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Reimagining Web Design: Empowering Agency of Specialized Audiences through User-Centered Heuristics

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Reimagining Web Design: Empowering Agency of Specialized Audiences
through User-Centered Heuristics

by

Haley Jones

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of English
College of Arts and Sciences
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DEDICATION

This dissertation is dedicated to all those “in my corner” who pushed me to succeed, encouraged me to grow, and never stopped believing in me. To my family, thank you for your love and support, and for instilling in me a drive for knowledge. To my husband, thank you for being a source of strength, support, patience, and motivation for me throughout this entire experience. To my 13-year-old dachshund, Liberty, thank you for being my study buddy, my constant companion, and for always being able to make me smile since the beginning of my higher education journey.

To my committee, thank you for your time and support throughout this process. I asked each of you to be on my committee because of your influence on my research; your insight and feedback were invaluable to the development of this project. To my advisor and mentor, Dr. Lisa Melonçon: behind every successful person is a mentor who believes in them first. Thank you for being that person for me. It’s been a privilege to be on Team Turtle.

And finally, this dissertation is dedicated to my younger self who took a leap into this academic journey all those years ago. Kudos to you for fulfilling a life goal but always remember it’s not the doctorate that makes the person, but the person that makes the doctorate.

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I would also like to thank the University of South Florida's English Department for being extremely accommodating in my pursuit for intersectional knowledge, enabling me to work with multiple departments at USF to gain new perspectives and insights about my research interests.

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ABSTRACT

This research seeks to create an alternative model for website design that interrogates standardized, linear ways of knowing and being by placing the audience at the center of the web design process. This research contributed a reimagined approach to traditional and standardized web design heuristics by considering an audience-centric methodology that was practical and applicable for web design praxis to create equitable user experiences which can empower audiences to recall their own knowledge and experience to make meaning for themselves through a reimagining of knowledge-making processes in a network of digitized information. In perceiving the rhetorical choice in design of websites, the rhetorical significance of finding aids within a digital information infrastructure, and the bias/influence that a web designer brings into the rhetorical situation of website, it is important for a digital creator to truly separate themselves from their digital creation. This sort of humanities-focused research re-engages with the idea that the human should be kept at the center of the technological process by reimagining and rethinking generalized ideas of knowledge-making and how it is influenced by a network of digitized information by centering the audience in the design process. Through user testing processes of this

research, this project developed the PULL heuristic which explains how current digital creators and web designers can incorporate equitable user experiences into their digitized projects. The PULL model is carried out through Providing solutions for user needs by allowing user feedback to be prioritized in influencing the planning and overall goals for the redesign process; Understanding that everything on a website is a system of meaning that feeds into the users' understanding of the contextual situation. This can be measured by conducting asynchronous and synchronous interviews with individuals who represent each website's specialized user-audiences – learning about the specialized website's user-audience(s) and their needs and frustrations. This can also be measured through pre-design survey data and by listening to user needs and experiences on a continuous basis and reacting to those experiences through reiterative design to meet evolving user-audience needs.

CHAPTER ONE: INTRODUCTION

It matters what matters we use to think other matters with; it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what descriptions describe descriptions, what ties tie ties. It matters what stories make worlds, what worlds make stories.

(Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*, 2016, p. 12)

I've always been fascinated by the practice of storytelling and how it – to use Donna Haraway's words – "makes worlds." That world making through stories has the potential to create information and to expand understanding. Because the *act* of storytelling occurs in all sorts of ways because each way follows a similar model: a speaker, a message, and a captive audience. This research is interested in the ways that storytelling influences, creates, and disrupts knowledge-making on digital infrastructures, more specifically, websites. Storytelling – as Haraway puts it – can "make worlds" which become truth and knowledge to susceptible audiences. The act of storytelling is rhetorical.

Stories reinforce cultures, history, and societal morals and values. Therefore, stories are never just stories – storytelling is the act of rhetorical invention – to communicate a specific message for a specific purpose. In thinking about the narrative importance of navigational infrastructures and the rhetorical significance of finding aids within a digital information infrastructure, this research is interested in the ways that traditional heuristics for web design employ rhetorical intervention to make meaning *for* audiences, or users, of the website. This research feels that the same rhetorical invention that is currently utilized by website creators or digital rhetors within web design can also be harnessed to create equitable user experiences for audiences of websites to create space for knowledge-making without the rhetorical influence of other agendas. Most usability heuristics in use by web developers today are meant for broad application and do not offer the affordances of a design that can ebb and flow depending on the situational context of which the user is interacting within. But through harnessing the rhetorical intervention of a web designer’s agency in influencing the design, and thus the narrative, of the website’s information, this research looks to also create a rhetorical intervention in the way that we design websites.

Therefore, this introduction chapter will seek to explain the concept of developing a new set of website heuristics that enable equitable user experience practices through the interweaving of human-centered

experience and knowledge. By centering human experience as an important guiding principal for a reimagined set of heuristics for specialized websites, a website's audience can find possibility in making their own meaning with the information presented to them to suit their purpose in a real-time moment as opposed to their meaning being influenced by the designers' purpose in a juxtaposed world-building narrative.

I have observed this world-building in my own real-world praxis in journalism and marketing. Storytelling has always been my trade-of-choice. Early in my career, I had the opportunity to write for two local newspapers. To me, each news piece was a story; someone's narrative; someone's truth. I wrote on a multitude of subjects ranging from local politics, crime, business, and citizen features. My style had a flair for raw transparency with the sole purpose of embodying the viewpoint of the person or the entity that I was interviewing. My stories were received well by the local readership, and my reporting career grew with the development of the online newspaper with which I was employed.

But then I wrote a piece about a new business moving to town. It split the opinions of the locals. The story was about a business who had went through all the proper permitting and procedures until it came to their signature move: an oversized, exorbitant, 40' x 80x ft. American flag. But because the flag was the source of the criticism, the story quickly turned into question of patriotism, and not defying city ordinances. My story tried to

uncover that the type or nationality of the flag was not the issue here: it was the blatant disregard for sign permitting. Furthermore, the business had interstate-front property and the flag could serve as a potential distraction or even a hazard if it should become loose for any reason. Further research revealed that this was a business strategy utilized in several states in which the business who place this oversized flag up overnight without any permitting whatsoever, and then argue with the City through a series of targeted Tweets that it was a matter of patriotism – when in fact, this was a rhetorical invention for an audience’s attention and buy-in. But all of this fell on the deaf ears of commerce-driven American patriots who were blinded by the world-building story of patriotism, and they refused to acknowledge that the real story (both figuratively and literally) was about a commerce-hungry, publicity-stunt-pulling, pose-behind-patriotism, business. I soon realized that my reporting created worlds of truth *for others* and the weight of this and how it impacted public opinion was sobering. People become enthralled with the pursuit of truth and meaning but are unfortunately too eager for the retrieval of information. Once it is received, it is not questioned. People take the path of least resistance rather than pursue the messy dissection of the ‘why’ behind that information.

As a change of professional scenery, an opportunity opened the door for me to begin a new career path in marketing. I cultivated my storytelling telling skills in representation of one voice to tell one specific story to a

specific, specialized audience. It was different than just retelling the story. This side of the storytelling coin required me to not only tell the story on behalf of another, but in that storytelling practices I needed to be persuasive enough to *intentionally create meaning for others* to sell, to inform, to convince.

I found success in this intentional creation in marketing for festivals, public events, nonprofits, fundraisers, a nonfiction book, political campaigns, and educational institutions – most particularly, I found that using these elements on a digital sphere provided more opportunities for connection because audiences were looking for engagement. I felt at that time and still feel today that success was attributed less to the skill of storytelling or the practice of marketing but more from an understanding that each of these agencies' *purpose(s)* have a specific *audience* that is interested in a receiving a certain message and a particular story. And that story must be *designed* in a way that evokes action to sell, persuade, inform – just *fill-in-the-blank*.¹ It's rhetorical invention. Since rhetorical invention is essentially the process we assume when we want to be effective communicators, I became fascinated with this ability to build worlds using the act of

¹This is in reference to the Purpose, Audience, and Design model of Technical and Professional Communication much like "a technical communicator will write and design documentation in a way that a user may engage with it. The way those arguments may be framed — or the way rhetoric invoked — would be entirely different, as would make sense with diverse audiences." (Ans. from Lisa Melonçon in interview via Johnson, 2018).

storytelling – but furthermore – the concept of agency within the rhetorical situation and who agency resides with.

In thinking about the rhetorical situation and assumed agency within the concept of narrative streams of information on websites, website creators withhold the agency to take action, to affect change, and to intervene because their design choices influence and impact the way that information is received on a website. Website creators function – as this researcher sees it – as digital rhetors because they control the digital discourse of information through their design choices. To be more specific, website creators function as neo-Aristotelian rhetors who are “under the influence of the nominalistic individualism” which “left behind the community framework inherent in the Greek tradition” in which a rhetor’s success was dependent upon their audience’s acceptance, and

“whatever accomplished the rhetor's purpose was taken to be good rhetoric, regardless of its consequences for the ecosystem as a whole...[T]his rhetor-centered approach blinded itself to the value implications of reducing the criteria of rhetorical practice to mere effectiveness in achieving the rhetor's purpose. If pedagogy follows this idea of competence, then the neo-Aristotelian teaches that whatever works is good rhetoric" (Mackin, 2014).

In other words, a web designer functions as a digital rhetor because they make design decisions that are best for themselves or the agency they are

looking for. They structure and present information on a website to serve their own purpose and make meaning for the audience. And in doing so, a model for one way of doing things (i.e. heuristics) has become the acceptable application for website design.

However, this research wishes to trouble the concept of rhetor vs audience within the rhetorical situation of a digital infrastructure – because the technology of digitization provides a multitude of possibilities for more equitable user experience models with agency shifted to the website’s audience.

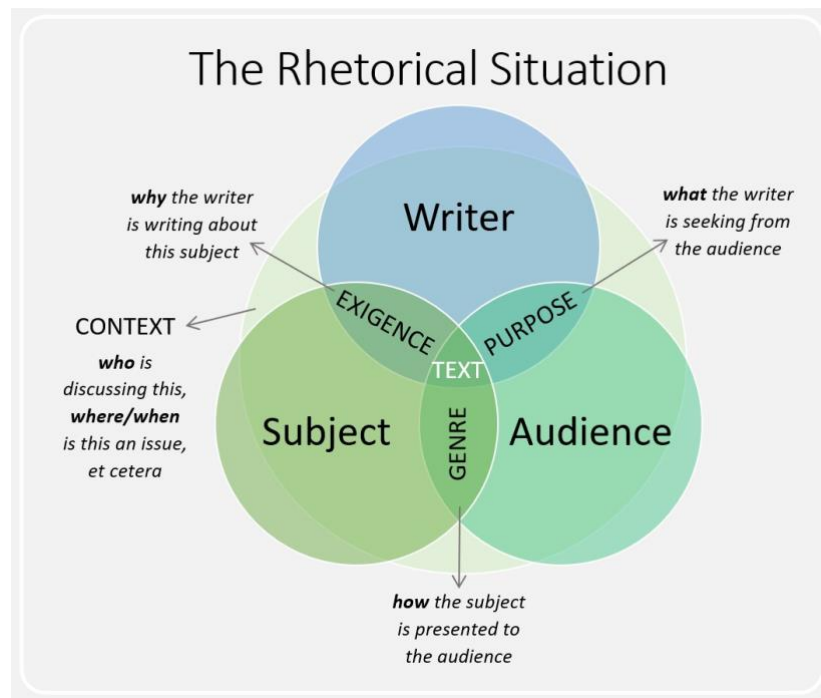


Figure 1.1: Traditional Rhetorical Situation

In bare-boned versions of this traditional, linear model, the rhetor (or writer as referred to in above *Figure 1.1*) is typically placed at the top of the “triangle” because they assume the agency to control the actions of the current communicative situation. When you add the context, which is the exigence, the purpose, the genre, and the text, the bare-boned rhetorical triangle becomes a situation. A situation because elements and actors are *situated* in certain roles to either give or receive information.

This situatedness is portrayed as one model to emphasize one way of knowing things and this creates a networked, habitual use of a set of heuristics that standardizes the way that we receive information. These heuristics – such as thinking about the way we design websites – are created as meaning made for audiences in that decisions about design and the structuring of information are made well before the audience even sees the website. Information is structured for you in a way that is deemed acceptable by you and you go along with the information received because it is assumed to be *for you*. But to rethink our idea of knowledge-making and how it is influenced by a network of digitized information, “the internet is no longer separated from the body;” it is an embodiment of the value of YOUs” (Chun, 2016, p. 3), a value on the information that the rhetor-centric communication is assuming will be best for you – removing your agential choice from the situation.

And over time, the lack of agential choice on digital infrastructures becomes natural to audiences because:

Habits are creative anticipations based on past repetitions... Through habits, networks are scaled, for individual tics become indications of collective inclinations. Through the analytic of habits, individual actions coalesce bodies into a monstrously connected chimera (Wendy Chun, *Updating to Remain (Close to) the Same*, 2016).

These habitual patterns are made invisible to susceptible audiences because they are used to the lack of agential choice and are instead modest participants in predetermined pathways of information that have been architecture to persuade, to sell, to inform as the status quo **Truth**.

I carried this thought with me while in the middle of my marketing career, as I decided to pursue a master's degree in English. In a course titled, *Kickass Women Writers*, I was enlightened to the fact that in 1853, America's first woman columnist, writing under the pen name Fanny Fern, first coined the phrase: "the way to a man's heart is through his stomach." Within the context of the column within which the phrase belongs, the quotation denotes sarcastic criticism of a man's hunger, suggesting that he is most vulnerable at that moment, and therefore, housewives should take advantage of the moment to benefit their own means within what could otherwise be a nonnegotiable situation. I didn't know this part of the story and neither did my other peers. Fern's quote was meant to empower women

and yet, I had only ever known or heard it referenced in context to a woman's subservience in the kitchen, to serve a man with food to make him happy. I had seen the quote used on aprons, and cookbooks – subtle signs towards a "woman's place." And I had not previously knew an association of the author to the quote. To find out that that the meaning I had known had been one version of the truth was captivating, and yet, the possibilities of knowledge of the quotation – the original meaning² – was limited and largely unknown. There was a void within public knowledge where there should be more transparency. *Why?*

I was reminded of how stories create worlds of meaning and how this praxis does not always lead to the truth. In contrast, I wanted to give audiences a chance to know the truth about Fanny Fern and her 1853 quotation. My professional work had made me conscientious of the meaning-making power of storytelling for susceptible audiences. This alignment of my praxis and scholarship informed my academic project: I resolved that Fanny Fern's original truths would be reintroduced into public knowledge in the form of a website, a digital archive of knowledge, an online information infrastructure. Afterall, I had experience in building websites of smaller models of online information through my marketing work.

² This research found inspiration in Derridean theory in consideration of the original and the replicate as creating a present haunting from the past; the original and the replicate can also represent how dominant ontologies of truth have been scissioned upon public knowledge to create recontextualizations.

The loss of Fanny Fern's voice to a public audience also reminded me of how agency is lost in a rhetor-centered situation, in which information does not fit a rhetor's purpose so they omit it from the audience's ability to recall that information, eventually creating an inability to recognize the information at all. As Donna Haraway stated, "it matters what stories make worlds, what worlds make stories" (2016, p. 12) including the absence of stories or details to influence a pseudo truth.

Although storytelling has always been an interest of mine, it also haunts³ me to know that these same constructed worlds of information are riddled with a multitude of possibilities of meaning *but* the audience will only experience a limited view of those possibilities through the lens of preconstructed meaning. In pursuing this solution, my graduate work continued to focus on the development of a specialized website for a specific audience. This reimagined model for information websites would display information in a multitude of ways and thus place agency with the user *to make meaning for themselves* by creating an online space for the user to explore information, educate themselves, and formulate understanding for their own intentional purpose. This continued work also informs my professional work in my role as Director of Marketing and Communications for Mitchell Community College. Most recently, I lead the redesign and

³ For me, Jaquez Derrida's concept of hauntology plays an important role in the design of my research because it helps me to conceptualize an epistemological understanding that acknowledges most knowledges have underwent a series of recontextualizations that have scissioned it from its original meaning depending on the context of which is presented – an idea I had/have also experienced in my praxis in journalism and marketing.

implementation of the College's website with consideration of a specific *audience* interested in a 2-year educational institution.

With both an academic and professional interest in the matter, I recognized that creating content that is relevant to audiences is an age-old challenge for web designers, but this is especially so for specialized niche audiences like that of the Fanny Fern Archive or the Mitchell Community College website. The audiences of these websites possess or seek niche knowledge and therefore, the experience of the user couldn't be too narrow because the website needed to serve the purpose of multiple audiences for multiple purposes around this specialized knowledge, but it also couldn't be too broad in that, the different user-audiences needed a way to navigate and organize relevant information for their own contextual purpose.

Therefore, in creating a reimagined web space for equitable user experience that can be utilized across a span of website genres with specialized audiences, this research sought to use the design and development of real-world websites and the feedback of specialized user audiences to produce guiding methods would give the digital rhetor the space within the design to build inclusive spaces and agency-driven knowledge-making tools *that are based around* the needs of that specialized, niche audience. Therefore, this research seeks to create a set of heuristics that guide the development of an equitable user experience, tested through the design of two radically different types of websites: the Mitchell

Community College website, an e-commerce type model, and the Fanny Fern Archive website, a niche-genre.

The design and navigation of a website has the power to shape material realities and build worlds with material consequences for user-audiences by generating meaning. Therefore, this research wants to trouble the idea of assumed agency of the traditional rhetorical situation with the website creator as rhetor; rather, this research would like to reimagine a website's audience as having the ability to assume agency and frame the information in a way that matches the context of their purpose in a real-time moment. The website rhetor builds the website and lays the blueprint for information dissemination using web design heuristics of equitable user experience, and the user-audience gets to function as rhetor as they recall and organize the information in a way that serves their real-time purpose. Because the frame of the information is what makes the contents make sense. Change the frame, and you change the meaning. In the case of specialized websites with specialized knowledge for niche audiences, shifting the agential choice to the audience(s) creates more of a value for knowledge-production.

In rethinking agency in website design and implementing user experience praxis with a feminist approach, "we can perform this culturally reflexive work to better understand the material consequences for network users" (Adams, Applegarth, Simpson, 2020, p. 4) and move praxis towards

more favorable models of user participation on digital platforms of knowledge-production. Because within a digital ecosystem, the situatedness of a digital audience and the active presence of their agency contrasts from the passiveness of a traditional audience of the rhetorical situation.

Traditional audiences of the rhetorical situation relied on the rhetor for entertainment whereas digital-era audiences rely on engagement to create effective communication.

Considering user experience of a user-audience as a way to create knowledge helped my research merge the digital design of information with the agential choice of the audience for the purpose of creating a digital tool that provides context for a user to make meaning for themselves. In thinking about the narrative importance of navigational infrastructures and the rhetorical significance of finding aids within a digital information infrastructure, this research project aims to create web design heuristics such as implementing that support equitable user experiences and facilitate a user-audience's agential choices by design testing on the Mitchell Community College website, an e-commerce type model, and the Fanny Fern Archive website, a niche-genre.

These two different web designs for two vastly different audiences and purposes are tied together by the common thread that both websites speak to niche audiences that have very specific purpose. This research is interested in testing how a new set of equitable heuristics can employ the

best practices of digital rhetoric and equitable, user-centered experience to empower specialized audiences of informational websites to use more agency in knowledge-making decisions when interacting with digitized content. Therefore, this research seeks to understand:

- ◆ How can a new set of web design heuristics consider more equitable user experiences for specialized audiences who seek out information in a way that they can make meaning for themselves, enabling audiences to better understand information for their own purpose on a tech-mediated platform?
- ◆ How might website creators and digital rhetors utilize user-centered web design heuristics to reconsider the way that information pathways are pre-narrated for user-audiences? Instead, what if websites were architecturally constructed to present information to a user in a way that creates multiple paths of knowing such as by providing users with multiple navigational paths to retrieve information?
- ◆ If users-audiences are given a multitude of contextual ways to frame their own meaning, then what multitude of possible meanings do they derive in a real-time moment from the information presented? What does this user agency do for the purpose of the website? Does it facilitate critical thinking and mind-mapping that is purely generated by the user, rather than following

a traditional model of information made for the user? And does this agential choice benefit the user and the purpose of the website equally?

