless, the diverse skills of liberal arts education can be a deficit or an asset (Whitford, 2018). The deficit for some is not articulating, matching, and transferring skills to different work environments (Whitford, 2018). However, having diverse skills means that graduates have options and adapt to multiple work environments (Whitford, 2018). Ultimately, a liberal arts education provides a greater advantage over a specialized degree that often has a limited arsenal of skills (Whitford, 2018).

Though liberal arts education has a share of skeptics, the future of liberal arts education is promising. Strada Education Network and EMSI report that more specialized employers recruit workers with a liberal arts background (Johnson, 2019). Also, the future Workforce will demand human skills, emotional intelligence, and ethics (Johnson, 2019). The Qatar Foundation's WISE@NY Learning Revolutions conference touts new high-demand skills that will include philosophy, ethics, and morality education (Wan, 2018). These liberal arts skills will provide a moral contribution to artificial intelligence systems (Wan, 2018). Overall, liberal arts graduates may work in various industries. However, they earn 20,000 more than a high school graduate, and the top 25 percentile earns over $90,000 from the human skills developed from general education (EMSI, 2019). Hence, time will tell the enduring value and future outcomes of liberal arts education.

Liberal arts education as a multidisciplinary approach. Liberal arts embrace an interdisciplinary approach to knowledge and offer a broad curriculum encompassing various subjects that lead to specialized knowledge (Haberberger, 2018). According to NACE Staff (2016), liberal arts is also STEM. Science, mathematics, and problem-solving are part of the liberal arts curriculum. Thus, liberal arts majors are assets to specialized fields. More broadly, liberal arts majors have a multidisciplinary approach to soft and human intelligence skills (Kumar, 2019). Science and math are liberal arts, while humanities align similarly with science, engineering, and math (Velarde, 2020). For example, as a liberal arts major, graphic design has broad knowledge in art and history followed by specialized training, including computer software applications and web design (Velarde, 2020). Congruently, liberal arts majors have a multidisciplinary approach to learning and easily alternate from tech to non-tech communities (NACE, 2016).

While liberal arts education embraces an interdisciplinary approach, involving liberal arts majors and STEM could change hiring practices. Many considerations and strategies to include liberal arts majors in the tech environment include shifting recruiting conversations (NACE Staff, 2016). Employer recruiting plans should be inclusive on college campuses. The recruiting plans should begin by inviting STEM and liberal arts majors to sessions together, increasing recruiting practices to diverse schools, and participating in non-traditional engagement practices, including skills development or assimilation training (NACE Staff, 2016).

The interdisciplinary skills developed in a liberal arts education potentially augment and adjust within workplace norms, including establishing teamwork and

multidisciplinary networks (Patnaik, 2012). In line with the interdisciplinary approach, liberal art majors are often good communicators and writers, experienced at working in groups. Notably, they can shift gears to work independently, as shown in senior projects or capstone courses (NACE Staff, 2016).

Overall, this section overviewed the body of academic literature related to HBCUs, liberal arts education, liberal arts education value, and emphasis on employability, especially in a specialized market. Despite an emphasis on employability for specialized majors, there has been very little research on liberal arts majors, especially from HBCUs. Contrary to the gaps in the literature concerning HBCUs and liberal arts education, the research displayed some emphasis on a multidisciplinary approach to liberal arts and specialized education. However, from an HBCU perspective, there was still a gap in the literature on the multidisciplinary approach to liberal arts and specialized education. Interestingly, the body of scholarship showed some relationship to the NACE (2021a) Career Readiness Competencies or this study's theoretical framework.

Theoretical Framework

Employability served as the basis for using the National Association of Colleges and Employers (NACE) Career-Readiness Competencies as the theoretical framework for this study. Employability is the ability to obtain and maintain employment and use knowledge, skills, and abilities learned within a degree program (Pool & Sewell, 2007). As the liberal arts discipline faces a competitive labor market and challenges, securing employment and post-graduate outcomes become a reality and responsibility of many graduates (Clements & Kamu, 2017). Employability includes various stages to gain and retain employment. Hillage and Pollard (1998) suggest that employability entails four

components for obtaining, maintaining, and gaining new employment if so desired. First, it includes a person's employability assets, knowledge, skills, and attitudes. Second, employment includes career management, interest, exploration, and job search skills. Third, it involves presentation, or the ability to secure employment using assets to market abilities. Although presentation is linked to employment or career management, it is specific in its approach. The presentation component includes the packaging of the accomplished work experience (e.g., curriculum vitae), interviewing skills, and hard skills (e.g., academic, or vocational training). Fourth, employability depends on personal demands and the labor market outlook.

This study used the National Association of Colleges and Employers (NACE) Career-Readiness Competencies as the theoretical framework for data collection analysis and interpretation. NACE serves as a leading career resource for stakeholders interested in career planning for college graduates, such as college career practitioners, university-related recruiters, and business solutions organizations (NACE, n.d.). First, their information-sharing efforts provide recruiting best practices, research, and futurist labor expectations that help to prepare college graduates for the workforce (NACE, n.d.). Second, they help define career readiness for college graduates to demonstrate specific competencies or behaviors that translate within the labor market (NACE, n.d.). Third, in coordination with higher education professionals and industry experts, they established eight career readiness competencies (NACE, n.d.).

Measuring employability is typically conducted using outcome information through quantitative data from placement outcome surveys. However, the narratives from these placements fail to describe the actual employment and underemployment outcomes.

These reports have not completely illustrated outcomes of a liberal arts education, specifically from HBCUs.

Training the next generation to thrive within the workforce has been an unending topic of discussion and published research. These open-ended discussions and publications culminated in numerous sets of competencies centered on student outcomes (Nunamaker et al., 2017). In 2010, two student affairs professional organizations, Student Educators International (ACPA) and the Student Affairs Professionals Association (NASPA), partnered to develop ten competencies and three measures of proficiency to highlight diverse outcomes of the competencies (Nunamaker et al., 2017). However, the competencies were only relevant to the student affairs practice (Nunamaker et al., 2017). In 2015, the NACE task force members initiated common language or career competencies to guide career practitioners and graduates with career readiness or employability expectations (NACE, 2021). Following this effort and feedback from those using the career competencies, in 2017, members of a task force encapsulating career services professionals and university recruiters updated the career competencies (NACE, 2021). The competencies in partnership with SkillSurvey, an online pre-employment screening, sourcing, and certification service, NACE revised the competencies in 2020, encouraging expected behaviors in the workplace (NACE, 2021). As seen in Figure 1.4, the competencies are career and self-development, communication, critical thinking, equity and inclusion, leadership, professionalism, teamwork, and technology (NACE, 2021). Equity and inclusion were formerly known as global/intercultural fluency. The competency of global/intercultural fluency during the data collection period rests throughout the study.

The eight career readiness competencies (NACE, 2021) help evaluate the study's student employability or career-readiness outcomes. Each competency is independent and interdependent and demonstrated in various ways. The eight competencies are listed as follows: First, career and self-development include awareness and identification of knowledge, skills, and abilities and a willingness to immerse in lifelong learning that leverages career opportunities and asserts an ability to navigate and network to build ongoing professional relationships. Second, communication involves articulating information sharing clearly and concisely in diverse settings. Third, critical thinking includes processing information and using sound judgment, analysis, and reasoning to draw tangible conclusions.

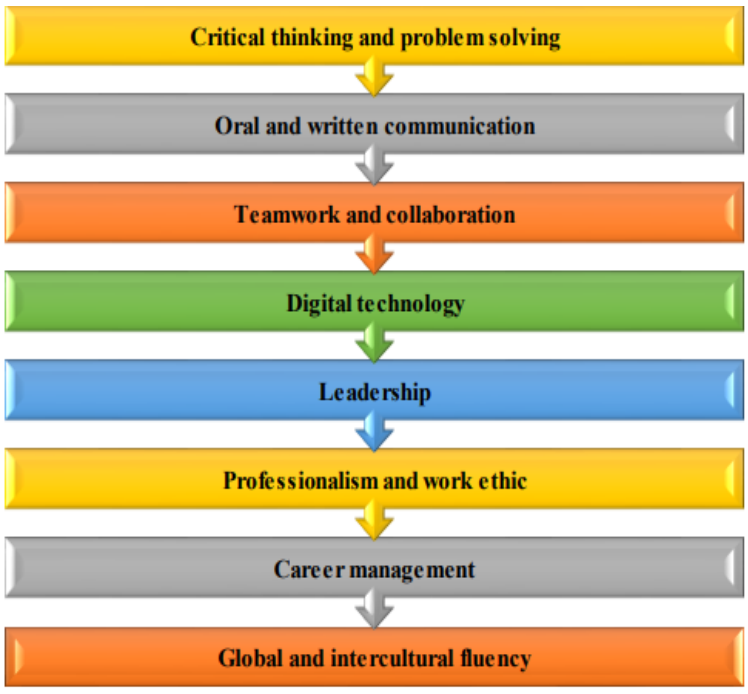


Figure 1.4. NACE (2021a) career readiness competencies.

The fourth competency included global and intercultural fluency. This competency entails awareness, respect, advocacy, and inclusion of diverse cultures, races, gender, age, religion, and sexual orientation. Fifth, leadership describes balancing independent and team contributions while maximizing both to meet organizational goals. Sixth, professionalism comprises navigating the various work environments while intuitively demonstrating work habits that contribute to the organization's greater good. Seventh, teamwork encompasses building and sustaining collaborative relationships while intentionally engaging various perspectives and views to help reach a common goal. Eighth, technology involves the ethical use and understanding of technology and its impact on productive and efficient workplace outcomes (NACE, 2021b).

The researcher began work on this study in 2019. Since then, NACE revised the title of the following competencies in 2021: career management to career and self-development, critical thinking and problem solving to critical thinking, digital technology to technology, oral and written communication to communication, and global and intercultural fluency to equity and inclusion, professionalism and work ethic to professionalism, teamwork and collaboration to just teamwork. Although the context of the definitions has not changed much from the original competencies, the original career competencies terms are throughout the study.

Incorporating the career readiness competencies within a program provides a clear purpose of practical skills for students to achieve and develop. A recent study with the Federal Work-Study (FWS) program from 2016–2019 purports positive feedback on the inclusion of the career competencies within its program and the overall perception of students' career preparedness (Akos et al., 2021). The FWS is a subsidy program that

provides economically disadvantaged students financial assistance and practical work opportunities that align with academic pursuits *(*Federal Student Aid*,* n.d.). Findings from the study of 6,999 participants from 2016–2019 indicate students within the FWS program in six of the eight competencies. The areas that students overwhelmingly, about 75%, thrived in include professionalism and work ethic, critical thinking and problem solving, oral and written communication, teamwork and collaboration, leadership, and digital technology. One of the eight competencies in the FWS study included global and intercultural fluency. Although the outcome for global and intercultural fluency and career management were lower, the two show some level of growth of 61% in career management and 40% in global/intercultural fluency (Akos et al., 2021).

The NACE Career Competencies articulated aspects to measure and determine the level of one's employability. Thus, in this study, the data collection focused on the eight competencies to prove that liberal arts students enrolled in a tech course possessed skills sought by employers. The researcher began work on this study in 2019. Since then, NACE revised the title of seven of the eight competencies in 2021: career management to career and self-development, critical thinking and problem solving to critical thinking, digital technology to technology, global and intercultural fluency to equity and inclusion, oral and written communication to communication, professionalism and work ethic to professionalism, teamwork and collaboration to just teamwork. Although the context of the definitions has not changed much from the original competencies, the researcher used the original career competencies terms throughout the study.

Overall, the results of this study in connection with the competencies provided contextual application in modeling and addressing the research questions: What qualities

do HBCU liberal arts students exhibit that contribute to their success in a design course focused on technology? Moreover, the second question is, what role does a liberal arts education play with employability for in-demand tech careers? The consistency of the career readiness competencies throughout the study established the framework analysis. In addition, it served as the basis for linking the study results to the skills employers expect in the workforce.

Conclusion: Purpose of the Study

This study's overall purpose was to understand the value of undergraduate HBCU liberal arts students and their potential employability outcomes in an ever-growing technical labor market. In addition, the study examined the level of preparation students received in a non-specialized discipline for potential marketability in specialized careers. Specifically, this instrumental qualitative case study included semi-structured interviews, observations, questionnaires, and artifacts from liberal arts students in a design course and instructor of record at a historically Black college and university in the United States Mid-Atlantic region.

The qualitative design provided a storied narrative through the lens of liberal arts education students in varying academic stages in a UX/UI design course. The sections entail four parts. First, patterns and themes reveal the worldview of practical experiences, adaptation-level, and fulfillment. Second, the experiential training and experiences shaped tangible employability outcomes for students. Third, the study's conclusion emphasized the need for higher education to prepare liberal arts students with skills to enhance marketability. Finally, the outcomes showcased a need for more effective

recruitment practices that complement earning potential of Black liberal arts majors from HBCUs.

The following chapter describes the research design and methods for examining the phenomenon. The purpose of the design was to understand better and explain the factors contributing to liberal arts students' employability. Specific research questions guided the study's actions and served as the framework for this and future research.

CHAPTER TWO

Methodology

Introduction: Research Questions

This study examined the skills and qualities of liberal arts undergraduate students from a historically Black college and university (HBCU) in a UX/UI design course. Given the contentious views on a liberal arts education and employment outlook, this study also evaluated the level of preparation students received in a non-specialized discipline for an in-demand, specialized tech course. The course aimed to prepare students for exposure to experiential opportunities and the job market in an emergent technology-driven workforce.

The National Association of Colleges and Employers (NACE) Outcome Survey for 2014 (Koc, 2015) reported that students who pursue technical fields are more likely to obtain employment upon graduation than those who seek non-specialized disciplines. In contrast, students who pursued non-specialized majors such as liberal arts are not expected to graduate or attend professional school upon graduation (Koc, 2015). Furthermore, a large effort existed on college campuses for those students majoring in science, technology, engineering, and mathematics (STEM) disciplines (NACE, 2019). However, this type of recruitment leaves a large talent pool out of the hiring process. In this study, the talent pool consisted of liberal arts students at an HBCU in the Mid-Atlantic region.

This chapter outlines the study's methodological components that offered detailed insight into the potential and marketability of liberal arts students. The methodology

began with the design inquiry, data collection protocols, analysis, and interpretation that supported the study's underpinnings. Then, to further interpret the rationale of the problem, guiding research questions led to the study's relevance. The following research questions guided the study:

1. What qualities do HBCU liberal arts students exhibit that contribute to their success in a design course focused on technology?

2. What role does a liberal arts education play with employability for in-demand tech careers?

Researcher Perspective and Positionality

This study has a deep and personal connection to me. My academic and professional career aspirations resulted from a liberal arts education at an HBCU. I attended the institution where I conducted my research for both undergraduate and graduate programs. Nearly ten years after graduation with my second degree, I secured an opportunity to serve as the career services director. Admittedly, the career competencies that I gained from my undergraduate liberal arts degree enhanced my communications, problem-solving, decision-making, creativity, and planning skills. According to Koerner (2018), though core career competencies occur in specialized vocational skills, they are an elevated intellectual knowledge-based found in a liberal arts education. Research has suggested that though a technical degree's competitive salary happens quickly for immediate graduates, it did not settle in immediately upon graduation for me with a non-technical degree. However, over time and with further education and training, it matched desired expectations.

As I reflect on my experience in college, the challenge of selecting a major often resulted in frustration, low grades, and increased financial strain on my parents. Before

attending college, I desired to become a ballet dancer, a liberal arts education discipline. Much to my dismay, discussions with a school counselor altered my career path. The school counselor convincingly advised that a business major would be more suitable for finding a career with a steady salary. Reluctantly, I pursued a major in business which brought about a negative academic experience. Economic motivation is a determinant for many college students to select a major (Writers, 2020). Generally, it is a matter of choosing a major based on money or interest.

Children learn values, beliefs, and development through interactions and communication with others (Ormrod, 2019). As a result of my interactions with the school counselor, I changed my major multiple times. Consequently, I ultimately selected a liberal arts major. On average, first-time students change their major at least once within three years (U.S. Department of Education, 2017). Although I struggled with choosing a major and a career path, the motivation to complete college with a career remained constant. Historically, HBCUs foster the upward mobility of their students (Nathenson et al., 2019). Eventually, I landed a marketable career that applied the essential skills taught in a liberal arts education.

Employer recruitment at an HBCU had some challenges. Serving as the career services director at an HBCU provided me with direct insight into the employment recruiting habits of all majors, including liberal arts. These challenges included the lack of employers' interest in recruiting from HBCUs or appeal toward specialized majors such as STEM or business. I often had to guide or even negotiate with hiring recruiters to consider students from an HBCU, especially those in the liberal arts disciplines. This work was not easy. In a sense, this level of work had a social justice, diversity, and equity

component to it. As a result of this experience as a career services director, the interest in pursuing a study on liberal arts education and advocating for this demographic of students became a passion for me. The direct connection to the study involved meetings dating back to 2020 with the site universities' chair of computer science and engineering, the technology company, and educational service. Throughout the partnership meetings about the course, conversations were about targeting more liberal arts students in future courses.

Overall, my personal, academic, and professional experiences formulated my positionality and encouraged exploring liberal arts students' uniqueness. Stake (1995) proposes that the researcher will have a personal view despite all the intentions of a study. Indeed, I have a personal view of this study, the location served as my alma mater and place of employment. Therefore, I wanted to ensure that others learned from my lived experiences in hopes of realizing the importance of a liberal arts education.

Theoretical Framework Application

The use of the NACE Career Readiness Competency addressed the two research questions and informed the data collection process and data analysis procedures. The research questions that inspired the study included: What qualities do HBCU liberal arts students exhibit that contribute to their success in a design course focused on technology? Moreover, the second research question states, what role does a liberal arts education play with employability for in-demand tech careers?

The NACE career readiness competencies guided how employability emerged within the UX/UI design course. Employability for graduates is not only hard skills or the knowledge learned from a specific discipline, but it also includes the core or essential

skills transferable to various fields (Bridgestock, 2009). Therefore, the model's detail had eight competencies where ample consideration existed to support a connection between employability and career readiness.

The inclusion of the eight-career competencies attempted to provide some insight into the association between employability and liberal arts education. This process entailed eight connections to employability and liberal arts education. First, using the critical thinking and problem-solving skills tenets provided a lens to examine the reasoning skills liberal arts students presented and gained in the design course. Second, the oral and written communication competency assisted with how interpreting and articulating thoughts and ideas played a role in the course. Third, the teamwork and collaboration competency defined the balance of learned skills that are applied to collaboration and their effect on classroom interactions with others in the course. Fourth, as befitting, the digital technology competency addressed the student's ability and experience using new and existing technologies ethically and efficiently. Fifth, the leadership competency addressed the student's ability to exude self-awareness and influence others to reach a common goal. Sixth, the proficiency in professionalism and worth ethic supported the student's ability to demonstrate responsibility, integrity, and accountability within the course. Seventh, the career management competency served as an integral part of the student's ability to use the course training and resources provided by the tech organization and the university's career development office to research and prepare for experiential and career opportunities. Lastly, global and intercultural fluency demonstrated the student's interpersonal skills and ability to be open and inclusive to diverse people, thoughts, and ideas within the course (NACE, 2021a). To date, there has

not been a research study that focused on the outcomes of liberal arts students from HBCU in a STEM-related course. Therefore, conducting an instrumental case study provided a storied narrative that helped fill the literature gaps. In addition, the NACE Career Readiness Competencies (NACE, 2021a) informed an approach to collecting the data by incorporating four data-collection processes.

The sample for this study included data collection procedures guided by the NACE Career Readiness Competencies. This process included interviews, a questionnaire, observations, and artifacts. The interviews provided contextual information directly from the student and the instructor that confirmed or denied the model's components. Each of the NACE Career Readiness Competencies components played an essential role in understanding the lived experiences. The questionnaire provided open and honest feedback on the student's experience in the course compared to the career readiness skills. The field observations provided insight into behaviors, interactions, and responses to the student's experiences within the course program. Thus, the competencies that resonated the most were oral and written communication, teamwork and collaboration, and global and intercultural fluency.

