RESEARCH

The Importance of Universal Design on College Campuses

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"Go Hokies!" "This is Home," I exclaimed at the top of my lungs to the Virginia Tech Class of 2021. During the summer of 2018, wearing a maroon and orange polo and proudly representing the university during freshman orientation, I led groups of freshmen around campus and sought to teach them how to live life as Hokies. The Hokie Nation runs deep and it was an honor to help students transition into it. I truly believe that all eager students interested and committed to joining the Hokie community should be able to call Blacksburg home. Even as a former orientation leader, I realize that that is not always the reality due to the severe lack of universal design and accessibility on college campuses across the nation, including our beloved Virginia Tech. Everyone's experience at Virginia Tech might not be like it is initially portrayed. My knowledge as student with a Disability Studies minor has led me to identify a flaw in the design of college campuses across our nation. Students are hindered from joining spirited collegiate communities before they even step foot on campus due to the lack of universally designed features and amenities. Someone's identity as a Hokie does not mean they are not going to experience barriers. I wonder the types of students I could have met in my orientation groups if Virginia Tech's acceptance and accessibility standards were fully inclusive of all people, even those with disabilities. In order to attract people with disabilities to join the Hokie Nation, thus making our community more diverse, I call on the Virginia Tech administration and other collegiate administrations to take action in creating communities that are universally designed.

Introduction

"Go Hokies!" "This is Home," I exclaimed at the top of my lungs to the Virginia Tech Class of 2021. During the summer of 2018, wearing a maroon and orange polo and proudly representing the university during freshman orientation, I led groups of freshmen around campus and sought to teach them how to live life as Hokies. Pride and commitment to the Hokie Nation runs deep, and it was an honor to help students transition into it. I truly believe that all eager students and professionals interested and committed to joining the Hokie community should be able to call Blacksburg home. However, even as a former orientation leader, I realize that that is not always the reality due to the severe lack of universal design and accessibility on college campuses across the nation. My knowledge as Human Development student with a Disability Studies minor has led me to identify a flaw in the design of college campuses across our nation. Due to a lack of universally designed features and amenities, some students are hindered from joining spirited collegiate communities before they even step foot on campus.

Universal design is a design strategy that makes environments "useable by everyone without the need for adaptation or specialized design solutions" (Null, 2013, p. 4). It aims to integrate usability for broader markets to achieve safe, convenient, and appealing environments without experiencing barriers for people with various disabilities (D'Angelo & Catlin, 2018). I have taken several disabilities studies courses, including RED 4664 Universal Design and STS 3284 Technology and Disability, that have deepened my knowledge of assessing our environments for accessibility. Through reflections of other peoples' experiences, I have realized that everyone's experience at Virginia Tech might not be as it is initially portrayed; someone's identity as a Hokie does not mean that they are not going to experience barriers. In this paper, I will share my background and interest in universal design, barriers found with building assessments, and my views regarding how those barriers negatively impact students and professionals with disabilities.

A lack of universal design is a problem at college campuses across America and it is time to stop sugarcoating the issue and face reality. This is a significant issue worth discussing because disabilities exist in all populations, in all locations, and in all ages. Closer to home, Dr. Ashley Shew is a tenure-track faculty member at Virginia Tech in the Department of

Science, Technology, and Society. She is a member of the disabled community at Virginia Tech. When asked in an interview to describe universal design, she states that it is too often seen as an "extra or bonus, instead of the standard, which is a real problem" (Shew, Personal Interview, October 2018). In an online opinion piece from Inside Higher Ed, a degree-seeking student with a physical disability named Valerie Piro states that "nobody's wheelchair should be a barrier to higher education. Their ability to attend should never be in question" (Piro, 2017). All people have an equal right to higher education, and it is time we stop ignoring the needs of people who would benefit the most from universal design. Therefore, in order to attract people with disabilities to join the Hokie Nation, thus making our community more diverse and our campus more inclusive, I call on the Virginia Tech central administration and other collegiate administrations to take action in creating communities that are universally designed. In order for us to continue inventing the future academically, we must invent a future in our infrastructure around campus that supports all students and faculty.