To find answers to these questions, this research utilized user experience, the usability of a website, and participatory design as the broad methodology while also applying user-centric methods of users' self reflection, A/B testing of both websites, and user interviews to determine if their experience was equitable based on if user-audiences found the means to create knowledge for their own purpose.

I hope that this research will allow me to develop an updated heuristic for web design that centers around equitable user experiences for specialized audiences as opposed to marginalizing user-audiences who do not fit the norm of a linear system of web design heuristics. This web design model will create a space for specialized audiences to engage in user-centered practices that give opportunity to the user-audience to interpret meaning for themselves in a multitude of ways based on their own critical thinking. This alternative model to mainstream web design practices was inspired by both scholarly and practical interests that fostered a bonded goal to mold storytelling practices and equitable user experience together to create a set of web design heuristics that foster self-agency and equitable knowledge-making practices in digital spaces.

CHAPTER TWO: LITERATURE REVIEW

To better understand the direction of my research, the following sections of this review will discuss current literature in several key areas, including:

- Web Design
- Information Architecture
- User Experience / Usability
- Digital Humanities: Digital/ized Rhetoric, Equity, and Inclusion in Design

These areas of study are important because – when reimagined in more human-centric ways – they create a pathway of possibility for digital practitioners to incorporate user-centered heuristics within web-based information infrastructures. Web design architecturally constructs information in a pre-narrated way which situates knowledge by making meaning for unassuming user-audiences who peruse websites seeking information. This predetermined situation of knowledge creates an information architecture that generates an overall meaning for the user because the information has been organized in a specific way for a specific

purpose, governed by the web design. The experience of the user is affected by a preorganization of information and the architectural way in which the user interacts with the web design, which then determines the overall effectiveness of the usability of the site. All these elements play a crucial role in communicating information and providing meaning *for* the user of a website.

Web Design

In looking to create a new set of heuristics for web design, I needed to understand the foundation of best practices for establishing heuristic protocols in the first place. In a systematic review of 73 studies related to usability heuristics for specific domains and methodologies (Quiñones & Rusu, 2017) it was concluded that the creation of heuristics is mainly based on existing heuristics, literature reviews, usability problems, and guidelines.

In my general review of currently existing web design heuristics, most popularly, I think of Jakob Nielsen's web design heuristics – as do most others who follow widely-accepted website usability guidelines. The popular Nielsen Norman Group of website heuristics was first created by Jakob Nielsen who first established best practices for usability methods in 1993. Jakob Nielsen published *Usability Engineering*, an early defining text for user research methods and best practices in 1993. At the time the history article was written in 2018 (where this info was sourced from), Nielsen's usability

text had been cited by over 15,000 scholarly articles (Nielsen Norman Group History) which represents his influence in the world of usability design. While these heuristics are extremely valuable in their foundational pursuit for models of information infrastructures and usability practices that support a user's experience, it is also important to understand that these guidelines are *just that* – a foundation of which new possibilities for user experience models can continue to improve and expand – a rhetorical uptake on current usability web design guidelines.

It is this research's responsibility to point out that the Nielsen list of usability heuristics, by definition, are meant for broad application and do not offer the affordances of a design that can ebb and flow depending on the situational context of which the user is interacting within. This means that within commonplace heuristics, there is opportunity for rhetorical intervention and invention.

In 1994, Jakob Nielsen published an article, "10 Usability Heuristics," which became the world's guiding principle for reference when it comes to usability web design (History of Nielsen Norman..., 2018). Later, in 1998, Jakob Nielsen and Don Norman, co-founded the Nielsen Norman Group. Ever since then, the influence of Nielsen's usability heuristics continues to influence the praxis of web design and usability. But when there is one way of knowing and one way of thinking, we tend to lose sight of other

possibilities and other narratives of knowing. Such is the case with one Nielsen's web design heuristic: "Recognition rather than Recall."

Nielsen's "Recognition rather than Recall," is a double-edged sword. On one hand, this heuristic is a necessary communicative strategy in web design which works to minimize the user's memory load by minimizing the amount of information that a user needs to remember and thus "reduce the amount of cognitive effort required" (Nielsen, 1994). And this absolutely works for websites which have purposes of *persuading or selling* information such as in the case of commerce websites. But on the other hand, if this recognition over recall heuristic is understood to be a best practice for *all* websites, then what consequences does it create for purely educational, informational websites? It creates an avenue for digitized rhetoric to disseminate information to potentially susceptible user-audiences by creating a limited way of narrating the information to fit a specific purpose that may or may not fit the user-audience's purpose, but it certainly will influence their meaning derived from it.

Nielsen's 1994 heuristic parallels with the knowledge of Andrew Feenberg's idea that public user-audiences are unassuming of the information they receive from digital power-shifting tools of information, accepting the observed social "inputs" of data as *natural*, creating a systematic, universal "output" that is deemed efficient. Digitization of information therefore can function as a rhetorical action in which digitized

information infrastructures are built to embody digitized rhetoric as a method of communication of information and as a positionality to fulfill a dominant purpose of sharing a specific message.

In 2022, the Nielsen Norman Group released an *April Fools* article in which they spoofed their own usability guideline: recognition over recall (Nielsen 2022). Titled, "Support Recall Instead of Recognition in UI Design," the article states that users have changed, and it pokes fun at aging users who no longer have the ability to recall as quickly as they once did; thus, the article argues for the support of more "recall" technologies to address "the issue of memory degradation" to serve humanity. The article then goes on to provide readers with "gag" heuristics that are more of a hinderance than useful. The article concludes with Nielsen breaking character and admitting that the article is a joke. He directly asks the reader to take a moment to reflect on where in the article they first realized that it was a hoax. He then utilizes his own form of rhetoric to solidify his own purpose of establishing the value of his usability heuristics, concluding with: "why did you not realize that this was a fake earlier in the article? Could you be taken in by equally bad arguments presented in all earnestness by ill-informed participants in your design meetings?" (Nielsen, 2022).

Although the article jokingly states that "it's reasonable that a guideline that refers to something as changeable as human memory can – and thus should – change" – *why is that a joke?* This researcher asks why it

is not reasonable to question a heuristic after 20+ years of dominant praxis on the usability market. What if the concept of “what’s good design remains the same decade after decade” (Nielsen, 2022) isn’t good? What if *the consequence* of “train[ing] users to not use their memory skills” – as Nielsen so light-heartedly puts it in his satirical article – has made people lazy and has affected their ability to think critically on their own in digital spaces? What is this limitation of information doing to the meaning made by public user-audiences? How is knowledge influenced, limited, and lost? How might web design heuristics for usability instead work towards a “betterment of human technological relationships without compromising the agency of human knowledge making” (Risam, 2015) in technosocial spaces of information infrastructures? It is the goal of this research project to find answers to these questions.

In diffracting from this idea of a limited view of information, and in envisioning a space for user experience agency, this research seeks to interrogate the current user experience/design guidelines which support a set of heuristics that is hell bent on remembering and recalling *for* the user. And this research isn’t alone on questioning status quo guidelines, and asking how reimagined heuristics could create new possibilities for web design:

“Nielsen's heuristics make it possible to assess some general usability aspects of any application, such as error prevention; user control and

freedom; flexibility and efficiency of use; among others. However, as they are “general heuristics,” they ignore critical elements of a specific application. Therefore, it is necessary to develop new specific heuristics to evaluate features or unique aspects of a specific application domain (Quiñones & Rusu, 2017, p. 97).

In both cases of the Fanny Fern Archive and Mitchell Community College’s website redesign, there was an obvious *need* for a new set of heuristics mainly based on the observation of usability problems specific to the user experiences of differing user-audiences. In comparing this evident need with the Nielsen web design heuristics – most specifically “recognition over recall” – the need for a new set of heuristics made evident that traditional guidelines did not work for the specific purpose and specific need of specialized audiences. It is this research’s hope to start at the basic web design heuristic of *recognition rather than recall* and then work backwards to “cover the gap that exists” (Quiñones & Rusu, 2017, p. 97) and examine “how currently existing heuristics can be used to define new heuristics” (p. 99).

In thinking about a new set of heuristics for equitable web design, it is relevant to consider the situatedness of a website and its tech-mediated communication in today’s digital world. Tech-mediated communication can be thought of as “a negotiation between producers and users of information mediated by new, emerging, and continuously changing communication

technologies (Grice, et al., 2013, pp. 5-6). Websites are forms of tech-mediated communication because they implement a secondary instrumentation of “the other” in which a user-audience’s original interpretation of the information presented is not their own – *meaning is made for them* through technological dissemination of information.

Instrumentation of information via technology can be thought of as information that is naturalized and “produced through complex agential interactions of multiple material-discursive practices or apparatuses...where apparatuses are not mere observing instruments but boundary-drawing” (Barad, 1998, p. 206). This boundary-drawing instrumentation of technology places limitations on prescreened information that produces situated knowledge to represent a logic that is “constantly present and at work” (Derrida, 1981, p. 307) through a recoil in the [human] machine, a reaction that enacts a triggering of repetition in the apparatus of dominant narrative with humans functioning as the social, driving tool. Like a well-oiled machine, this repetitive apparatus of linear logic continues in its (non)representation of pseudo knowledge-making practices, with the user-audience functioning as a tool (p. 299) to (re)create meaning for themselves in a world *that is represented to them*.

Websites must not be viewed as passive conduits of information but “rather they must be acknowledged to be active elements that influence the quality of the total user experience with a technology” (Grice, et al., 2013, p.

6). Websites function as active tools of website information. Because of traditional website design heuristics, a user's ability to create meaning for themselves is limited because this agential choice clouds predetermined digitized rhetoric that narrates the information with a specific knowledge-making purpose driven by the web designer, the digital rhetorician.

In centering this research with the goal of challenging the parameters of "recognition over recall," while seeking to provide resolutions to real-world usability issues, this research grounds itself with guidelines established by scholars in professional and technical communication to move web design into more accessible, equitable spaces for user experience. In a special issue of *Technical Communication* on developing heuristics for web communication, a set of five heuristics were established to better "support the design and evaluation of information and the way it is presented" (van der Geest & Spyridakis, 2000). Those five heuristics considered:

- The rhetorical situation as it is created by authors of web design;
- Navigation of the information structure which allows users through the site;
- A presentation of verbal information so that users can comprehend meaning;
- The visual display and presentation of information;
- The involvement of users, either directly or indirectly, in the design and evaluation of web design.

In its reimagining of “recognition rather than recall,” this research has already established an awareness of the rhetorical situation determined by a website’s design. But web design is an overarching umbrella of instrumentation that encompasses multiple elements:

- The architecture of information presented on the website:
- The usability of a website and its effectiveness to user experience which Donker-Kuijer, de Jong & Lentz (2010) addresses in their research in which “effective communication” is key to “help readers to find and comprehend information” (p. 259).
- The involvement of users much like Acharya covers in their 2022 research of the “participatory design approach [which] means working with the user as both an actor and a co-designer to co-construct the whole design practice and make design decisions collaboratively” (p. 13).

The navigation of information will be the next focus of this literature review most particularly through the review of a website’s information architecture. The design of a website follows a specific schematic that speaks to a specified audience for a specific purpose. Therefore, web design is a predetermining factor in creating meaning for users because the architecture of its information functions as a determining factor in its knowledge-making effectiveness. It is the effectiveness of knowledge-making that I want to unravel within website design, with hopes that traditional heuristics can

create a foundation for rethinking a new set of heuristics that facilitates equitable user experiences.

Information Architecture

The information architecture of a website determines the overall meaning that a user generates from the information presented because the creator of the website – the digital rhetor – has organized the user’s engagement with the information in a limited way to promote “recognition over recall.” Information architecture functions as a system that organizes, structures, and labels content in an effective and sustainable way to help users find information to complete tasks. Elements within this architected structure exists in an interdependent nature of one another: Context, Content and Users (usability.gov).

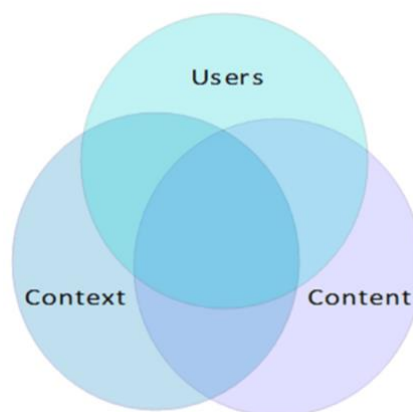


Figure 2.1: Information Architecture | Usability.gov

This interdependent nature is described by Rosenfeld and Morville as an “information ecology” which “helps users understand where they are, what they’ve found, what’s around, and what to expect” (usability.gov) and informs the user interface design and content strategy of a website. A user experiences information from the website in a pre-narrated way that serves a specific purpose crafted in the form of a specific message. The user receives the information and understands the knowledge in one way, but this research asks web designers to consider how we might pull back the limited view and make the secondary instrumentation of other “possibilities” of meaning evident for website users and their specialized needs?

As discussed earlier, websites function as tech-mediated communication which transcribe meaning of information onto public audiences. But public understanding cannot be seen as a given, but rather as a shifting, layered act. And these shifting layers of action are intertwined with tech-mediated technologies which are networked within human interaction and potential intervention. This intervention calls for creators of tech-mediated technologies to reconsider how information is framed and reframed in a narrative that shapes what is remembered, what is understood, and what is known by user-audiences. This power to control information – whether intentional or unintentional – should *be questioned and thought about critically*.

Latham (2002) proposes a similar approach to information architecture. Describing it more like an apprenticeship in which you learn as you go, and in which a multitude of disciplines and skills are combined with adapting approaches, information architecture considers praxis and the rhetorical tradition to “achieve the goal of ‘combining the generalist’s ability to understand the perspectives of other disciplines with specialized skill in visualizing, organizing, and labeling information’” (p. 826). This incorporation of praxis and theory through rhetorical intervention is what Salvo (2004) feels can democratize techno cultural development of technology because the role of technical communicators is to be “information architects who practice a rhetorical craft necessary to build solutions that address the contextual needs of users” (p. 39).

Websites are typically tools in which “the information architecture must understand the goals and subject matter of any particular site” and this is the case for technical communicators and creators of digital mediums (Latham, 2002, p. 826) such as websites. These individuals function as digital rhetoricians, crafting messages based upon the ways the information is presented and organized, and how the website is designed to navigate that information. Many researchers, like Everett McKoy (2010), agree that the navigation of a website “refers to the methods we design that let people move around information” (p. 366). Therefore, navigation has the potential to provide users with so much more than one limited narrative of

information. Rather, navigation is “an entire system that combines different pieces for different needs” (p. 366). Therefore, the builder of a website’s navigation should be conscientious of the audience and the purpose for which that audience is accessing the information. The design of a website’s navigation should be designed with a multitude of ways for that specific audience to find, organize, and derive meaning from the information provided. Therefore, the navigation of information on a website is crucial to a user’s understanding of the information present.

This research is conscientious to the functionality of a digital information infrastructure as a knowledge-making tool which employs dominant information infrastructures to make meaning for user-audiences. It is crucial to pause here and establish that a website serves as a digital information infrastructure which makes meaning through its architectural design of preorganized information to facilitate a user’s understanding. Therefore, the information architecture of a website can arguably be identified as an information infrastructure that functions as part of a larger network that contextualizes meaning in such a way that shapes the knowledge-making practices of user-audiences and thus, situates knowledge for unassuming user-audiences who peruse websites seeking information. The recoil of dominant ontology continues in a blanket approach of common web design heuristics that ignore the needs of specialized user audiences seeking specialized information. To interrupt this recoil of dominant

ontology, this research seeks to provide new methods of constructing information infrastructures on digital mediums by employing human-centric heuristics that open possibilities for information to be structured in such a way that meaning is made by users.

In their study on feminism in the age of digital information, Jacqueline Wernimont and Julia Flanders (2010), turn a reflexive eye to the functionality of a digital information infrastructure as a knowledge-making tool. During their research, observations were made of how a user accesses information from a digital infrastructure with specific attention to the finding aids and navigational methods that are available to user-audiences to locate specific information on a digital site. In their examination of information recall flaws in the Woman Writers Online database, it was found that because archival materials were organized by certain keywords that informed the way the finding aid search bar organized information *for* a user-audience, thus, the recall of that information was limited to a specific narrative and thus eliminated the possibility for other ways of knowing. This affected users' ability to recall or find certain information. It is concluded that for digital information infrastructures to truly work as feminist knowledge-making tools, they must provide a more valid representation of the knowledge(s) that are present. In turn, creators of digital archives must ask themselves: "in what ways (if any) ...can we say that the tools and

technologies of the digital archive are themselves feminist? In what ways are they limiting?" (p. 428).

To avoid limiting knowledge, what if informational websites were architecturally constructed to present information to a user in a way that creates multiple pathways for multiple ways of knowing? The websites that serve as case studies of this research look to employ user-centric designs that enable user-audiences to interact with the website's navigation menu(s) in a way in which that they never hit a dead end when interacting with the site's information, following their own navigational path to create their meaning for their own purpose, not the designers' (Mckoy, 2010, p. 398). The idea of centering usability practices around knowledge gained by the user is a step towards creating heuristics for more equitable user experience.

User Experience / Usability

The information architecture of a website is a site of intervention that "invites practitioners and academics to develop plans for action" and these plans inform the actions of the website designers (Salvo 2004, p. 42). The experience of the user, which is affected by a preorganization of information, and the architectural way in which the user interacts with the web design determines the overall effectiveness of the usability of the site. But user experience is a massive umbrella which encompasses different approaches

and methods to help users understand where they are, what they've found, what's around, and what to do next.

Thus, two existing approaches in modern web design that offer building block opportunities for more equitable heuristics of website construction are:

- ◆ User-centered design (UCD), which "focuses on individual users, which produces user-friendly designs and outcomes."
- ◆ Human-centered design (HCD), which places "'humans' as its central focus, which lends itself more to 'social problem solving'".

Despite their differences, both approaches focus on the end user, with a goal "to design products around users, rather than requiring users to adapt to the products" (Digital Adoption). Therefore, in taking an intersectional approach, this research utilizes elements of *both* user experience approaches that focus on individual users and their meaning alongside a bigger picture goal to rethink web design heuristics with human needs in mind to rethink more equitable user experiences.

Don Norman, Co-founder and Principal of the Nielsen Norman Group, states that "if you want to create a great product, you have to start by understanding the people who will use it" and that it is crucial "to help designers humanize the people whose needs they designed for" (*What is human-centered design?* 2021). Norman defines user human-centered design in the following way:

People-centered: Focus on people and their context in order to create things that are appropriate for them.

Understand and solve the right problems, the root problems:

Understand and solve the right problem, the root causes, the underlying fundamental issues. Otherwise, the symptoms will just keep returning.

Everything is a system: Everything exists in a system of interconnected parts.

Small and simple interventions: Do iterative work. Continually prototype, test and refine your proposals to make sure that your small solutions truly meet the needs of the people you focus on.

4 Principles of Human-Centered Design



People-Centered



**Solve the
Right Problem**



**Everything is
a System**



**Small & Simple
Interventions**

Interaction Design Foundation
interaction-design.org

Figure 2.2: Principles of Human-Centered Design

If this research seeks to create a new set of website heuristics that create equitable user experiences, then it is crucial to involve user-audiences as a participatory part of the design process of the website because “the interface and everything connected to it is an undeniable part of the user’s experience as ‘successful digital artifacts are designed to be experienced, not simply used’” (Grice, et al., p. 7, 2013).

This research puts user experience at the forefront of its guiding practice to “advocate [for] inclusion and critical analysis...situated in the materiality of technologies...central to an intersectional approach to digital humanities” (Risma 2015). By combining aspects of user-centered and human-centered practices to create equitable user experiences in combination with incorporating participatory design at the forefront of the design process, digital humanities theory can be put into praxis by keeping the human at the center of the rhetorical situation of tech-mediated communication.

Most all new work in usability and user testing agrees that usability best functions with the user at the center of all design decisions. But placing the user at the center of the design process can be messy because it includes a “provisional framework” that’s temporality lasts only as long as the user is in need of such a design, as is the case with Jahnke, Schmidt, Pham, and Singh (2020) who refer to this fluid design as having influence

from sociotechnical and pedagogical factors. Similarly, in Acharya's research (2019), it is local users in charge of the design process with "participatory localization" that promotes social justice and human rights on behalf of the user by making the product more relevant to them. St.Amant (2018) argues for more context between location and usability in design, understanding end-users better to influence the usability of a space/product. Because computational tools and the thinking that necessitates the use of technology is influenced by the learning experience of a design, and thus, those user interactions are crucial to a user's learning process and knowledge outcome (Tawfik et al., 2023). The designs with which practitioners build to convey information holds "cognitive biases to influence people" (Verhulsdonck 2020).