Moreover, the artifacts or documents rounded out the study and provided validity or trustworthiness of the data collected. They also supported the establishment of trustworthiness. The trustworthiness in the data collection process is connected back to the actions and results from evidence to support the model's characteristics

Overall, the NACE (2021a) Career Readiness Competencies helped evaluate the data analysis procedures. The eight workplace skills served as a structure for outlining

emergent themes. The researcher completed coding using the eight career readiness competencies to describe how the cases aligned and answered the research questions.

Research Design and Rationale

The research design was a qualitative, instrumental, single case study. Stake (1995) states that an instrumental case study provides insight into a specific issue but is an inquiry of understanding a phenomenon for a larger context. This case study highlights a liberal arts student's employability in a specialized course despite the ongoing debate over a specialized degree's value and position in a career-oriented workforce. Although the study provides insight into a small data set that includes liberal arts students' lived experiences in a tech design course, the greater intent was to destigmatize some of the disparities associated with the major. Furthermore, the design addressed three areas, detailed information to support the research question, a straightforward method or process to strengthen the research, and the findings.

This study followed methods aligned with a single case study; the data collection involved the site's first UX/UI design course. According to Creswell and Creswell (2017), case studies evaluate a case, program, event, or activity of one or multiple participants. The design derived from a holistic approach of investigating and following a liberal arts student and instructor's involvement in a UX/UI or specialized course. The multiple methods of data collection not only provided empirical data but stories and experiences that can add context to future research and consideration of technical courses within a liberal arts program. Since this course was the first, it provided rich information and offers an opportunity for further research.

The methods for this study evolved to include several sources of evidence: semi-structured interviews with both a liberal arts student and the instructor, a student questionnaire, observation field notes, and the collection of artifacts or documents from the course. Various sources for collecting data in a case study helped support the validity of addressing the research questions and drawing conclusions based on a variety of data (Crowe et al., 2011). The data collection process targeted information from a liberal arts student and the instructor of record in a UX/UI design course. A major tech company, in partnership with an educational service, facilitated the development and implementation of the course. The HBCU students enrolled in the course represented multiple disciplines, and ranged in classification from freshman to junior level. The course objective was to help students build skills to become marketable and encourage them to network with the technology company's leaders (Vera, 2020). Triangulation occurred using various data sources to support the study's overall interpretation (Crowe et al., 2011).

As described in Chapter One, many scholars have conducted extensive research on liberal arts education students (AACU, 2014; EMSI, 2019; Johnson, 2019; Wan, 2018). However, some gaps exist in the content, especially with the narratives of HBCU students. While maintaining student confidentiality but applying the situation and subject to consider a broader implication, the study's design is informative and provides detailed findings and themes that set the stage for replication. The results and in-depth analysis revealed emerging outcomes for future research (Crowe et al., 2011). The researcher also held discussions with key stakeholders to replicate the program as a model for similar institutions.

Site Selection and Participant Sampling

The site selected was a public liberal arts four-year historically Black college and university (HBCU) in the Mid-Atlantic region. According to the U.S. News & World Report (2020), the urban institution maintains over 5,000 students. Of these students, 84.9% are Black or African American; 67% are female, and 33% are males. The average class ratio is 16:1, with fewer than 50% of which have fewer than 20 students. The university has three colleges: the College of Liberal Arts, the College of Computer Science, Engineering, Science, Technology, and the Honors College.

Additionally, the university has three professional schools: the School of Business, School of Education, and School of Social Work. The university also has a graduate school program, an off-campus center, and multiple academic support programs (U.S. News & World Report, 2020). Of the three colleges, the College of Liberal Arts serves as the largest college and has the highest number of students enrolled in its sixteen programs (HBCU Site, n.d.). The five most popular majors include business, electronics, engineering, technology, psychology, sociology, and health and healthcare administration (U.S. News & World Report, 2020). Two of the top five most popular majors—psychology and sociology—are in the College of Liberal Arts.

The site selection was determined based on its recent partnership and first-ever virtual boot camp course with a major tech and streaming company. The streaming company recognizes the power of technology and its ability to connect with other communities (Amir, 2020). Therefore, the technology company's effort was to create an inclusive environment for all voices (2020). Also, the researcher's involvement in the partnership's onset and throughout the planning process provided background knowledge of the effort. According to Stake (1995), data collection occurs within familiar territory.

Permissions to conduct a single case study are usually based on gaining access (Stake, 1995). As a result, the researcher's connection to the university and involvement with the technology company helped navigate the data collection process. The Non-human Subjects Institutional Review Board (IRB) at the HBCUs Office of Sponsored Programs approved the research.

UX/UI Program Development and Course Description

The researcher defined the UX/UI design course offered in the spring of 2021 as a single case. The UX/UI course material was a creative and collective effort of the technology firm and education technology services' executives and business leaders. These leaders represented diverse stakeholders in the design and mobile application development process. The UX//UI design course entailed integrating soft skills, including problem-solving and methods applied in the UX/UI design field. Learning modalities for the course included lectures, demonstrations, activities, and case studies to create a rich end-of-semester project or portfolio. Topics that helped support the design portfolio covered double diamond design thinking, design system fundamentals, wireframing, prototyping, usability and accessibility testing, and Responsive Web Design (RWD) principles. Most importantly, the course's overall learning outcomes entailed challenging students and immersing them in scenario-based or real-time situations to help produce a professional end-of-semester project.

In addition, the course offered a myriad of support services, including teaching assistants, a success coach, and mentors from the education service and technology company. The teaching assistants from the education service helped address students' needs in the classroom and provided tutoring sessions and resources to students outside

of the typical classroom session. A success coach from the education service provided personalized student support, engagement, and retention services. Meanwhile, each student was assigned a mentor employed by the tech company to offer one-on-one professional and personal development. These services round out the course offerings to ensure retention and student success within the course.

Participant Sampling

Once the site was determined, the researcher sought out participants based on specific criteria relevant to answering the research questions. The research questions included: What qualities do HBCU liberal arts students exhibit that contribute to their success in a design course focused on technology, and what role does a liberal arts education play with employability for in-demand tech careers? The sampling strategy rationale was to examine liberal arts students" qualities and abilities in a specific tech course. Stake (1995) indicates that case study research does not involve sampling. Since the research is a qualitative instrumental case study, this did not warrant sampling. However, an instrumental case study helped bring understanding, improved knowledge about the subject, and adjusted generalizations (Stake, 1995).

Students from any major were eligible to participate in the course. The cohort size included up to 30 students and comprised 96 hours of course time for 16 weeks in the program. Students received earned course credits of three credit hours; however, the class time was six hours per week on Tuesday and Thursday from 5:30–8:30 p.m. All interested students for the course had to complete the application process, including a short essay, resume, unofficial transcript, and a self-made video reflecting their skills and interest in the program. The criteria included first-year students, sophomores, or juniors

who advanced through the application process and enrolled in a liberal arts program. The inaugural launch of the program was on January 11, 2021.

Recruitment included contacting all students who were liberal art majors and enrolled in the UX/UI design course and the course instructor. This participant selection was intentional since all experienced the study's central phenomenon. The researcher found that six liberal art students met the criteria identified to participate in the study from the applicant pool. However, two dropped the course due to course alignment and schedule, and another dropped because of personal circumstances. One agreed to participate in the study among the three eligible student participants. Outreach took place for the remaining liberal arts participants, but the researcher did not receive a response during the data collection period.

Data Collection Procedures

This study used four forms of data collection: semi-structured interviews, a questionnaire, observation field notes, and documentation. The data was collected over three months, starting with an initial interview with the instructor of record. Next, observations of two class sessions occurred. Third, the researcher conducted interviews with the course instructor and liberal arts participant, and, finally, the student completed a questionnaire to reflect on the results from the course. Additionally, a compilation of documents from an end-of-semester group presentation which included the liberal arts participant, provided affirmation of the course's contributions, thus demonstrating the trustworthiness of the findings. This section segregates the data collection forms to highlight how each type was collected. A multi-level approach to collecting data in a case study scales the researcher's perspective (Crowe et al., 2011).

Interviews

The first phase included three in-depth interviews using open-ended questions and active listening to collect the students' and instructors' perspectives and experiences. The interviews included a pre-interview with the instructor, an interview with the student participant, and a post-interview with the instructor. The worldwide COVID-19 pandemic occurring during the study necessitated safety and precautionary protocols for this form of data collection. Therefore, the sessions followed the protocols for hosting a virtual session using Zoom's cloud-based teleconferencing platform. With the participant's permission, the researcher recorded each session and transcribed each session using the Otter.ai. meeting platform. Delivery of questions used a strict, predetermined order for the session's process. Further insight required open-ended questions guiding the semi-structured interviews with each participant. Finally, composite transcriptions outlined the phenomenon's essence (Creswell & Poth, 2018).

The use of semi-structured interviews guided the first interview, which entailed eight questions. Two in-depth, pre-and-post interviews with the instructor rounded the discussions. During each session, a reminder about consent and anonymity commenced. The instructor of record was identified as an adjunct faculty member who oversees the classroom operation of this course. The student who agreed to participate was a liberal arts major concluding her junior year of college.

The pre-interview with the instructor established a complementary relationship and an opportunity to explain the research, data collection process, and interview questions. This interview took place immediately after IRB approval after the design course had already started. The interview included a discussion about the timeline to collect data, consent forms, and an opportunity for questions. The questions asked during

the interview are listed in Appendix B. Following, the questions focused on the design, implementation, and evaluation of the course.

After the course concluded, an interview with the student participant occurred. This in-depth interview comprised open-ended questions, and the discussions moved to a more conversational tone, which provided a flexible approach to probe for further questions. The interview consisted of seven semi-structured questions for the student participant. (See Appendix C for a list of the questions.)

The third and final interview was the post-interview with the instructor of record. This interview focused on the course outcomes, the liberal arts student's engagement, and overall program participation. The use of semi-structured interviews posts the conclusion of the course entailed questions number three to eight of the initial interview. The following questions were to further the understanding of the overall experience of the liberal arts participants posts the course.

Questionnaire

The second form of data collected was a questionnaire for the student participant. (See Appendix D.) The questionnaire was administered after the interview to serve as an opportunity for the liberal arts student to reflect on specific skills, qualities, and employability. These questions directly aligned with the eight NACE (2021a) Career Readiness Competencies. This data added to the rich narrative of the student's experience. Connections to the eight NACE (2021a) Career Readiness Competencies included various inquiries that addressed skills development upon completion of the design course. In addition, the questionnaire supported the two research questions.

Observations

The third form included observations of live class sessions to notice behaviors and comments of the student participant within the context of interactions with students from multiple disciplines and industry experts who served as co-facilitators of the course. The two observations performed related to both descriptions of observed behaviors and reflections of the environment by the researcher. The data focused on information that would support answers to the study's research questions by recording and capturing information regarding practical issues or concerns (Stake, 1995).

The researcher followed the observation plan outlined by Stake (1995). The observation process involved two steps. First, the NACE (2021a) Career Readiness Competencies informed key attributes to note as the theoretical framework. The field observations helped determine the student participant's application of the skills within the course. During the second observation, documentation review, as described in the next section, strengthened the data collection methodologies.

Documentation

The final form of data collected encompassed a compilation of PowerPoint slides from an end-of-semester group presentation. The liberal arts student participant provided affirmation of the course's contributions, thus demonstrating the trustworthiness of the findings. Goetz and LeCompte (1984) described artifacts as things people make and do. The PowerPoint slides highlighted the collective work of students within teams of three to five, addressing a website solution prototype. These website solution prototypes were a mockup of ideas that described what a product would look like before going live (Dam &

Slang, 2020). Students presented using PowerPoint slide decks, and the presentations occurred during the second observation conducted by the researcher.

Further methods for this study's document review entailed the protocols that Stake (1995) outlined. This process included the data collected by reviewing documents models the same as the interview and observation processes (Stake, 1995). The researcher inquired about the website prototype presentation by obtaining the final grade from the UX/UI design instructor and student. A comparison of the liberal arts student's contribution to the group assignment during the field observation using the NACE (2021a) Career Readiness Competencies helped answer the research questions and summarized the overall course experience.

Data Analysis Procedures

Data analysis procedures followed the data analysis spiral (Creswell & Creswell, 2017). The six steps included preparing the data for analysis, exploring the data, analyzing the data, representing the data analysis, interpreting the results, and validating the data and results. The researcher outlined the steps below.

First, the researcher prepared the data for analysis. This process involved developing standardized record-keeping systems using recordings in Zoom, Otter.ai, and manual coding and securing the data with storage protocols using File Locker. Next, the researcher examined the data for accuracy and organized it by data type.

Second, the researcher explored the data by reading through it to obtain an overall impression. Coherently, the initial codes aligned with the NACE (2021a) theoretical framework to help determine how a technology design course contributes to the specific skills, qualities, and employability of liberal arts students.

Third, the researcher analyzed the data at the end of the initial exploration period. Stake (1995) suggested that analysis decomposes something and gives meaning to the initial and final data collection and analysis. He further argued there are two ways researchers reach meaning about cases, through the direct interpretation and aggregation of instances (Stake, 1995). The case study process described here involved both.

A within-case analysis provided profound exploration using the interviews, questionnaire, observations, and documentation. This process was done by looking for patterns and themes to determine the meaning drawn from the NACE Career Readiness Competencies (NACE, 2021a). For example, Yin (2002) states three forms of data analysis within case study findings: confirmation of theoretical proposals, the discrepancy in explanations, and establishing a case description. Next, a review of congruency or incongruent outcomes of the themes allowed sufficient descriptions of the results. Additionally, a review and analysis of the findings from the case study interviews, observations, questionnaire, and documentation identified vital data points linked to the theoretical framework. These data points defined what became the unit of analysis (Sheppard, 2020)

Further examination of the results included aggregation, categorization, and description of the data using codes that succinctly matched the skills demonstrated or explicated during the four forms of data. Consequently, themes, patterns, and issues emerged from the grouping of the data. To process the interpretation of the themes, Stake (1995) suggests that the search for meaning is looking for patterns. Thus, a descriptive approach to analyzing the data occurred. In alignment with the NACE Career Readiness Competencies (NACE, 2021a), this process also provided insight into the career

readiness skills used and the career development learning based on the liberal arts program. Additionally, this provided an opportunity to understand the skills gained and contributions to the course described by the student and instructor.

The researcher created a repository of data that helped validate the findings through a unit of analysis. In doing so, open coding occurred to conduct the initial organization of the data. Next, the researcher identified common themes or patterns of the participants' words, phrases, and behaviors. Then categorical aggregation of the data collection guided attention towards emergent themes. Finally, through member checking, participants verified the content of transcripts for accuracy and validity. As a result, there were no additional or emerging themes from participants (DeJonckheere & Vaughan, 2019); therefore, thematic saturation implications occurred. The objective of reaching thematic saturation is a common standard within qualitative sample sizes (DeJonckheere & Vaughan, 2019). A review of the subsequent questions confirmed the saturation. As a result of this process, the participants provided sufficient information to respond to the outlined research questions.

Fourth, the representation of the data analysis exhibited the findings and demonstrated in what ways the data answered the research questions. The descriptions for how the data mapped onto the NACE (2021a) Career Readiness Competencies provided details to support the answers. Specific quotes and documents further detailed the results.

Fifth, the researcher interpreted the results by summarizing the findings and showing how they related to previous research. Discussion of the findings also included limitations and delimitations of the study. Recommendations and implications for future research concluded the interpretation.

Finally, validation of the data and results verified the accuracy of the data. Because of the subjectivity of qualitative research inquiry (Stake, 1995), four distinct strategies took place to analyze and ensure the data's trustworthiness: credibility, transferability, confirmability, and dependability. Since multiple processes to collect the data happened, triangulation of the data collection process occurred (Stake, 1995). In addition, the sources' comparison, depth, and relationship minimized misrepresentations and misunderstandings in interpreting the findings. Therefore, Korstjens and Moser's (2017) procedures guided the process.

The trustworthiness process involved four steps. First, to ensure trustworthiness through member checking, the researcher provided the data collection's credibility by spending time in the field and offered the participants an opportunity to review, edit, and verify their recorded transcripts (Connelly, 2016). Second, transferability happened by using thick and rich descriptions from the student and instructor interviews to support the compatibility of the skills from the career readiness competencies (Connelly, 2016). Third, the researcher checked for confirmability, ran an audit trail, highlighted each data analysis step to decrease the data's interpretation, minimized biases, and discussed preliminary findings with professionals in the field (Connelly, 2016). Finally, dependability triangulated multiple data sources to ensure evidence supported the findings (Connelly, 2016).

Overall, the data analysis procedures adhered to the qualitative research method described by Creswell and Creswell (2017). The findings and discussion of the data reported answers to the research questions and provided a thick, rich description of the

case. Before providing the findings, ethical considerations, as well as limitations and delimitations, are shared.

Ethical Considerations

Although this study does not fall under the human subjects' research category, the researcher still followed ethical standards and practices throughout the research process. This research followed the standards developed for ethical consideration by Creswell and Poth (2018). The Institutional Review Board (IRB) was granted first by Baylor University as a non-human subject's research. The data gathered in this study was from consenting adults. Thus, the participants included a student and instructor at an HBCU in the Mid-Atlantic region.

Gaining access to complete the study at the HBCU also required specific standards and protocols. For this study, the targeted HBCUs Office of Graduate Studies and Office of Sponsored Programs approved the research and access to participants. Protocols at the targeted site also required the researcher to use an onsite advisor for internal monitoring and adherence to ethical standards at the university. Therefore, the researcher received support from the head of the engineering department, who was the primary academic faculty member at the HBCU for the streaming technology partnership. Obtaining permissions and recruiting participants requires authorization to collect the necessary data from individuals and sites (Creswell & Poth, 2018). Thus, the researcher obtained approval from the targeted school or HBCU. According to Creswell and Poth (2018), in most cases, approval to complete a study is required from multiple people or levels within an organization.

Upon approval, four potential participants, three liberal arts students, and the UX/UI design instructor received an electronic notification from participating in the study. In the correspondence, informed consent and volunteer information involved the research details and the power of choice in withdrawing from the study at any time without penalty. The recruitment of liberal arts students included the offer of a $10 gift card after agreeing to participate.

One liberal arts student and instructor responded to the letter agreeing to participate in this study. The researcher provided the student and instructor of the UX/UI design course with detailed information about the study to ensure that ethical practices remained consistent. A detailed report describing the study, participant involvement, consent information, and confidentiality gained access. Study participants received an email informing them of the purpose and nature of the study. A copy of the letter to the letter to the instructor is in Appendix B. student participant is in Appendix C. In addition, the researcher informed the participants of the ethical safeguards, including data protection and privacy. To ensure that participants were aware of the process, the student and instructor received instructions on interviews, dates, location, and observation sessions.

Since the UX/UI design course was virtual, and the country experienced a public health pandemic during the data collection process, all sessions were virtual. Safety protocols were a priority. Therefore, the sessions were virtual using a licensed and secure cloud-based teleconferencing platform. The researcher sent dates and times for the virtual and subset meetings to participants for planning. All participants received a link and code to the virtual interview sessions. The researcher informed the non-disclosure of names,

ethical standards, and study privacy during the virtual sessions. Technology, including video and audio recording, allowed the researcher to immerse in the sessions. Each session with the participants involved the study's ethical standards to ensure trust and safety measures. Storage of the electronically recorded interviews and written descriptions were safe and secured in an encrypted file called File Locker for only the researcher to access. According to Osho (2017), researchers must try to protect the anonymity and privacy of participants and never put them at risk. Thus, encryption and password protection for the data was essential to safeguarding the information collected during this study. At the end of each session, the researcher was reminded of the ethical standards reaffirming the data collection's confidentiality and anonymity.

The researcher became acquainted with the liberal arts employability gaps from the First-Destination Survey outcomes at the HBCU. The First-Destination Survey is an outcome survey used by colleges and universities to capture recent graduate placement outcomes within six months of graduation (National Association of Colleges and Employers, 2019). According to Stake (1995), the data collection begins before committing to conduct the study. Informally, the evaluation reflected minimal results on liberal arts students. However, the survey response on liberal arts students was no surprise due to the overwhelming employer outreach for on-campus recruitment efforts for STEM, business, and education disciplines.