Background

My exploration of universal design on college campuses stems from a project I completed in STS 3284, Technology and Disability, in my spring 2018 semester. The course discusses various technologies and the experience of disability. I completed a project in this course titled "A Day Without Stairs at Virginia Tech" that challenged individuals to view life through the eyes of someone with limited mobility. I started this project because in my own observations, I noticed that not many people take daily notice of important accessibility features. Unless it has an impact on their way of travel, most nondisabled people do not look for accessible ramps, elevators, and entrances. I admit that I even fall into that category. For my project, I documented a typical day at Virginia Tech through video, but there was a catch: I could not use stairs, I could not open a door without using an automatic push button, and I could not cross the street without using a curb cut.

The difference between the amount of time it took me to walk the route I might normally choose compared to the amount of the time it took me to take the accessible route was appalling. For example, getting from New Classroom Building to Payne Hall, a trip that would normally take about thirteen minutes, took me 27 minutes and 40 seconds using the accessible route. During my journey from location to location, I also stumbled upon many broken automatic push buttons and confusing signage. I felt frustrated, disheartened, and defeated when reflecting on the lack of easily accessible routes at the school that I love.

The project opened my eyes to the barriers people face every single day at Virginia Tech and inspired me to take action. In fall 2018, I took RED 4664 Universal Design and had a chance to do further research on college campus accessibility. Through my future research on the subject, I hope to shed a light on the importance of universal design on college campuses and encourage universities to be inclusive for all students and faculty. To do this, I interviewed several community disability advocates, reviewed local newspapers, referenced online articles, and conducted a building assessment.

Why Should Universities Support Universal Design?

In my interview with Dr. Shew, I realized that the large prevalence of disabilities on college campuses is often forgotten or ignored. We must remember that disabilities can happen at any point in someone's life and can be temporary or permanent; just because someone is able-bodied now does not mean they will remain disability-free throughout their lifetime. For instance, Dr. Shew became a Hokie first as a graduate student and then as a professor before becoming an amputee. After her surgery, Dr. Shew admits that Virginia Tech became shockingly different. She says, "I was not unaware. I knew that there were problems here, but I did not see them around every turn like I do now. There's a daily stress of it all – not knowing if your body can get places. Being new and disabled here is like being in a different world" (Shew, Personal Interview, October 2018). Universal design serves people who currently live with disabilities and people that will in the future. Universities would greatly benefit from universal design's promotion of lifespan-friendly and age-friendly environments.

We are influenced by the environments in which we visit and in which we live. According to the Bureau of Labor Statistics, "people with a disability are less likely to have completed a bachelor's degree than people with no disability" (Fleishman, 2017). I believe that this is largely due to a lack of universal design and opportunities for people with disabilities to thrive on college campuses. Nonetheless, people with disabilities have an equal right under law to higher education as people who do not have disabilities do: "All schools have something in common: they cannot discriminate against anyone due to his or her disability" (Mobility International USA, 2018). Despite this, not all schools have the same services available and unfortunately, universal design often depends on the location of the school. Some schools are built in urban settings where universal design is valued and advancements in disability services are a core focus in the university's operation. Regardless of urban or rural setting, according to ADA professionals from Facilities Net, John D'Angelo and John Caitlin, college is a time to inspire students to grow into future leaders that will one day change the world for the better: "Future leaders spend time on our campuses learning what is possible. What they see and experience in the environment will shape them" (D'Angelo & Catlin, 2018). If a student's college of choice does not have an environment that supports them, then they might generalize that lack of support to the outside world too, feeling depleted and discouraged to graduate and work towards their goals. If colleges provided a more supportive learning and living environments for students, students' quality of life would increase, and they would feel happier and more supported by their institution.

A lack of universal design discourages bright, academically driven people from pursuing higher education opportunities. Dr. Shew works with students that have disabilities at Virginia Tech: she is the faculty advisor for the Virginia Tech Disability Caucus. Dr. Shew shared with me that after she formed the Caucus, she received several "soul-crushing emails" from people that came to Virginia Tech and had to leave because of accessibility struggles (Shew, Personal Interview, October 2018). Dr. Shew attributes their leaving to the large "threat of being discriminated against" in the Hokie community (Shew, Personal Interview, October 2018). This has had a devastating impact on potential Hokies. Our current accessibility standards have prevented students and professionals from coming to Virginia Tech; a lack of universal design at Virginia Tech also has caused people to leave Blacksburg to pursue schooling elsewhere. Therefore, prioritizing universal design is crucial when discussing admission and retention rates. We must improve in order to increase retention and admission rates for all Hokies.