Thus, for this research to create a set of equitable user experience heuristics, it must not create bias or boundaries. Instead, it must consider what River and Söderlund discuss in their (2016) research on speculative usability; in that, object-user relationship is not stagnant but instead, it is unbound and messy. It understands that objects have agency, and that agency can overtake and influence. Yet, my research seeks to take this concept one step further in understanding that although technological objects have agency that influence users – so to do user's possess agency. And with this agency, users have the ability to evolve – what is typically a

one-sided situation – into intentional knowledge making that makes meaning for themselves based on their own real time needs.

Digital Humanities: Digital/ized Rhetoric, Equity, and Inclusion in Design

My thinking about web design and information architecture and its association with user experiences (and subsequent usability testing) is informed by recent scholarship in the digital humanities. While digital humanities has done incredibly well to focus on issues of equity and inclusion as it relates to the design of infrastructures of information, there is still room for human intervention and improvement of the processes and approaches of human-centered web design.

As Roopika Risam feels that a larger focus should be placed on “the relationship between intersectionality and the digital humanities to build a more inclusive field” (2015), I feel that a larger focus should be placed on digital rhetoric as a method of design that finds its place at the intersection of digital humanities, professional and technical communication, and web design practices to foster the possibilities of digital/ized rhetoric to improve design heuristics around user experience. I realize that the connection I am trying to make between digital humanities, professional and technical communication, and web design to use digital/ized rhetoric as a tool to foster more equitable user experiences is not a common claim in TPC

scholarship. But I feel that this connection could draw stronger connections between the way we read and process information and the way that info is structured for us for a predetermined purpose.

This research sees digital rhetoric as a set of intentional human-centric actions that digital rhetoricians or website creators employ when crafting the organization and navigation of information on a website. Rhetoric is the effective communication between a speaker and an audience using a specifically crafted message to gain some sort of result from the audience at the intention of the rhetorician. In a similar fashion, a website is created with a specific purpose with a specific message for a specific audience. What this research seeks out is how can methods of digitally rhetorical actions of a website design focus less on the intentions of the rhetorician and make more space for equitable user experiences?

In a 21st century technological world, a website is a common tool for knowledge consumption and meaning creation. But it is most always designed with a pre-narrated organization of information as a direct result of a web designer's own value of the knowledge presented. The information is thus bias, exclusive, and not equitable to each user's own knowledge, meaning, and experiences. This dominant narrative of information storytelling is a common practice for heuristics in mainstream web design. And it gets the job done.

Because the rhetorical triangle that these online users operate within is complicated by the digital medium, this research thinks of individuals acting within digital paradigms as user-audiences, or, audiences in online spaces. This digitized audience is robbed of agential choices in knowledge-making when using a traditional model of website because the information presented has already been pre-narrated by the web designer to tell a certain version of the story. This echoes Nielsen's 1994 heuristic "recognition rather than recall" which also parallels with Andrew Feenberg's 1992 idea that public user-audiences are unassuming of the information they receive from digital power-shifting tools of information, accepting the observed social "inputs" of data as natural, creating a systematic, universal "output" that is deemed efficient. Digitization of information therefore can function as a rhetorical action in which digitized information infrastructures are built to embody digitized rhetoric as a method of communication of information and as a positionality to fulfill a dominant purpose of sharing a specific message.

By pre-narrating the story, a user may feel marginalized or unrepresented if they do not understand or agree with the preconstructed knowledge that a website portrays. But in an alternative model for website design, digital methods of storytelling can reimagine a space where users engage in participatory actions to make meaning for themselves in a digitized world of information, learning to think critically and make agential choices about the knowledge they consume rather than submit to becoming

a modest witness⁴ to knowledge-making that tells a story while also leaving out certain details.

Because the user-audience is unassuming of the digital rhetoric that influences their meaning-making practices, we assume that “there exists a ‘natural’ relationship between technology and (the lack of) freedom” (Chun 2016) – but there isn’t. Technology only functions as a tool to model whatever particular purpose suits its creator, its programmer, its designer. The relationship between technology and its audiences isn’t a natural relationship, it’s a dominant narrative that we assumedly follow on repeat. And that dominant knowledge is determined *for us* and spread to the masses. Because technology grounds us in habits which can be thought of as “deeply personal,” but at the same time, habits are “learn[ed] from others” (Chun, xi) so the “user is habituated” to depend on:

Habitual repetition...constantly undone by the other temporality of networks...crises are central to habit change...crises make the present a series of updates in which we race to stay close to the same and in which information spreads not like a powerful, overwhelming virus, but rather like a long, undead thin chain (Chun, 2016, p. 3)...habits link

⁴ In Donna Haraway’s research, the term “modest witness” is used to describe human subjectivity among technologically assumed objectivity. The human user-audience functions as a natural object whose knowledge is disrupted by technologically assumed truth; the human witness is modest because they are unassuming and unquestioning of the information presented to them. Meaning is made for them.

not only humans to other humans, but also humans to nonhumans and the environment (p. 7).

The digital sphere creates an ever-shifting rhetorical situation in which "internet users are curiously inside out -- they are framed as private subjects exposed in public" (p. 12). Digital information infrastructures and online spaces enable information to

live and die by the update: the end of the update, the end of the object. Things no longer updated are things no longer used, useable, or cared for, even though updates often 'save' things by literally destroying -- that is, writing over -- the things they resuscitate. "To be is to be updated: To update and to be subjected to the update. The update is central to disrupting and establishing context and habituation, to creating new habits of dependency (Chun, 2016, p.2).

And it is this upper hand of digital rhetoric through the power of the update, the authority to control the purpose of the tech, that creates dominant narratives that are recoiled to the masses while eliminating alternative ways of thinking, being, and knowing.

The practice of the alternative meaning-making of specific audiences in digital spaces is what interests this research. And this sort of alternative meaning-making could be conducted on a specialized website if modeled in a way that would facilitate agency for a specialized user-audience. A specialized user-audience has a specific need and/or purpose and therefore,

they are more likely to seek out specialized websites that fulfill this purpose by offering them the information that they are seeking. But this information is specialized by the audience themselves, and it would be done so through the rhetorical effectiveness of a specialized audience being able to recall that information to fit their specific purpose.

As Chun calls to outline “a different kind of exposure and writing that repeats not to be updated, but to inhabit the inhabitable” (Chun, 2016, p. 5), this research explores the possibility of an alternative model for the web design of specialized websites that interrogates linear ways of knowing and creates agential space for the meaning-making practices of a specialized user-audience. The project imagines a web design heuristic that engages with feminist meaning-making practices by employing user experience, digital rhetoric, and equitable and inclusive design to create an agential space where users can interpret information using their own experience and storytelling practices to deduce more purposeful meaning in digital spaces. From a communication perspective, if an *audience* feels that they found a *purposeful meaning* within the information presented, then the *design* of the message has succeeded in its rhetorical effectiveness on the user.

Digital/ized rhetoric functions as an ontological obstacle and tool for current and future audiences to neutralize threats of meaning-made-for boundaries in information infrastructures. In other words, if user-audiences understood that digital rhetoric was present in digitized information

infrastructures, then they could “take into account the complications of the affordances of digital practices, including circulation, interaction, and the engagement of multiple symbol systems within rhetorical objects, and its methods need to explicitly engage those complications and affordances” (Eyman, p. 93). This kind of consideration of digital rhetoric as a multitude of meanings and knowledge-making practices would then serve as “foundational elements for website production” (Eyman, p. 117) – for users and website creators alike. Digital rhetoric tells a specific story with a specific meaning for a specific purpose – but it doesn’t have to be one-sided.

While digital rhetoric has consequences of meaning-making for unassuming audiences, it can also harness individual agency when set within a social justice understanding of the world. Thinking about this act as digital/ized rhetoric can offer an active avenue for individuals to become co-constructors of knowledge (Freire, 2005; hooks, 1994) through the participation of constructing their own knowledge based on personal experiences – an opportunity that is heightened with the networking capabilities of a digital medium. For example, the term “user experience” signals a call to action for digital creators to focus more on the human-centric needs and experiences of people who use products. This is accomplished by considering in what ways can web design heuristics put human’s first in the design process.

In recent feminist interrogations of digital spaces, there are questions of agency centered on the ability for a digital space to shape the behavior and habits of human users; this ability to control human behavior – and essentially knowledge-making practices – in digital spaces “represents a significant loss of agency on the part of everyday users of digital networks” (Adams, Applegarth, Simpson, 2020, p. 2). With a large percent of digital users decidedly passive in their decision and knowledge-making practice on digital platforms, Heather Adams, Risa Applegarth, and Amber Simpson (2020) point out in their research that “digital networks are not static technologies; they morph and change...in ways that shape user engagement; these digital networks represent the large imbalance between user-produced and user-shaped content on digital spaces (p. 3).

This project is influenced by Roopika Risam’s fundamentally feminist approach to digital humanities in which there is a call to embrace alternative approaches to digital projects. This research seeks out alternative and obtuse approaches of web design in an effort to provide a digital space that embraces intersectional methods of user-audience’s knowledge-making epistemology in an attempt to further this research’s pursuit of equitable user experiences. Thinking about web design in this way, practitioners of digital projects can alternatively approach those digital spaces in ways that encourage the agency of user-audiences and their individual pathways for knowledge-making. By providing multiple ways to interpret and organize

information, this research's model for an informational website acknowledges that there are other ways of knowledge-production. Driven "by making the case that engagement with computational technologies is inextricably linked to questions of history, culture, identity, and difference" (Risam, 2015), this research's imagines an alternative website model with a multitude of navigational pathways calls for the creation of a space where that alternative knowledge can exist because it implies that different individuals of the user-audience interpret information in different ways when given the space to do so. Digital projects that embody feminist-knowledge making praxis better situate online spaces and create room for alternative ways of knowledge-making – both mainstream and alternative – and provide the user-audience with the space to make meaning for themselves based on their own knowledge-making purposes.

In considering the user-audience as the ultimate decision-maker when it comes to agential action of knowledge-making practices, web creators and practitioners must consider the user at the center of *every* design, and "using that knowledge as a basis for project design" (Risam, 2015). Practitioners must begin with an "understanding of the particularities necessary to design projects that account for influences of difference" of knowledge-production. The digital tools that humankind uses to receive information "cannot be separated from the knowledge systems in which they have been imagined and made" (2015) but intersectional practices of digital

tools could potentially be used as knowledge-producers that facilitate alternative ways of knowing and being.

Existing literature on web design and information architecture offer strong practical solutions for considering users in the process. Adding current user experience research into the conversation helped me further understand how to approach designing, building, testing, and re-designing in more user-centered ways. However, what the existing research in those areas has not done as well is to address issues of equity and inclusion in digital spaces. While there are some overtures to inclusion in general design research⁵ or in accessibility⁶, website designers and technical / professional communicators need better guidance on these issues. Turning to the digital humanities has increased my awareness and understanding of issues of equity and justice, but there is little guidance on effective practices for design or how to create equitable user experiences. Thus, my project inductively generates a heuristic from two ongoing projects. The projects and methodology are discussed in the next section.

⁵ Kat Holmes discusses the social perspective of web design and the simple relation of people and the digital artifacts with which they interact with. In *Mismatch* (2018), Holmes points out how certain design choices do not adapt to the needs of the people, and this can make the user feel like a "misfit" when interacting with a design that does not relate to them (excludes them) or their purpose.

⁶ Heydon Pickering discusses viewing common web interface patterns through the lens of inclusivity and accessibility in his book, *Inclusive Design Patterns* (2016), to earn a broader and less frustrated audience for website designs.

CHAPTER THREE: METHODOLOGY

This research seeks to (re)imagine current web design heuristics for specialized websites to accommodate specialized audiences. By thinking about the narrative importance of navigational infrastructures and the rhetorical significance of finding aids within a website, this research proposes a user-centric design that empowers users *to have the agency to make meaning for themselves* based on a multitude of navigational pathways that enable information to be recalled in a way that suits the user-audience's agential choices. These reimagined web design heuristics seek to foster self-agency and knowledge-making practices for the user. Websites function as active tools of information but traditional website design heuristics limit a user's ability to create meaning for themselves. Therefore, this research seeks to reimagine web design in more human-centric ways – to create a pathway of possibility for digital practitioners to incorporate user-centered heuristics within web design builds to create more equitable user experiences in online spaces – where it is currently one-sided.

With the case studies of two different specialized websites, this research looks to create a set of heuristics that guides equitable user

experiences that can be applied across multiple specialized websites by 1) *providing* solutions in the redesign process that solve problems identified by users rather than just replicating “the way it always has been;” (2) *understanding* that everything on a website is a system of meaning that feeds into the users’ understanding of the contextual situation, and the more navigational pathways that are provided for users to self-establish those systems of understanding, the more opportunity they have for meaningful knowledge-making; (3) *learning* about the user- audience(s) of a specialized website and putting their needs first in the design process; (4) *listening* to the needs of user-audiences and reiteratively improving the design to meet those evolving needs.

This research coins a set of heuristics as the PULL model and this researcher likes to think of this heuristic model as “PULLing” on the traditional boundaries that have historically defined web design by enabling the user’s agency to guide the web design process so that they may make meaning for themselves with the information presented.

Methodology

The effectiveness of a new set of website heuristics is largely based on user experience. So, this project identifies user experience, the usability of a website, and participatory design as the broad methodology utilized in this research. But it is important to consider a key component to this research:

the user. Therefore, the development of a new set of website heuristics is largely user centric. With this methodology in mind, this research project sought to understand how users might interact with multiple pathways of knowing in a website's navigational design by *listening* to the users as the guiding principle for website design. This will be done through users' self-reflection, A/B testing of both websites, and user interviews which informs a participatory design process.

In visualizing the rhetorical situation of a website, this research understands a website as being "put into being" through the influence, argumentation, and narration of the web designer. The web designer, in turn, acts as the digital rhetorician. And whether that digital rhetorician is conscious or unconscious of their intention to shape the rhetorical acts of user audiences, their purpose, exigence, and use of genre shapes the overall understanding and rhetorical actions of an unassuming user audience whose thoughts are now shaped by a limited context.

In defining a user-audience, it can be understood that individuals are acting within a digital environment and navigating through a paradigm of online information. So, in shifting the traditional rhetorical triangle from audience to user-audiences, this research is considering audiences in online spaces. Furthermore, it is important to signify this specification in audience because this particular digitized audience is currently robbed of agential choices in knowledge-making when using a traditional model of website

because the information presented has already been pre-narrated by the web designer to tell a certain version of the story. This echoes Nielsen's 1994 heuristic "recognition rather than recall" which also parallels with Andrew Feenberg's idea that public user-audiences are unassuming of the information they receive from digital power-shifting tools of information, accepting the observed social "inputs" of data as natural, creating a systematic, universal "output" that is deemed efficient. Digitization of information therefore can function as a rhetorical action in which digitized information infrastructures are built to embody digitized rhetoric as a method of communication of information and as a positionality to fulfill a dominant purpose of sharing a specific message.

Current praxis in modern day web design is missing *a human-centered focus on the desire to story tell with self-led meaning*. If an audience feels that they found a *purposeful meaning* within the information presented, then the *design* of the message has succeeded in its rhetorical effectiveness on the user. This "rhetorical effectiveness" for the user-audience can be thought of in terms of website usability, which can be thought of as "testing how easy a design is to use with a group of representative users. It usually involves observing users as they attempt to complete tasks" (Interaction Design Foundation, 2016). In centering this research with the goal of challenging the parameters of one way of knowing, while also seeking to provide resolutions to real-world usability issues that accommodate

specialized audiences, this research grounds itself with guidelines established by scholars in professional and technical communication to move web design into more accessible, equitable spaces for user experience. In a special issue of *Technical Communication* on developing heuristics for web communication, a set of five heuristics were established to better “support the design and evaluation of information and the way it is presented” (van der Geest & Spyridakis, 2000). Those five heuristics considered:

- The rhetorical situation as it is created by authors of web design;
- Navigation of the information structure which allows users through the site;
- A presentation of verbal information so that users can comprehend meaning;
- The visual display and presentation of information;
- The involvement of users, either directly or indirectly, in the design and evaluation of web design.

In this reimagining of a website’s design to provide more equitable user experiences, this research has already established an awareness of the rhetorical situation determined by a website’s design. But web design is an overarching umbrella of instrumentation that encompasses multiple elements:

- The architecture of information presented on the website:

- The usability of a website and its effectiveness to user experience is addressed in the research of Donker-Kuijer, de Jong & Lentz (2010) in which “effective communication” is key to “help readers to find and comprehend information” (p. 259).
- The involvement of users much like Acharya covers in their 2022 research of the “participatory design approach [which] means working with the user as both an actor and a co-designer to co-construct the whole design practice and make design decisions collaboratively” (p. 13).

User experience is the guiding factor in the methodology of this research project because it is key to guiding the way that we envision websites that serve specialized purposes for specialized audiences. That is why this research takes a user testing approach to better understand the user-audience's navigation of a context-heavy information infrastructure and then apply that feedback to a developing set of reimagined web design heuristics that foster more equitable user experiences. In *defining equitable user experiences*, this research thinks of such a term as messy, unbound, but driven by the user. Rather than providing a singular path of information in which user-audiences follow one narrative of information, users can be provided with multiple navigational paths for creating their own meaning for their own purpose, not the designers' (Mckoy, 2010, p. 398); users can be *trusted* to recall their own knowledge and experience to make meaning with

the information presented to them and it empowers their decision-making. It creates agency with the empowerment of choice – especially when one is *seeking* information.

To truly understand the needs of a specialized audience for a specialized website, this research will utilize participatory design praxis to address actual user-audiences needs. How? By involving that specialized user-audience in website design decisions. Participatory design employees. In defining the methodology of participatory design, its “object of study is the tacit knowledge developed and used by those who work with technologies” (Spinuzzi, 2005). It’s just that – seeking knowledge from the users of the actual technology. But the process is messy and user-driven, with tacit knowledge as an object of study that “is typically difficult to formalize and describe, has tended to be ignored by the theory of cognition that has tended to dominate human-computer interaction” (2005) yet consideration of a user’s tacital knowledge is inexplicably valuable to a user’s experience.

But to understand knowledge-making in participatory design, we have to understand that much knowledge tends to be tacit. Tacit knowledge is implicit rather than explicit, holistic rather than bounded and systematized; it is what people know without being able to articulate...attempts at explication of such tacit knowledge must always be incomplete. The knowledge is too layered and subtle to be fully

articulated. That is why action-centered skill has always been learned through experience (Spinuzzi, 2005).

With participatory design, the web designer is no longer seen as “a dictator” of the information infrastructure of a website but more like “facilitators who attempt to empower users in making their own decisions” (2005). Therefore, in placing value on a specialized user-audience’s tacital knowledge demonstrated through their understanding and interaction of a specialized website, and in incorporating this user-audience feedback into the design process of the website, the rhetorical situation of the digital rhetorician becomes complicated by the transition of agency from the web designer to the website user-audience.

By utilizing the ideas of van der Geest & Spyridakis (2000) in considering that heuristics support the design of a website, a user’s evaluation of information on a website, and the way that information is presented, combined with a reimagined approach to standard web design heuristics (1994, 2021), it is this researcher’s hope that the findings of this participatory design praxis will lead to the create of equitable user experience heuristics that employ more inclusive and intersectional praxis which facilitates the “agency of human knowledge making” (Risam 2015). *Listening* to user’s during the design process may also help fill the gap of commonplace website design praxis with inclusive and equitable design that considers multiple audiences and multiple purposes.

Building on previous concepts of user experience and usability, this research sees equitable user experience practices in a way where a specialized user-audience that is seeking specialized information for a specialized purpose can make meaning for themselves in a multitude of ways; this can be done through offering a multitude of navigational pathways which enable information to be recalled in a way that suits the user-audience's agential choices. In many ways, what this research is proposing is the very definition of user experience when done correctly⁷ but all too often do we default to commonplace ways of building and constructing knowledge without asking *why*?