Transcription and data analysis of the information involved an independent review. The researcher used themes and codes by replacing the actual identity of participants to protect their names and identities. The researcher stored all electronically recorded interviews in a File Locker system and written descriptions in a safe and locked

file cabinet for only the researcher to access. Following the university policy, the researcher used the on-campus shredding system to destroy all personal information related to the study. This literature review provides scholarly research on historically Black colleges and universities and the most relevant understanding of liberal arts education and its connection to employability. The study covered four distinct areas related to liberal arts education. The first section describes the historical and current trends of degree offerings at HBCUs. Second, the section explains liberal arts education. The third section overviews the skills that illustrate the necessity and value of a liberal arts education. Finally, the fourth section examines employability, hiring trends, and results of liberal arts majors. Together these sections support the importance of a liberal arts education and inform the study's protocols and participant interpretations.

Limitations and Delimitations

Limitations often occur within a research study. Theofanidis and Fountouki (2018) state that limitations exist in a study, which often reflects weaknesses beyond the researcher's control. This study experienced limitations that led to constraints concerning access because of COVID-19, small sample size, and time. A clear description of the limitations offers time for reflection to avoid the study's misrepresentation (Theofanidis & Fountouki, 2018). Overall, the transparency provided realities in several critical areas of research.

The study commenced during the COVID-19 public health crisis. Therefore, gaining access to students was a limitation. In addition, IRB approval took place in the last two months of the spring 2021 semester. Hence, outreach and the response rate for participation in interviews were limited. Lastly, students' cameras were off during the

field or observation settings. Consequently, it was difficult for the researcher to capture non-verbal responses or cues from students.

This study's limitations included a small cohort of liberal arts students who participated in a UX/UI tech design course. The overall response rate to participate in the study was low. Among the study cohort, six initially met the eligibility criteria. However, three dropped the design course due to concerns unrelated to the rigors of the course. Nevertheless, the researcher conducted observations and interviews during the data collection process. Good qualitative researchers use many sources to clarify the research problem (Creswell & Creswell, 2017). Although this type of instruction was unique to the university and the streaming technology company, the program's implications could very well serve as a model for other universities and organizations. Generally, the results may not aptly apply to a larger sample size of students to follow. However, close contact with the participants, including the instructors, academic liaisons, and representatives from the technology company, captured candid oral and visual feedback on interactions within the course. Students were anxious and excited but reluctant and apprehensive about sharing during the formative stage because of the unknown. Participants engaged more in the process through socialization and the reaffirmation of anonymity. The topical exclusivity only provided insight into the possibilities for liberal arts students to successfully thrive within a tech or STEM-related course. The data collection did not include multiple classes within the technology discipline, nor did it include students within other fields such as science, engineering, math, or business.

Time also played a significant factor in scaling the outcomes of the study. Case studies use various data collection procedures within a specific timeframe (Creswell &

Creswell, 2017). Although this course is in its infancy stage, an extensive review of those liberal arts students' outcomes after completing the course would have further supported the assumptions. Thus, the study does not immediately focus on student marketability or placement upon completion. However, given the sample size and time restrictions, the study's design provided a rich, storied narrative that will benefit further research.

According to Theofanidis and Fountouki (2018), delimitations are factors within the researcher's control that limit the study. These limitations set controlled boundaries within the study to achieve its objectives. There were two identifiable delimitations, including the study and the geographical location. A description of the delimitations adds credibility to the study.

In this study, the problem itself is a delimitation because of the focus on students in one discipline, liberal arts education. Although other disciplines may have their concerns, the following liberal arts students resulted from observed interactions within the historically Black college and university's career development program—the reaction to this demographic of students sampling liberal arts students for this study.

The geographical location and profile of the type of college or university is another delimitation. The study only focused on Mid-Atlantic students at an HBCU within one discipline. Uniquely situated to the study, the geographic region, sample size, type of course offerings, and school profile may not apply to other areas, programs, student populations, colleges, or universities. However, the UX/UI design program's uniqueness with the tech giant situates the methodology. This approach allowed specific data collection with the first cohort of liberal arts students. Interviews and observations provided an array of thematic analyses that supported the phenomenon.

Conclusion

This qualitative case study examines HBCU liberal arts students' qualities in a design course for a major entertainment technology company. It aimed to show the marketability of liberal arts students in a technology-driven educational system and labor market. The results have implications for further evaluating a cross-topic curriculum and life-ready learning that positions students for competitive placement outcomes. To that end, the following chapter probes the results and discusses the research findings' implications.

The competitiveness of finding internships and employment can be daunting for most students and recent graduates and pose even more of a challenge for liberal arts students from HBCUs that spent four years of college hoping to land a rewarding career. Scholarly literature provided relevant versions of a liberal and professional educational value. However, the literature was plentiful on a liberal arts education's potential and shortcomings but provided driblets of participants' narrative experiences. On the contrary, the narrative experiences of HBCU liberal arts students were non-existent.

The importance of this study was to give voice to the liberal arts discipline so that employers consider the skills developed in this major complementary to various industries. A qualitative instrumental case design supported the efficacy of the liberal arts students' storied narratives in the UX/UI design course and served as an inquiry of understanding. Henrik Von Wright (1971, as cited in Stake, 1995) argues that "practically every explanation, be it casual or teleological or of some other kind, can be said to further our understanding of things" (p. 35). Hence, the choice to intentionally collect data from students helped draw acquaintances to the researcher and each experience. Although the acquaintance may seem practical, qualitative research capitalizes on consideration and

the duty to conclude participants' experiences (Stake, 1995, p. 49). These experiences provided specific outcomes of the ongoing debate over the value of a liberal or specialized education.

CHAPTER THREE

Results and Implications

Introduction

The purpose of this instrumental, single case study was to understand the value of undergraduate HBCU Black liberal arts students' employability potential in a growing technical labor market. The presentation of the findings unfolded in five steps. First, the case description followed the timeline of data collection to narrate the case, using data collected from many facets of the case, including interviews, a questionnaire, observations, and documentation. Second, a framework analysis of data discovered key findings which are outlined and detailed. This included demonstrating the trustworthiness and authenticity of the findings. Third, the representation of the data analysis exhibited the findings and demonstrated in what ways the data answered the research questions. Fourth, the descriptions of how the data mapped onto the NACE (2021a) Career Readiness Competencies provided details to support the answers. Specific quotes and documents further detailed the results. Finally, implications and recommendations based on the results from the data exhibited how these various sources during the data collection process added to the existing literature on liberal arts education and employability.

In general, HBCU Black liberal arts students' employability in a tech-driven workforce leaves many crucial questions unanswered. Nevertheless, the study's journey uses two questions to help facilitate a deeper understanding of liberal arts students' employability.

1. What qualities do HBCU liberal arts students exhibit that contribute to their success in a design course focused on technology?

2. What role does a liberal arts education play with employability for in-demand tech careers?

Case Description

The narrative of the case followed the timeline of the data collection (see Table 3.1). The theoretical framework underpinning the study was the NACE (2021a) Career Readiness Competencies. The pre-determined categories in the theoretical framework served as the roadmap to the findings (Garvey & Jones, 2021). Each form of data collected intentionally sought to examine the qualities and employability of liberal arts students enrolled in a design course focused on technology. The case, more fully defined in Chapter Two, was the UX/UI design course, a specialized curriculum that offers practical problem-solving skills and instruction on UX and UI design experiences, including prototyping and the fundamentals of design systems.

The data collection protocols offered preliminary evidence and theoretical support for identifying career goals and measuring skills development. In addition, each case analysis delivered narratives in the order of the data collection to tell a concise story. Collectively, the data revealed a clearer understanding of the course requirements and the skills development outcomes using the NACE (2021a) Career Readiness Competencies: critical thinking and problem solving, oral and written communications, teamwork and collaboration, digital technology, leadership, professionalism, and work ethic, career management, and global and intercultural fluency (NACE, 2021a). The researcher used the career readiness competencies as a guide for analysis and investigation (Corbin & Strauss, 2012; Miles et al., 2020; Sandelowski, 1993). The researcher used instinct,

coding, reflecting, and jotting notes for the analysis phase to avoid relying heavily on the framework (Garvey & Jones, 2021).

Table 3.1

Timeline of Data Collection

Type of Data	Specific Source	Activity
Interview	Instructor Pre-Interview	Interviewed the course instructor. Provided consent forms and study information. Asked specific questions related to the course goals and outcomes.
Observation	Session I	Observed the UX/UI design class sessions and collected field notes on the observed behavior and activities within the class. Notes were categorized as descriptive or reflective.
Observation	Session II	Observed the UX/UI design class sessions and collected field notes on the observed behavior and activities within the class. Notes were categorized as descriptive or reflective.
Documentation	Session II	Collected screen shots of the concluding course group presentation which included the liberal arts student participant.
Interview	Student A	Interviewed the liberal arts student. Asked specific questions related to skills, qualities, and employability.
Questionnaire	Student A	Administered the questionnaire. Asked questions related to the NACE (2021a) Career Readiness Competencies.
Interview	Instructor Post-Interview	Interviewed the course instructor. Asked specific questions related to the course goals and outcomes

The researcher's choice to use multiple sources helped produce thick and rich case descriptions during the data collection process. Furthermore, by directly interpreting and aggregating the instances within the case (Stake, 1995), meaning could be determined regarding findings from the data. Together, the data supported answers to the research questions.

Interview: Instructor Pre-Interview

The instructor of record who has oversight of the teaching practices, grades, and credit for the course, was an adjunct professor and the first participant in this study. Serving as the university's UX/UI course director, the instructor acted as the liaison with the technology company and the educational technology service while navigating the course instruction and student engagement. In addition, the instructor works in another organization outside the HBCU, lending additional expertise to the course interaction.

During the initial interview, the instructor described the course and learning outcomes as a method designed to walk students through the art and science of products and interfaces for customers. Learning outcomes in the course included teaching students how to create a compelling user experience and methodologies to execute the experience. When asked how to instruct such a course with students from diverse majors, the instructor emphasized interdisciplinary design by stating, "It is ideal for people in the real world to have diverse backgrounds to implement the design." Therefore, he recruited industry instructors, teaching assistants, and industry experts from three companies to provide their own job experiences and interactions with people from various levels of technical experience. This level of engagement represented a pedagogical emphasis for the course, highlighted by his statement that this demonstrates, "one of the successful goals of the course: teaching students that it does not matter the major." Overall, the instructor maintained this focus throughout the course activities.

The instructor of record further expressed the context and timeliness of the course because everyone uses technology daily. Research supports this claim (Kemp, 2021; Pew Research Center, 2021). For instance, as of January 2021, there were 7.83 billion people globally, 5.22 billion were mobile phone users, 4.66 billion were internet users, and 4.20

billion were social media users (Kemp, 2021). As another example of technology usage, Pew Research Center (2021) reported that four out of ten Americans used digital technology or the internet differently since the pandemic (Pew Research Center, 2021).

The design of all the courses including the UX/UI design course was to help prepare Black talent for potential careers in an underrepresented industry, technology (Puckett, 2021). The instructor of record further explained that we have all experienced a disdain toward using technology, primarily due to poor design. However, NACE (2021b) describes that the ethical use and understanding of technology ultimately impact productive and efficient workplace outcomes. Therefore, drawing on those experiences, the instructor reported that teaching students the principles of good design and witnessing how well they performed across all disciplines drives the idea of applying it to any major.

UX/UI course learning outcomes. In describing the majors or degree backgrounds, the instructor explained some of the learning outcomes noticed from students with non-specialized degrees (liberal arts students) compared to those pursuing a specialized degree. The instructor of record expressed that liberal arts majors contribute to the success of the design goals, which is the biggest goal in implementing a good design that creates a positive user experience. Reflecting on the literature review, the Bureau of Labor Statistics suggests that a liberal arts education prepares students for various career opportunities (Angeles & Roberts, 2017). According to the instructor, the liberal arts major contributions correlated to the Bureau of Labor's report about a liberal arts education preparing students for diverse careers. The instructor further explained what the technology company called pain points, which are "those nuances to the design that makes it tough on the user. After observing the students, they demonstrated an ability

to identify those pain points." The instructor emphasized that a liberal arts major is ideal for the test. The instructor reported, "When I think about liberal arts, I think about majors such as sociology, social work, and humanities, and how these majors understand human interactions and perceptions." The instructor of record compared the researcher's study of evaluating, collecting data, and user tests with actual participants, which is another part of the design process. The instructor emphasized collecting data through probing questions and walking participants through a process that interconnects with the experiences of liberal arts majors.

The instructor further explained that liberal arts majors are familiar with collecting surveys, and it helps their groups to exit the process. For example, the instructor of record said, "As a computer scientist, my favorite liberal arts class was sociology because it helped me understand how people interact with others." If you understand people, you tend to have much empathy." The instructor described that it is easier to consider pain points when you have empathy.

Connections to the NACE Career Readiness Competencies in a UX/UI design course. In response to the NACE eight career competencies and qualities that stood out from the liberal arts students, the instructor stated that the students demonstrated all the workplace skills in the UX/UI design course. NACE (2021a) states that college graduates must learn and demonstrate all eight competencies. During the interview, the instructor explicitly described five out of the eight qualities linked to the competencies exhibited by the liberal arts students within the UX/UI design course. The five skills are listed as follows:

First, the instructor described the critical thinking competency. This process involved critical thinking and the user's experience. For example, the instructor reported that "students created user scenarios by utilizing a product and identifying issues a person may have encountered using the product." The instructor felt that imagination is a form of critical thinking. For two years, the critical thinking competency ranked as one of the top four competencies employers looked for in college graduates (NACE Staff, 2019).

The second competency the instructor described was oral and written communication. While describing oral and written communication, the instructor stated,

> Students had a practice exercise in every session to communicate and share ideas with group members…. This process shared by students of going through the user experience steps included completing what the tech company calls an iteration. Iterations involved students creating user scenarios with a product or a solution, and the solution included prototypes.

Next, students had to communicate the scenario and the design to the study's participants (NACE, 2021b). Then, students summarized the feedback and conducted a peer review of each other's work. Feedback between the participants demonstrated the effective exchange of information internally and externally through oral and written communication competency (NACE, 2021b). Finally, all the students went through the steps and posted the prototype and feedback from peers on a Slack channel. The instructor reiterated that "students received feedback twice from peer groups and the Slack channel." In essence, the instructor reported that "this process was an extension of teamwork and collaboration."

While the instructor specifically provided examples of qualities that stood out in the oral and written communication competency, they talked about overlap with some of the other competencies, such as students providing constructive feedback to each other in

the form of the "Grow and Glow" concept. The instructor described students' feedback in this way:

> The "Grow and Glow" concept is the process where students provided a brief sentence on something they could improve on or consider in their design. Followed by the glow, where they praised what peers are doing well, examples could include a "glow" about the user or how the problem is clear and concise. Finally, the feedback might include a "grow" when students adjusted their original problem. Thus, students received feedback and an opportunity to revisit their design to redefine the problem statement or adjust the targeted audience.

This approach to feedback fostered opportunities for students to critically reflect on their peers' contributions, enculturating them into the technology company's approach on collaboration and teamwork.

Employers believed there is some overlap in the competencies, especially in teamwork and critical thinking (NACE, 2019). However, in this scenario, the overlap was teamwork and communication. NACE (2021b) states that teamwork entails establishing and sustaining collaborative relationships while involving various perspectives and views of others to reach a common goal.

Third, the instructor provided a vivid illustration of global and intercultural fluency. Students had to revisit a design based on feedback. The instructor stated,

> The design may have been for the blind and partially blind. However, the feedback indicated that the product only works for the partially blind and not the completely blind. In this case, the students had to redefine their problem statement to include a more specific audience. Students also evaluated focused on web designs for third-world countries, veterans, and the elderly.

According to NACE (2021b), global and intercultural fluency entails active awareness, respect, advocacy, and inclusion of diverse cultures, orientations, and backgrounds. The instructor further explicated those students were thinking about the "non-average users," and they were pleased about the student's interest.

Fourth, the instructor stated that the group designs from the students addressed the blind, third-world countries, veterans, and the elderly. Therefore, students incorporated digital technology to address diverse users, connecting with global and intercultural fluency competency. Digital technology is the ethical understanding and use of technology to streamline processes, perform tasks, and accomplish goals (NACE, 2021b). Finally, as noted, the instructor stated that they were "pleased with the student's topical and diverse targeted audience." The literature supports that liberal arts education focuses on social responsibility and civic involvement to develop civic-minded support, diversity, inclusiveness, and global thinking (Schneider, 2004).

Fifth, incorporating professionalism, the instructor reported challenging areas with this competency. NACE (2021b) describes professionalism as navigating various work environments and displaying work habits that contribute to the organization's well-being. However, the instructor reported that this area was hard to narrow down. The instructor reported,

> With this competency, experience served as the best teacher. For instance, there may be a freshman in the course, and they may not have the same skills as others that are upperclassmen. An example was when they required all students to turn on their virtual cameras and dress up, but they did not get the outcome from every student. However, regarding behaviors such as punctuality on turning in work timely, they completed this action.

Though, the instructor indicated some outliers existed because students were novices in the entire program.

Liberal arts major preparedness. The instructor indicated course challenges beyond liberal arts education. However, the struggles were not due to the concepts taught

in the course or the inability to learn UX/UI design. There were other factors that even technology majors experienced. The instructor detailed,

> Learning virtually in a pandemic was difficult. There was some adjusting, and everyone was under more stress and pressure. The class was six hours, which can be overwhelming for both the student and me. In addition, course content issues arose, and I tried to present and assign the activities simultaneously, but these concerns impacted all students despite the major.

Nonetheless, the instructors tried to interpret how the students were supposed to learn and demonstrate the activities, and they had to pivot some of the assignments to make them more concise. The instructor reports, "at times, this process was successful and unsuccessful." Students would also approach the instructors for clarity. In correspondence to the communication competency, this skill outlined the ability to interpret and articulate thoughts and ideas within the class (NACE, 2021b). Although the students presented some struggles in the class, the instructor reported that these factors did not directly correlate to students within liberal arts majors.

Course recommendation for liberal arts or non-specialized students. The instructor expressed that "many liberal arts students can be part of this course experience and work in various industries." Reinforcing this statement, the instructor expressed that the world is moving to "100% interdisciplinary and collaborative teams." In particular, the instructor stated,

> A person with an English degree background who could work for the FBI on the linguistic analysis team understands terms from various parts of the country. For example, in Virginia we say soda. However, my mom is from Ohio, and I grew up saying pop, but if you go to New Orleans, they say a cold drink. This example makes up a good design, which takes an understanding of the targeted audience.

The instructor shared another instance where a person may be working with software developers to detect terrorist language online in a chat room. Therefore, the instructor

said it would take scientists, English majors, psychology, or criminal justice majors to analyze these chat rooms.

Throughout the interview, this scenario is one of several points connected to the teamwork and collaboration skills that apply to collaborating with others to achieve a common goal (NACE, 2021b). Consequently, the instructor stated, “Many people think linearly about liberal arts majors’ place in society, which is a bad thing.” However, many jobs are interdisciplinary.

Notably, it is important to recognize that technology plays a vital role in every discipline. The instructor pointed out, “When we think of the FBI, we think of criminal minds and fighting or guns, but when we think about it, they need human resource professionals, humanitarians, and psychologists.” Although the UX/UI design course is technology, students gained skills in other competencies. Given these points, the instructor considered this course ideal for any major.

Field Observations

Two field settings took place to evaluate the interactions of the liberal arts students in the UX/UI design course. The field information first described the descriptive narrative of the two courses. Next, the researcher described the reflective thoughts of the interactions of the liberal arts students in the classes. Lastly, the researcher described the liberal arts students’ participation collectively in the course in connection with the theoretical framework, the NACE Career Readiness Competencies.

The three-credit-hour UX/UI design course had 26 students enrolled in the Tuesday and Thursday night course. Although the course was three credit hours, the course content covered six hours of classroom instruction. An instructor from the

education technology services company served as the course facilitator while a teaching assistant was available during the virtual session to support the students and instructor. The class session started promptly at 5:30 pm EST, and the instructor greeted the students.

Observation: Session I

The first observation included taking descriptive and reflective notes of the virtual class session. The class session occurred during week 14 of the term with a routinely held opening classroom activity. Immediately, the instructor explained the expectation of the day's class activity. First, the instructor informed the students of the stand-up exercise. This exercise was designed for students to discuss their project status. Students had to explain their project or task accomplishments yesterday, in-progress plans for today, and "blockers," or barriers to meeting project goals. Volunteers for the activity were requested. There were sixteen students from diverse majors in the virtual classroom session, including liberal arts. Four groups were ready and reported during the stand-up drill. Of the four groups, group one had four members to report out. Group two had five members to complete the stand-up process. Group three had four members, and group four had three that reported their project status.