Regarding my own admissions experience, I admit that it was a breeze for me. Nondisabled people often assume that every college can adjust to fit their needs. All I had to focus on was finding a school where I could thrive academically and be happy; I toured seven schools, extensively explored the websites of dozens of schools, but ended up choosing Virginia Tech because of the school spirit. From my research and reading personal stories of students with disabilities, I was shocked to learn how our experiences differed. Students with disabilities have to go above and beyond to find a college where they can even get from one building to the next; if colleges were universally designed in the first place to fit all types of students, we would not have that problem. Valerie Piro, a student with a physical disability requiring wheelchair use at the Harvard Graduate School of Education, shares her struggles of finding a college that fit both her academic needs and the needs of her physical impairment. She applied to many colleges but could only take an in-person tour at two colleges. Barriers she faced when trying to tour colleges included a lack of information online and features impossible for a wheelchair to navigate such as cobblestone pathways, elevators that are too small, and inadequate wooden ramps placed over stairs (Piro, 2017). Piro's options for universities were limited because universities do not prioritize universal design.

When researching the process students with disabilities go through when choosing what college to attend, I found an advice article by U.S. News from 2011 titled "4 Tips for College Applicants, Students With Disabilities." First, the article suggests that students should prepare early: look for support groups, look for adaptive sport clubs of interest, and start contacting college disability services. Second, U.S. News urges students to identify the schools that have accessible tours and visit if possible. Next, students with disabilities are told not to confuse high school with college: "just because your high school accommodates you does not mean your college will" (Wecker, 2011). The fourth tip includes advocating for yourself and standing up to professors to ensure they will be able to fully integrate the student, despite their disability, into the academic environment (Wecker, 2011). Meanwhile, most nondisabled students, including myself as I admitted earlier, can simply look up websites for colleges they are interested in and hit "apply." Students without disabilities have an advantage because they have the opportunity to choose colleges based on the quality of education, dining halls, residence halls, social scene, etc. On the other hand, students with disabilities have to worry about their college experience well in advance and have to consider accessibility and universal design before other factors. Samantha Fleishman is a student wheelchair user. She shares in a blog post why she chose the college she did: "The covered walkways were why I came to Skidmore" (Fleishman, 2017). Students who are disabled and use wheelchairs deserve an education just as much as nondisabled students. It should not be this difficult for them to find a place where they can thrive.

Has Virginia Tech Supported Universal Design?

Recently, there have been public controversies regarding accessibility at Virginia Tech. A recent controversy covered by the *Roanoke Times* was a sit-out in May of 2017 protesting a new set of stairs between two Virginia Tech buildings, New Cadet Hall and Major Williams Hall (Korth, 2017). In construction of the staircase, ramped access was not built. Unfortunately, people with disabilities are not the only people negatively affected by the new set of elaborate Hokie stone stairs; the lack of a ramp nearby affects families with strollers, people who are temporarily injured, and bicycle users. Dr. Shew was involved in this peaceful protest and shared her experience in a letter she wrote to Virginia Tech's student-run newspaper, *The Collegiate Times*:

> We're sick of the university's inventing a future that fails to include families, the temporarily injured and disabled people as equal citizens on campus. We're sick of taking longer routes. We're sick of using the side entrances. We're sick of master planning that takes away access. We're sick of transportation plans that don't acknowledge we exist and need to go places too. What we want is meaningful inclusion in every facet of campus life and planning. (Shew, 2017 May 4).

The goal of the sit-out was to promote awareness and require people to take the "long way around" to see what it would be like to access that area as someone who cannot use stairs.

Another recent event involved Burruss Hall, one of the most iconic and well-known buildings at Virginia Tech. A recent project led by the Virginia Tech Disability Caucus installed handrails on the sides of the stairs to the front entrance. Pamela Vickers, the director of ADA and accessibility services at Virginia Tech says, "this is a great step forward in our continuing efforts to be inclusive, accessible, and welcoming to all individuals who visit our campus" (Neff-Henderson, 2017). I agree that

this is moving forward; however, handrails still do not make the entrance into Burruss accessible for people who use wheelchairs or cannot use stairs. I also must note that the handrails were installed in 2017, while the building was built in 1936; it took 81 years to put in hand rails on the stairs to one of the most popular buildings at our university. To suggest better ways to Burruss Hall more accessible and universally designed, I decided to see where Burruss Hall stands in regard to universal design.