The *why* for this researcher led to a deeper consideration of what lies outside the margins of commonplace web design, what intersections and avenues of knowledge-making are invisible and ignored, and how could these alternative and messy possibilities potentially lead to more equitable user experiences that foster human agency in digital spaces? This research seeks to use observations of usability and user experience as a lens to better understand the user-audience's agential choices and take an intersectional approach in considering other ways of knowing that have been lost within the gap or left in the margins of commonplace web design and how these alternative possibilities could be utilized by web designers within digital

⁷ The Nielsen Norman Group define user experience as "encompass[ing] all aspects of the end-user's interaction with the company, its services, and its products" (Norman & Nielsen 2024)

spaces to encourage complex analysis and critical thought-processing of information, alternative knowledge-making, and agential choice of the audience.

Considering these “gaps” in standardized web design can lead to new approaches and design heuristics that incorporate inclusive and equitable design informed by the user. Thus, this research chooses to use participatory design as a methodology:

The approach is just as much about design--producing artifacts, systems, work organizations, and practical or tacit knowledge--as it is about research. In this methodology, design is research. That is, although participatory design draws on various research methods...these methods are always used to iteratively construct the emerging design, which itself simultaneously constitutes and elicits the research results as co-interpreted by the designer-researchers and the participants who will use the design (Spinuzzi 2005).

Thus, this research will utilize participatory design praxis to *learn* about the user, *provide* solutions that solve usability problems identified by the user, *understand* that everything on the website is a part of a system of meaning that affects the user, and continue to provide reiterative design to the website by *listening* to the needs of the user. And repeat the process over again. Because a user’s needs are ever evolving, so much like one way of knowing cannot possibly capture the needs of specialized audiences, one

way of design cannot accurately fulfill an audience's purpose with the human-nature of evolving needs, purposes, and knowledge.

This equitable user experience can be thought of in praxis as:

- Multiple navigational pathways to access, recall, and sort information that suits a user-audience's real-time needs and purposes;
- Visual cues for circular navigation that help the user-audience reorganize information reactively;
- Consistent opportunities for user-audience feedback that are met with a reiterative design process to continuously address evolving user-audience needs.

It is this reimagined model for web design heuristics that creates infrastructures for specialized websites with multiple audiences and multiple purposes, which has guided my past and current praxis with usability methods in the creation of the Fanny Fern (digital) Archive and the redesign of Mitchell Community College's website – two websites that were chosen for this research because of their varying audiences and niche purposes.

Testing Sites

This research seeks to develop a new set of web design heuristics for the development of specialized websites for specialized audiences. This reimagined model for information websites would display information in a

multitude of ways and thus place agency with the user *to make meaning for themselves* by creating an online space for the user to explore information, educate themselves, and formulate understanding for their own intentional purpose. But what is a specialized website with a niche purpose?

For the purposes of this research, a specialized website can be thought of as a digital information infrastructure that holds a specific type of information that only a certain subset of a user-audience might be interested in. To visualize this concept, imagine the internet's vast potential of user-audiences browsing the web, seeking out different purposes and different bits of information. This is a broad audience that is hard to conceptualize accurately because there are too many evolving variables. *But* a specialized user-audience has a specific need and/or purpose and therefore, they are more likely to seek out specialized websites that fulfill this purpose by offering them the information that they are seeking. But this is only varied by the audience themselves, and it is done so through the rhetorical effectiveness of the message of information displayed on the specialized website.

Therefore, think of a specialized website as a funnel that only a few user-audiences would be interested in entering, while the rest of the internet's user-audiences may not find that specialized website rhetorical effective to the purpose they are seeking.



Figure 3.1: Differentiating specialized website user-audiences

This research is largely inspired by the boundary drawn by Jakob Nielsen's "10 Usability Heuristics," (1994) which became the world's guiding principle for reference when it comes to usability web design – and these heuristics continue to influence the praxis of web design and usability. But when there is one way of knowing and one way of thinking, we tend to lose sight of other possibilities and other narratives of knowing. Such is the case with one Nielsen's web design heuristic: "Recognition rather than Recall." Nielsen's "Recognition rather than Recall," is a double-edged sword. On one hand, this heuristic is a necessary communicative strategy in web design which works to minimize the user's memory load by minimizing the amount of information that a user needs to remember and thus "reduce the amount of cognitive effort required" (Nielsen, 1994). And this absolutely works for websites which have purposes of *persuading or selling* information such as in the case of commerce websites. But on the other hand, if this recognition over recall heuristic is understood to be a best practice for all websites, then what consequences does it create for purely education, informational websites? It creates an avenue for digitized rhetoric to disseminate information to potentially susceptible user-audience by creating a limited way of narrating the information to fit a specific purpose that may or may

not fit the user-audience's purpose, but it certainly will influence their meaning of it.⁸

Thus, the usability of a website to meet the purpose of specialized audiences is a key component to reimagining more equitable user experience practices; but the key to building a more equitable user experience is determining if the specialized user-audience finds the specialized website *usable* to their purpose. Therefore, one standard set of website heuristics cannot possibly meet the rhetorical situation of a multitude of audiences who seek out information for different purposes. A standard set of website heuristics cannot possibly fulfill every situationally contextual purpose for informational websites built for specific audiences – it is *too* broad of an audience. Instead of dictating the meaning *for* the audience through one way of knowing that is delineated via one standard practice of website design, this research chooses to focus on specialized or niche websites and the way that those websites meet the needs of specialized user-audiences by placing a human-centered focus on the *purpose* of the user-audience as the lead design factor.

⁸ This 1994 statement is made with the knowledge of Andrew Feenberg's idea that public user-audiences are unassuming of the information they receive from digital power-shifting tools of information, accepting the observed social "inputs" of data as *natural*, creating a systematic, universal "output" that is deemed efficient. Digitization of information therefore can function as a rhetorical action in which digitized information infrastructures are built to embody digitized rhetoric as a method of communication of information and as a positionality to fulfill a dominant purpose of sharing a specific message.

The word 'niche' supports this research's goal for creating a space for user-centered agency since it can be defined as a specialized market or a habitat that supplies the factors necessary for the existence of an organism.⁹ And in thinking of a specialized website as a habitat for specialized user-audiences, this research can think of specialized user-audiences as producing habits to interact with online spaces – habits that coalesce with the tacital knowledge gained from a user's participation with the website.

Oftentimes, we do not create our own digital habits; our habitual behaviors on digital mediums are predetermined for us through standardized means of design and information architecture which influences the way that we interact and understand the information on the website. Wendy Chun envisions the habits of digital users as "things that remain by disappearing from consciousness" much like Spinuzzi (2005) describes the tacit knowledge of users as "often remain[ing] invisible...since it is not made systematic or quantifiable, it passes unnoticed and often undervalued. But Chun (2016) cautions users to pull back the veil and understand that digital "media matter[s] most when they seem not to matter at all...when they have moved from the new to the habitual" becoming a "default mode of knowledge acquisition" (p. 1) that is standardized and broadly applied. Essentially, the habits of digital users "has moved from *habes* (to have) to *addictio* (to lose - to be forfeited to one's creditor)" with habit functioning as

⁹ This definition was sourced from Merriam-Webster dictionary.

“a form of dependency, a condition of debt” (Chun, 2016, p. 4). In the traditional, commonplace praxis of web design, a specialized or niche website is thought to be “imaged and imagined connections... things potentially or frequently repeated” (p. 3) in the form of a habit as a looping method of knowledge-production; a habit that follows a standardized way of knowing.

Combining the ideas of a user-audience’s tacit knowledge in relation to *metis* or a “cunning intelligence” for “the ability to act quickly, effectively, and prudently within everchanging contexts” (Spinuzzi, 2005) alongside Wendy Chun’s (2016) implores us to consider that ‘habit’ and its paradoxes are essential to understanding digital media and “its enduring ephemerality, its visible invisibility, its exposing empowerment, its networked individuation, and its obsolescent ubiquity” (p. 15), this research is interested in the agential power of specialized, niche, websites and the affects that their design has and could have on specialized user-audiences through a reexamination of the design process. As Chun concludes, “...habitual memory is provoked externally” such as in the case of blanket-approach to web design heuristics “whereas conscious recall is provided internally” (p. 88) and to harvest the conscious recall of a user-audience’s agential choice is how this research aims to create more equitable user experiences.

Fanny Fern Archive

As stated earlier, the Fanny Fern Archive has been a personal project of mine which was inspired by the public's lack of knowledge about *who* Fern is, what she did, and what she wrote. A general assessment of public knowledge concluded from an internet search of Fanny Fern's 1853 quotation, "the way to a man's heart..." combined with conversations from my graduate peers, family, and friends, told me that the public didn't know who Fanny Fern was, and consequentially did not credit her for her work. Therefore, this project wanted to provide a more holistic picture of Fanny Fern's career and provide the user with an abundance of context about Fern's life and career which set a tone for her satirical compositions. Within this metacontextual setting, Fern's words can develop a different meaning for user-audiences without predetermined narratives about the context of her work.

Therefore, choosing the information that would populate the website was its own complicated question since, I, as the digital rhetorician, would be creating an information infrastructure for user-audiences. So, I asked: what sort of audience would be interested in learning more about America's first woman columnist? And how might those audiences want to interact with the site?

And, to define that audience was tricky. User-audiences of a Fanny Fern Archive could be students, instructors, or the public interested in

historical figures – someone with a niche – but still the audience was too broad for me to define. So, I concluded that since the audience was so broad, I would make the organization of information broad enough to where a user-audience could reorganize the information in a way that suited their own knowledge-making purpose.

Mitchell Community College

In the case of Mitchell Community College's (MCC) website, it was communicated to me very early into accepting my position that this tool of information had issues with its information architecture which affected the overall user experience. It's been a decade since the last major redesign of Mitchell website. Before it's redesign, it did not have the ability to fully function on any medium other than a desktop; it had a tagging issue with its webpages which caused an error with the website navigation's search bar, and it sported a whopping 626 web pages of information which made it difficult for users to identify relevant information. Additionally, the web platform it was hosted on was reaching end-of-life in a few short months. In summary, the website had extreme usability issues that were affecting the flow and accessibility of information.

My first step in the redesign of this website was to understand the website's audience. In the case of MCC, multiple audiences (current and prospective students, faculty, staff, alumni, and the public) utilize the

website for a multitude of purposes that are simultaneously similar and yet unique to each user. Since the potential audience for this informational tool was significantly more complicated than the Fanny Fern Archive, the MCC website infrastructure needed to better represent its audience with a more inclusive design while also implementing some of what Nielsen refers to as “recall over recognition,” to generate relevant information for each of its audiences in a way that let users create their own path to retrieve meaningful information. The idea of equitable user experience was accomplished on Mitchell’s website with the implementation of multiple navigational pathways to accommodate multiple specialized audiences.

Methods

In keeping the user at the center of this research through participatory design praxis, all methods utilized in this research are key parts of user experience and participatory methodologies that all consider key parts of the usability process by *listening* to the user and providing them with agency to facilitate design decisions. To evoke participatory design methods, every step of this process remains user-led and user-centric.

A challenge with this sort of project – which champions the unbound messiness of knowledge-creation – is accurately collecting a fair representation of user-audience individuals. That is why this research utilizes three different methods to 1) *provide* solutions for user needs; (2) to *learn*

about user- audience(s) (and their evolving needs) to make the website relevant (3) through an *understanding* that everything on a website is a system of meaning that feeds into the users' interpretation of the contextual situation, and then continuing to (4) *listen* to user needs and experiences, alongside reiterative design to meet those evolving needs. Because "participatory design's many methods ensure that participants' interpretations are taken into account in the research...in participatory design, participants' cointerpretation of the research is not just confirmatory but an essential part of the process" (Spinuzzi, 2005). For this reason, this research project incorporates methods of self-reflection, A/B testing, and interviews with representatives of each website's specialized audience to gather data to determine the effectiveness or not of this reimagined set of web design heuristics – based on user feedback.

Self Reflection Takeaways for both Specialized Websites

The first method utilized in this research process is self-reflection, which enables this research to gauge a user's understanding of the specialized subject before the design process begins. Because this research interacts with specialized user-audiences who have specialized interests, the self reflection method for both websites was conducted via a pre-design survey. This method is asynchronous and delivered through third party technology to reach a variety of representatives within that specialized user-

audience. The pre-design survey also helped this research understand what sort of individuals could potentially be part of each website's specialized user-audience, based on the level of knowledge and interest that individuals expressed in their survey results. Essentially, the self reflection method helped this research identify a target population of specialized user-audiences for each specialized website.

Fanny Fern Archive

From the public sphere, it is interesting to observe which women authors have survived the act of active remembrance of the male literary canon. But when one takes into account the logic of 'scribbling women' of the nineteenth century and the theory of public memory which theorizes what knowledge that the public retains and repeats, the selection of women writers who have been noted for their works and who live on in the public memory seem to be completely arbitrary. Some women writers are remembered while others are forgotten. Why? We can look to active remembrance within dominant narratives for that answer. Fern's work, in particular, has remained out of print for over a hundred years and has been largely absent from anthologies and college syllabi up to the present day.¹⁰ As mentioned before, the first and only time I have heard mention of Fanny

¹⁰ From the research of Warren, Joyce (1986). "Ruth Hall and Other Writings." Edited by Joyce W. Warren. New Brunswick, N.J.: Rutgers University Press.

Fern was in a college classroom, during a course focused specifically on nineteenth-century American women writers, and as luck would have it, the professor of that course just happened to be a fan of Fanny Fern.

To test this active canonical view of public memory, during my master's research and in the early stages of my planning of the Fanny Fern Archive, I conducted a survey (via SurveyMonkey) with several individuals of varying age, educational, background, and gender. My purpose was to keep my audience broad so that I could truly understand what sort of specialized user-audience would have knowledge of Fanny Fern in the first place. As an outlier, I also tested survey participants knowledge on a more commonly known literary figure, Virginia Wolfe. My theory was that Virginia Wolfe had found her place within an active memory and a more dominant narrative while Fanny Fern had been lost to the recesses of an archival memory space.

The survey was simple, with questions including:

Even if just by name, do you know who Fanny Fern is? Y / N How?

Even if just by name, do you know who Virginia Woolf is? Y / N How?

Age_____ Gender _____

Highest Level of Education Completed _____

The survey was set up to receive answers from participants anonymously and the questions of age, gender, and highest education

completed were optional. Most answers were multiple choice, while age and how participants might know of one author or another were formatted as question boxes. To my pleasant surprise, I received answers from 51 participants, and most of those participants answered every question. All 51 participants answered all questions with the exception of one 'skip' on the education question and 2 'skips' on the age question. With these high participation numbers, my survey provides an interesting view on the original hypothesis that some women rhetors, such as Woolf, have gained more prominence in the public's working memory while others, like Fern, have long been forgotten.

As predicted, the survey results immediately reflected that writers such as Virginia Woolf have found their place within the public's active, working memory while rhetors like Fern — even with her satirical wit and style — have subsided into the public's passive, archival memory. The survey revealed that a staggering 70 percent of 33 survey participants answered that they did not know who Fanny Fern is, but 84 percent of those participants knew who Virginia Woolf is. Why is this? Why have women of this caliber, calling attention to social injustices done to women in such a charming and cleverly critical way, been ignored for so long? The demographics of my survey recipients might be revealing to that question.

The following graphs demonstrate the data I received:

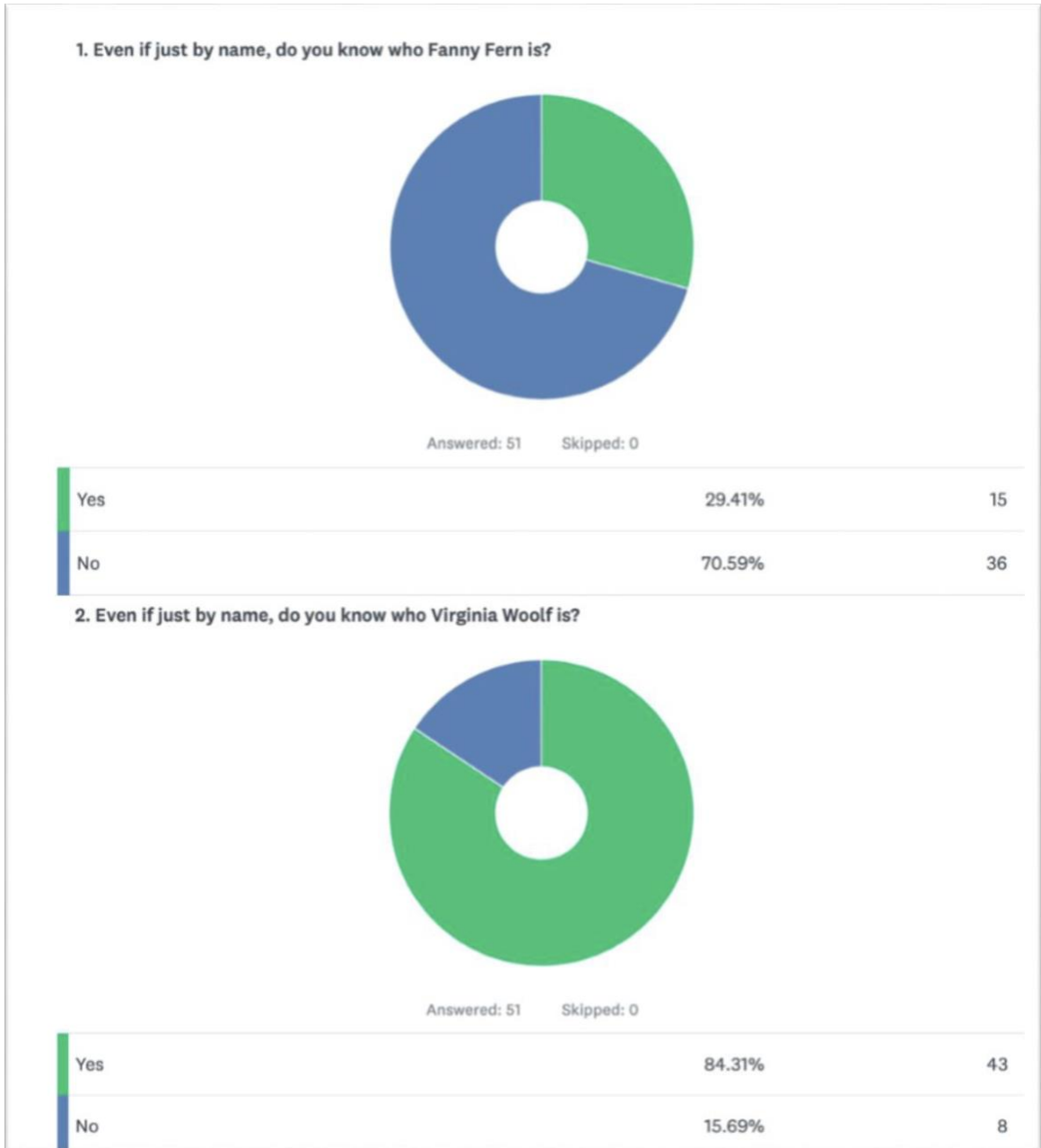


Figure 3.2: Fanny Fern Survey Results

After recipients answered the yes/no questions regarding Virginia Woolf and Fanny Fern, they were then asked to answer, via a comment box,

how they know of one or both authors. All 51 participants provided some form of an answer. The results are as follows:

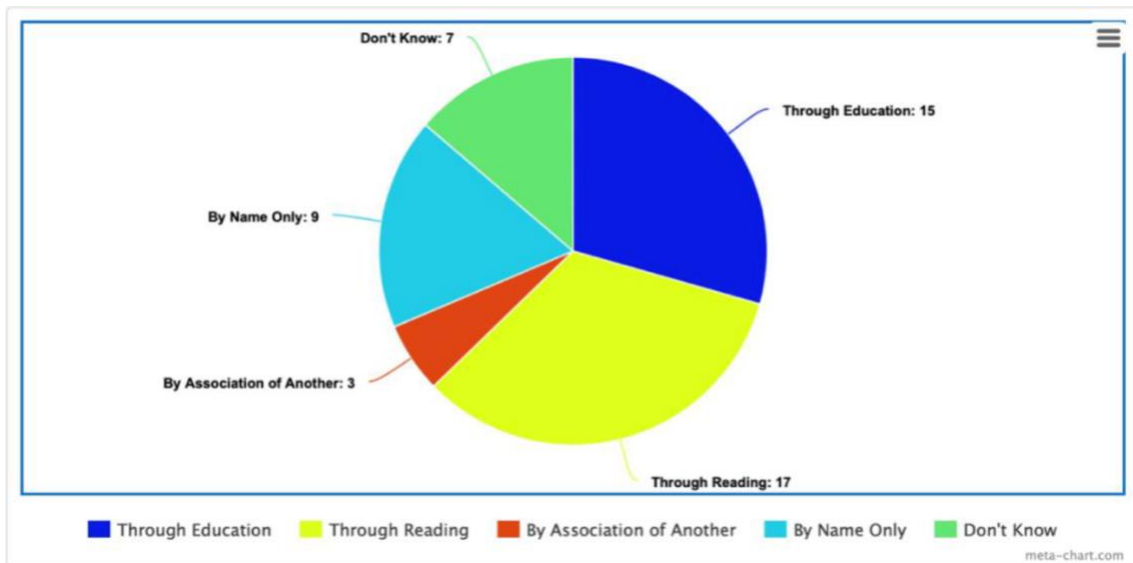


Figure 3.3: Knowledge Sources for Fanny Fern

Again, the results of “how” a survey participant had knowledge of one or both authors was presented to the user in the form of a comment box so participants had a free avenue to express how they possessed (or did not possess) knowledge of either Virginia Woolf or Fanny Fern. I categorized the responses based on a few rules: 1) if the participant had any of the following words in their answer, their answer was automatically placed in the education category: school, college, high school, class, course; 2) any mention of a book or reading (isolated from education terms), was placed in the reading category. Some of the answers which qualified for this category also mentioned in the answers referring to Virginia Woolf was a movie or play in addition to the book as a source of knowledge. A third point was also

noted from the survey results in that interestingly enough, there were some answers which stated that they did not know either author, which then placed them in that corresponding category, while others specifically stated that they did not know of Fanny Fern. Some specific responses from survey participants are as follows:

Respondent 4 (age 21): I am honestly not familiar with either of the authors listed.