Descriptive notes from observation of Session I. The first group to present in the stand-up exercise was group two, comprised of the most diverse majors. Unfortunately, the researcher could not see most students because their cameras were off. However, the overall observation of liberal arts students showed a command of communication skills. The students expressed their progress using the stand-up model regarding yesterday's actions, plans for today, and future roadblocks. In alignment with NACE (2021b), the

communication competency describes it as involving the coherent sharing of information in various settings.

Further observation of the course and the liberal arts students showed initiative to complete a group assignment, in addition, to plan for that day and based on the instructor's reaction—these types of responses from students linked to leadership qualities. NACE (2021b) highlights leadership skills as the capacity to contribute to organizational goals independently and collectively. After the four groups reported, the professor thanked the students and gave tips for future interviews with the users. The instructor stressed that students avoided unnecessary dialogue during the interviews and focused on more concise dialogue or responses from users. The students moved to breakout groups in the virtual platform for the rest of the class. The instructor and teaching assistant were available for questions in the breakout groups. However, the researcher could not see the interactions in the breakout groups.

Reflective notes from observation of Session I. The physical access to engaging in the classroom with the students was limited, but the heightened sense of active listening became the primary mode for the field observation. Three of the 16 students had their cameras on during the class. Sadly, none of them were liberal arts students. The researcher would have captured students' non-verbal communication and reactions if the cameras were on in the session. However, the exciting part of the observation was that many students articulated their progress status easily. The outstanding behaviors occurred when liberal arts students made follow-up comments. Group two included the most diverse majors and was the first of the four groups to remind the class of their group name during their introductions. Unfortunately, only two groups remembered to

introduce the names of their groups. Still, it would have been interesting to hear the group names of all the students.

Observation: Session II

The class session started at 5:30 pm EST during week 16, and the UX/UI instructor announced that today was "the big day." The statement implied that the "big day" involved final presentations from each group. For the first 10 minutes of the course, the student success manager (SSM) from the education technology service provided wrap-up information and a congratulatory message. Also, the SSM shared a video message from the university. The video message was from the researcher congratulating the students on behalf of the university. Finally, the SSM turned the class session back to the instructor, where the teaching assistant provided the expectations of the presentations. Students had only 10 minutes to present as a group with a two-minute verbal warning given by the teaching assistant eight minutes into the presentation. The teaching assistant said that each group had five minutes after their presentation for questions and feedback from the class. There were four groups to present in the session. Each group included liberal arts students except for one.

Descriptive notes from observation of Session II. The final class session included the UX design thinking process presentations from four groups involving various majors, including liberal arts students. Three out of the four groups consisted of liberal arts students. All the liberal arts students participated in a group assignment with peers from different majors presenting a website solution prototype. This group participation is linked to the NACE (2021b) teamwork and collaboration competency as described as shared responsibilities to achieve a goal. Next, all liberal arts students narrated their

portion of the project using three to five PowerPoint slides. Repeatedly, the non-verbal body language of each student appeared poised. All liberal arts students presented promptly to make sure they stayed under the 10-minute mark and adhered to the final presentation guidelines. Students exhibited professionalism (NACE, 2021b) by wearing professional attire, actively participating, and visually presenting with their cameras throughout the session.

Further observation showed that liberal arts students demonstrated global and intercultural fluency, critical thinking, problem-solving, and digital technology skills. In addition, students were involved in groups focused on non-profit or non-average users. For example, they participated in groups focused on a faith-based organization for youth, a women's empowerment organization, and a healthcare organization for volunteers or donors. The students decided to focus on a project for non-average users, consciously connected to global and intercultural fluency to respect, learn, and value different backgrounds and cultures (NACE, 2021b). Each of the liberal arts students demonstrated a keen knowledge of the topics they presented through proof of the PowerPoint slides content and the vocalization of the technical information. The most obvious demonstration of the competency, digital technology, found a variation of UX/UI design research and application throughout the presentations and document review. Liberal arts students described content with user testing, UI style design inspiration, UI style guide, Hi-Fi digital prototype, competitor analysis, user insight, card sorting, and paper prototype. NACE (2021b) points to technology as the ability to learn and use technology to effectively improve tasks and achieve goals.

Reflective notes from observation of Session II. Critical feedback was part of the classroom process from peers, instructors, and teacher assistants. Feedback provides clear information that bridges the gap between what is understood and what should be understood (Sadler, 1989). The feedback throughout the course and the last session was sequenced by stating a positive note from the instructor, teaching assistants, and peers, followed by suggestions or recommendations. They called it a "glow and grow" concept for giving feedback as described by the instructor during the pre-interview process. Thus, each group linked with the liberal arts students received feedback from the instructor, teaching assistant, and peers.

Student A participated in the critical feedback process as both one to offer feedback as well as to receive feedback. For example, a liberal arts student provided a "glow and grow" to one group's presentation concerning the transition of slides issues. Peer feedback highlighted from the liberal arts student indicated that "the group did a good job but would benefit from practicing the order of the speakers and file flow of the slides before the final presentation." This comment included a statement of praise as well as a suggestion for improvement.

A few memorable moments included praise for the portions presented by liberal arts students and their ability to summarize the findings at the end of the presentation. Also noteworthy, feedback offered regarding recommendations for improvements in challenged areas from the presentation followed each comment of praise. For example, Student A's presentation included three slides. (The card sorting and user flow diagram can be found in Appendix F.) Specifically highlighted here with respect to critical feedback was the paper prototype presented on the third slide (Figure 3.1). The

presentation included the requirement of a sketch or handwritten mock-up of the digital product that the group used to study the user's reaction and response to the design. While Student A met the assignment by creating an enhanced web site design based on user feedback, the others could not interpret what was presented. Part of the course objective was to foster teamwork and collaboration, which is part of the technology company's culture; thus, this model proved to be an opportunity for Student A to learn from others that they should be more intentional about the design and clearly articulate their proposal. The paper prototype serves as a low fidelity guide that helps to actualize the overall design plan.

Figure 3.1. Student A paper prototype document that received criticism for its illegibility.

In this example of Student A's opportunity to receive feedback, the teaching assistant pointed out an opportunity to "grow" by stating, "the overall presentation was concise and thorough but there were some concerns with the readability of the paper prototype slide" (See Figure 3.1). The teaching assistant gave the "grow" feedback to Student A who created and presented the paper prototype slide. As mentioned during the instructor's pre-interview portion, a "grow" is an opportunity for a student to improve

within a particular area. The figure below provided evidence of what the teaching assistant witnessed and mentioned to the liberal arts student that the slide was hard to read. Although most studies highlight positive findings that enhance a study, some deficits still occur. It is essential to incorporate these deficits to round out the study as a researcher.

Though Student A received critical feedback about a portion of their presentation, they maintained a poised disposition. The feedback from peers, instructor, and teaching assistant connected with the teamwork and collaboration competency. Student A demonstrated an ability to complete the assignment despite the feedback and took accountability for the outcomes (NACE, 2021b). The liberal arts students received praise for the group projects despite the feedback.

Interview: Student A

The second participant was the liberal arts student participating in the UX/UI design course. The researcher described the participant as Student A to ensure the student's anonymity. The session with Student A was the second attempt to coordinate an available time to meet. During the meeting, the researcher reiterated to Student A that all responses would remain confidential. Stake (1995) puts the importance of clearly informing of data anonymization. The researcher informed Student A of the two research questions the study is trying to answer and reiterated appreciation for taking the time out for the interview.

The researcher informed the student that a brief questionnaire would follow immediately after the interview about their experience in the course. To ensure the participant understood the process, the researcher asked if Student A had any questions.

The student replied with no further questions, and the interview began. Since the researcher knew the course requirements, background questions were unnecessary during the interview.

The interview began by asking Student A about their current major and what influenced them to pursue it. Student A reports majoring in graphic design and having a strong interest in tech design. In addition, they were interested in working for Disney and expressed a wish to follow in the footsteps of an uncle who works for Disney. Student A reported,

> I have an uncle that worked on the Disney film Soul. My interest in pursuing the UX/UI course will add to my resume. The skills that I gained in this course are what employers want, such as Microsoft and Google. They use a lot of UX/UI design.

Student A was thinking about the skills needed to work for Disney, which supports the idea that employers want graduates who demonstrate skills within a field and are ready to work upon arrival (Sigelman, 2016). Therefore, Student A indicated that it was essential to have design skills for future job opportunities in their field, so they pursued taking the UX/UI design course.

Applying liberal arts skills in the design course. The student explains identifiable skills from the liberal arts program. In terms of the acquired skills and qualities learned in the liberal arts program and their application to the design course, Student A, reported,

> Currently, I am a junior going into my senior year. Therefore, the courses connected to my major, graphic design, are specific. Before the UX/UI design course, I learned sketching, painting, art survey, history in caves, and teamwork in the liberal arts program. At times, I had to complete group projects to discuss sculptures.

The more specific skills acquired from other coursework could be applied more broadly to projects in the design course. Student A acknowledged that they "used problem-solving skills to identify and determine the age of a sculpture or painting." According to the Job Outlook survey from NACE (2019), employers ranked the top four out of eight career competencies (three years in a row): critical thinking and problem-solving, teamwork and collaboration, professionalism and work ethic, and oral and written communications (NACE Staff, 2019). In alignment with the NACE (2021a) Career Readiness Competencies, the literature confirms that the top four career competencies resemble liberal arts students' skills.

Internship and career plans. Student A reported three companies they were interested in pursuing an internship and future employment. Student A had a strong interest in engaging in an internship with a large technology firm, the FBI, and Disney. However, they reported reaching out to their uncle, who works for Disney, for help with an internship. Student A reported,

> I had no UX/UI design skills. Although, I did not have UX/UI design skills, I knew most movies use UX/UI for interference with users. Therefore, this course enhanced my skills and I learned other things about design such as card sorting for contributions to the final project.

Student A further explained the skills obtained in the course, such as card sorting. According to Student A,

> Card sorting is when one finds a website or webpage they want to redesign, and the designer picks up the critical parts of what they see on the page. This process helps you redesign, summarize, and organize the website better for users.

The skill of card sorting, though technologically specific, requires skills needed in the design process. Although digital technology ranked number five and career management

ranked number seven as the career competencies valued by employers (NACE, 2019), Student A employed both in their decision-making and career planning process.

Preparedness in the field. Student A expressed how taking the UX/UI course and the liberal arts program in graphic design increased their employability. Student A acknowledged,

> I think the preparation of this course was great, especially for students who want to learn more about the art world and put themselves in decision making design fields. This class helped me to learn how to identify the customer I am designing for.

The student employed the career and self-development competency (NACE, 2021a) to leverage knowledge, skills, and abilities to market themselves professionally. Student A explained that the UX/UI design course also helped them become more aware of graphic design careers. Student A stated, "I think this course helped to increase my qualifications." The student further noted that it helped them to know exactly what they wanted to pursue in the design field.

Overall, the student felt that the preparation for the course was exceptional. With courses in the liberal arts program, Student A reported using critical thinking and communication skills to conduct peer critiques, which helped students improve course assignments or projects. Student A describes their experience with peer critiques,

> In my major, we had to critique other students' work. I used critical thinking and communication skills to help critique other students' assignments. So, I believe this was a form of communication where we helped each other improve our assignments.

Student A recognized the skills acquired from other liberal arts courses related to the technical design course. NACE (2021a) touts that critical thinking strengthens processing information and uses assessment and analysis to conclude the evidence. Therefore,

Student A developed skills in critical thinking in the liberal arts program, which aligned with claims from the career competencies (NACE, 2021a) and literature review on problem-solving, decision-making, critical thinking, and reflexivity from an interdisciplinary approach (Klein, 2005).

Questionnaire: Student A

This section explains the researcher's findings based on the student participants' responses to an eight-question online questionnaire. The researcher included a questionnaire to allow Student A to share non-verbally about the liberal arts program skills and the UX/UI design course related to the literature review. The questionnaire asked how participants evaluated skills. These skills included critical thinking and problem-solving global intercultural fluency, leadership skills, teamwork, collaboration, professionalism, work ethic, digital technology skills, oral and written communication skills, and career management skills (NACE Staff, 2020). This option provided a full range of data visually. The student had to rate each skill on a scale of 0 to 3, where 0 is poor, 1 is average, 2 is above average, and 3 is excellent. Student A evaluated their abilities in all the eight competencies as "excellent." Figure 3.2 summarizes the findings of the questionnaire.

The researcher understands not to influence participants' responses in a study. Therefore, the researcher contacted the participant to learn more about their answers. However, the researcher did not hear back from the student. Congruently, the literature supports the culture of HBCUs provides an environment that nurtures students' professional, personal, and social well-being. The inclusion of the educational experience for students is empowering, and self-identities and confidences mature in the learning

environment at HBCUs (Albritton, 2012). Alternatively, the answers reflected more connections to all competencies than the one-on-one Zoom interview. Nevertheless, the questionnaire responses were not a significant gap from the interview. The survey was administered after the interview to ensure the student had time to process the interview and the UX/UI design course outcomes.

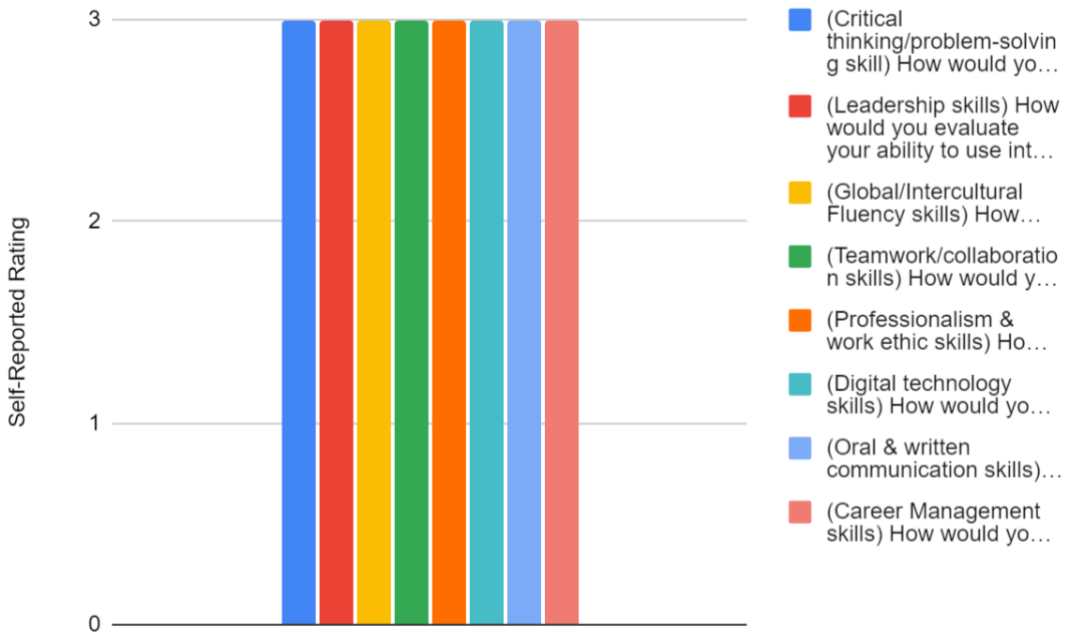


Figure 3.2. Results from student questionnaire.

Employers report a skills gap with college students in response to the eight career competencies. According to a college graduate survey, students believed they were proficient in most of the eight career skills (Bauer-Wolf, 2018). However, employers feel there is a disconnect between what college students think and what employers expect (Bauer-Wolf, 2018). Notably, liberal arts education trains students for skills that employers seek, but according to NACE Staff (2016), career practitioners or counselors must help students connect their skills to a career path. Nevertheless, the interview

analysis from Student A after taking the UX/UI design course reflects, “I think this course increased my knowledge and helped me to understand what I want to do in the design world.” Hence, the reason for many technology companies to consider hiring liberal arts students (Johnson, 2019).

Interview: Instructor Post-Interview

The instructor of record discussed course enrollment challenges. The instructor stated, “the tech company and educational service did an outstanding job committing to the program so that the students had a fantastic experience.” However, the instructor of record expressed concern about students dropping the course. While the course and the registration process were new, the instructor expressed that it was unfortunate to learn about the number of students who dropped the course. However, they believed close to ten students out of 30 dropped, totaling 20-30% of the class. Still, one of the issues involved in dropping the class was an open course through the registration process. In addition, students did not realize that the course was associated with the tech company’s course, which explained a handful of the drops. The instructor also indicated that they were unsure of the majors that dropped the course.

Subsequently, the instructor believed that there were some things that the institution could have done to ensure students were a little more prepared for the course. The instructor referenced all students during this interview portion and did not single out liberal arts majors. For example, the instructor described a way to improve preparation:

> Students had to write a technical resume specific to their career interest and major and not one that outlines a cashier job at a supermarket chain. Students did not understand, or the directions were not very clear, or perhaps they did not read the directions. Although the assignment was unrelated to design, it was necessary and helpful, especially since the students had industry speakers that presented in the class and instructors they could connect with after the course.

This task, while important in preparing for future employability, seemed to be something students were not familiar with creating. Institutional leaders could benefit from this knowledge to find ways to foster other opportunities for students to recognize the importance of preparing for a career they desire rather than a job they currently hold.

In addition, the instructor wanted students to capture all their projects to build their resumes. The career management competency aligned with the student's ability to use the course training, mentorship, and support provided by the tech organization and the university's career development office to discover and prepare for experiential and career opportunities (NACE, 2021a). This course fostered a rich opportunity for resume building for the students.

Initially, the students in the course experienced some difficulties in their presentation skills. Another point the instructor indicated was that most of the students in the course struggled with the first presentation. The instructor explained,

> Students did not time it right. They were unsure who should take the lead and were not confident working in groups. Some students may have been first-or second-year students and had not taken a speech class yet. Therefore, I gave students tips to map out high-level tasks, sub-tasks, deadlines, team reviews, and daily check-ins.

Given that there was a small cohort of liberal arts students, this is where the instructor spoke overall about the students in the course and did not specifically narrow it down to the liberal arts students. Building upon the oral and written communication competency, NACE (2021b) describes it as students being able to articulate thoughts clearly and concisely. The instructor reemphasized to the students that they must get organized. The instructor further explained that "the group project is not a group paper; it does not include an introduction, a literary review, or efforts to put it all together. Instead, the

project required students to conduct interviews, background research, and prototyping." The project required several steps in sequential order in each timeframe. The instructor reported that students had to be ready for the 10-minute final presentations following this process.

Moreover, the instructor provided all students with extra credit to rehearse their projects before the final presentation. The instructor indicated that "presentation rehearsals helped the students, and they all stayed within their allotted time during the final presentation." In connection to the literature, Brown (2015) emphasizes that higher education professionals must help connect acquired skills developed in the classroom to career planning and employer engagement. Finally, the instructor believed that providing students with the tips and a task tracker to complete as a team is done in most work environments. The instructor explained, "we all have project managers," with this experience, the students could probably become project managers or understand how the process works. For these reasons, the instructor stressed the value of the course for all majors.

Documentation: Trustworthiness and Authenticity

A trustworthy document is said to be reliable and authentic (Lee, 2005). Reliability is factual, while the document's authenticity is its actual being or form (Lee, 2005). A screenshot of the three PowerPoint presentation slides primarily provided contextual documentation of Student A's efforts within the end-of-semester group assignment. The slide deck (as seen in Appendix F) provided empirical evidence of the liberal arts student's overall contributions and participation in the UX/UI design course. Findings from the document overlapped with the observation field experience and

consisted of card sorting, a user-flow diagram, and a paper prototype. Student A referenced their newfound experience with card sorting during their interview. Though there were some visibility challenges with the paper prototype slide, as highlighted by the teaching assistant during the field observation, the contribution to the group assignment was still executed. The document validated the liberal arts student's contributions plus connected to the NACE (2021b) digital technology competency of adaptability to new forms of technology and its use to create new ideas to meet strategic objectives. Overall, the document review from the end of the final semester project added to the interpretation of the findings and supported the authenticity of the multiple data collection methods.