Located right off of the drillfield, Burruss Hall is home to many administrative offices, including that of the President, and a popular 3,003 seat auditorium. Many people are drawn to Burruss for concerts held in the large auditorium. Additionally, in front of Burruss Hall is a highly populated bus stop where students and faculty wait for buses to take them on and off campus. Virginia Tech's April 16th memorial site is located in front of Burruss. This building is used by undergraduate and graduate students, faculty members, Blacksburg residents, and out-of-town visitors; in fact, when high school students and their families tour Virginia Tech, the tour bus from the visitor center drops them off by the Burruss stairs. It can be assumed that people with various disabilities visit Burruss Hall each day. Since this area of campus hosts the President's office and many events yearly, the building's accessibility should ensure that all people feel welcomed and included. This means that all people should be able to access the facility in the same way. Unfortunately, that is not the case. After completing an accessibility assessment of Burruss Hall, I believe that Burruss Hall does not reach appropriate accessibility standards, specifically for people with physical disabilities.

I started my accessibility assessment of Burruss Hall outside of the building. Looking around, I noticed that Burruss Hall has appropriately sized handicap parking spots. The parking spots appear large enough for van accessibility and there is a clearly designated space in the street for pedestrian crossing. I then approached the building using the main concrete stairs in front of the populated bus stop. The stairs in front of Burruss Hall serve as the main entrance into the building; many people will take pictures on these front stairs when visiting Virginia Tech since the building is such a well-known and recognized landmark. As I mentioned earlier, the handrails on the side of the stairs that lead up to the main entrance were installed in 2017. However, there is no ramp in sight. There is no accessible entrance into the front of Burruss Hall. The only accessible entrance without stairs into Burruss Hall is through the tunnel near the back of the building. While there is appropriate blue signage leading to the accessible entrance, it still requires someone that uses a wheelchair or has mobility issues to go completely out of their way to enter the building. The lack of a ramp in front of Burruss Hall makes the main entrance inaccessible; this limits, separates, and inconveniences Virginia Tech visitors and community members who are disabled.

After taking the long way around and using the accessible entrance near the back of the building, I moved inside to take note of more accessibility features. The floor that someone would enter while using the accessible route is one level below the Burruss auditorium and many administrative offices. I headed up a ramp and quickly found the elevator that would take me to the auditorium and office areas; however, before continuing upstairs, I quickly noticed that there is no accessible entrance to the main lobby of Burruss Hall, even from the inside of the building. Two stairs leading downwards into the lobby create a huge and unavoidable barrier for people with limited mobility. A ramp would give access to people who cannot use stairs to an area of campus that many people enjoy.

Moving past the lobby inaccessibility, I then traveled by elevator up to the second floor of the building. The elevator is wide enough to fit multiple people, it has braille on the floor buttons, and it has ample lighting. Upon exiting the elevator near the Burruss auditorium, the President's office is immediately to the left. The entrance into the President's office has an automatic push button on the door and signage is clear and appropriately distanced from the floor. I am happy to report that from the elevator, the entrance into the President's office appears to be accessible. I am glad that this office is accessible because all people should be able to go to the President's office to voice their concerns and talk to administration.

Nothing stood out from the elevator and entrance to President's office that might cause a barrier. However, I believe that the most important qualification is not met: there is no accessible front entrance to Burruss Hall and there is no accessible access to the front lobby. Both of those problems would be solved if the university prioritized universal design and did more than just install handrails. I assume that the handrails installed in 2017 did enable more people to access Burruss Hall through the front entrance. Nonetheless, the handrails are not enough. I challenge the installation of the handrails with a statement from a student with a disability at Skidmore College in Saratoga Springs, New York, named Samantha Fleishman: "No amount of smiling at a flight of stairs has ever made it turn into a ramp" (Fleishman, 2017). I urge Virginia Tech administrators working on the master plan to plan a ramp installation for the front of Burruss Hall. I am aware that installing a ramp into this area of campus would be expensive and take time, but I believe that it would be well worth it. A ramp in the front of the building would allow an entire community of people to simply coexist. Students, faculty, locals, and visitors would all be able to access Burruss Hall the same way. No one would have to make a special effort to enter one of the most iconic buildings on Virginia Tech's campus.