Respondent 19 (age 68): Fanny Fern, I'm not sure, but I know the name Woolf, from college English, read her books, know the play, etc.

Respondent 9 (age 42): Only have heard of Fanny. Studied Virginia Woolf in college.

The responses listed are best representative of the variety of answers I received from this survey. It can be observed from these three responses alone that the majority of respondents who had any knowledge whatsoever of one or both authors received that knowledge from education. This observation can also be observed in the pie chart representing participant's answers. Again, I categorized any answer that was void of educational terms into the "through reading" category however, it is safe to assume that those

participants gained that knowledge through reading, though educational means. If this assumption is made, then we can observe that over half of the participants gained their knowledge through education.

With these results, it was determined the specialized user-audiences of the Fanny Fern Archive would not be broad; they would likely fulfill a specific niche like already having subject-matter knowledge about Fanny Fern, such as a student or a faculty member in the educational field working on a research project, or a historian and/or someone with archival interests.

Because the possibility of user-audiences of the Fanny Fern archive is marginalized through specific interest, during this phase in the architectural build of the Fanny Fern Archive, through archival materials can be retrieved by user-audiences in multiple ways via the 'Finding Aid' option in the menu:

- Year published
- Original publisher
- Genre
- Title
- Topicality
- Contributing Archival Collection
- Correspondence / Reviews

This structure also lets the user create their own path to navigate the information provided. Below is a screenshot of how the Finding Aid appears on FannyFernArchive.org:

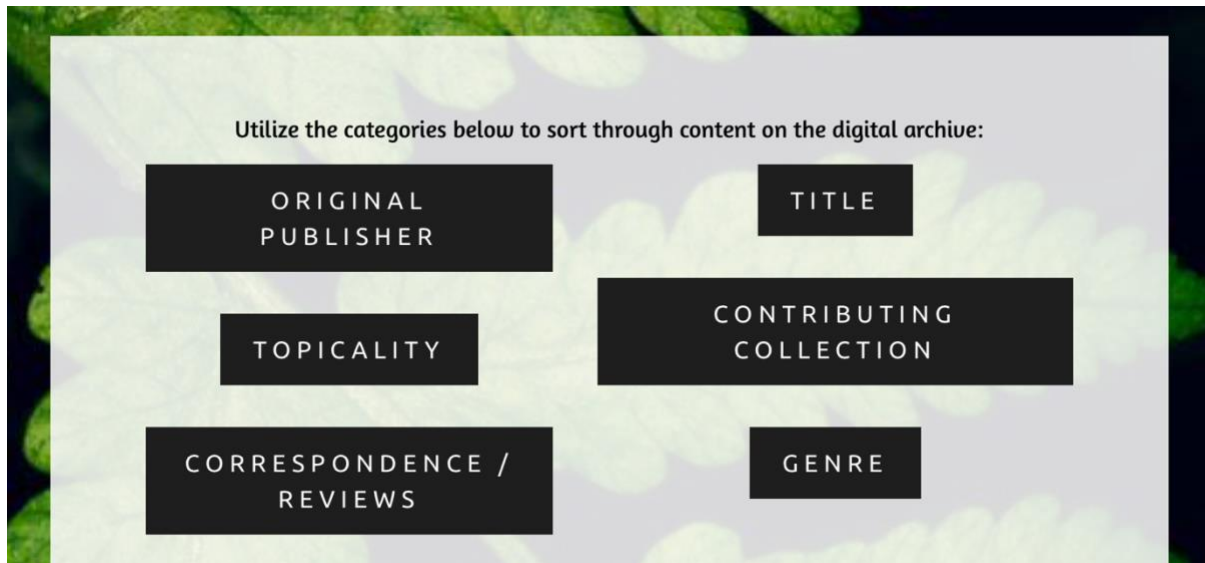


Figure 3.4: Fanny Fern Archive Finding Aid

As it stands right now, the Fanny Fern Archive is incomplete because of its goal to house a holistic, contextual view of Fanny Fern's life and work. Therefore, there can never quite be a cap put on the project because its possibilities are endless. However, for the sake of this research project, the Fanny Fern Archive listed a minimum of 5 - 10 pieces of archival material cross-listed under each organized category (i.e. the navigation system) so that the recall of information can be situated with a user's agential choice. This amount should provide enough information for a user testing on the conceptual design and to contribute sufficient data to assist in creating an equitable user experience heuristic for website design.

Mitchell Community College

Through the self reflection method, the most active, specialized user-audiences of Mitchell Community College's website were determined to be prospective students, current students, and faculty/staff.

User-audience persona A: Prospective students

As a precursor to redesigning the Mitchell Community College website, usability issues with the current design of the website needed to be identified. This research chose to identify those issues based on user feedback. Mitchell's website serves as a tool of information for the college with multiple, identified user-audiences such as current and prospective students, staff and faculty, alumni, and the public. Although Mitchell's website has multiple, identified user-audiences, this plethora of individuals needed a plausible starting point for the website redesign feedback. Initial user feedback was narrowed down to two user-audience types: prospective students and faculty/staff because the first sought out specific information to answer questions, and the latter had become familiarized with the recoil of information – and knew the value (or nonvalue) of its relevant output.

For many, the website serves as a first impression with information on the application process, registering for classes, etc. Because of this, the list of prospective student user-audience was narrowed down to a unique user-audience of prospective students whose answers were *not answered*; these students had started the application process but did not finish and it was this

researcher's pursuit to understand why their experience did not "continue" with the college. Thus, an initial methodology question centered on human experience was asked of these identified users: *Why did you not complete the application process?*

A large percentage of these prospective students answered that they did not complete the process because:

- the complexity of the website's information was named as a direct cause, or;
- they stated that the "process" to apply was overall too difficult to complete, which was an immediate indicator that the user experience of the current website's infrastructure was confusing to a user's specific purpose.

User-audience persona B: Current students

With Mitchell's two-year degree options, student turnover is a complexity when gauging the specialized user-audience subset of Mitchell's current students. An intriguing characteristic of Mitchell's current student is that these individuals had developed a tacit knowledge to make the dysfunctional website work for purposes of aiding them during their time at Mitchell. This had been accomplished through "hacks and tricks" that become a sort of campus culture among current students and their peers.

With the help of Mitchell's Student Ambassadors, these issues with the current website were identified:

- The number one answer from the 'Current Student' interview group was in reference to Mitchell's "Google Culture" in that with the website's dysfunctional search bar and thus, inability to quickly search items on the website, current students were used to using a Google search to find needed information on the website rather than using the website tool itself.
- Too much linear text on the web pages provided an overwhelming experience for the user with lots of outdated information. No media was utilized on the web pages. Students suggested making pathways and processes more obvious and customizable for the user.
- An estimated over 95% of Mitchell's website is not used or explored by current students because they have no desire to interact with – to use one student's phrase – "the black hole that is Mitchell's website." Students type in the URL, click the link to their Learning Management System portal, and go from there.

User-audience persona C: Faculty and staff

The next user-centric action was to speak to a different audience of the website: faculty and staff. The faculty and staff were considered bigger

stakeholders of the website because – with Mitchell being a 2-year educational institution – student-users rotate but faculty and staff have more longevity with the website. Initial questions were asked via a survey. Questions were designed to be open ended and let the user speak freely of usability issues.

From the survey, it was learned that:

- Multiple audiences use the site;
- Audiences depend on retrieving information from the site;
- However, retrieving that information is taxing and complicated;
- Usability issues identified were:
 - Navigation
 - Relevancy of information
 - Too much information
 - Dysfunctional search bar
 - Unresponsive design (which made accessing information difficult)

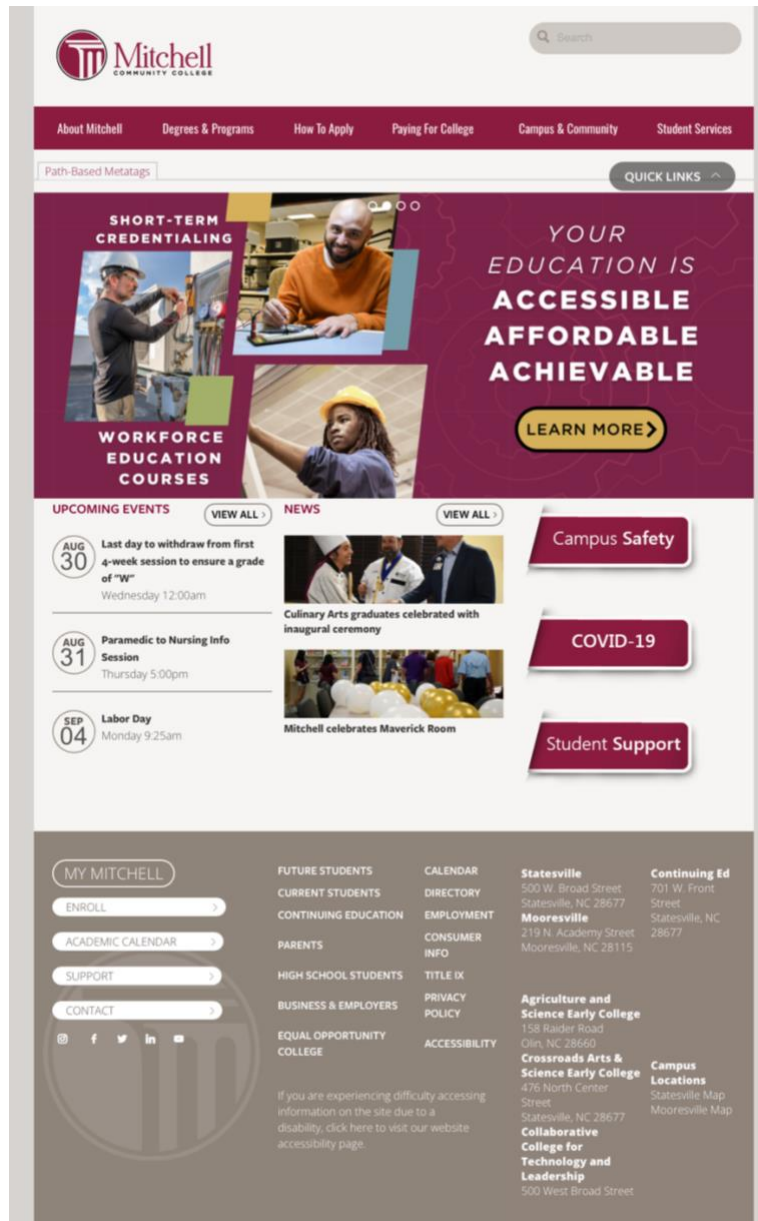


Figure 3.5: Mitchell CC website before the redesign (2022)

In observing Mitchell’s initial web design, pathways were predetermined for users and with a dysfunctional search bar, user-audiences were unable to directly locate information that was not presented in the predetermined navigation options.

From this feedback, I realized that we needed to create a website that would present an abundance of information that multiple user-audiences would sift through for a multitude of different purposes. Some of the relevant information that audiences sought overlapped other user-audiences (like a MyMitchell portal, event calendar, program information) while other bits of relevant information were only relevant to specific audiences. Therefore, a multitude of navigational pathways were needed to facilitate space for multiple user-audiences to access information in a way that made meaning and created significance for them.

To accomplish this, it was obvious that a website blueprint should be constructed to map out these different pathways. After technical attributes like an information migration from an obsolete website platform to WordPress had occurred, it was discovered that there were 626 webpages of information that had transferred from the original website. This overabundance of information was even more of a reason to construct a site map for the website which depicted clear pathways for specific user-audiences while also giving these same users the ability to make navigational choices for themselves to serve their own specific purpose and empower their agency in their knowledge-making. *However*, one of the user experiences issues noted by faculty and staff was the overabundance of information needed to be reviewed for its relevancy to user-audiences and

its potential contribution to the noted “complexity” of navigating Mitchell’s website information.

Since the vetting of 626 web pages was a time-consuming, ongoing task, the research in the design process moved forward with identifying a website committee (made up of faculty, staff, administration, and students). This committee would meet three times in-person, and offer feedback twice via an online survey, over the course of a 9-month redesign period. The website committee was presented with three different options for schematic designs of the home page interface (including navigational options) that would allow for a multitude of audiences to navigate an abundance of information in different ways. After the first meeting, the committee chose one design. The remaining meetings and surveys were spent improving the homepage interface of the new website with participatory design practices and open interviews with website users.

Because of the size of the website, and after much collaboration with focus groups, a soft opening of the website occurred in September of 2023 with a launch of the new homepage interface design and navigational architecture of the website. The main element of the redesign process was to create a multitude of navigational points where a user-audience can direct where and how they want to retrieve information. For this website project, this is accomplished through a unique design with three navigational menus on the homepage:

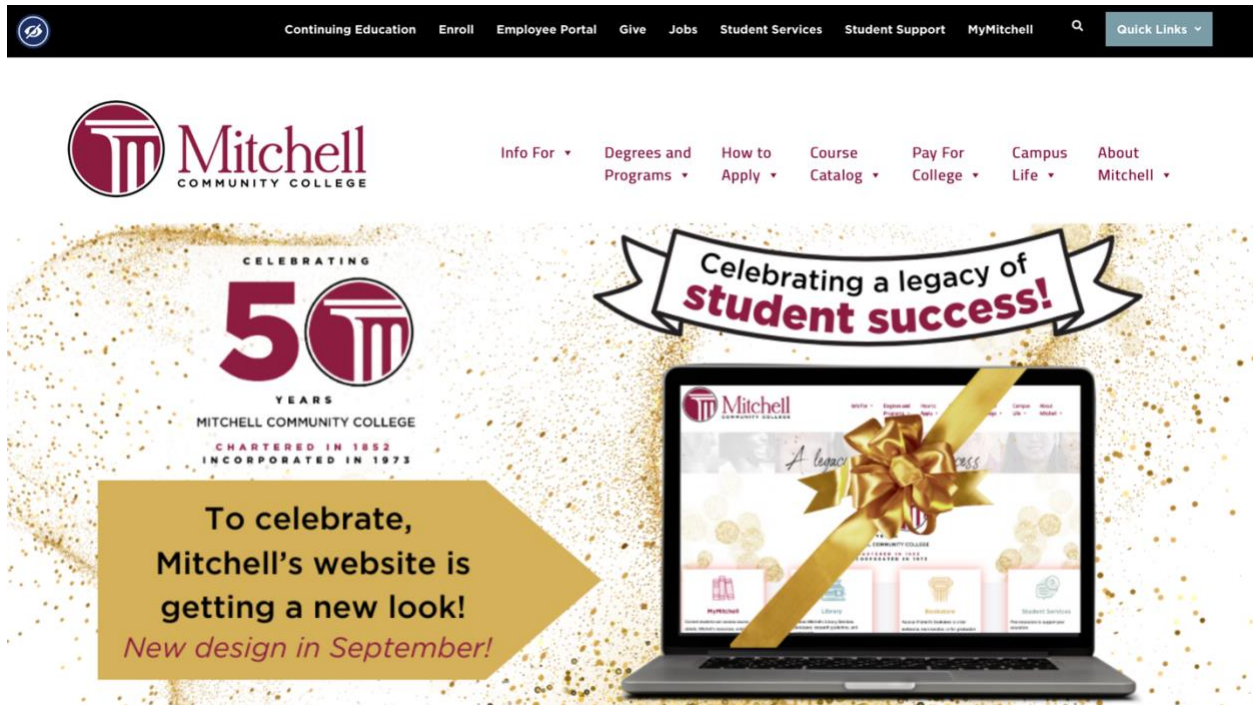


Figure 3.6: Mitchell CC redesigned home page (September 2023)

1. A **top navigation bar** that stays with users throughout the website and provides navigational options that were identified by user-audiences early in the design process as the top visited web pages among *all* user-audiences. This navigation provides easy access to pages that have been identified by users as having meaning for informational purposes. *At any time* during their use of the site, users have direct access to these web pages.
2. A '**Quick Link**' menu embedded in the top navigation bar also provides users access to secondary sources of supporting information about the college. These secondary sources are

areas of the website that user-audiences identified as resources (i.e. academic resources, library, bookstore, etc.).

3. A **secondary menu** for the home page creates multiple, alternative pathways of information for user-audiences to explore. Pathways include degrees and programs, how to apply, course catalog, pay for college, campus life, about Mitchell.
4. An **Info For** dropdown sets itself apart as its own unique menu which lets users sort information based on their own self-identity. This area of the website is still being tweaked based on user feedback.

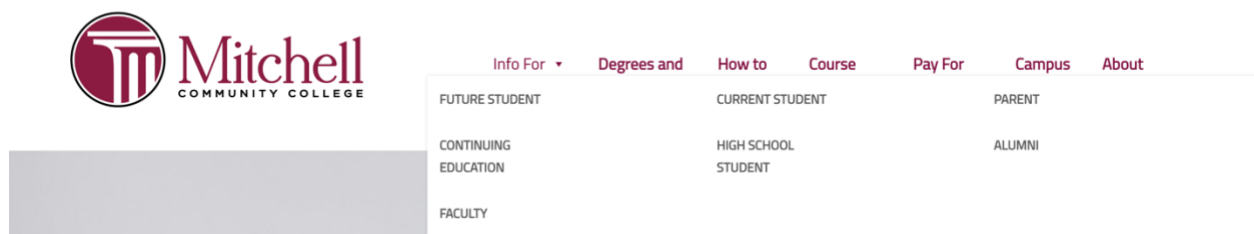


Figure 3.7: 'Info For' Dropdown Menu Option on mitchellcc.edu

With these navigational options, the information architecture of the new website allows specific user-audiences to access information in a multitude of ways depending on their purpose at the time of information retrieval. Although information has been provided for the user, the user-audience can organize and receive that information in an order that best suites them because of the different navigational pathways.

The initial thought behind the “soft opening” of Mitchell’s website was 1) time constraints brought on by real-time institutional needs (a new semester means recruitment of new students and Mitchell needed a functioning website) and 2) a soft opening would enable users to identify issues early in the design process. And as expected, giving the user access to the redesign early in the process revealed small issues of usability and user experience. At this point in time, Mitchell’s website is live and active with a new redesign of the homepage navigational menu that has been received well by multiple user-audiences. Initial feedback of the new site has been positive with comments from faculty, staff, and students alike stating it is “easier to navigate” and information is more “retrievable and accessible.”

Because this research continues its pursuit of participatory design practices, the navigational options of the website continue to be under observation for their equitable user experience. For example, at the time that this chapter is being written, the subpages of the website (such as departmental and program pages) are undergoing a closer analysis for their needs in usability design practices.