Summary of Case Analysis: Trustworthiness

Comprehensively, establishing trustworthiness occurred through articulating rich data collection methodologies. For example, the researchers' four data collection methods documented the qualities and contributions of liberal arts students in a technology design course. In addition, the saturation of data helped mitigate any biases from the participant and researcher. Therefore, triangulation of the multiple data sources ultimately validated the trustworthiness process.

Trustworthiness Strategies

Authentication of the data collection method and trustworthiness occurred through credibility, transferability, confirmability, and dependability. Table 3.2 summarizes the procedures regarding the validity of the data, as guided by Korstjens and Moser (2017). Commonly used terminology in the qualitative research analysis includes credibility, transferability, confirmability, and dependability (Lincoln & Guba, 1985). These terms helped explain the practice of trustworthiness in the data collection process

outlined by Lincoln and Guba (1985). Credibility justified the various procedural data collection methods in this study. The trustworthiness outlined in four steps is as follows:

Table 3.2

Procedures to Demonstrate Trustworthiness

Criterion	Strategy	Action
Credibility	Member check	Data review and feedback where the instructor and student were given an opportunity to review the transcripts. The student validated responses from interviews and surveys. The instructor validated responses from pre-and-post interviews.
Transferability	Thick description	Student: The student was able to reflect on competencies that were taken from the National Association of Colleges and Employers. The feedback helped the participant to align skills where needed to become more marketable for internships and helped affirm career choice.
	Thick description	Instructor: The instructor indicated course offerings helped students articulate abilities to function in a multidisciplinary environment. Emphasized oral and written communication skills helped to provide coherence and critical thinking skills.
Confirmability	Audit trail	Student: The unique topics were teamwork and collaboration, communication, career management, critical thinking, problem-solving, and digital technology.
Dependability	Triangulation	Interviews with the student and instructor. Observed the UX/UI design class sessions and collected field notes on the observed behavior and activities within the class. Provided questionnaire to the student and the student provided the document review or artifact.

First, to ensure trustworthiness through member checking, the researcher provided the data collection's credibility by spending time in the field and offered the participants an opportunity to review, edit, and verify their recorded transcripts (Connelly, 2016). Transferability provided congruence where findings can potentially apply to other experiences. Second, transferability happened by using thick and rich descriptions from

the student and instructor interviews to support the compatibility of the skills from the career readiness competencies (Connelly, 2016). Third, confirmability supported the interpretation of the data findings. The researcher checked for confirmability, ran an audit trail, highlighted each data analysis step to decrease the data's interpretation, minimized biases, and discussed preliminary findings with professionals in the field (Connelly, 2016). As a researcher, it is essential to demonstrate consistency for potential replication (Creswell & Poth, 2018) within the data collection findings. Therefore, the fourth process included dependability, where the researcher triangulated multiple data sources to ensure evidence supported the findings (Connelly, 2016).

Framework Analysis

Framework analysis using the NACE (2021a) Career Readiness Competencies revealed emergent patterns through each phase of the data. First, the researcher analyzed each type of data, including interviews, observations, and document review to form an amalgam of the data collected. Following this, the collection was compared to the NACE (2021a) Career Readiness Competencies and research questions to reveal themes and patterns regarding liberal arts students enrolled in a technology design course. Data description of the framework analysis from the interviews, observations, and document review helped to describe the outcomes of the study.

The instructor of record and the student participants in the UX/UI design course provided descriptive narratives of their experiences during their interviews that aligned with common themes connected to the NACE (2021b) Career Readiness Competencies. The findings highlighted paradigms from two different experiences, instructor, and

student, with a few standout connections to oral and written communication and teamwork and collaboration.

Constructive feedback emerged as a pattern throughout the course. The researcher categorized the data from the transcripts and found connections to this skill as a form of communication for the instructor. Since the students often participated in teams, communication was essential to meeting the course objectives. The instructor highlighted opportunities for students to connect.

> Students consulted with instructors for clarity on the assignments and provided feedback to peers and instructors digitally using a Slack channel or an organized digital conversation tool. In addition, students presented feedback orally during class using a "grow" and "glow" format.

This feedback style also used an organized method of presenting information. Students provided a positive response, the glow, followed by a recommendation, a grow. The instructor highlighted the quality of feedback students provided, "From the beginning of the course, until now, we have noticed an improvement in how well the students provided feedback." This result connected to the central research question or the qualities HBCU liberal arts students contribute to a design course.

Findings from Student A reflected constructive feedback as a learned skill in liberal arts education. Student A provided detailed information about constructive feedback primarily throughout courses related to their liberal arts discipline. For example, the student expressed, "we had to critique each other's work in class for group projects." The findings also showed that the student connected constructive feedback with communication, critical thinking, and problem-solving. For instance, while analyzing sculptors during a liberal arts course, the student reported, "while using critical thinking

and communication skills, we had to critique each other's work." This result connected to the central and subcentral research questions.

Next, the participants shared experiences related to the theme of teamwork and collaboration. In response to instructing a course with students from diverse majors, the instructor reinforced the ideology that "the world is moving to 100% interdisciplinary and collaborative teams." Meanwhile, the student discussed working on group projects with peers as part of the skills or qualities learned in the liberal arts program. The student indicated,

> Yes, I also learned the importance of teamwork. I learned this by participating in group projects where we discussed sculptures and used problem solving to identify a certain age of a sculpture, or a painting without knowing the details about it.

The instructor and student responses to the teamwork and collaboration connected to the central and subcentral research questions.

The liberal arts students' observations found that each demonstrated skills connected to the NACE (2021b) Career Readiness Competencies, including teamwork and collaboration, oral and written communication, professionalism, and work ethic competencies. The researcher reviewed and synthesized outcomes from the observation and document review. The findings confirmed that participants demonstrated proficiencies and qualities throughout the observations that aligned with the theoretical framework. These themes helped answer the research questions about the qualities liberal arts students exhibited in a tech design course and the role liberal education plays in-demand tech careers.

The document review supported the findings based on the liberal arts students' final UX/UI design presentation. The researcher observed the final group presentation of

the liberal arts student, Student A, during the last day of class for the semester. Randomly, students were in groups of four to five for a final group project. The expectation was that students researched, designed, tested, and presented a website solution prototype in a group presentation of slides. The observation and document review results are closely connected, and detailed findings in response to the research questions are displayed in sections 3.3–3.5.

Findings Connected to the Research Questions

To reduce over-reliance on the theoretical framework, the researcher returned to the research questions to reduce bias and reflected on how the framework answered the questions (Garvey & Jones, 2021). In addition, the researcher coded and analyzed the document from the student's presentation to identify significant themes related to the theoretical framework. Furthermore, the eight NACE (2021a) Career Readiness competencies helped answer the two research questions. Table 3.3–3.5 illustrates these findings.

In response to the first research question, the qualities HBCU liberal arts students exhibited to their success within a technology design course; three competencies emerged in Student A's document and observational settings. The competencies included: career management, digital technology, teamwork, and collaboration. In describing the first quality, career management, the liberal arts student accepted and completed a portion of the technology-based group project that demonstrated qualities of professional growth (NACE, 2021a). Second, the student used digital technology to solve an issue (NACE, 2021b), as demonstrated in the card sorting, user flowchart, and hand-sketched paper prototype PowerPoint slides. Third, the student's contribution and participation in the

group project with peers exhibited teamwork, collaboration, and commitment to achieving the course goals (NACE, 2021b). Overall, the student and instructor confirmed that the student and group received an exceptional grade on the project.

Table 3.3

Framework Analysis for Research Question One

NACE Career Readiness Competency	Career Readiness Definitions	Student
Career Management	Identify knowledge, skills, abilities, strengths, and areas of growth connected to professional growth and goals; navigate and pursue potential opportunities	Assumed the role of completing the assigned task and presentation slide deck
Digital Technology	Leverage technology ethically and efficiently to solve issues, accomplish tasks, and achieve goals	Provided three slide decks demonstrating the use of PowerPoint, a research tool for card sorting to group and label topics (Browne, 2021) for the visual image on the slide, use of a user flowchart to outline users' stages within the product (Browne, 2021), and paper prototype to hand sketch process for developing ideas (UXPin e-books, 2021).
Teamwork and Collaboration	Build collaborative relationships with a diverse group of people and ideas within the workplace or organization while working cohesively with a team	Contributed to the group presentation by providing three slide decks or a document outlining a visual concept of card sorting, a user flow diagram, and a hand sketch of a paper prototype.

The second research question concerning the role that liberal arts education plays in employability for in-demand tech careers emerged with three specific themes connected to the theoretical framework. The three themes involved critical thinking and

problem-solving, global and intercultural fluency, and oral and written communication. In addition, an observation of the behaviors and contributions within the field provided some overlap of themes.

However, a detailed account of the document analysis and the field observations connected the three themes, as shown in Table 3.4. In the interview portion of the data collection, the student stated that they were a junior graphic design major in the liberal arts program. The students' comments touched on three categories from the NACE Career Readiness Competencies. First, through critical thinking and problem solving, Student A reported this skill during the interviews in their liberal arts courses by providing critical feedback on peers' assignments. Evidence of critical thinking in the observation and document review linked to the card sorting assignment, user-flow diagram, and sketched paper prototype. The assignment required the student to analyze and group topics, map user steps, and sketch ideas with the end-user in mind. Literature supports that liberal arts students develop a cross-connection of social, scientific, and human capital experiences (Schneider, 2004) that enhances students' problem-solving, decision-making, and critical thinking skills (Klein, 2005).

Second, the student used interpretation to understand the end-users needs. This process allowed the student to complete the group project's card sorting assignment (NACE, 2021b). Congruently, understanding the end-user's needs is linked to global and intercultural fluency competency. The literature states that liberal arts majors develop civic-minded participation and emphasize social and global responsibility (Schneider, 2004).

Table 3.4

Framework Analysis for Research Question Two

NACE Career Readiness Competency	Career Readiness Definitions	Student
Critical thinking and Problem Solving	Practice sound reasoning, use analytical skills, make decisions, and overcome problems.	Analyzed and grouped topics through card sorting to meet the end-users needs. Annotated, user steps using a flow diagram. Sketched ideas outlining a product using the paper prototype approach.
Global and Intercultural Fluency	Demonstrate awareness, inclusiveness, and respect for diverse people and thought while interacting and understanding differences	Card sorting entailed understanding the end-user's perspective and needs
Oral and Written Communication	Articulate thoughts and ideas coherently internally and externally to individuals, either orally or in writing, and incorporate public speaking skills.	Completed card sorting used concise terms outlined cohesively. Used a visual flow of steps from left to right as a person would traditionally read to create a flow diagram. Paper prototype requires zooming in because of the faintness of the text and images. The reader would have a difficult time reviewing and understanding this information.

Third, oral and written communication entailed where the student presented the results of part of the group project. Also, the language within the slides was concise, despite some readability challenges on the paper prototype slide. NACE (2016) posits that liberal arts students are good communicators and writers, experienced in working in groups, and shift gears to work independently, as evident in senior projects or capstone courses.

Lastly, two theoretical framework themes answered both research questions during field observations. The two themes were leadership, professionalism, and work ethic. The student participant illustrated these competencies in two ways: contributing to the end-of-semester group project and preparing and completing the course goals requirements as illustrated in Table 3.5. In response to the qualities exhibited, Student A demonstrated leadership by utilizing the strength of peers to complete the group project (NACE, 2021b). In addition, Student A demonstrated professionalism and work ethic by completing the group project to meet the course requirements. There was an overlap in the first and second questions connected to this study's two competencies. Overall, Student A and the group members received a good response from the instructor and peers regarding the end-of-semester project.

Table 3.5

Framework Analysis for Research Questions One and Two

NACE Career Readiness Competency	Career Readiness Definitions	Student
Leadership	Recognize and use the strengths of colleagues and the team to achieve company objectives.	Contributed to the end product by completing assigned visual and text images for the end-of-the semester group project
Professionalism and Work Ethic	Display an understanding of the various work environments and demonstrate work habits that are in alignment with the organization	Completed the assignment to meet the course requirement goals.

Findings Related to the NACE Career Readiness Competencies

Using the NACE Career Readiness Competencies, each case presented in the study highlighted the qualities and skills liberal arts students exhibited in a technology

design course. A framework analysis provided insight into the participant's connections to each competency. Since career readiness served as the predetermined category, it allowed the researcher to recognize themes from each phase of the data collected for analysis. This process is the study's narrative or focus, discovering the employability of liberal arts students (Sheppard, 2020). These methods were through interviews with participants, questionnaires, observations, and document review of liberal arts students in the course. The numerical codes denoted in Table 3.6 showed the frequency the competency appeared in the analysis of the data. The evaluation will consist of three findings with interviews, questionnaires, observation, and document review.

Table 3.6

Data Aligned with the Theoretical Framework

NACE Career Readiness Competencies	Instructor Interviews	Student Interview	Student Questionnaire	Observations	Documents	Total
Teamwork and Collaboration	8	1	1	3	3	16
Global and Intercultural Fluency	8	0	1	3	3	15
Oral and Written Communication	5	2	1	3	3	14
Digital Technology	5	1	1	3	3	13
Critical thinking	2	1	1	3	3	10
Career Management	2	4	1	1	1	9
Leadership	0	0	1	3	3	7
Professionalism and Work Ethic	1	0	1	3	1	6

Interviews. The researcher used codes and themes to determine the instructor and student interview findings. While interpreting the findings of the interviews, the instructor evaluated the transcripts. This process helped determine the descriptive connections between the qualities liberal arts students exhibited in the design course and the role liberal arts play in employability. These connections consist of eight parts.

First, the interviews for teamwork and collaboration revealed that this competency yielded several connections. Notably, the instructor referenced this competency the most, eight times. In response to a question about the qualities that stood out from liberal arts students, the instructor stated: "how they interact with others in the course is teamwork." In contrast, the student mentioned teamwork and collaboration once. Meanwhile, the student stated in liberal arts courses that they "learned by participating in group projects to discuss a certain sculpture." Overall, this competency and method ranked the highest of all the competencies.

Second, the global and intercultural fluency revealed findings from the instructor. The instructor reported on this competency in connection to the course eight times. There were no connections drawn from the student during the interviews with this component. Examples of the comments included the instructor providing context about diverse students tested in the course. For example, the instructor stated in the interview that, "students designed a product for the blind and partially blind." In addition, students targeted "an international region and third world countries." Furthermore, the instructor also drew connections the most with this competency.

Third, the oral and written communication produced seven findings from the instructor and student. The instructor provided more data on this competency, a total of

five. Once, the instructor stated, “during practice exercises, students could communicate with their group members.” Another example involved talking about communication skills and the course; the instructor stated, “The communication aspect will help them.” The student mentioned oral and written communication twice during the interviews. One example during the interviews about the liberal arts course skills, the student reported, “Using critical thinking and communication skills, we had to critique each other’s work.” Overall, this competency was the third highest in terms of the results.

Fourth, findings associated with the digital technology competency revealed six connections. The instructor discussed links to digital technology five times. The researcher provided two examples of the instructor’s comments. First, they stated, “technology plays a role in every discipline.” Second, the instructor talked about the liberal arts students’ preparedness in the design course and stated, “I do not feel like students were underprepared because they are not technology majors.” Whereas the student discussed digital technology once and stated, “I chose to take this course because I wanted to pursue opportunities in the tech design field.” These findings revealed the fourth highest ranking connected to the career readiness competencies.

Fifth, the critical thinking connections were made in the UX/UI design course and the liberal arts program. Collectively, three findings resulted from this competency. The instructor discussed critical thinking twice regarding the UX/UI design course. The instructor reported that “with critical thinking, you have to think about the user experience.” The instructor also talked about critical thinking as “imagination.” Meanwhile, the student discussed critical thinking once linked to peer reviews in a liberal arts course. The student stated, “We had to use critical thinking to critique each other’s

work in sculpting class." Overall, this competency ranked sixth concerning the number of times connections were made to the theoretical framework.

The sixth competency, career management, revealed more responses from the student than the instructor. The student linked this competency to professional growth and opportunities four times. Two instances marked the student's responses to the competency. First, the student stated, "the UX/UI design course enhanced my skills for internships and employment opportunities with three organizations." Next, the student reported, "I wanted to take the course to add it to my resume." The other comments from the students talked more specifically about the companies and internships they wanted to pursue. Subsequently, the instructor reported two examples connected to career management. First, the instructor stated, "students gained career nuggets from the industry experts in the course." The instructor provided an extra credit assignment to students in the second instance and reported, "it is important to create a resume specific to your major." In comparison to digital technology, these findings tied in fourth place in relation to the career readiness competency.

The seventh and eighth competencies showed very few connections with the data. The seventh competency, leadership, displayed no connections between the instructor and the student. Professionalism and work ethic, the eight competencies revealed one connection from the instructor. While describing students and professionalism in the course, the instructor reported that "with professionalism, experience is the best teacher." Overall, the findings for these two competencies were the lowest of the eight.

Questionnaire. The findings from the student provided specific and consistent responses to the questionnaire. In addition, after completing the course, the student

ranked excellent in each of the eight categories. Therefore, the findings indicated a connection to all eight of the competencies.

Observation. The researcher coded and qualified connections to the career readiness competencies through verbal and nonverbal behavior exhibited in the course observation. The evaluation of the document review also provided evidence of the skills connected to the competencies. Each competency received a numerical code or value overall that evaluated the findings. These findings consist of eight results.

First, students presented learning and website solutions using a document to connect the content and materials for the teamwork and collaboration competency. Second, the student researched and worked collectively to address the needs of the end-users for global and intercultural fluency. In addition, the student provided evidence of addressing the users' needs in the PowerPoint slide for card sorting. Third, students presented learning and website solutions articulating card sorting, user flow diagram, and paper prototype for oral and written communication. Fourth, the student researched and produced a website solution based on technology in digital technology. Fifth, the student demonstrated critical thinking and problem solving by evaluating the users' needs to organize the card sorting process. Sixth, through professional learning from the course, students exhibited career management by developing plans and setting goals for the project. In addition, students discussed project plans in the stand-up format during the first field observation. Seventh, with leadership, students generated an end-of-the-semester learning project. Also, students worked independently and collectively with a group to complete the findings of the website solution project. Lastly, the students maintained a positive demeanor as displayed in

presentation skills with professionalism and work ethic. In addition, students prioritized work assignments and completed group and course goals, as evidenced in the PowerPoint presentation slides.

As a result of the coding, teamwork, and collaboration, global and intercultural fluency, and oral and written communication produced the most connections to the theoretical framework and findings from the thematic analysis. The themes used to answer the research questions provided further understanding of the phenomenon of HBCU liberal arts students' skills as they participated in a technology company's design course to demonstrate their employability. Out of the eight competencies, the findings or results from the data collection process determined three overall themes across the case analysis. Given the course was technology-based, the digital technology category ranked number four and was very close to the oral and written communication competency.

Teamwork and collaboration. The instructor and liberal arts student participants shared experiences connected to teamwork and collaboration. As revealed from the analysis of the case, teamwork and collaboration appeared harmoniously throughout the process. During the interview phase, the instructor suggested that "the world is moving toward a collaborative, multidisciplinary approach" in the workplace. The literature suggests the interdisciplinary skills developed in a liberal arts education augment and adjust accordingly within workplace norms, including establishing teamwork and multidisciplinary networks (Patnaik, 2012). In alignment with the literature during the student interview, they too reported demonstrating this skill in the liberal arts program to complete projects discussing sculpting. These skills matriculated into UX/UI design course. The observation and document analysis displayed teamwork and collaboration

through working in a group to complete an end-of-semester website solution prototype. Students worked in teams of three to five to achieve a specific assignment. As reported during the course observation, most of the course structure emphasized the soft skill of teamwork and collaboration to complete assignments. Additional evidence support that liberal arts majors have a multidisciplinary approach to scholarship that can easily matriculate from tech to non-tech communities (NACE Staff, 2016).

Global and intercultural fluency. The data provided convincing evidence where statements, observations, and documents supported a relationship to the global and intercultural fluency theme. During the interviews, the instructor talked about liberal arts majors having empathy and understanding the pain points of the end-user. The instructor also reported that specialized majors are focused on the product, whereas liberal arts are about the people. The literature supports that a liberal arts education involves individual and social responsibility, including civic knowledge and engagement connected at the local and global levels (AACU, 2020).