Response to Counter Arguments

Counter arguments to my promotion of universal design on college campuses might state that universal design is unfeasible in some geographic locations. Other people think that ramps near the front entrance of buildings are an eyesore; even the title of the article from Virginia Tech News discussing the new installation of handrails in front of

Burruss Hall implies simply that the handrails "change the look of Burruss Hall" (Neff-Henderson, 2017). I strongly, but respectfully, disagree with both of those claims. In response to the sit-out on the stairs in front of the upper quad, a Virginia Tech spokesperson at the *Roanoke Times* stated that the "new set of stairs is on too steep of an incline for a ramp" (Korth, 2017). Dr. Shew disagrees and believes that Virginia Tech has the ability to do much more saying, "They [Virginia Tech] moved entire buildings. I'm not convinced that they could not have put a ramp in their plans." When asked if universal design is possible at Virginia Tech, the disability advocate remains positive, wanting to "see a lot more universal design projects" in Blacksburg (Shew, Personal Interview, October 2018). I am not saying we tear down all of the stairs on Virginia Tech's campus. I am saying that in order to work toward a universally designed campus, we must start somewhere. Working towards a fully inclusive environment starts with planning. That planning might include an adjustment in the way Burruss Hall or other buildings look, but it is well worth it in order to be fully inclusive.

A Call to Action: Where Do We Go From Here?

In order to make our university and others around our nation more inclusive, we have to start somewhere. According to disability advocate Kristen Wells, implementing universal design "gives students more opportunities to succeed" and "with a little help, universal design is easy to implement" (Flynn, 2017). Wells advises that universities focus on infrastructure, outreach, and empowerment, suggesting that "talk of universal design can be weaved into conversations that are already happening" (Flynn, 2017). Since stairs are a large physical barrier to people with mobility challenges, one concrete way to carry out universal design in master planning is to create more sloping walkways or ramps. While sloping walkways might require extra planning, the time and effort to change the way spaces are designed is well worth it. Sloping walkways allow people to use entrances the same way and it reduces the stigma of a separate ramped entrance as "special" or "handi-capped." A Facilities Net article about universal design on college campuses describes the value of sloping walkways best with an imaginary scenario. Picture this: a nondisabled tour guide is showing a student that uses a wheelchair around campus. They enter the library using a gently sloping ramp and remain deep in conversation, without the awkward moment of changing their route to find the entrance without stairs (D'Angelo & Catlin, 2018). In that situation, the sloping walkway benefitted the tour guide and the student. A simple change such as sloping walkways instead of stairs in a university's master planning eliminates separation.

The Hokie community can begin working toward universal design with small improvements. We have already improved tremendously with the creation of the Disability Caucus in 2014, a "space for disabled Virginia Tech community members and their allies to come together and engage in community buildings, mutual support, and disability activism" (Disability Alliance at Virginia Tech, 2018). The Disability Caucus works tirelessly towards making sure their voices are heard in the university's master planning. Dr. Shew even told me that after the creation of the Disability Caucus, many former students at Virginia Tech contacted her and said, "I wish they had that when I was there" (Shew, Personal Interview, October 2018). Waving a magic wand and fixing all of the accessibility problems overnight is impossible but changing our attitudes around the situation is within our reach. I ended my interviews by asking, "What barrier is most often faced for people with physical disabilities at Virginia Tech?" Someone that is nondisabled might mention geography barriers or simply "stairs" when asked that question. On the contrary, when asked the same question, Dr. Shew answered almost immediately that the largest barrier faced is the "attitudes related to infrastructure and bias" (Shew, Personal Interview, October 2018).

As someone who is nondisabled and can never fully speak to the disabled community's experience, I end with an excerpt from an article published by the University of Washington urging college campuses to step up and put universal design in their planning and goals:

> We all have responsibilities for providing access and a welcoming environment for anyone on our campus. It is not an office responsibility; it is not just the disability services office or the disability services provider or the director or the coordinator that is responsible to making sure that access is provided for students with disabilities, or that their needs are being met. It is a university-wide responsibility. (University of Washington, 2018)

In order to implement universal design at universities across the nation, all students, faculty, and community members, nondisabled or disabled, need to support the disabled community in their efforts and raise our voices to see change. Specifically, at Virginia Tech, if we want to be competitive with other colleges in admissions and attract eager learners to Blacksburg, changes need to be made. Universal design is critical on college campuses in order to include all students and make sure that they, too, feel like "This is Home."

Competing Interests
The author has no competing interests to declare.

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