Because the main framework for methodology in this research is usability and equitable user experience, the decision was made to take self reflection user feedback and incorporate it into the design process. With both websites functioning in a live ecosystem of user-audiences, this project stressed what it means to engage with participatory design: a collaborative

process that engages users, stakeholders and designers creating together. Predicting the purposes of each user-audiences was a massive responsibility. But instead of overcomplicating the process, this research simply *listened* to those user-audiences and their needs.

If this research truly seeks to understand the needs of multiple user-audiences, then it couldn't be limited to one focus group and it couldn't live in theory without praxis and user-audience interaction. Both websites needed to be accessible by their specialized user-audiences. Steve Krug (2014) suggests that "it's never too early to start showing your design ideas to users" because "users may actually feel freer to comment on something that looks unfinished, since they know you haven't got as much invested in it and it's still subject to change" (p. 145). Thus, user-centric goals of this research feel that success is found in not predicting what the user of your website wants but rather seeking to improve user experience by "understand and improving what matters most to customers" based on their real-time needs (p. 145).

A/B Testing

This research set out to create a set of reimagined web design heuristics that create a space for specialized audiences to engage with specialized websites. Furthermore, this reimagined set of web design heuristics aims to create a set of tangible web design practices that when

applied to any website can create a digital space where users can make their own meaning by using their own agential choices to navigate, organize and recall information based on their own real-time purpose. Thus, this research was focused on establishing a set of inclusive web design heuristics that facilitate the agency of user-audiences. Furthermore, this research was interested in applying those heuristics to two different specialized websites, which attract a multitude of varying user-audiences, to make their user experience become more equitable.

The application of a set of web design heuristics applied to different genres of websites should work – in theory – because, well, the practice of applying one set of website heuristics has seemed to be a commonly accepted practice for over 20 years¹¹ for most web designers and practitioners. But that very linear, clean-cut boundary is what this research is trying to interrogate and trouble. Because one way of being excludes other ways of being; it impedes other ways of knowledge-making that do not align with standard practices.

This research applied its inclusive take on web design in the process of designing these different specialized websites. In applying this new set of heuristics to build each specialized website, the working practice of this set of heuristics included:

¹¹ This is in reference to Jakob Nielsen's 1994 article, "10 Usability Heuristics," which became the world's guiding principle for reference when it comes to usability web design (History of Nielsen Norman..., 2018). Later, in 1998, Jakob Nielsen and Don Norman, co-founded the Nielsen Norman Group, which remains one of the top consulted usability heuristics worldwide.

1. *Providing* solutions for those needs by allowing user feedback to be prioritized in influencing the planning and overall goals for the redesign process;
2. *Understanding* that everything on a website is a system of meaning that feeds into the users' understanding of the contextual situation and knowing that your actions and decisions for web design have larger consequences on the user-audience than just aesthetics;
3. *Learning* about the specialized website's user- audience(s) and their needs and frustrations through pre-design survey data;
4. *Listening* to user needs and experiences on a continuous basis and reacting to those experiences through reiterative design to meet evolving user-audience needs.

This heuristic approach of *Provide, Understand, Learn, and Listen* is what this research has used in the design of equitable user experiences – by putting the user at the forefront of the web design process. These heuristics are simple enough when written down, but their complexity grows when put into praxis.

For this research, users were accessing the equitable user experiences of two very different specialized websites built with the same inclusive user-centered heuristics: the Mitchell Community College website, an e-commerce type model, and the Fanny Fern Archive website, a niche-genre. Mitchell's

website resembles more of an e-commerce website model because its purpose is to recruit prospective students and retain current students. The website functions as a “one-stop-shop” for general information about the college along with crucial student info like admissions, financial aid, program information, learning management system access, etc. by supporting links to forms, online surveys, portals and so on. The Fanny Fern website differs in that it is more of a niche, special interest website that focuses on a narrow topic for an audience interested in that subject.

Because of the differing genres of these two specialized websites, there are differences in their information and their purposes which might also affect the purposes of their specialized audiences. Therefore, while both websites were built with the same set of web design heuristics, the analyzation of the effectiveness of their equitable user experiences differ across their differing user-audiences and thus creates a unlinear collection of results with data that is a bit messy to organize and compartmentalize.

Because of the differences that both specialized websites can produce due to the varying purposes of their specialized user-audiences, the possibilities of a user’s experiences and knowledge-production can be limitless – as opposed to the boundary-drawn, knowledge-making praxis of traditional website design praxis. At the same time, this vastness can create a constraint which creates consequence. Some constraints of difference among both sites might include accessibility, intentionality, performativity,

and sustainability of logic which are largely based on the user-audience's own spectrum of knowledge and experiences applied to the website's multi-navigational pathways. And this process would be different for each user-audience on each specialized website.

Interviews

Another method utilized in this research to gather data from user-audiences is interviews. To gain insight into the development of this new website heuristic and to contemplate the above forementioned question, this research identified subsets of user-audiences using pre-design self-reflection surveys to determine what individuals needed to be represented for further user testing of both specialized websites. With those subsets of each specialized website's audience identified, A/B testing was conducted on both websites with interviews of different personas of these identified specialized audiences.

Interviews are targeted to specific audiences with the goal of gathering qualitative data to provide an overview of the way these specialized user-audiences are interacting with each website. For that reason, this method provided insight into the effectiveness of each user-audience's experiences and based on those qualitative answers, determines if their experience was equitable which is established by if user-audiences found the means to create knowledge for their own purpose.

After establishing the personas of these specialized audiences (Fanny Fern: a person with subject-interest, and a person with history/archive interests; Mitchell Community College: prospective student, current student, faculty/staff member), next, I needed to identify the number of participants that would equitably represent each specialized website's multitude of user-audiences. Although Jakob Nielsen's recommends a standard 5-user test in that five users are thought to be enough to find usability problems and gain insights, a different study by Meloncon and St. Amant (2016) in a five-year systematic review of Technical and Professional Communication Research found that the average number of interview participants in TPC studies was 15 (p. 349). Considering this marginal difference, and because this research aims to create more equitable experiences for users on specialized websites, an increased number of individuals representing different specialized audiences made sense for the research at hand because it seems to be a more accurate portrayal of all users' experiences. Therefore, across both websites total, this research tests the experiences of (15) specialized user-audiences and their experiences with this reimagined set of web design heuristics.

To inform this action, Rubin and Chisnell (2008) recommend that user-centered design should start with taking a systematic approach to the project at hand, developing test materials early in the process to use as "templates" to involve audiences in the development of a website. Therefore,

during the user testing phase of this project, this research places an importance on “receiving user feedback or input during each phase, before moving to the next phase” (Rubin and Chisnell, 2008, p. 14). This is the only way to ensure that the infrastructure of a digital project is usable in that “usability is only an issue when it is lacking or absent” (p. 3). Following this template, this research started with pre-design self-reflection on the user’s part and then took that feedback into the next phase of website design.

The next step to include the user is the systematic process of interviews – both asynchronous and synchronous. And thus, a consistent usability test throughout each developmental stage of the website is crucial to ensuring that this type of information infrastructure model is useful to the user. Historically, usability tests have incorporated focus groups of different audiences to “test” the information and design with users, or participants who would fit the persona or characterization of users for the site. Usability testing can be thought of as “testing how easy a design is to use with a group of representative users. It usually involves observing users as they attempt to complete tasks” (Interaction Design Foundation, 2016).

Practice

With this research’s goal of creating new website heuristics that provide space for equitable user experiences to facilitate user-audiences making meaning for themselves, the questions used in the user testing must

measure the degree of understanding that user-audiences experience when interacting with a website that offers multiple possibilities for knowledge-making. Furthermore, if a user's understanding of the information is successful, the user test must capture how audiences interpret information on a tech-mediated platform using their own experience and deduction to navigate present and future empirical structures of knowledge. Because this research puts human-centric/user-centric design at the forefront of its goals, the interview questions must be asked in such a way that does not lead the user to answer in a certain way. Thus, these questions have been structured not to make meaning for the user but rather to give them the space to think critically and reflectively about the information that they have been provided, and to generate their own meaning. For that reason, this interview process will be guided by this research question: *If users are given a multitude of contextual ways to frame their own meaning, then what multitude of possible meanings do they derive in a real-time moment from the information presented?*

General Personas

To answer that guiding research question, interaction with each website's information architecture is used as a real-world observation for how user-audiences interact with a multitude of options to navigate information, and how they interpret that information for their own situational

context. For the A/B user testing, this research identifies user-audiences of each website and then initiate subgroups of those users¹² to represent user-audiences of each website, as demonstrated in Table 1 below.

These subgroups not only provide an overall holistic reading of each specialized website’s user-audiences, but it also draws special attention to the specific meaning-making processes of those user-audiences:

Table 1: User Personas

User	Persona	Test Website
User 1	Student	Fanny Fern Archive
User 2	Student	Fanny Fern Archive
User 3	Student	Fanny Fern Archive
User 4	Literature Aficionado	Fanny Fern Archive
User 5	Literature Aficionado	Fanny Fern Archive
User 6	Literature Aficionado	Fanny Fern Archive
User 7	Historian	Fanny Fern Archive
User 8	Historian	Fanny Fern Archive
User 1	Prospective student	Mitchell CC
User 2	Current student	Mitchell CC

¹² This research will use Jakob Nielsen’s standard 5-user test in which Nielsen suggests that five users are enough to find usability problems and gain insights. Although this research may not necessarily agree that 5 users is an accurate portrayal of all users’ experiences, for purposes of this prospectus, Nielsen’s standard 5-user test will work.

Table 1: (Continued)

User 3	Current student	Mitchell CC
User 4	University student	Mitchell CC
User 5	Staff	Mitchell CC
User 6	Administration	Mitchell CC

Fanny Fern Archive A/B Testing

The user-audience of the Fanny Fern Archive is unique, niche, and specialized. The Fanny Fern Archive website's specialized audiences were identified as a person with a subject-interest (like hobbyists, literature aficionados, academics and students) or a person with history/archive interests. Therefore, users selected for the Fanny Fern Archive user test represents these two specialized user-audiences:

Subject-interest: (3) students, (3) literature aficionados

History/ Archive interest: (2) historians

A total of (8) individuals participated in the user test of the Fanny Fern Archive. It is this research's hope that by inserting a varying degree of purpose, the user test for the Fanny Fern website provides an equitable representation of specialized user-audience's interactions with the website.

Mitchell Community College A/B Testing

Mitchell's web design is very similar to an e-commerce website in which a variety of specific audiences utilize the site to retain a multitude of information. This information parallels across user-audiences but it is also different depending on the knowledge-making purpose of the specific user. Therefore, to encompass these varying needs of different user-audiences, and to account for the evolving design and institutional needs of the Mitchell website, participants of Mitchell's user testing include:

Prospective students: (1) "new" student (in their first year) who can remark on their engagement with the website and their enrollment process compared to their use of the website now;

Other student personas: (1) current students who is familiar with the "old" website design and can compare it to new website design and their daily user needs; (1) "outside" student enrolled at another institution who can give insight into the effectiveness of Mitchell's website

Faculty/Staff: (1) faculty member and (1) administration representative.

This representation should provide an equitable representation of different users of Mitchell's website.

Process of Testing

This research tests the experiences of user audiences in the following order:

1. A pre-design self-reflection survey used to identify
2. An asynchronous interview
3. A synchronous interview
4. Reiterative design followed by more feedback

And this circular motion of user testing has and will follow this research's proposed web design heuristics to create more equitable user experiences by:

1. *Providing* solutions for those needs by allowing user feedback to be prioritized in influencing the planning and overall goals for the redesign process;
2. *Understanding* that everything on a website is a system of meaning that feeds into the users' understanding of the contextual situation by conducting asynchronous and synchronous interviews with individuals who represent each website's specialized user-audiences;

3. *Learning* about the specialized website's user-audience(s) and their needs and frustrations through pre-design survey data;
4. *Listening* to user needs and experiences on a continuous basis and reacting to those experiences through reiterative design to meet evolving user-audience needs.

Following a pre-design self-reflection survey to identify specialized user-audiences, representatives of these user-audiences were asked to participate in interviews that gauge their experiences with the website. First, users were asked to participate in an asynchronous interview in which the website can be analyzed in their own way without any external pressures *before* they are interviewed. Inspired by the research of Lisa Meloncon and Kirk St.Amant (2016), an asynchronous interview "combine[s] the data collection richness of an interview with the asynchronous distribution of the questionnaire" functioning as a "one-on-one qualitative instrument" (p. 349). Users were encouraged to browse for one hour and take notes to self-reflect about their website experience. Users then share these notes during their in-person, synchronous, interview.

Participants were then provided with one guiding question for their asynchronous interview: *What is the purpose of this website?* This is the first question asked in the synchronous interview process, so it creates a bridge for knowledge-making and the question leaves the agency with the user-audience to determine the effectiveness (or not) of the website and

equitability of their user experience to derive meaning for their specific purpose. Their interaction with the site and a multilinear navigation system on their own time help the user gauge the information provided, while also exploring the way that multiple informational pathways may (or may not) providing meaningful knowledge-making.

Next, user-audience representatives are asked to participate in synchronous interviews where they are asked to bring their notes from the asynchronous interview to the meeting so that they can express their experiences in a real-time moment. Because the interviews are occurring at a scheduled time, interviewees might feel pressure to say things that they feel the interviewer might want to hear. So, combining the asynchronous real-time moment interview notes with the more pseudo synchronous interview feedback might yield more accurate user experiences. Additionally, the interviews occurred in a conference room with each participant being interviewed separately from one another. This approach is intentional so that the participant can gauge their own meaning making process and not be influenced by communal knowledge.

At the beginning of the synchronous interview, participants are asked to take an initial browse of the website (around 10 minutes) as a refresher to ground the conversation. After the initial browse, the user is asked a series of questions aimed to create conversation about their success or unsuccessful meaning-making process. These questions are asked with the

user's current and past meaning-interpretations in mind, and both current interpretations and past notes can influence their answer. Thus, the conversation becomes one between the interviewer and the interviewee; yet the interviewee is including reflective thoughts through time and space from both their pre-interview and present-interview understanding.

In this unique spectrum of past and present (real-time) understanding of the user-audience, a boundary between time and space is troubled. *Why does this matter?* Because it complicates a traditional model of knowledge-making and creates space for a user's own unique meaning-making agency. In a traditional sense, an audience is assumed as autonomous and therefore, they *consume* linearly presented logic that has been influenced by a collective sociopolitical meaning that has been presented (and represented) to individuals in the form of a "repetition of rifts" (Derrida, *Dissemination*, p. 295). When this audience encounters knowledge that is not theirs, they incite this phenomenon of limitation, one of a "continued impossibility of choosing one's place and the even greater difficulty of getting one's bearings in it" (p. 295). Therefore, because of the overbearing weight of an individual's irrefutable role within a non-negotiable system of logic, the audience removes their responsibility of the knowledge-making process "or the sense of consciousness of responsibility" because the audience is "less capable than ever of choosing his place" (p. 290) in the spectrum of

knowledge and meaning. They become what Donna Haraway refers to as a “modest witness” (2018, p. 23) in their own knowledge-making.

What is different about the way that this proposed website model treats its audience and the way that this research is informed by the user’s own experience is that the audience can choose their own place and they do have the agency to make their own knowledge. A user’s explanation of their interaction with the digital infrastructure of the website helps this research to understand the consequences or benefits of a multilinear website information architecture whose heuristic design is based on the agency of a user audience. Because this research is focused on user-generated knowledge, participants are isolated from one another when interacting with the website redesign to highlight an individual user’s agency of choice.

To measure the qualitative value of meaning-making in which the user interacts with the digital infrastructures of information on the website, users are asked the following self-validating questions to affirm or disprove their equitable user experience. Although users are different for both website user tests, the questions are the same:

- a)** What is the purpose of this website?
- b)** What did you learn? In other words, what knowledge did you “take away” from the website?
- c)** Is there anything notable or unique that you noticed in the information provided? Why?

- d)** Did the design of the website aid or hinder your ability to understand the information provided? Why or why not?
- e)** How could the website design be more helpful to your knowledge-making process as a user of this website?
- f)** What purpose might you use this website for?

The answers to these questions would be derived from qualitative interviews that gauge a user's interaction and understanding of the information on the website; the user's answer would determine their "successful" navigation of the website. Yet even that statement is tricky because "success" would be individually determined by the knowledge-making purpose of the user-audience. Combining the user's pre-interview notes with their interview answers, this research analyzes a user's answers to understand their validation (or not) of the website's design. There would be no right or wrong answer – only a metric of success determined by multilinear knowledge-production demonstrated by critical thinking as opposed to one linear, unified interpretation of the data presented such as the case of a traditional website design where information is already pre-narrated and thus there is only one outcome of understanding.

Questions A and B ask the user, as the *audience* of the website, about their understanding of the *purpose* of the website after their general interaction with the site. Question C prompts the user to share if any information or part of the website was unique to their attention with hopes

that users' answers might comment on parts of the website's design while also understanding what elements stand out to users – for good or bad reasons. Questions D and E ask direct questions about the *design* of the website and gives the user open-ended space to answer if that design was successful or unsuccessful in aiding their meaning-making process. Question F asks the user to reflect on their user experience and to think reflexively about how they might utilize the specialized website with – what this research hopes to be – a more agential digital space where users can make meaning for themselves with it. It is this last question that can truly define the success or nonsuccess of the alternative web design heuristic for multiple pathways of navigational infrastructures – a metric whose effectiveness is determined *by the user*.

Of course, hinderances of this process may include trusting that user takes the full hour to browse and interact with the website during the asynchronous interview. For the synchronous interview, hinderances may include scheduling conflicts or falsified answers that work towards what the interviewer might want to hear rather than what the user is experiencing. But through the combination of asynchronous and synchronous interviews with representatives of user-audiences of each specialized website, this research hopes to collect qualitative data that reflects a user's equitable experiences on specialized websites that utilize this project's reimagined web design heuristics.

Approach of Analysis

Outcomes of understanding demonstrated by users during the user testing would be determined as successful only if interpretations of the information infrastructure were multilinear; in other words, this research would be interested in how users make their own meaning and demonstrate their own agency when presented with a multitude of possibilities to seek out that meaning. Situating the research in equitable user experiences, considerations of the user testing results would be: *What does this user agency do for the purpose of the website? Does it facilitate critical thinking and mind-mapping that is purely generated by the user, rather than following a traditional model of information made for the user? And does this agential choice benefit the user and the purpose of the website equally?*

Through a collection of asynchronous and synchronous interview data, this research performs an analysis of user-audience feedback and searches for common themes.

Themes of equitable user experience and the effectiveness of the specialized website will include:

- A sense or purpose of understanding
- Knowledge formulation or discovery
- A change of opinion or thought process

Themes of non-equitable user experience and the ineffectiveness of the specialized website will include:

- Frustration or confusion
- Lack of understanding

The connection between the story and the audience is at the heart of my project because it is the user's creation of their own stories in the real-time moment that grounds my approach to web design and information architecture. For me, Jacques Derrida's concept of hauntology plays an important role in the design of my research because it helps me to conceptualize an epistemological understanding that acknowledges most knowledges have undergone a series of recontextualizations that have been scissioned from its original meaning depending on the context of which is presented – an idea I had/have also experienced in my praxis in journalism and marketing.

Similarly, in Donna Haraway's research, the term "modest witness" is used to describe human subjectivity among technologically assumed objectivity in which the human user-audience functions as a natural object whose knowledge is disrupted by technologically assumed truth; the human witness is modest because they are unassuming and unquestioning of the information presented to them. Meaning is made for them.

Haraway warns us about becoming the products of modernity, off-springs of active canonicals that are left unfinished and incomplete to remain

only modest witnesses to the dominating narrative (p. 120) and to “the meanings and practices that claim us body and soul” (p. 51). But her research also leaves us with hope. Haraway encourages an emergence of individuals to use their knowledge, experiences, and metanarratives to push back against the “power-knowledge nexus” they are situated within “where they are subject to and subjects in a world-making discourse” (Haraway, 2018, p. 114). Therefore, this research seeks to reimagine website design as creating a digital space where user-audiences can use their own agency to determine their own meaning for their own purpose.