Students demonstrated social inclusiveness by engaging in the end-of-semester website solution prototype. Student A's group project was on a healthcare website for volunteers and donors. Other group projects with liberal arts students focused on a non-profit, faith-based youth organization and a women's empowerment organization. The project's premise was for students to research, design, and test a website solution prototype for these organizations. Overall, the instructor highlighted that the students focused on non-traditional end-users instead of products. The literature outlines that liberal arts are a voice of democracy. The democracy extends beyond the classroom but

matriculates into becoming a contributing citizen demonstrating social development and responsibilities (Halleran, 2010).

Oral and written communication. Data in this study presented a connection to oral and written communications. During the interviews, field observations, and document review, oral and written communication emerged as a theme. Constructive feedback was a significant component of the communication competency throughout the instructor and student interviews. In addition, the instructor and student mentioned oral and written communication in peer-to-peer feedback and critiques. The literature reports, that of the soft skills, employers are often looking to hire and promote interpersonal skills, fast learners, ethical, and those that have solid communication skills (Binsaeed et al., 2016).

Data across the units provided evidence during the observation of liberal arts students demonstrating this competency using a stand-up method. Describing their project progress, students in the UX/UI design course updated what they did yesterday, planned for today, and discussed any blockers to their progress. In addition, the students shared their progress at a perceived comfort level using the prescribed format. Finally, the student iterated additional tasks including completing an affinity diagram which received a surprising and positive reaction.

Research confirms that liberal arts students are often good communicators and writers, have experience working in groups, and switch gears to work independently (NACE Staff, 2016). The end-of-the-semester presentations that the liberal arts students participated in also demonstrated exchanging ideas and information. The researcher understood the importance of not showing bias in the study. However, the liberal arts

students articulated their presentations with minimal errors. The instructor noted during the interviews that all the liberal arts students passed the course.

Discussion

The instrumental qualitative single case study explored developing the employability skills and qualities of liberal arts students from a historically Black college and university (HBCU) while engaging in a specialized market. The emphasis on specialized education underlines an ongoing debate about the value of liberal arts education and career outcomes post-graduation. Most subjects in liberal arts education are general followed by an emphasis on core classes within a specific subject (Bevins, 2012). Roughly, four out of five employers feel that students should develop a wide range of skills, perspectives, and specialized knowledge (Association of American Colleges and Universities [AACU], 2014). Although, the interest in broad knowledge is accepted, the interest in STEM training has gained a greater audience including politicians (Bevins, 2012). In Chapter One, a review of the empirical literature revealed a gap on HBCU liberal arts students and their employability. To close this gap, Chapter Two devised the methodology to explore the phenomenon of liberal arts students in a UX/UI design course. Next, Chapter Three detailed the findings and results of the phenomenon.

The researcher used the National Association of Colleges and Employers Career Readiness Competencies (2021a) as the theoretical framework to navigate the study. The purpose of using career readiness competencies was to show tangible connections between findings and skills employers want in the workforce and the competencies provided that foundation. Research gives credence to the use of a theoretical framework as predetermined categories especially if a variety of data is being explored (Miles et al.,

2020). In this case, the researcher used four methods to collect data and this process helped to focus attention directly on the phenomenon connected to the employability of liberal arts students (Miles et al., 2020). The four methods of data are as follows. First, a case analysis occurred to understand the experiences of HBCU liberal arts students in the UX/UI course. Second, the case analysis fueled the engine by answering the research questions one focused on the qualities HBCU liberal arts students contribute to their success in a specialized design course. Third, a framework analysis connected all the methodologies to answer research questions one and two. Research question two highlights the role a liberal arts education plays in employability for specialized careers.

The thread of analysis or findings yielded three themes aligned with the theoretical framework's career readiness competencies: teamwork and collaboration, global and intercultural fluency, and oral and written communication. Moreover, the three skills correspond with the literature that most employers seek in students (Baird & Parayitam, 2019). As noted, NACE (2021b) defines teamwork and collaboration as building collaborative relationships with diverse people and ideas within the workplace or organization while working cohesively with a team. Global and intercultural fluency is the act of awareness, openness, and respect for diversity while interacting and understanding differences (NACE, 2021b). Finally, the competency, oral and written communication, is the ability to articulate thoughts and ideas coherently internally and externally to individuals, either orally or in writing, and incorporate public speaking skills (NACE, 2021b).

The research questions to help support the inquiry include:

1. What qualities do HBCU liberal arts students exhibit that contribute to their success in a design course focused on technology?

2. What role does a liberal arts education play with employability for in-demand tech careers?

To answer these questions, thematic analysis of data collected from the case generated results that exhibited qualities of liberal arts students and how they demonstrated potential for in-demand tech careers. The study resulted in compelling evidence describing HBCU liberal arts students' skills as they participated in a specialized UX/UI design course to demonstrate their employability. The evidence connects three emergent themes: teamwork and collaboration, oral and written communication, and global and intercultural fluency, with the literature review and data collection outcomes. The participants shared experiences through interviews, observations, questionnaires, and documents helped to correlate the overall outcomes. These outcomes helped inform the long-standing debates and few supporters of a liberal arts education (Zakaria, 2015). These methods offered insight into the employability skills and qualities of liberal arts students from an HBCU and the contributions of those in a specialized tech design market. Furthermore, this study will assist future researchers by providing baseline information on how HBCU liberal arts students contribute to a multidisciplinary team in a specialized market.

Findings connected to the theoretical framework and literature review. The NACE Career Readiness Competencies provided utility in the analysis of the study (Garvey & Jones, 2021). The career competencies were built inductively and provided relationships effectively to guide the study (Miles et al., 2020). To add value and distinct clarity to the outcomes of the findings of this study, four data collection methods took place, and there were six connections linked to the theoretical framework and literature

review. Table 3.7 outlines the connections between the three. This connection provides further evidence that supports the findings. Descriptions of the oral and written, teamwork and collaboration, and global and intercultural fluency themes are listed as follows.

Table 3.7

Findings Connected to the Theoretical Framework and Literature Review

NACE Career Readiness Competency	Finding	Connection to Literature
Oral and Written Communication	Finding 1: Liberal arts education practices peer-to-peer feedback and critiques to help with skills development.	Of the soft skills, employers are often looking to hire and promote intrapersonal skills, fast learners, ethical, and those that have solid communication skills (Binsaeed et al., 2016).
Oral and Written Communication	Finding 2: Liberal arts students can conduct iterations of design stages and communicate within groups, and articulate project progress using the stand-up meeting format.	Rounding out the top five qualities from the survey employers are searching for in students, include strong work ethic, analytical, and written communication skills (NACE Staff, 2020).
Teamwork and Collaboration	Finding 1: The world is moving to 100% interdisciplinary and collaborative teams.	Liberal arts majors have a multidisciplinary approach to learning and easily matriculate from tech to non-tech communities (NACE Staff, 2016).
Teamwork and Collaboration	Finding 2: Liberal arts students can contribute by presenting learning and website solutions with a group.	Liberal arts students are often good communicators and writers, experienced at working in groups, and can shift gears to work independently, as evident in senior projects or capstone courses (NACE Staff, 2016).
Global and Intercultural Fluency	Finding 1: Liberal arts students are more statistical and focus on the needs of the end-user.	Gasman and McMickens (2010) suggest that African Americans have extensive opportunities to earn liberal arts education to impact their communities.
Global and Intercultural Fluency	Finding 2: Liberal arts students understand pain points or design nuances that are tough on the user using empathy.	Liberal education extends beyond the classroom but spills over into the social development and obligations of becoming a contributing citizen (Halleran, 2010).

First, oral and written communication are about students articulating their thoughts and ideas to internal and external stakeholders clearly and concisely (NACE, 2021a). During this study, the instructor and student described oral and written

communication specifically regarding feedback. Throughout their liberal arts training, the student explained that they provided peer-to-peer feedback and critiques to help classmates. In addition, the instructor spoke consistently about the various forms of peer-to-peer feedback within the course. Feedback in the course was in the form of a Slack technology-based channel, a "grow and glow activity," and peer to peer or instructor format. The literature states that of the soft skills, employers are often looking to hire and promote those with interpersonal skills, and have solid communication skills (Binaseed et al., 2016). Another form of oral and written communication occurred when the instructor talked about liberal arts students "conducted iterations of design stages and articulated them in groups." The researcher also observed oral and written communication during the researcher's field observation. During the field observation, students conducted a routine classroom activity called a stand-up meeting where students had to share or provide updates on their project status. The field observation provided evidence of the liberal arts student's behaviors connected to oral and written communication. The students articulated their project statuses and presentations with ease. NACE Staff (2020) reports the findings from an employer survey concerning what employers are searching for in students including strong work ethic and analytical and communication skills.

Although there are some overlaps in the competencies, the second competency, teamwork and collaboration, had interesting findings connected to a multidisciplinary approach. The instructor talked about the workforce "moving to 100% interdisciplinary and organizations working in collaborative teams" during the instructor interview. Therefore, the idea of liberal arts and specialized students participating in the same course reinforces the model of the future work environment. The literature supports this

claim and states that liberal arts majors have a multidisciplinary approach to learning and easily matriculate from tech to non-tech communities (NACE, 2016). In connection to teamwork and collaboration, the findings also showed that liberal arts students presented and learned website solutions with groups. During the field observations, the topics explored and discussed by the liberal arts students demonstrated an ability to operate in a technological environment. The researcher's unique concept about liberal arts students participating in a technology course is that the tech company and educational services heightened interest in recruiting more liberal arts students to the course. In addition, NACE staff (2016) reports that liberal arts students are often good communicators and writers experienced at working in groups and can shift gears to work independently.

The third competency, global and intercultural fluency, demonstrates students' awareness and respect for diverse people and understanding of differences (NACE, 2021b). This competency also appeared in a technology course. The instructor talked about liberal arts students being more connected to the end user's needs. In contrast, those students from specialized majors focus only on the product and how it works. Therefore, liberal arts students are the ideal candidates to test a product to see if it is user-friendly. Gasman and McMickens (2010) suggest that liberal arts education for African Americans can significantly impact addressing the need of their communities.

Additionally, the instructor talked about liberal arts majors having empathy. The instructor reported

> Empathy is well served by understanding pain points or complex issues involving people. The people in design are the end-users, and if the design is complicated, it impacts how the users react or use the product. Therefore, a liberal arts major in design contributes to the broader discussion about the awareness and inclusion of diverse people or ideas.

The literature speaks to a liberal arts education as an extension of social obligation to becoming an active citizen (Halleran, 2010).

The current debate about liberal arts education is disproportionate to the most relevant findings of the study. This study essentially confirms that the skills and qualities from the career readiness competencies corroborate with the skills and qualities that liberal arts students contribute to a specialized market. Although the study provided key developments, it is still early to assess the sizeable impact on liberal arts education in a tech-driven workforce. However, the evidence remains clear that communication, teamwork and collaboration, and global and intercultural fluency will drive multidisciplinary environments.

Implications and Recommendations

The research findings contribute to the literature about the employability skills, qualities, and opportunities for liberal arts students from a historically Black college and university (HBCU) in a specialized market. The following is a discussion of the implication of this study where recommendations for enhancements to the liberal arts education can optimally provide lucrative opportunities for HBCU liberal arts students. Additionally, these opportunities can benefit students, higher education practitioners, and employers within the classroom and in the workplace.

Implication One: The Value of a Liberal Arts Education

The aim of this study was to reinforce the contributions of liberal arts education and how nurturing adaptability and upskilling in a specialized market provide valuable information on pace with the future workforce. While this study reveals the ongoing debate about liberal arts education versus a specialized one, it also underscores that

employers value a liberal arts education. Moreover, specific skills taught in the liberal arts degree courses inevitably are what employers seek in employees (Grasgreen, 2014). More broadly, liberal arts majors have a multidisciplinary approach to soft and human-centered skills that fare well with STEM majors (Kumar, 2019).

The interdisciplinary approach contributed to the research and remained evident throughout the UX/UI design course at a Mid-Atlantic HBCU. The emphasis on teamwork and collaboration, communication, and global and intercultural fluency or human intelligence broadens the aperture to sharing ideas and solving problems in a specialized course. This type of experience easily translates and benefits the labor market. As such, higher education practitioners and employers should leverage this benefit. Although STEM majors are in high demand and generate higher earning potential initially, liberal arts majors are equal contributors in the workplace, and salaries in the non-STEM fields are parallel to STEM fields within a decade of graduation (Patnaik, 2012). By advancing the quality and enrichment of a liberal arts education, the value of the major can join the ranks of what a specialized degree offers.

Recommendation One: The Value of a Liberal Arts Education

Collectively, higher education practitioners should work with other institutions, policy makers, employers, and national organizations advancing liberal arts education and recruitment to rebrand the curriculum. This community of stakeholders supports a change in the narrative and dispels the ongoing political divide between a specialized and liberal arts education. Instead, the approach should focus on the inclusiveness of both majors working together to help solve problems. The literature suggests that, typically, students choose majors based on earning potential (Writers, 2020). However, reducing

the anxieties about the post-graduate outcomes of a liberal arts education can ease the burden students face in selecting a major based on interest or income.

Implication Two: Student Benefits of a Liberal Arts Education

In an evolving labor market, employers expect new hires to be skilled and ready to work upon arrival (Sigelman, 2016). As such, several jobs are available to liberal arts graduates, and new opportunities can be possible if students add or enhance their technical skills (Sigelman, 2016). In fact, employers recruit candidates with broad skills and knowledge to add to a skilled and creative workforce prepared to solve problems (Kumar, 2019). In other words, at a granular level, liberal arts education offers skills that support a variety of work environments.

Recommendation Two: Student Benefits of a Liberal Arts Education

For liberal arts students, integrating technical skills through experiential opportunities, including internships or non-credit courses, can assist in marketing skills, attributes, and assets (Sigelman, 2016). As evidence, this study includes an HBCU in the Mid-Atlantic region that has reacted to developing the skills of the liberal arts by partnering with a major tech entertainment company and educational technology service to offer courses. One of three courses included a UX/UI design three-credit hour course for students from diverse undergraduate majors. Although the findings in this study are not generalizable, they suggest that liberal arts students' attributes parallel those of students from specialized majors.

From this initial project, the impact of the tech entertainment company, educational technology services, and the Mid-Atlantic HBCU partnership has grown exponentially. These course offerings are now available to five HBCUs in the country

(Sutphen & Henry, 2021). Additionally, ongoing discussions now exist around the inclusion of technology within the liberal arts program at the HBCU.

Implication Three: Incorporating Career Readiness Competencies within a Liberal Arts Education

Liberal arts education offers broad skills that contribute to a specialized market. However, liberal arts students can benefit from understanding their skills if identifiable connections are apparent within the liberal arts program. Such skills may appear within the course curriculum, but uncertainties surround whether the students understand and draw a connection to its application (Hill et al., 2019). Of the soft skills, employers are often looking to hire and promote are those that have interpersonal skills, are fast learners, are ethical, and have solid communication skills (Binsaeed et al., 2016). Essentially, soft skills are within a liberal arts education (Axelrod et al., 2001).

Recommendation Three: Incorporating Career Readiness Competencies within a Liberal Arts Education

The teaching-learning or experiential approach to incorporating soft skills rests in the instructional modalities of the classroom (Dogara et al., 2020). Although specialized programs should include soft skills development, the advantage for liberal arts majors is that employers consider those skills in a tech environment. Capitalizing on this advantage, the liberal arts students in the UX/UI design course added student engagement and group dynamics that support the National Association of Career Readiness Competencies (NACE, 2021b). Therefore, incorporating career readiness competencies within a liberal arts education can add to the dynamics of a multidisciplinary team. Furthermore, the literature supports that the interdisciplinary skills developed in a liberal

arts education adjust easily within workplace norms, including establishing teamwork and multidisciplinary networks (Patnaik, 2012).

Summary and Conclusion

This study provided significant insight into the contributions and employability of HBCU liberal arts students in a specialized course or market. The research helped to bring a storied narrative to the problem concerning the employability gap between a liberal arts education and a specialized degree, specifically in a technical labor market, and the study provides the foundation for further research. The popularity of STEM majors has overshadowed liberal arts education with growing supporters from politicians, academicians, and students (Bevins, 2012). However, most of the attention towards a specialized degree is primarily because of the immediate financial gains and career-related skills directly offered in the labor market (Carnevale et al., 2014). Though employers significantly appreciate the skills and knowledge liberal arts education develops (Association of American Colleges and Universities [AACU], 2014), the employability outcomes have politicians talking about defunding this form of education (Welch, 2021). Therefore, this study's results provide a springboard to further examine some of the ongoing debates concerning the employability of a liberal arts education.

The researcher utilized an instrumental qualitative single case study design to explore the potential employability outcomes of HBCU liberal arts students in a specialized course or market. Multiple data collection approaches took place using semi-structured interviews, observations, a questionnaire, and artifacts from a liberal arts student in a UX/UI design course and the instructor of record at a historically Black college and university in the Mid-Atlantic region. Once data were collected, reviewed,

and organized, the researcher used the NACE (2021a) Career Readiness Competencies as the framework for analysis for this individual case (Miles et al., 2019). Although the course was the first class for the HBCU and the tech company, the analysis unit helped extract meaning from the data (Roller, 2020). Three themes of teamwork and collaboration, oral and written communication, and global and intercultural fluency emerged from the data and showed to contribute to liberal arts students' demonstrated qualities in a specialized market. These themes collectively answered the research questions guiding the study and provided insight into how a liberal arts education adapts to a technical environment.

Further, the findings will inform higher education practitioners of the significance of digital technology or specialized courses within liberal arts curriculums. While the UX/UI design course was the first, the contribution of the liberal arts students in the program was impactful. The impact has revealed opportunities to incorporate digital technology courses within the liberal arts program and methods to develop career readiness competencies for liberal arts students to identify and communicate to employers. Incorporating digital training will upskill liberal arts students and prepare them to work in interdisciplinary teams that mirror the future workforce.

CHAPTER FOUR

Distribution of Findings

Executive Summary

The emphasis on specialized education highlights an ongoing debate about the future of liberal arts disciplines. Today's market emphasizes specialized knowledge focused on science, technology, engineering, and mathematics or STEM-related fields (Patnaik, 2012). The appeal to STEM-related fields has drawn a wider audience beyond students, including politicians and academics (Bevins, 2012). In a career-driven economy, the appeal towards a specialized market provides a transparent and direct career path to professional careers such as technology, healthcare, and education (Carnevale et al., 2014). These professional careers often connect to the innovation of products and services that ultimately drives the economy (Patnaik, 2012).

On the contrary, liberal arts education provides a wide range of knowledge that integrates intellectual skills such as communication and problem-solving skills that are marketable in various fields (Bevins, 2012). Although the diversity of skills offered in a liberal arts education interests employers (Grasgreen, 2014), liberal arts disciplines face challenges to career attainment after graduation. Employability or a direct career path has often been hard to define for liberal arts (Sigelman, 2016). The uncertainty led to claims to defund liberal arts programs from political leaders because of the rapid demand and prosperity of STEM-related fields (Welch, 2021). Politicians believe the market benefits more from STEM degrees than a wide range of skills offered in a liberal arts discipline (Schneider & Townsend, 2013).

Still, four out of five employers believe that a combination of broad and specialized knowledge provides students with a prosperous career outlook (Association of American Colleges and Universities [AACU], 2014). In addition, an employer-driven survey from the Association of American Colleges and Universities Liberal Education and America's Promise (LEAP) validates the claim that employers desire broad learning and interdisciplinary skills (Pasquerella, 2019). Moreover, in a specialized market, the skills gained from a liberal arts discipline offer a multidisciplinary approach that complements STEM settings (Kumar, 2019).

However, liberal arts students have challenges identifying and marketing their abilities in a specialized market. Although many colleges and universities provide co-curricular career development and training, liberal arts students experience difficulties articulating them with employers (Lowden et al., 2011). The challenge of marketing skills in a specialized market can change by including experiences that support students' understanding of their skills. Since there are one million jobs available for liberal arts disciplines, technical skills are one way to increase employability (Sigelman, 2016). Various methods to gain technical skills include taking technical courses (Angeles & Roberts, 2017). An HBCU in the Mid-Atlantic region reacted by offering a course that liberal arts students can gain technical skills. The HBCU partnered with a major technology entertainment company and educational technology service to offer a user experience and user interface (UX/UI) design courses for all majors, including liberal arts. As a result of the course, this study focused on understanding the skills and qualities liberal arts Black students contribute to a specialized tech course. The lived experience of liberal arts students in the inaugural UX/UI design course clarified the inclusiveness of

liberal arts education even in a specialized market. The inclusivity of a liberal arts education aligns with a multidisciplinary approach that translates from non-tech to tech work environments (NACE Staff, 2016).

Overview of Data Collection and Analysis Procedures

This instrumental qualitative single case study utilized interviews from a liberal arts student and the instructor of record for the UX/UI design course. Additionally, the collection of data involved a student-related questionnaire, field observations, and a document review. These methods sought to answer the two central research questions: What qualities do HBCU liberal arts students exhibit that contribute to their success in a design course focused on technology, and what role does a liberal arts education play with employability for in-demand tech careers? Serving as the theoretical framework, the National Association of Colleges and Employers Career Readiness (NACE) Competencies guided the data collection and analysis process. The study participants were the UX/UI instructor and a liberal arts student in the tech course. A collective review of the reactions and responses of the liberal arts cohort within the course rounded out the study findings.

The UX/UI design course was the first course ever offered at the university. Undergraduate freshmen, sophomores, and juniors with any major were eligible to take the course. The course was in partnership with a major streaming tech company, educational technology service, and an HBCU in the Mid-Atlantic region. The development of the course was to bridge the overwhelming gap of underrepresented talent in major tech industries.

The onset of the course was January 2021, and the researcher began the data collection during the latter portion of the spring academic semester, April, and May 2021. The course entailed 26 students, and of the students, a small cohort were liberal arts majors. From the learner's perspective, the liberal arts student was a junior graphic design major. The other participant was the instructor of record hired by the university to oversee the course, content, engagement, interactions, and credit or grades from the educator's perspective.

Each participant signed a consent form to participate in semi-structured interviews. Due to the COVID-19 pandemic, meeting restrictions were in place. Therefore, the interviews and observations were virtual. For the interviews, the researcher used the Zoom platform to conduct and record the interviews. To transcribe the interviews, the researcher used Ottter.ai.com. The interviews, transcripts, and notes were safely stored using File Locker. After the interview, each participant was informed of the next phase to include a post-interview with the instructor, observation of two classes, and the completion of a questionnaire by the participating liberal arts student. The researcher-maintained responses from the interviews and questionnaires in File Locker. The researcher analyzed each case using the NACE Career Readiness Competencies (NACE, 2021a). In particular, the researcher analyzed each case to understand the contributions of liberal arts students in a tech design course. Equally, the researcher conducted a case analysis to determine the role of liberal arts education with employability in a specialized market. After the case analysis, a framework analysis commenced helping identify themes to answer the central and sub-central research questions.

Summary of Key Findings

This study used the NACE Career Readiness Competencies (2021a) to help identify the skills and contributions liberal arts students contributed to a tech design course. The eight competencies include career management, critical thinking and problem solving, digital technology, global and intercultural fluency, leadership, oral and written communication, professionalism and work ethic and teamwork and collaboration. Three key themes emerged in this study: oral and written communication, teamwork and collaboration, and global and intercultural fluency (Figure 4.1). Since the NACE Career Readiness Competencies (2021a) guide higher education professionals and hiring managers or recruiters to develop skills, train, and source talent aligned with these standards, it was the most salient choice to narrate the study's outcomes. Collectively, these themes answered the contributions liberal arts students exhibited in a tech design course. In like manner, the themes provided more details about the role liberal arts education plays in employability in tech careers. Since emphasis has been on STEM-related majors, the study's outcomes highlighted the benefits of a liberal arts education in connection to the skills employers want in the workforce (AACU, 2014). Therefore, the participants' unique descriptions, examples, and observations contributed to the themes associated with the NACE (2021b) Career Readiness Competencies.

A task force of higher education practitioners and employers developed the eight NACE (2020) Career Readiness Competencies. The participants in this study referenced connections to the eight competencies through interviews, questionnaires, and observations. However, the UX/UI design course provided the researcher with three of the eight break-out themes.

Figure 4.1. Emergent themes from the theoretical framework.

Of the three emergent themes from the eight career readiness competencies, two of them, teamwork and collaboration and oral and written communication, ranked as the top four career competencies employers valued the most from 2017–2019 (NACE, 2019). Ironically, digital technology was the fourth emergent theme from this study. However, digital technology was ranked fifth as a competency most valued by an employer from 2017–2019 (NACE, 2019). Therefore, the skills liberal arts students exhibited and contributed to the UX/UI design course closely aligned with the top skills employers expect in the workplace.

Firstly, participants in the study exhibited teamwork and collaboration throughout the various analyses of data collected. NACE (2021b) describes teamwork and collaboration as building and sustaining relationships with diverse peers and professionals who share responsibilities to achieve common goals effectively. The instructor of record suggested that the world was moving towards a multidisciplinary collaborative workforce. The literature is consistent with this finding and suggests that

interdisciplinary skills in a liberal arts education settle respectively within work environments while establishing teamwork and multidisciplinary groups (Patnaik, 2012). The narrative during the student interview reported demonstrating teamwork and collaboration within the liberal arts programs through group projects and discussions about sculpting. These skills also transferred into the UX/UI design course. The observation, artifact, and document analysis supported the student participating and presenting an end-of-semester website solution prototype with peers. As noted during the field observation, the UX/UI design course structure embeds teamwork and collaboration throughout the 16-week course. Further evidence shows that liberal arts majors take an interdisciplinary approach that translates from tech to non-tech communities (NACE Staff, 2016).

The second theme was oral and written communication. NACE (2021b) describes oral and written communication as the efficient ability to process information, exchange thoughts, ideas, and perspectives in an internal and external environment. The field observation provided convincing evidence that the liberal arts students' communication skills appeared within the findings. During the first field observation, the articulation of the student's progress concerning the end-of-semester project received a favorable reaction. The end-of-the-semester presentations by the liberal arts students demonstrated an ability to share and present information in a specialized environment. The subject matter was technical, highlighting an ability to frame thoughts and ideas so that others can understand. The liberal arts students were able to articulate their presentations with minimal errors. Research states that liberal arts students are often good communicators,

comfortable operating in groups, and able to adjust to working independently (NACE Staff, 2016).

Finally, the unexpected and third theme was global and intercultural fluency. NACE (2021a) purported this competency as awareness, respect, openness, and inclusivity of diverse people and thought. The instructor talked about liberal arts majors having empathy and understanding the pain points of the end-user. They reported that specialized majors are concentrated on the product, whereas liberal arts are about the people. The literature supports that liberal arts education involves personal and social responsibility, including civic knowledge and commitment connected at the local and global levels (AACU, 2020). The liberal arts students group projects focused on non-average users, such as a healthcare organization for donors and volunteers, a women's empowerment organization and a faith-based youth program. The literature corroborates that liberal arts education is a voice of democracy, and it expands beyond the classroom but evolves into becoming a contributing, responsible citizen (Halleran, 2010).

Informed Recommendations

Findings within the study grant more comprehensive insight for higher education leadership, career practitioners, employers, and government agencies with valuable information aimed at the futuristic design of educational curriculum, programs and services, and experiential opportunities in liberal arts education. The three main themes described in the study: teamwork and collaboration, oral and written communication, and global and intercultural fluency are qualities that liberal arts students showed and contributed to a tech design course. Equally important, the three themes revealed the involvement that liberal arts education plays with employability in tech careers. All eight

career readiness skills at all stages of the study's findings contributed to potential employability outcomes for liberal arts students and multidisciplinary contributions in a specialized market. Therefore, the researcher recommends a change in practice to add to the greater institutional support in employment opportunities for liberal arts students.

First, higher education practitioners must work with other institutions, employers, and national organizations to promote liberal arts education and change attitudes toward rebranding the curriculum. By doing so, this study informs the ongoing debate about liberal arts education versus a specialized one. The outcomes from the liberal arts student's participation in a specialized course was positive. Students from a liberal arts and STEM majors worked collaboratively to develop skills, share experiences, and produce meaningful projects that could translate into the workforce. Moreover, the skills gained in the liberal arts discipline meet what employers want in the workforce (Grasgreen, 2014). Thus, the higher education community can change the misunderstandings about liberal arts education and bridge the political gap between a professional and liberal arts education.

Second, there are one million jobs available for liberal arts graduates, and improvement in technical skills can open more opportunities in additional markets (Sigelman, 2016). Ultimately, these skills can develop through supplementary activities such as experiential opportunities, training, and non-credit courses. (Sigelman, 2016). One example of the supplemental route for gaining technical skills was this study which entailed a UX/UI design three-credit hour course for students from diverse undergraduate majors at an HBCU in the Mid-Atlantic region. The course can serve as a model for other HBCUs. While the partnership with the technology company and educational technology

service was new for all organizations, liberal arts programs at HBCUs can replicate the same practice by adding a technology course within the curriculum to provide specialized training to those students.

Liberal arts students can benefit from understanding their skills even in a specialized market if connections to those skills are apparent within the liberal arts curriculum. These skills may appear in the curriculum, but uncertainty exists whether students learn and understand its application (Hill et al., 2019). In addition, employers often want to hire and nurture those who can adapt to the workplace demands, are honest, and have good communication and interpersonal skills (Binsaeed et al., 2016). Ironically, the liberal arts discipline offers these soft skills training within the curriculum (Axelrod et al., 2001). Thus, faculty and career practitioners must create soft skills development focused on essential career readiness practices (Markos, 2021). For example, liberal arts students in the UX/UI design course added student involvement and group dynamics to support the National Association of Colleges and Employers Career Readiness Competencies (2021a). Therefore, the integration of career readiness competencies in a liberal arts education can contribute to the kinship of interdisciplinary teams. More to this point, the literature supports those interdisciplinary skills developed in liberal arts education which can quickly adapt to workplace norms, such as the interconnection of teams and the establishment of multidisciplinary environments.

Findings Distribution Proposal

The findings of this study served as a need to highlight the contributions of a liberal arts education, particularly in a specialized market. The importance of distributing the study results also adds to the conversation about the value of a liberal arts education.

Therefore, the following subsections will address the target audience, distribution method, and materials distribution plan.

The results of this study target college and university administrators, faculty, and career practitioners, especially from HBCUs as these stakeholders are well-positioned to integrate the findings of this study into their daily work routine. Higher education administrators, faculty members, and career practitioners play a critical role in collectively training and evaluating students' academic and skills development. The decisions made about the curriculum and co-curriculum experience dictate a student's success. The broad knowledge and skills developed in liberal arts education are evident in a curriculum by instructors but perplex students during the job search process (Brown, 2015). Therefore, the distribution of this study will help higher education professionals consider the importance of career readiness, specifically digital training so that students can connect learning with skills development. Moreover, this connection will help liberal arts students articulate broad and specialized skills to hiring recruiters to improve employability.

In addition to higher education professionals, the next target audience includes employers, higher education national organizations, national minority philanthropic and education assistance organizations. These stakeholders are from a broader perspective, and the outreach to this audience will raise national attention. Given the involvement and reach that many HBCUs have with these organizations from grants, data sharing, and membership involvement, the results can add to a broader conversation on a national scale.

The researcher is a member and participates in several of the stakeholder meetings or workgroups with affiliates, such as the National Association of Colleges and Employers (NACE) HBCU and People of Colors Affinity Groups. NACE describes the Affinity Impact Teams as members that share insight and knowledge concerning targeted groups to promote inclusion-centered institutional programs that meet the needs of the specified audience (NACE, n.d.). For example, the NACE HBCU Affinity Team includes higher education career practitioners from HBCUs across the country and employers. The People of Color Affinity group includes diverse career practitioners from various colleges and universities, human resources recruiters, diversity and equity practitioners, and employers. The reach to this group will raise awareness and help integrate a change in attitudes towards a liberal arts education, especially from HBCUs. Therefore, their understanding will help promote the integration of strategies to improve employability for liberal arts students at HBCUs.

These findings will circulate to internal and external stakeholders in three ways. First, for internal stakeholders, including administrators, faculty members, and career practitioners, the information will be disseminated using a prepared presentation during a Faculty Senate Committee meeting and the University's Innovation Enterprise Academy meeting. Overall, the presentation will last about 45 minutes, with questions and a discussion about the next steps. During previous meetings at an HBCU in the Mid-Atlantic region, the researcher shared some information with administrators and chairs of the science, technology, engineering, and math department. Since a small amount of the information was shared, the group will receive a one-page infographic for further discussion and application.

Second, dissemination of the findings to a broader audience includes employers, higher education national organizations, national minority philanthropic and education assistance organizations, and higher education government agencies or affiliates. The opportunity to present to external stakeholders includes publication towards a book chapter called "Contributions of Historically Black Colleges and Universities in the 21st Century." The researcher will prepare and submit a completed draft to the publishing company by January 9, 2021. This opportunity will provide greater exposure to the phenomenon.

Finally, the researcher will share the findings and results from the study using a prepared presentation and infographic to the NACE Affinity HBCU Teams for discussion and dissemination to their stakeholders. Hopefully, this share will spark conversation and action. The researcher recently joined a forum within the HBCU Affinity Team to develop large-scale virtual and face-to-face recruiting events for HBCU career practitioners, administrators, and employers. This involvement would be ideal for workshopping an event for further exposure and future planning. Also, the chapter manuscript will serve as a helpful resource for the internal and external dissemination of the findings.

Conclusion

This chapter highlighted the research, including the need, purpose, methodology, results, implications, and recommendations based on the results. Additionally, it will help to better understand the skills and qualities that liberal arts contribute to a specialized market, leading to a multidisciplinary approach. Moreover, this interdisciplinary approach adds to future conversations about integrating liberal arts and technical majors

into classrooms and the workforce. While the results tell a compelling narrative for future research, the findings' distribution is critical for the futuristic design of educational curriculum, programs, and services that support diverse and multidisciplinary classrooms and the labor market.

APPENDICES

APPENDIX A

Participant Consent Form

Baylor University
Department of Curriculum & Instruction

Consent Form for Research

PROTOCOL TITLE: Institutional Review Board–Non-Human Subjects Research
PRINCIPAL INVESTIGATOR: **Alisha Bazemore**

Invitation to be Part of a Research Study

You are invited to be part of a research study. This consent form will help you choose whether or not to participate in the study. Feel free to ask if anything is not clear in this consent form.

Important Information about this Research Study

Things you should know:

- The purpose of the study is to understand the value of a liberal arts education at an HBCU and the students' potential employability outcomes within a UX/UI design course.
- In order to participate, you must be a freshman, sophomore, or junior liberal arts major participating in the UX/UI design course at the university.
- If you choose to participate, you will be asked to complete a pre-and-post questionnaire, participate in two 30-minute interviews. This will take place virtually, in February (initial) and May (final) during the spring 2021 semester. A planned date will be coordinated based on your availability and schedule. Two classroom and/or meeting observations will also take place during scheduled dates coordinated with the course instructor.
- Risks or discomforts from this research include no major risk greater than everyday life.

You may feel emotional or upset when answering some of the questions. Tell the interviewer at any time if you want to take a break or stop the interview.

- The possible benefits of this study include a greater public understanding of liberal arts education from an HBCU and its value within the workforce and in the field.
- Taking part in this research study is voluntary. You do not have to participate, and you can stop at any time.

More detailed information may be described later in this form. Please take time to read this entire form and ask questions before deciding whether to take part in this research study.

Why is this study being done?

The purpose of this study is to understand and describe the value of a liberal arts education at an HBCU and the students' potential employability outcomes within a UX/UI design course. The economy and job market emphasize a greater demand for specialized knowledge, such as the science, technology, engineering, and math (STEM) education. Therefore, this study will help to provide literature to the field, and industry experts about the value of a liberal arts education.

What will happen if I take part in this research study?

If you agree to take part in this study, you will be asked to:

- Conduct two brief pre-and-post questionnaires about your skills (administered electronically).
- Conduct two 30–40-minute virtual interview with the researcher about your experience as a liberal arts student in the UX/UI design course. The first interview will take place in February to discuss the study and the final will be done at the end of the course.
- Share significant updates with the researcher about a course project, grades, and skills gained or internship opportunities obtained.
- The researcher will observe scheduled course and meeting sessions approved by the course instructor or faculty oversight liaison/advisor. All sessions will be documented by the researcher. Names within the study will not be disclosed and you may discontinue participation within the study at any point.

We would like to make **an audio/video** recording of you during the interview portion of the study. **Audio/video** recording is **optional** for this part of the study**.** If you do not want to be recorded, you can still be in the study. You will indicate your decision at the end of this form.

Audio/video recording during the course or meeting observations will be the responsibility of the instructor.

How long will I be in this study and how many people will be in the study?

Participation in this study will last **until May 7, 2021, or the end of the spring 2021 semester**. About four subjects will take part in this research study.

What are the risks of taking part in this research study?

We don't believe there are any risks from participating in this research.

Are there any benefits from being in this research study?

Although you may not directly benefit from being in this study, others might benefit because your experience will help provide a public understanding of the value of a liberal

arts education at an HBCU. The skills contributed and obtained are beneficial to the labor market.

What if you learn something about my health that I did not know?

We do not anticipate any health discoveries within the study.

How Will You Protect my Information?

A risk of taking part in a study is the possibility of a loss of confidentiality. Loss of confidentiality includes having your personal information shared with someone who is not on the study team and was not supposed to see or know about your information. The researcher plans to protect your confidentiality.

We will keep the records of this study confidential by using codes numbers or pseudonym instead of your name. All information, including audio/video recording are stored in a secured file electronically and physically. We will make every effort to keep your records confidential. However, there are times when federal or state law requires the disclosure of your records.

The following people or groups may review your study records for purposes such as quality control or safety:

- Representatives of Baylor University and the BU Institutional Review Board
- Other collaborating organizations such as the university, Netflix, or 2U.
- Federal and state agencies that oversee or review research (such as the HHS Office of Human Research Protection or the Food and Drug Administration)

The results of this study may also be used for teaching, publications, or presentations at professional meetings. If your individual results are discussed, your identity will be protected by using a code number or pseudonym rather than your name or other identifying information.

Will I be compensated for being part of the study?

We will pay you **a one-time $10 amazon gift card after your interview** participation, observations, and updates on significant course outcomes by May 7, 2020. If you do not complete all activities, we will not compensate you for the study participation.

What happens if I am hurt by participating in this research study?

If you become ill or injured as a result of your participation in the study, you should seek medical treatment from your doctor or treatment center of choice. You should promptly tell the researcher about any illness or injury.

There are no plans for Baylor University to pay you or give you other compensation for your injury or illness. You do not give up any of your legal rights to seek compensation by signing this form.

Who can profit from study results?

Your samples will not be used for commercial profit.

Is it possible that I will be asked to leave the study?

The researcher may take you out of this study without your permission. This may happen because:

- The researcher thinks it is in your best interest
- You can't make the required study visits
- Other administrative reasons

Your Participation in this Study is Voluntary

Taking part in this study is your choice. You are free not to take part or to withdraw at any time for any reason. No matter what you decide, there will be no penalty or loss of benefit to which you are entitled. If you decide to withdraw from this study, the information that you have already provided will be kept confidential. You cannot withdraw information collected prior to your withdrawal.

If you are a Baylor student or faculty/staff member, you may choose not to be in the study or to stop being in the study before it is over at any time. This will not affect your grades or job status at Baylor University. You will not be offered or receive any special consideration if you take part in this research study.

Contact Information for the Study Team and Questions about the Research

If you have any questions about this research, you may contact:

Alisha Bazemore
or
Sarah Pratt Ph.D.

Contact Information for Questions about Your Rights as a Research Participant

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the following:

Baylor University Institutional Review Board
Office of the Vice Provost for Research
Phone:
Email:

Your Consent

SIGNATURE OF SUBJECT:

By signing this document, you are agreeing to be in this study. We will give you a copy of this document for your records. We will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I understand what the study is about, and my questions so far have been answered. I agree to take part in this study.

_____ _____

Signature of Subject Date

Optional Research

Consent to be Audio/video Recorded
I agree to be audio/video recorded.

YES_____ NO_____ Initials _____

Consent to Use Data for Future Research
I agree that my information may be shared with other researchers for future research studies that may be similar to this study or may be completely different. The information shared with other researchers will not include any information that can directly identify me. Researchers will not contact me for additional permission to use this information. *(Note: This separate consent is not necessary if you will only store and share deidentified data.)*

YES_____ NO_____ Initials _____

Consent to be Contacted for Participation in Future Research
I give the researchers permission to keep my contact information and to contact me for future research projects.