Since this research seeks to design a website that is reactive to specialized user-audience’s knowledge, experiences and needs, changes to either specialized website will be made with attention to how user test participants share their understanding and the thought process behind their interaction with the website as demonstrated by the interview data. The user-audience(s)’s needs will be used to inform reiterative web design, by understanding that everything on the website is a system of meaning that affects the user-audience so this research engages in participatory action and collaboration among user-audiences and designers to create a specialized website that facilitates equitable experiences for the needs of all specialized user-audiences involved. Because if a user-audience is presented with multiple ways of knowing and being, and they are encouraged to explore that messy potential for knowledge interpretation and production,

then rhetorical invention and intervention can be applied to commonplace web design practices to reimagine a digital space that facilitates a user-audience's agency and their effective understanding of the knowledge presented to them in a real-time moment.

CHAPTER FOUR: FINDINGS

This research's primary objective sought out to create a set of reimagined web design heuristics that create a space for specialized user-audiences to engage with specialized websites through equitable user experiences. Based on a user's perceptions and feelings towards alternative, user-centered web design, this reimagined set of web design heuristics would create a set of tangible web design practices that when applied to any website can create a digital space where users can make their own meaning by using their own agential choices to navigate, organize and recall information based on their own real-time purpose.

To achieve an accurate measure of a user's true unbiased and unbound experiences, all methods utilized in this research are key parts of user experience and participatory methodologies that consider key parts of the usability process by *listening* to the user and providing them with agency to facilitate design decisions. To evoke participatory design methods, every step of this process remained user-led and user-centric by incorporating qualitative methods centered around a user's feelings and perceptions documented through self-reflection and asynchronous and synchronous interviews with user-audience personas of both specialized websites. This

process allowed for data to be gathered about the participant's user experience to determine the effectiveness or not of this research's reimagined set of web design heuristics – based on user feedback.

In testing this equitable user experience heuristic, the process of the design and the praxis of the application were as follows:

- Creating consistent opportunities for user-audience feedback that are met with a reiterative design process to continuously address evolving user-audience needs;
- Implementing multiple navigational pathways in the website design to access, recall, and sort information that suits a user-audience's real-time needs and purposes;
- Providing visual cues within the web design for circular navigation that help the user-audience reorganize information reactively dependent upon their real-time needs.

It is this reimagined model for web design heuristics that creates infrastructures for specialized websites with multiple audiences and multiple purposes, which has guided my past and current praxis with usability methods in the creation of the Fanny Fern (digital) Archive and the redesign of Mitchell Community College's website – two websites that were chosen for this research because of their varying audiences and niche purposes. Both websites yielded different user personas for user testing.

Based on information gathered from a pre-design survey and conversations with users of the Mitchell Community College website (referenced in Chapter 3: Methodology), data was gathered to determine that Mitchell's website has multiple, identified user-audiences, this plethora of individuals needed a plausible starting point for the website redesign feedback. Initial user feedback was narrowed down to two user-audience types: prospective students and faculty/staff because the first sought out specific information to answer their questions, and the latter had become familiarized with the recoil of information – and knew the value (or nonvalue) of its relevant output. Due to conflict of schedules, and the fact that students and faculty were on summer break, some exceptions had to be made for the Mitchell Community College user tests such as:

- Rather than the originally proposed (2) prospective students and (3) current students to be tested, instead, this research was able to user test (1) prospective student, (2) current students, and (1) student from a university with an outside perspective of Mitchell's website.
- Additionally, only (1) employee (a staff member) was able to be interviewed because faculty members were on summer break.
- However, the administrative perspective from User 8 evolved into encompassing a collective, holistic process of participatory action

that involves a department's feedback on the development of a portion of Mitchell's website.

In applying this knowledge to the user testing, findings from interviews with these user-audience personas yielded the following transcribed experiences from user test participants:

For the Fanny Fern Archive, based on information gathered from a pre-design survey (referenced in Chapter 3: Methodology), data was gathered to 1) determine that public knowledge of Fanny Fern is limited and almost unknown and 2) individuals that do have knowledge of Fanny Fern likely gained that knowledge through education and/or literature. With these results, it was determined the specialized user-audiences of the Fanny Fern Archive would not be broad; they would likely fulfill a specific niche like already having subject-matter knowledge about Fanny Fern, such as a student or a faculty member in the educational field working on a research project, or a historian and/or someone with archival interests.

To evaluate equitable user experiences on specialized websites, this research tested user audiences in the following order:

5. A pre-design self reflection survey used to identify
6. An asynchronous interview
7. A synchronous interview
8. Reiterative design followed by more feedback

The goal of this research was to create a set of agency-centered web design heuristics to create equitable user experiences. And this practical application of measuring equitable user feedback developed itself into the following equitable user experience set of heuristics:

1. *Providing* solutions for those needs by allowing user feedback to be prioritized in influencing the planning and overall goals for the redesign process;
2. *Understanding* that everything on a website is a system of meaning that feeds into the users' understanding of the contextual situation by conducting asynchronous and synchronous interviews with individuals who represent each website's specialized user-audiences;
3. *Learning* about the specialized website's user-audience(s) and their needs and frustrations through pre-design survey data;
4. *Listening* to user needs and experiences on a continuous basis and reacting to those experiences through reiterative design to meet evolving user-audience needs.

Therefore, this chapter will report on the findings of the user testing and user interviews by organizing user feedback based on the way it aligns with the above-described PULL heuristics. This research inductively generated a set of equitable user heuristics from two ongoing web projects. Through this organization, both websites can be reiteratively designed with

careful attention to the PULL model by categorization of the *why* behind a user's answer and how it falls into the spectrum of an equitable user experience.

These findings will include a summary of pre web design and post web design testing. In the user tests described below, user testing participants provided feedback on their user experiences of the Mitchell Community College website, an e-commerce type model, and the Fanny Fern Archive website, a niche-genre. Half of the user test participants were interviewed through both asynchronous and synchronous means but due to research time constraints, and conflicting schedules, the other half of interview participants interviewed asynchronously *only* by submitting their answers to interview questions via email.

The same set of interview questions were used for *all* user test participants across both websites:

Asynchronous Interview Question:

- 1.** What is the purpose of this website?

Synchronous Interview Questions:

- 1.** What is the purpose of this website?
- 2.** What did you learn? In other words, what knowledge did you "take away" from the website?

3. Is there anything notable or unique that you noticed in the information provided? Why?
4. Did the design of the website aid or hinder your ability to understand the information provided? Why or why not?
5. How could the website design be more helpful to your knowledge-making process as a user of this website?
6. What purpose might you use this website for?

Because the asynchronous interview question and the first question of the synchronous interview were the same, many User Test participants stated similar if not the same answer during both interviews. For that reason, the below results include 1 -5 of the above listed Synchronous Interview questions.

Providing Solutions

In engaging with equitable user experiences, a web designer must provide solutions for user needs by allowing user feedback to be prioritized in influencing the planning and overall goals for the redesign process. The below interviews are categorized under "Providing" because users had direct design concerns, and solutions were conversed between user and designer:

Fanny Fern Archive

User 3

Persona: Student

1. The understanding and the concepts that I took from this website was to explain the story and the life of Fanny Fern or that being her penmanship name and the difficulties she went through to become the woman she fought to be. The biography and the columns really helped to explain what Fanny Fern did and how her work helped various types of individuals in different stages of life.

And the story, from Fern, I feel like also assisted to make feminism what it is today and to help give more equal rights to women. So that is what I found as the purpose of the website.

2. I had heard about Fanny Fern and the story of Fanny Fern. I'm not sure how many years ago. I'm not sure what school, what grad, I was in. I had just kind of heard of it briefly, but the name did stick out to me. But I never did much research into so honestly reading about it and learning what all she went through was kind of you know, very interesting and something I had never heard of before.

[Interviewer verified]: **So, you did hear about Fanny Fern through a school/education setting?**

I believe it was. Yeah. It might have been there or you know through a religious like through my church but those are also two kind of tied together.

[Interviewer] **So some type of literature-based knowledge?**

Yes.

[Interviewer] **And when you say that you did know about Fanny Fern, out of pure curiosity, because this is a part of the bigger picture of the research, you didn't know much, you just kind of knew the name?**

I kind of knew the name and how it was tied in with feminism but that's all I knew of her before I read this biography.

3. I guess what kind of stood out to me was that it's more of a norm know of days to see not really rebellion, but you know coming up with your own ideas, coming up with your own ideas, things like that. I

guess it was unique to me to see her be kind of in that stage of life back in the 1800s because you know, you really did hear much of that. What you hear is everyone going by the book, staying on a straight path to whatever you might become. So it was kind of interesting and unique to hear a story of Fanny Fern and how she kind of wanted to go her own path and not what the world's standards were at that time.

4. I think it was perfectly laid out. I mean it...I feel like any person could read and understand it. As young as a little child or an older person in their older years. I feel like it was easy to read for anyone.

It was very laid out. Kind of basic but also you know very informative.

I was a little thrown off at the top of the finding aid, like the categories, and how they're sorted out until I started clicking on them and, you know, going to them I think it kind of helped lay out things better. But it was just kind of a lot I guess at first when you opened the finding aid page.

[Interviewer] **When you say you're "thrown off," you mean, it's a little much?**

Maybe. Like when you go to the home page or the biography page it's kind of that simple layout. But with finding aid it was like a lot in your face so to speak so maybe following that same with the 'Home' and the 'Biography' with the simple design something like that, maybe, that might help other viewers.

5. I think just laid out more. I don't want to say have a separate page for each one of these [referencing Finding Aid categories]. Like each one of the category buttons. But maybe just...I don't know...maybe more spread out. Kind of matching the same style as the home and biography page. That same style. That same technique. Like how it's laid out with those.

[Interviewer]: **For clarification, are you saying that the Finding Aid should have more of a traditional design of what we're used to with a website?**

Maybe. Yeah. Maybe because it's also what most viewers are used to. You don't want to do something new that someone might be thrown off with.

[Interviewer]: **Do you feel that you could adapt to this design?**

I believe so. Yeah, once I got...if I was on this website a lot then yeah, I definitely think I could. But as a first time user..

I do like the Fern in the background though. It fits perfectly with the name.

6. I believe like if I was in a teaching career or I mean, I do have some roles in my personal life as a teacher or guidance counselor so to speak so kind of use it as a learner opportunity, as an educational piece. Like I said, growing up, I heard about Fanny Fern, but as a young child I didn't research it myself so I feel like this would be a great website to use to explain more of her back story and what she went through.

User 3 was specific about the design elements that they did or did not like. They provided comments on how untraditional means for navigational systems was complex and different, but they did feel they could adapt to the design. This feedback was valuable to judging equitable user experience because it identified a "break in the boundary" of traditional user experience

because the finding aid was “different” and “complex.” But the user said they could adapt to the atypical design, and that provides hope for a model that a multitude of different audiences could utilize to fulfill different purposes given their real-time needs.

Mitchell Community College

User 1

Persona: Prospective/New Student

- 1.** The purpose of the Mitchell Community College website is to help inform future students, current students, faculty, staff, and alumni about the things that are happening at Mitchell. It is there to help guide students through their academic goals and learn more about programs that they might be interested in. The website also informs students who they might need to get in contact with when they have questions about registration, financial aid, or any other area.
- 2.** While going through the different pages on the website, I learned about all the resources that are available. I also learned about other programs and activities that are available to students while attending.
- 3.** The one thing that really stuck out to me is that when you scroll over things on the website, everything that is clickable reflects that

and shows me that I am able to click it to find out more information or I am directed to another page that provides the functional tools for success.

4. I was a little confused with the student planning at first, but once I looked more and dug deeper, I was able to understand it better and better navigate it.

5. I feel that it operates very well. I was able to navigate rather easy by really diving deep into the website.

6. To find out more information about what Mitchell Community College has to offer for students.

User 1 is less familiar with the older version of the website and can thus accurately comment on the current effectiveness (or not) of the current website design. Users 2 and 3 are current students who have been at the college long enough to be familiar with the old design and the new design of the website and can thus compare the effectiveness (or not) of the new design to the old design. User 4 is a university student who offers an outside view of Mitchell's website (which is a valuable contribution to this research

since it is likely that students are potentially “used to” the design by now and may not make major or critical observations about the website design:

Mitchell Community College

User 2

Persona: Current Student

1. The purpose of the website I believe is to direct students to go through the information that they need and to be able to get what they need for their school and anything to sign up, enroll, or decide what degrees or associates they are going for.

So, informative for students.

2. There is an area in the web that I can go and research for things I need as a student that I can use for school because it also has MyMitchell, the LMS, Student Services, to be able to navigate everything in the college.

I also learned about the College.

3. I really like how the events go by on the website. Every time there is an event or anything like that it showcase on the main site as soon

as you open the website it scrolls right there with image and text. I like that. I think a lot of the colleges don't do that. They do a video introduction which I'm not happy of that or they put an image of the college.

[Interviewer]: If you don't mind me deviating, why do you not like video intros?

It's just distracts the viewer from what they're actually trying to look for I believe.

4. [Interviewer with knowledge that this student remembers the old site design]: **If you don't mind, you can make comparisons here between the old site and the new site.**

For this website, I believe it's easier as I'm looking into the interactions of the website, I feel like it's easier to find the information you need. And it's easier to find contact stuff and things like that.

As a designer, it's also the same but there is one thing that I would prefer is different. In that case it would be like the header, to just stay there. To pin it. And that's just about the design part of it.

But compared to everything else, it's just so easier compared to the old one to navigate.

[Interviewer]: **There are three menus on the site and some do travel with you but which one are you saying should travel with you?**

The black one, so like *[User 2 made motion with hands on screen over the home page].*

[Interviewer] Oh, pin it when you're scrolling the home page (where it is always on the screen and never leaves the users vision).

Yes, so how when you scroll it that [black navigation bar] stays there. That's the only thing that...I dislike...in the design part of it. Everything else is actually really easier to find the things that you need to find. Definitely way easier than the one before because [laughs] the one before you came its like there were a lot of different designers with a lot of different styles that built that thing before.

[Interviewer] Oh, yes, it was a modge podge of things. It needed help.

Yeah. [both laugh]

5. *[Interviewer] You kind of answers how could the website design be more helpful to your knowledge-making process as a user because you like the fact that the menus travel with you but you would prefer for that black [navigation] bar to be pinned.*

Yeah. So you can basically just go to the top without scrolling all the way up.

6. For me? To go into my LMS, to go into my student services, to be able to look at my grades and the classes I need to have done and all that stuff. And that's like as a student.

*[Interviewer] **and is there anywhere else on the website that you'd like to see information improved or you'd like to see it different?***

I feel like it's good the way it is. I feel like the layout is pretty clean. I like that. If there's anything it would be just the header and maybe the footer to keep it pinned, that's the only thing. Because I believe you added the thing where you want to change font, or change this, or change the language all that stuff. That is pretty nice. I think that will be helpful if anybody needs to change anything like for themselves, like put the letters bigger stuff like that. But that would be like a special case. Where it started and where it is now, it's better. And I like it. It's easy.

Mitchell Community College

User 3

Persona: Current Student

1. The purpose of this website...really to direct students to whatever tab they are interested in like either the library, or if they want to get more information on administration, or employee portal to look up your professor, or whatever, so its just to get students to engage and get whatever information that they probably didn't have.

2. I think it's easier to navigate compared to the older one and it has a more appealing look as well which also goes to making it easier to spot things like going back to the student stuff, if you want to do a research

paper, you can actually find the database a lot more easier than you could on the other one.

[Interviewer]: **What do you mean by easier to navigate?**

What helps you?

Well, at the very top, there are like different tabs either if you're looking for a job or learn more about student services. The student support tab is easier -- for a student especially -- is easier to find whatever you're trying to find.

If you scroll down, there are also other tabs that are bigger that might have a lot more information that the students may want to look at in regards to the smaller tabs up top.

3. How everything is big! Like, I love when designs are like huge on the websites just because it's easier to focus on. [laughs] I don't have the best eyesight. I'm wearing glasses right now so it's just easier for me to spot things. And I have been getting that it's a lot easier than the old one from a lot of my older classmates, [mentions classmate's name]...yeah, she said it's much easier to navigate.

[Interviewer]: That's great to hear. So, things are big. It's the visual aspect?

Yeah, the visual aspect. And its more modern in looks.

4. Really, I don't think anything really hindered me. Everything is...you know, there's quick links that you can go do especially if you want to find stuff really really fast. Just compared to the old website, I think this is just a lot better. It just looks more appealing like I said and everything – there's bigger fonts, everything pops out at you.

[navigates to and comments on MyMitchell student page] And the most important websites are right in your face so you don't really have to look anywhere else.

And one thing I do love is the calendar on the bottom so you can know about important dates and any events you'd like to participate in.

5. One thing that I have been having an issue with is finding specific department's – their contact information – because it always directs back to student services...like I can't find the contact for the main

building, like if I want to get in contact with HR. There needs to be different tabs for different buildings...which there probably is but I haven't been able to find it.

[Interviewer] there isn't necessarily what you're describing... there's a directory but it's not divided by every department so that's great feedback. There's program pages but some have contact information some don't. So more departmental contact / organization.

And just list the different departments, like a lot of people don't know we have like Kirkman.

[Interviewer] Alright, list the departments. We do...we are working on developing a campus locations page...kind of makes me think that would be a good segway because you see the different locations but then if those were buttons that went into a department breakdown....?

I think that will be good.

6. Well, seeing that I'm still a student, I would still use it for research especially using the library database or just booking a library room with friends. Self service, LMS or passwords especially – I always forget my passwords. I have used it once for career services when I needed to book an appoint with [Career Services Coach] to work on my resume. But just tech help in general is being what I would use it for.

[Interviewers]: so you're pretty much describing student resources?

Yes, student resources.

When comparing the User Test feedback from student personas, across the board, the common theme is that the website is easy-to-navigate. These users openly expressed design concerns and issues, and their feedback was met with the agency to give criticism, and the conversational atmosphere to discuss those solutions in a qualitative way.

User 3 described the website as "easier to navigate compared to the older one" and even comments on the visual cues that have been added to help users navigate information, even commenting that older classmates have also made the comment that the new design is easy to navigate because of its design:

“It has a more appealing look as well which also goes to making it easier to spot things... Everything is...you know, there’s quick links that you can go do especially if you want to find stuff really really fast. Just compared to the old website, I think this is just a lot better. It just looks more appealing like I said and everything – there’s bigger fonts, everything pops out at you.

[navigates to and comments on MyMitchell student page] And the most important websites are right in your face so you don’t really have to look anywhere else. [User 2, Mitchell CC User Test, Answers 2 & 4].

Continuing the theme, User 2 summed up the website’s usability by stating in their user test: “Where it started and where it is now, it’s better. And I like it. It’s easy.” This research is elated that, based on this user test, current students make the comment that the design is easier to navigate, especially when compared to the new site. Compared to pre-design data, the feed received from these students regarding ease of navigation is significant progress from the outdated and irrelevant information, along with the dysfunctional navigation of the old design. The usability of the old web design was not user friendly, and most students opted to use a Google Search to navigate the website rather than utilize Mitchell’s website from start to finish. This feedback indicates that participatory feedback

incorporated into reiterative design to *provide* solutions has been successful in the usability improvement of this website.

Understanding a System of Meaning

A web designer must *understand* that everything on a website is a system of meaning that feeds into the users' understanding of the contextual situation by conducting asynchronous and synchronous interviews with individuals who represent each website's specialized user-audiences. Therefore, every design decision affects the effective or ineffective understanding of a user's experience, and this can trouble the equitable experience and agency of a user. The below interviews are categorized under "Understanding" because these interviews provided insight into a user's understanding or misunderstanding of the web design and can thus inform how the web design could provide better navigation of the information.

Fanny Fern Archive

User 5

Persona: Literature Aficionado

- 1.** The purpose of the website is to educate the reader and academia about Fanny Fern and her life and contributions to the women's movement / women's rights / feminist movement of today. And so that people are more aware of her memory.

2. That she was the first female published columnist that had a contract and that she had was late 1800s to the early 1900s. She had three husbands which is pretty unheard of for the time. Pretty crazy *[laughing]*. Glad the last one worked out.

And that she had a lot of losses there all together with her mom, husband and daughter and how difficult it was to make it back then as a female author and then obviously learning the pay scale back then was interesting.

3. I definitely say it's notable that I have not learned about Fanny Fern in school or any of my, even, higher ed programs or anything. So just learning about somebody new as a good experience.

And I definitely think her story is unique in growing up with a religious background and then kind of having her own ideas and religion and a large family to then really making it completely on her own.

And she definitely has unique perspectives. I clicked through some of her articles and read a few; read one of the kid's ones. And one of the ones about Jobe. And one of the other ones.