YES_____ NO_____ Initials _____

APPENDIX B

Participant: Instructor Letter and Interview Questions

Alisha Bazemore
Doctoral Candidate/Primary Investigator
One Bear Place #97314
Waco, TX 76798
[redacted]

February 16, 2021

UX/UI Design Instructor
Dear XXX,

I am conducting interviews as part of a research study to increase the understanding of liberal arts students' skills and qualities from an HBCU participating in a tech UX/UI design course in Virginia.

As the course instructor, you are an ideal candidate for providing invaluable first-hand information about liberal arts students' contributions in the course. The initial interview takes around 30 minutes and is very informal. I am simply trying to capture your thoughts and views on HBCU liberal arts students in a UX/UI design course. Your responses to the questions will be kept confidential. You will be assigned a number code to ensure that personal identifiers are not revealed during the analysis and write-up of findings. Discussions about the follow-up or post-interview will take place during the initial meeting.

There will be no compensation for this study. However, your participation will be a valuable addition to the research, and the findings could lead to a greater public understanding of the value of liberal arts education and employability.

Sincerely,
Alisha Bazemore
Doctoral Candidate

Enclosure: Research and interview questions

Background
Research topic: Liberal Education: A Qualitative Case Study on HBCU Black Liberal Arts Students in a Tech Design Course

Your support will help to answer the following research questions:

> **Research Question One:** What qualities do HBCU liberal arts students exhibit that contribute to their success in a design course focused on technology?
>
> **Research Question Two:** What role does a liberal arts education play with employability for in-demand tech careers?

Your responses will remain confidential, and you reserve the right **not** to answer a question(s) and discontinue participation in the study at any point.

Interview Questions:

1. Can you describe the UX/UI course and the learning outcomes? (Initial or pre-interview question)

2. Can you describe the approach to instruct a course with students from diverse majors? (Initial or pre-interview question)

3. Can you describe some of the learning outcomes you noticed from students with a non-specialized degree (liberal arts students) compared to those pursuing a specialized degree?

4. Using the NACE core competencies, such as critical thinking, oral/written communications, teamwork/collaboration, leadership, digital technology, global or/intercultural fluency, professionalism, or any other qualities, stood out to you from the liberal arts students within the course?
   NACE Core Competencies:
   https://www.naceweb.org/uploadedfiles/pages/knowledge/articles/career-readiness-fact-sheet-jan-2019.pdf

5. Do you think the liberal arts students were prepared in this course? Explain.

6. Would you recommend this course to all liberal arts or non-specialized degree students? Why or why not?

7. What learning outcomes from this course that you feel liberal arts students should continue to increase their employability?

8. Is there anything else that you would like to add before we end?

APPENDIX C

Participant: Student Letter and Interview Questions

Invitation to participate in the research project titled: Liberal Education: A Qualitative Case Study on HBCU Black Liberal Arts Students in a Tech Design Course

Dear Liberal Arts Student,

I am conducting interviews as part of a research study to increase the understanding of liberal arts students' skills and qualities from an HBCU participating in a tech UX/UI design course in Virginia.

As a liberal arts student, you are an ideal candidate for providing invaluable first-hand information from your perspective. The interview takes around 40 minutes and is very informal. I am simply trying to capture your thoughts and views on being a HBCU liberal arts student in a UX/UI design course. Your responses to the questions will be kept confidential. Each interviewee will be assigned a number code to ensure that personal identifiers are not revealed during the analysis and write-up of findings.

There is a one-time $10 gift card for participation in this study issued up to 30 days after the study's interview process. Your participation will be a valuable addition to the research, and findings could lead to a greater public understanding of liberal arts education and the people in the field.

Research topic: Liberal Education: A Qualitative Case Study on HBCU Black Liberal Arts Students in a Tech Design Course

Your support will help to answer the following research questions:

> **Research Question One:** What qualities do HBCU liberal arts students exhibit that contribute to their success in a design course focused on technology?
>
> **Research Question Two:** What role does a liberal arts education play with employability for in-demand tech careers?

Your responses will remain confidential, and you reserve the right **not** to answer a question(s) and discontinue participation in the study at any point.

Interview Questions:

1. What influenced you to choose your major?

2. What influenced you to participate in this design course?

3. How would you describe the skills or qualities learned in your liberal arts program as they apply to this design course?

4. What is your internship or career plans?

5. How would you describe the skills or qualities you learned in the design course as they apply to your internship or career goals in your field?

6. Do you think that you are prepared for a career in your field?

7. Why or why not?

8. How would you describe the preparation that you have received thus far to prepare for a career in your field?

APPENDIX D

Career Readiness Questionnaire

This 5-minute post-questionnaire is used to determine the career readiness defined by the National Association of Colleges and Employers as the attainment and demonstration of behaviors and skills that potentially prepare college graduates to transition into the workforce. Your self-assessment or career readiness will help understand the outcomes of the liberal arts students' experience within the UX/UI course. There is no right or wrong answer, so please feel free to answer as honestly as possible. This survey is anonymous. We will ask you to complete a questionnaire at the end of the semester.

These questions are as follows:

1. (Critical thinking/problem-solving skill) How would you evaluate your ability to exercise sound reasoning to analyze issues, make decisions, and overcome problems AFTER participation in the UX/UI design course?

2. (Leadership skills) How would you evaluate your ability to use interpersonal skills to coach, guide, motivate and develop others inside and outside of the classroom AFTER participation in the UX/UI design course?

3. (Global/Intercultural fluency skills) How would you evaluate your ability to value, respect, learn, and interact with people from diverse cultures, races, ages, genders, sexual orientations, and religions AFTER participation in the UX/UI design course?

4. (Teamwork/Collaboration skills) How would you evaluate your ability to build collaborative relationships within and outside of the classroom representing diverse cultures, races, ages, genders, religions, lifestyles, and views AFTER participation in the UX/UI design course?

5. (Professionalism and work ethic skills) How would you evaluate your ability to take responsibility for timely work/class assignments, integrity, and ethical behavior in work/class assignments, and working productively with others AFTER participation in the UX/UI design course?

6. (Digital technology skills) How would you evaluate your ability to use existing and new technologies ethically and efficiently to solve problems AFTER participation in the UX/UI design course?

7. (Oral and written communication skills) How would you evaluate your ability to articulate thoughts and ideas clearly and effectively in written and oral form AFTER participation in the UX/UI design course?

8. (Career management skills) How would you evaluate your ability to articulate your knowledge, skills, strengths, and experiences relevant to internship/career goals AFTER participation in the UX/UI design course?

APPENDIX E

Observation Protocol

Observation Protocol
(Based on Creswell & Plano Clark, 2018, p. 181)

Field Notes: Classroom Observation

Researcher Name		
Participant Name/#		
Year		
Place		
Project #		
Date/Time	Descriptive Notes	Reflective Notes

APPENDIX F

Student Documents During Final Presentation

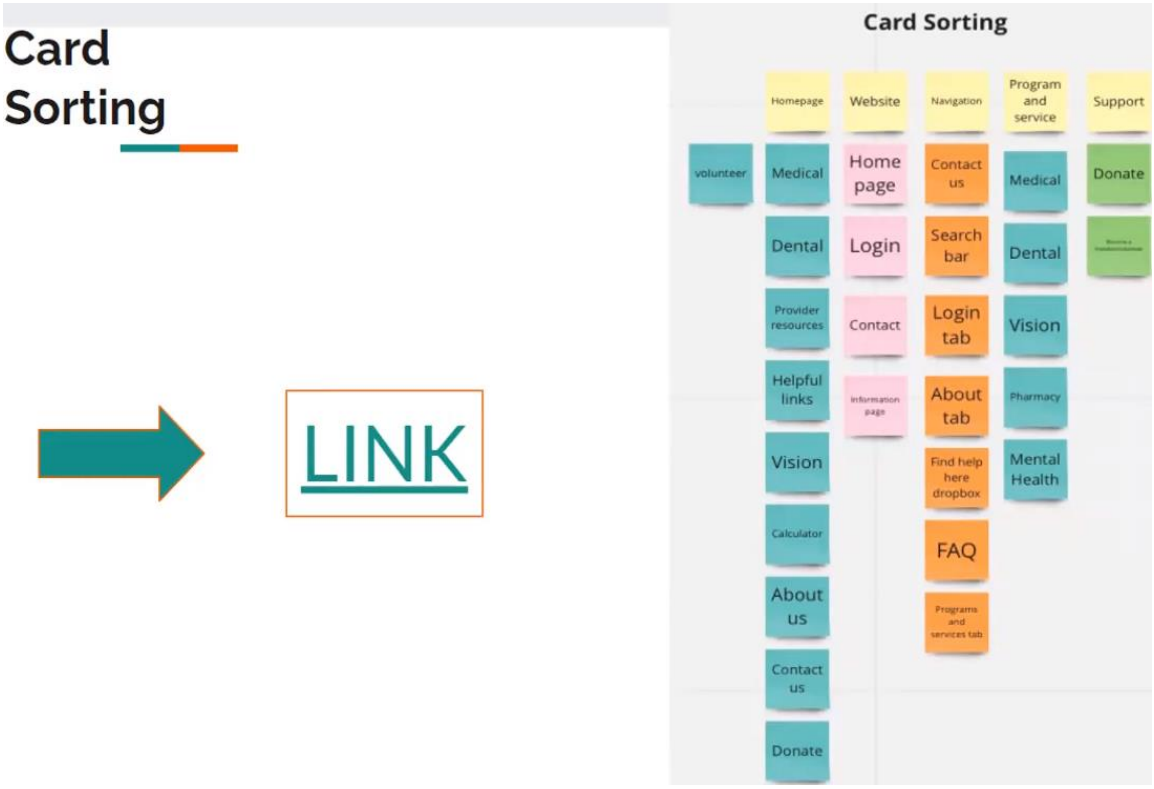


Figure F.1. First slide of presentation showing the card sorting task.

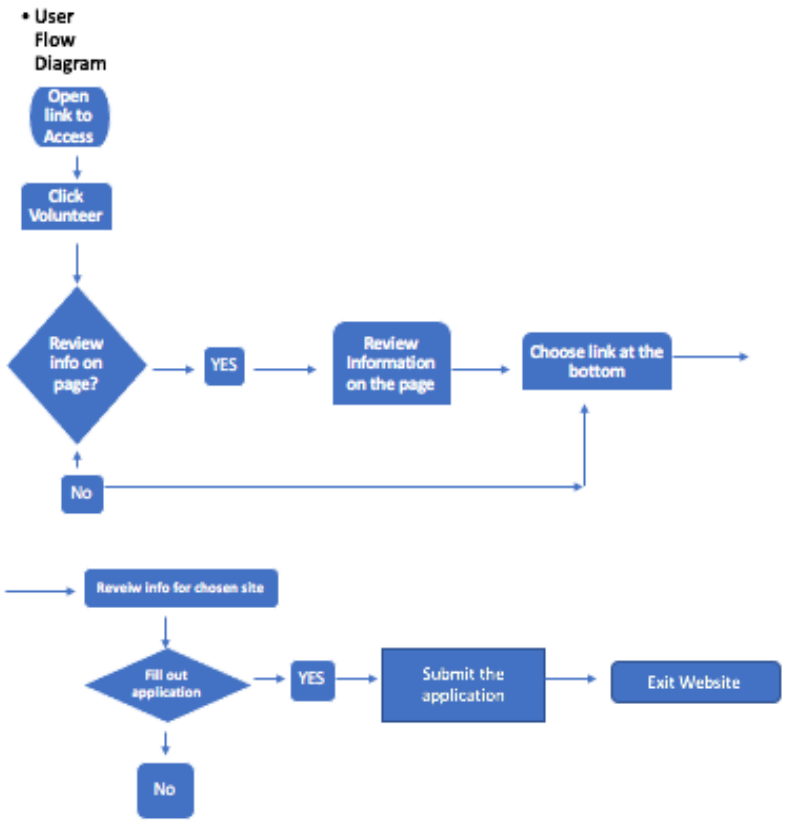


Figure F.2. Second slide of presentation showing the user flow diagram.

APPENDIX G

Request and Permission to use NACE Figures

From: Bazemore, Alisha <Alisha_Bazemore1@baylor.edu>
Sent: Tuesday, December 29, 2020 3:21 AM
To: NACE Customer Service <customerService@naceweb.org>; NACE Research <Research@naceweb.org>
Subject: Permission for Research

Greetings -

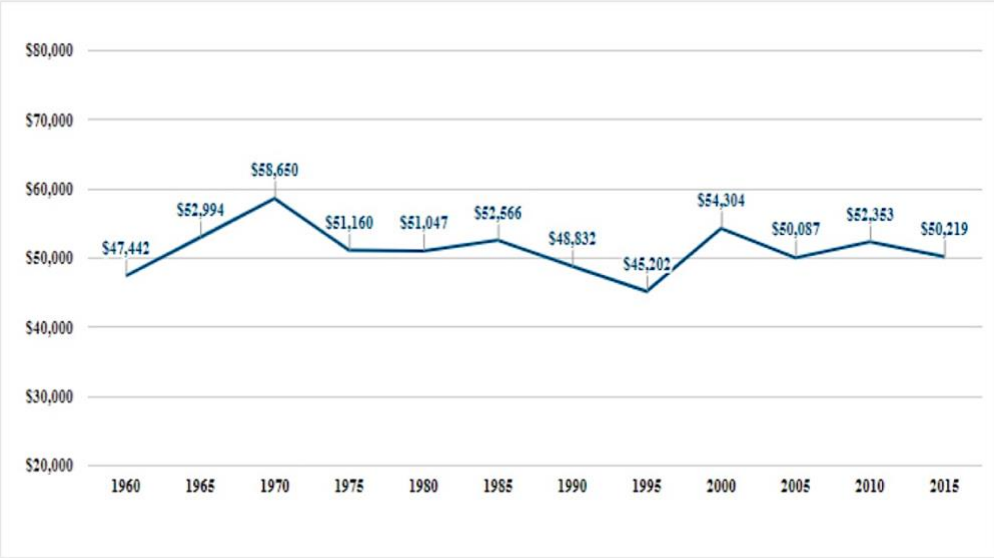
I am writing to request permission to use the figure cited in the article *Salary Trends Through Salary Survey: A Historical Perspective on Starting Salaries for New College Graduates by Andrea Koncz* for research conducted on liberal education. I am currently a doctoral student at Baylor University in the Education (EdD) in Learning and Organizational Change program completing a Problem of Practice or qualitative case study on liberal education and employability for Black HBCU students in a tech-driven market. This material is for inclusion in the research study only and I would be grateful for the consideration at no cost. However, all information will include the appropriate acknowledgment of the author, article title, source, and date.

I look forward to hearing from you within the next week or so. This information will help me to move forward with conducting data collection during the Spring 2021 term. If you have any questions, please feel free to contact me at Alisha_Bazemore1@baylor.edu or at (757) 560-7182.

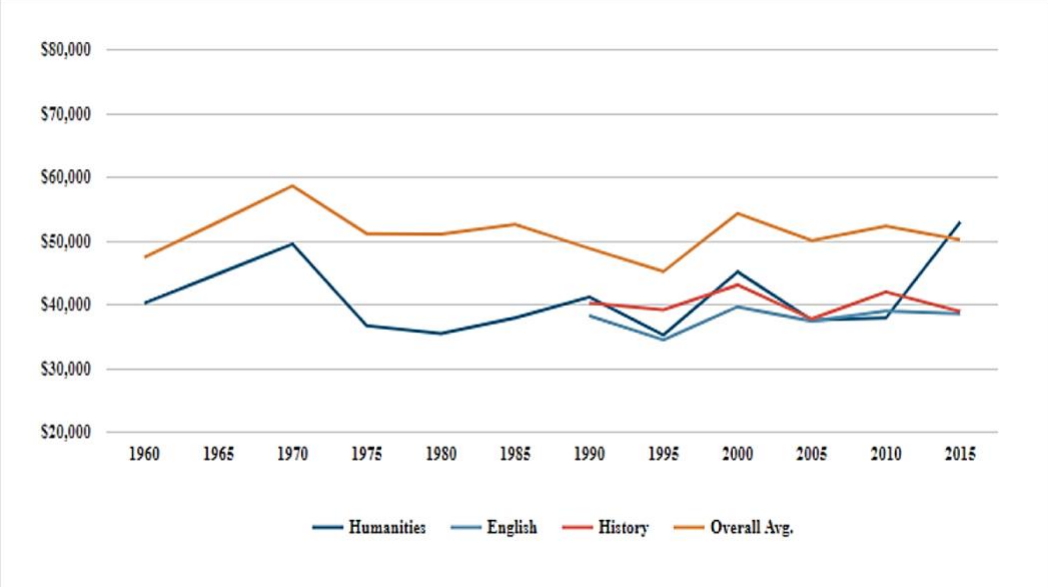
Article: Koncz, A. (2016). Salary trends through salary survey: A historical perspective on starting salaries for new college graduates. NACE. https://www.naceweb.org/job-market/compensation/salary-trends-through-salary-survey-a-historical-perspective-on-starting-salaries-for-new-college-graduates/

NACE's Salary Survey Overall Adjusted Average Salaries, Five-Year Increments (Modified version)

NACE's Salary Survey Overall Adjusted Average Salaries, Five-Year Increments (Modified version)



NACE's Salary Survey Overall Adjusted Average Salaries, Bachelor's Degree Humanities Majors (Modified version)



From: <naceweb.org>
Sent: Tuesday, January 5, 2021 8:54 AM
To: Bazemore, Alisha
Subject: Fw: Permissions

Per your other request...(just received it):
You're welcome to use this in your research study also. Please use the following copyright line:

Article: Koncz, A. (2016). Salary trends through salary survey: A historical perspective on starting salaries for new college graduates. Used with permission from the National Association of Colleges and Employers. https://www.naceweb.org/job-market/compensation/salary-trends-through-salary-survey-a-historical-perspective-on-starting-salaries-for-new-college-graduates/

From: Bazemore, Alisha
Sent: Tuesday, December 29, 2020 2:52 AM
To: NACE Customer Service <customerService@naceweb.org>; NACE Research <Research@naceweb.org>
Subject: Permission for Research

Greetings -

I am writing to request permission to use the figure cited in the article *The Four Career Competencies Employers Value Most* for research conducted on liberal education. I am currently a doctoral student at Baylor University in the Education (EdD) in Learning and Organizational Change program completing a Problem of Practice or qualitative case study on liberal education and employability for Black HBCU students in a tech-driven market. This material is for inclusion in the research study only and I would be grateful for the consideration at no cost. However, all information will include the appropriate acknowledgment of the author, article title, source, and date.

I look forward to hearing from you within the next week or so. This information will help me to move forward with conducting data collection during the Spring 2021 term. If you have any questions, please feel free to contact me at Alisha_Bazemore1@baylor.edu

Article: NACE Staff. (2019, March 29). *The four career competencies employers' value most*. NACE. https://www.naceweb.org/career-readiness/competencies/the-four-career-competencies-employers-value-most/

The four career competencies employers' value most

COMPETENCIES	WEIGHTED AVERAGE RATING*		
	2019	2018	2017
Critical thinking/problem solving	4.66	4.62	4.58
Teamwork/collaboration	4.48	4.56	4.43
Professionalism/work ethic	4.41	4.46	4.56
Oral/written communications	4.30	4.30	4.43
Digital technology	3.84	3.73	3.78**
Leadership	3.65	3.82	3.86
Career management	3.38	3.46	3.47
Global/multi-cultural fluency	2.78	3.01	2.85

From: <naceweb.org>
Sent: Monday, January 4, 2021 7:10 AM
To: Bazemore, Alisha
Subject: Re: Permission for Research

Good morning Alisha,

You're welcome to use the chart/information in your research study. Please acknowledge it this way:

Article: NACE newsletter Spotlight (2019, March 29). *The four career competencies employers' value most*. Used with permission from the National Association of Colleges and Employers. https://www.naceweb.org/career-readiness/competencies/the-four-career-competencies-employers-value-most/

National Association of Colleges and Employers

www.naceweb.org

From: Bazemore, Alisha
Sent: Tuesday, December 29, 2020 8:01 PM
To: <naceweb.org>
Subject: Re: Permission for Research

Hello,

Thank you for the follow-up and update.

Happy New Year!

Alisha Bazemore

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