The links all worked so good.

4. Aided it. It was simple. Which was good. It was easy to scroll through and it was easy to find all the information. The 'Biography' and the 'Finding Aid.' So very clear.

5. I mean, I don't really have any big suggestions for that. I know it says that some of it is still under construction as you find more of her works and more archives and all that but maybe a search function at some point if people had...if people were aware of her and they had specific articles they would like to search but being new to it there was nothing specific that I was trying to locate.

I liked the finding aid. When you said it, I thought you meant something like a search bar but when I looked at the website, I thought that was a cool idea. I liked the Scope of Contents, the Dates and Creator. Pretty easy to see all of that, and then that's when I went in to find the additional articles. So, I thought that was way more organized.

And I liked that it was a Fern. Because Fanny Fern.

6. I like to read for enjoyment so probably that.

And also, Mitchell [Community College] was in existence around that same time period so it's kind of fun to go in and compare local newspaper articles with what was going on with society at large at the time. Because I've read several articles from the late 1800s, 1900s just in a Mitchell capacity so it's neat for a comparison between local versus...was she national or regional?

[Interviewer]: She actually did write on a national scale. And she actually made it international to some degree. Some of her works made it to England at the time she was writing. And she was friends with...Uncle Tom's Cabin/Harriet Beecher Stowe so she had a transatlantic communication about that actually.

[User 4 went on to speak about different authors and talk about how they would get along with Fanny Fern].

Fanny Fern Archive

User 8

Persona: Historian

1. For me, the purpose of this website is to introduce a unique pioneer writer to a new “modern-day” audience and to show the timelessness of her creativity. The site provides a comprehensive collection of her works for lovers of mid-19th century wisdom and wit. It provides a valuable one-stop resource for researchers as well. It will no doubt create a new generation of Fannie Fern fans.

2. I met a fascinating lady I had never heard of. Although I haven't had time to explore all of her literary contributions, I will be doing so. I learned the importance of perseverance and following your dreams no matter how bad things get. I learned that success comes in many forms. Fannie Fern's common sense approach to dealing with unjustness was probably her strongest attribute. She was definitely way ahead of her time.

3. I learned that gender equality and female empowerment have been topics of public conversation for over 175 years. Most people today are familiar with the women's rights discourse of the 1920s. But not many know that such a controversial topic was thematic back in the 1850s.

She set the table (oops hope that's not sexist) for further and more fruitful conversations over the next half century.

4. The site design is clean and inviting.

I love the font whatever it is. It adds a classy, nostalgic feel. The site is easy to use and packs a big punch, especially the access to 20 years of Fanny's columns.

5. To me the design is perfect. I can't offer any suggestions for improvement.

6. Because of this website, I am now one of Fanny's newest fans—possibly even one of her most unlikely fans. I will use her work to add a previously lacking understanding of 19th century gender philosophy to my local history research. I now have a more complete grasp of the time period knowing that important topics other than slavery, state's rights, and war were on the minds of Americans in the 1850s and 60s. And I look forward to getting to know Fanny even better as I read the entirety of her works over the next days.

User 5 and 8 of the Fanny Fern Archive provided insight into an individualized system of meaning created from the information provided. This was crucial to measuring if the website was making meaning *for* or allowing a user to make meaning for themselves to facilitate an equitable user experience.

Mitchell Community College

User 5

Persona: Staff

User 5 is an employee who can compare the old and the new design but can also evaluate the effectiveness of the information on the site in its communication to students because they have a more expert understanding of the purpose of the website. Therefore, this user was focused on utilizing their subject area knowledge to develop specific areas of the website with their feedback.

1. To clearly communicate externally with the community and internally course offerings for Continuing Education in a manner that is easily understood.

2. Language is important. Language in education is not always the same as the everyday language the average person uses. The

Continuing Education website is for the adult learner many of these folks have not been in school for some time. The words used for curriculum programs mean something different sometimes than Short-term training. So how we communicate, especially for business and industry is very important.

3. Yes, the Short-term training site has information that changes often for example classes fill quickly and this needs to be noted on the schedule page. The public expects real time information. Again, Language matters. A certificate in a degree program may be different from an attendance or competency certificate.

4. The design of the website was a big aid in providing information in a way that could be easily understood. The continuing education website was very well thought out and useful.

5. The only thing that could be helpful is the ability to pay for classes online. This is a NC Community College issue not the website issue and there are now options that we can incorporate into the current site easily that can make this possible.

6.

- Chief information site for internal and external consumers

- Site for all current relevant information
- Site for marketing
- Go to site for any short-term training needs in Iredell County
- Trusted Reference site for business and industry

This research's takeaway from User 5's feedback is an emphasis on the PULL model for equitable user experience. An ongoing understanding that everything on the website functions as an ecosystem of knowledge-making processes for the user and ongoing *listening* to the needs of user-audiences to continue to improve the design. For example, in their feedback, User 5 puts an emphasis on language used on the website and that tells this researcher that there could likely be a need for a review of the language/text used on the Continuing Education portion of Mitchell's website to source from other user-audiences and content experts about the relatability, relevance and usability of the text currently in use on the website. Overall, both users demonstrated individualized knowledge-making and stated their likes / dislikes that aided or hindered their understanding.

Learning the User-Audiences

It is crucial that a web designer *learn* about the user-audience(s) of their specialized website and about their needs and frustrations through pre-design survey data. Afterall, your audience is a crucial part of the *purpose* of

your website. Without meeting the needs of your audience, you do not have an effective website. The below interviews are categorized under “Learning” because they provided new knowledge about the user-audiences which can inform the expectations of the web design based on user feedback.

Fanny Fern Archive

User 4

Persona: Literature Aficionado

- 1.** The purpose of the Fanny Fern website is to give individuals knowledge of who she was and her standpoints on feminism and how that can be useful for today's times. It is also a great resource to have all her works in one location to be able to read them.
- 2.** I learned a fair amount about who Fanny was as a feminist during her time and that there was a significant amount of struggle for her during that time.
- 3.** One thing that really stood out to me is that is was brief about her being a child and it jumped right into her as an adult and the struggles while she was writing and standing up for what she believed in. To me this was impactful because it got right to the meat and potatoes of the

meaning and there was not any filler information to take away from the main idea.

4. There wasn't anything on the website that hindered me in any way. I felt that I was able to travel through the website smoothly and was able to locate anything that I was looking for.

5. I feel that the website design flows very well, and you can navigate smoothly. I feel that it operates very well.

6. If I was researching Fanny Fern, I would utilize this website for her works and writings to have relevant information. I would also use this website if I wanted to inform someone of the writing and columns of Fanny Fern so that they know where they could go to find all her information in one spot instead of having to visit multiple websites.

Fanny Fern Archive

User 6

Persona: Literature Aficionado

1. The purpose of this website is to inform both academic and public individuals about "Fanny Fern" – pen name for Sara Payson Willis, a

writer and columnist in the early 1800's. The website conveys her resentment and bitterness to masculine authority when her father sends her away to seminary and the closeness she shares with her mother that instilled female empowerment. Her works were based on her own life. She made a career out of her struggles and successes. The website is very informative about her life but, left me eager to explore the works of Fanny Fern. I think that is the ultimate goal and the website creator accomplished it.

2. I did not know who Fannie Fern was. I discovered an impressive writer who survived many trials and still succeeded in her career! Her troublesome childhood forced her into early adulthood where she turned to writing to survive.

3. Fannie Fern spent two decades in a seminary before her writing talents were recognized. It wasn't until her first child died that she wrote her first novel.

4. No. I prefer chronological data.

5. The website is pretty detailed. The biography is in chronological order and descriptive of the obstacles/struggles she encountered. It pretty much tells her story and how her writing was based on her life.

I like the Finding Aid tab where I learned the titles of her writings and novels.

6. This website would be useful in doing a paper on feminism or early 1800 writers. It gives one a true picture of how Fannie Fern became so popular in her time.

User 4 and 6 of the Fanny Fern Archive provided this research with a transparent knowledge-making process as they engaged with the site and created a statement of purpose for this researcher as to why a literature aficionado persona would want to use the Fanny Fern Archive. Both users stated that they would use this website for research, with User 4 stating they would inform someone that this site is somewhere “they could go to find all her information in one spot instead of having to visit multiple websites.”

Fanny Fern Archive

User 7

Persona: Historian

1. The purpose of this website is to educate users on Fanny Fern and to provide a landing page for her story and links to all her works.

2. I learned that Fanny was a force to be reckoned with and that she challenged some traditional things for the 1800's, such as women not being allowed to divorce their husbands. I learned that she was a wonderful writer and that she had a realness to her writing that made her very popular during the period. She was very close to her mom, her dad was a preacher, and she had 8 siblings, and she was right in the middle of the siblings, being number 5.

3. I really liked the biography and how it was written. It gave a lot of insight to Fanny and her life.

4. No, the design of the website did not hinder my ability to understand the information provided. The website design was great and only added to the information provided. The website was clean and clear and very easy to use.

5. There are a few dead links on the Finding Aid tab that could be fixed. For example, *Male Criticism on Ladies' Books* (New York Ledger 1857) and under Genre the box for Letters isn't working. Also, there a few (very minor) spelling errors. On the Biography page, the last sentence in second paragraph the word "farther" should be "father", "...one that her farther wished to curb through religious instruction — "

On the biography page, in the last sentence of paragraph three, the word "though" should be "thought", "Sara never put any **though** to her writing". Further down the biography page, in the section titled, Fern's Legacy, the first sentence "and" needs to be deleted, "Fern **and** wrote on numerous topics,".

The last sentence of the first paragraph misuses the word "an" as it should read "and" there, "oppressed **an** a hatred of injustice..:

6. I could see using this website in English classes at the secondary or higher education level. I also see using it for history classes at both the secondary and higher education levels. March is Women's History Month, and this website would be a wonderful teaching tool on women's history. It could be used for teaching diversity and equality topics.

There are a variety of ways to utilize the website.

In addition to the identification of specific details, User 7 of the Fanny Fern Archive created a statement of purpose as to why a historian persona would want to use the Fanny Fern Archive (especially evident in their answer to question six).

Mitchell Community College

User 4

Persona: University Student (outside perspective)

1. This website has the purpose of being a one-stop shop for everything that a student could need related to Mitchell Community College. The website lays everything out that a student of all levels (newly enrolled to graduate) would need at any stage of their journey at Mitchell.

2. I learned that Mitchell has a lot of opportunities and services to offer not just to their students, but to their faculty, donors, professors, and families alike.

3. I noticed that no option on the website will open a different tab. Although it keeps things neat, this can make navigating the website tedious because you will frequently have to use the back button or manually open another tab.

4. While not having the ability to open other tabs for the viewing of sub-categories does keep things simple and neat for people who frequently use the website, first time users will have difficulty navigating the website smoothly and efficiently.

5. It could offer the option to open separate tabs when navigating the website

6. I would use this website to find more information on anything that relates to Mitchell Community College from all standpoints.

User 4 describes the website as a “one-stop-shop that everything for a student could need related to Mitchell Community College” which helps this research conceptualize the purpose of a constant user-audience that this website is focusing on: students. If this outside perspective student user feels that this website is a “one-stop-shop” then that is a step in a positive direction to affirm that the equitable user experience design is still aligning with the college’s mission.

Users in this category expressed new knowledge creation through their interpretation of the information on the site and/or users expressed a new way of doing so or obtaining information to fulfill their purpose which simultaneously provided insight on the user-audiences utilizing the website.

Listening to User Needs on a Reiterative Cycle

A web designer must be open to *listening* to user needs and experiences on a continuous basis and reacting to those experiences through reiterative design to meet evolving user-audience needs. Without such, a

website would not remain equitable – on the contrary, it would become stagnant in its design and fall short on reaching a user’s evolving needs. The below interviews are categorized under “Listening” because users communicated a future need or suggestion for the web design that would aid in their meaning making and knowledge making process.

Fanny Fern Archive

User 1

Persona: Student

1. The first time I saw the website, I like how it was laid out. You scroll down and see ‘learn more’ about Fanny and it goes straight to the point of her life. Learning about her and understanding her life that she went through and how she started. I feel like if someone is writing a research paper and they find this website and they see many choices to look for stuff about her, about the books, and if anything, they are trying to find can be found in the finding aid.

2. *[User 1 referenced previous answer.]*

3. The photos tell the user who she was and how she looked back in the day. And looking how she looked like a businesswoman, like a writer, like she had a life full of... well, yeah. The bottom text stood

out to me. *[User 1 is referencing Biography web page, the paragraph that begins with "Fanny Fern lived her feminism."]*

4. I feel like when I was reading the biography of Fanny, and it said about feminism and when I look at the home page it shows the pink colors – like showing feminism – a little. And I like how the images you chose are a perfect fit because she was writing a diary or a novel or something and her photo in that one looks pretty good. *[User 1 is looking at Biography web page]*. The only thing – the one critique – it's like – it's really long. *[User 1 is looking at Finding Aid web page]*. I like how it's organized in detail. I like how it's being organized about one area. For example, original publishers...it's talking about the amount of books she published, how many books she wrote. I feel like it's reading who she was. It helps the user understand the first thing that she did or appeared. Like from writing her first book. From the start and at the end. It depends on what you're looking for. If you are trying to find a book of hers and see how many books she has wrote. It could be used if you're in an English class and when you're assigned about writing about a person or a person that writes books and you say about woman's history and you find this person – Fanny Fern – and you click the website about her and you find about her bio and how

many books she wrote and finding the aid helps you manage how to know this person and who she was.

5. I feel like having more images about her and about her being part of a community of like, for example, talking about children and she's probably talking with the children, and she's trying to be out there and being known as Fanny Fern. *[Interviewer asked User 1 for clarification on community involvement comment with the question:]* **More**

information about her community presence? Involvement?

Involvement. A photo of her books. And probably her with people.

Family. Her, as she was young and her parents maybe. Her siblings or her children. Something to know more about her and not when she was a young lady and when she was older so probably like having those images can let the user know who she was as in the past and what her family looks like. Just by reading this, can't get the user the idea just with the photo but the photo and have a text at the bottom whatever is going on in the photo of Fanny with whoever is on the photo.

*[Interviewer asked User 1: **Where would you like to see***

those photos throughout the website? Probably more in the Bio.

[Interviewer asked User 1 in reference to User 1's previous comment about the bio being "really long"] **To break up the text?** A little. Yeah.

6. Probably like if you want to know more about women's history and you saw one of her books that has her name on it and you feel intrigued about who was this person and know more about her – it could be the website or one of her books. If you like see one of her books in the library or something and you want to know more about her and see who she was and why she started writing books and maybe that person wants to be a writer and that person can be inspired by her. And trying to know her more. Her family and the people who she worked with, if they supported her on her journey as a writer.

Fanny Fern Archive

User 2

Persona: Student

1. The purpose of the website is to serve as an archive for the works of Fanny Fern. And kind of give an overview of her body of work and kind of direct users to learn more about her through her work and kind

of just provide a place for people who are interested in her work to have a source for everything all in one place.

2. Pretty much an overview of fanny fern and her work. I haven't really heard of her work before this website so it was kind of interesting to get a kind of rundown of her life and what lead to her career and then took a look at a few columns...just glanced over them... and yeah, just basically a general overview of her as a person.

3. I mean it's definitely trailblazing for the time. She definitely was accomplishing a lot more with her work then I think a lot of female columnists at the time were. Because it definitely wasn't a common place for someone to be so prolific to be in the body of work and the topics that she covered and I think that kind of speaks to her as a person and, you know, kind of creates intrigue to want to learn more about this person.

4. I think it helped a lot because it kind of guides you to...you have the home page and it directs you to learn more about Fanny. So you can go straight to the biography before you actually get into the archive which I think is really important for someone who doesn't know anything about Fanny Fern – like myself – I was able to read about Fanny before I was directed to then look further into the archive and

that kind of informed what I looked for based on what interested me out of the biography.

5. I think the biggest thing is while it does have a “Learn More” about Fanny, as a user not having any prior knowledge, I wouldn’t say that I would necessarily be driven to keep looking if I was not probed to explore the website just because I think this requires some external research like you’re either researching already about Fanny Fern and you find this website or you are familiar with her works anyway. So for someone who has no knowledge, it might be difficult for them to be motivated to keep looking without having examples of work as soon as they get on the homepage.

6. The main purpose would be if I’m doing some sort of research project about Fanny. It’s not usually a topic I would usually explore. But I could definitely see myself if I saw an article on an external site that led to this website, you know, exploring it a bit and reading more about Fanny on my own time. But I think it mainly serves as an academic tool and that’s what I would use if for at least I think that’s the most likely reason I would be using it.

Users 1 and 2 of the Fanny Fern Archive had an active conversation with the interviewer about additions that would enhance the site based on their own experiences. This is valuable information to the equitable user experience of the website with mentions like more photos to keep them engaged or more button prompts to encourage users to explore the entirety of the site.

Following a trend, it was neat to find a correlation with pre-design data in that only one user test participant did have previous knowledge of Fanny Fern and that knowledge was from an educational/literature context. All other user test participants had no prior knowledge of Fanny Fern. But despite this knowledge deficit, overall, based on user feedback, I feel that users of the Fanny Fern Archive found the website to be easy-to-use with concise information. User 1 (student) liked the organization of the website information. User 8 (historian) stated that the design was clean, inviting, and had a “classy, nostalgic feel” that “packs a big punch” with access to 20 years of Fanny Fern’s columns. User 2 (student) stated that they liked the design of the website because it provided pathways to information:

I think it helped a lot because it kind of guides you to...you have the home page and it directs you to learn more about Fanny. So you can go straight to the biography before you actually get into the archive which I think is really important for someone who doesn’t know anything about Fanny Fern – like myself – I was able to read about Fanny before I was directed to then look further into the archive and

that kind of informed what I looked for based on what interested me out of the biography.

Users also commented consistently on their impression of concise information or that the website was “simple” – which is intriguing because this website’s intent was to be opposite of concise, simple, and linear; it aimed to be multi-contextual to suit user’s real-time needs. User 1 (student) commented that the website went “straight-to-the-point” of Fern’s life. User 2 (student) commented that the web design “helped a lot because it kind of guides you,” it is this research’s assumption that the website’s information appeared concise and simple to users because they were able to navigate the website in a way that engaged with their agency and not someone else’s. Thus, their impression of the site was straightforward because it suited their purpose in a relevant way.

User 6 who tested the Mitchell Community College website acted as a case example of the application of equitable user experience through participatory feedback. User 6 was also a unique case because they represented an administrative role at Mitchell Community College. Therefore, User 6’s answers were guided by input, experience, and feedback from others, particularly students at Mitchell. User 6 was truly a subject of equitable user design heuristics from beginning to end.

In following the equitable user experience heuristics that this research has developed; User 6 began communication early in the redesign process which allowed this research to *learn more about the specialized website's user-audience(s) and their needs and frustrations*. With his administrative role, User 6 initiated a survey for prospective students who did not complete the application process list upon visiting Mitchell's website and the survey sought out to understand why they did not complete the enrollment process. A large percentage of these prospective students answered that they did not complete the process because:

- the complexity of the website's information was named as a direct cause, or;
- they stated that the "process" to apply was overall too difficult to complete, which was an immediate indicator that the user experience of the current website's infrastructure was confusing to a user's specific purpose.

Through employing equitable user experience heuristics and taking the time to *learn about user-audiences of Mitchell's website and their needs and frustrations*, User 6 had begun the initial heuristic process of equitable user experience and was thus a case example of applying these set of heuristics in a real-world application. In keeping true to the user testing, User 6 was aware of this ongoing research throughout the entire design process and willingly shared data, insight, and feedback. Because User 6's administrative

responsibilities and expert subject matter are in Student Services, User 6's took feedback from his initial survey about prospective students not finding the answers they need and applied that knowledge to the Student Services web page of the website. Using prospective student data, User 6 took the collective knowledge and participatory feedback of four Student Services Directors and three Coordinators of Student Services departments, to answer the Asynchronous interview question with a focus on the Student Services web page: What is the purpose of this website?

This researcher accepted this approach to the asynchronous interview style because this conversation was free from the constraints of this research and/or any pressures that the primary investigator of this research may have placed on interviewees at the time of this conversation.

At the time that this redesign process began and when conversations between User 6 started, the below screenshot depicts the original Student Services web page (<https://www.mitchellcc.edu/student-services>) design:

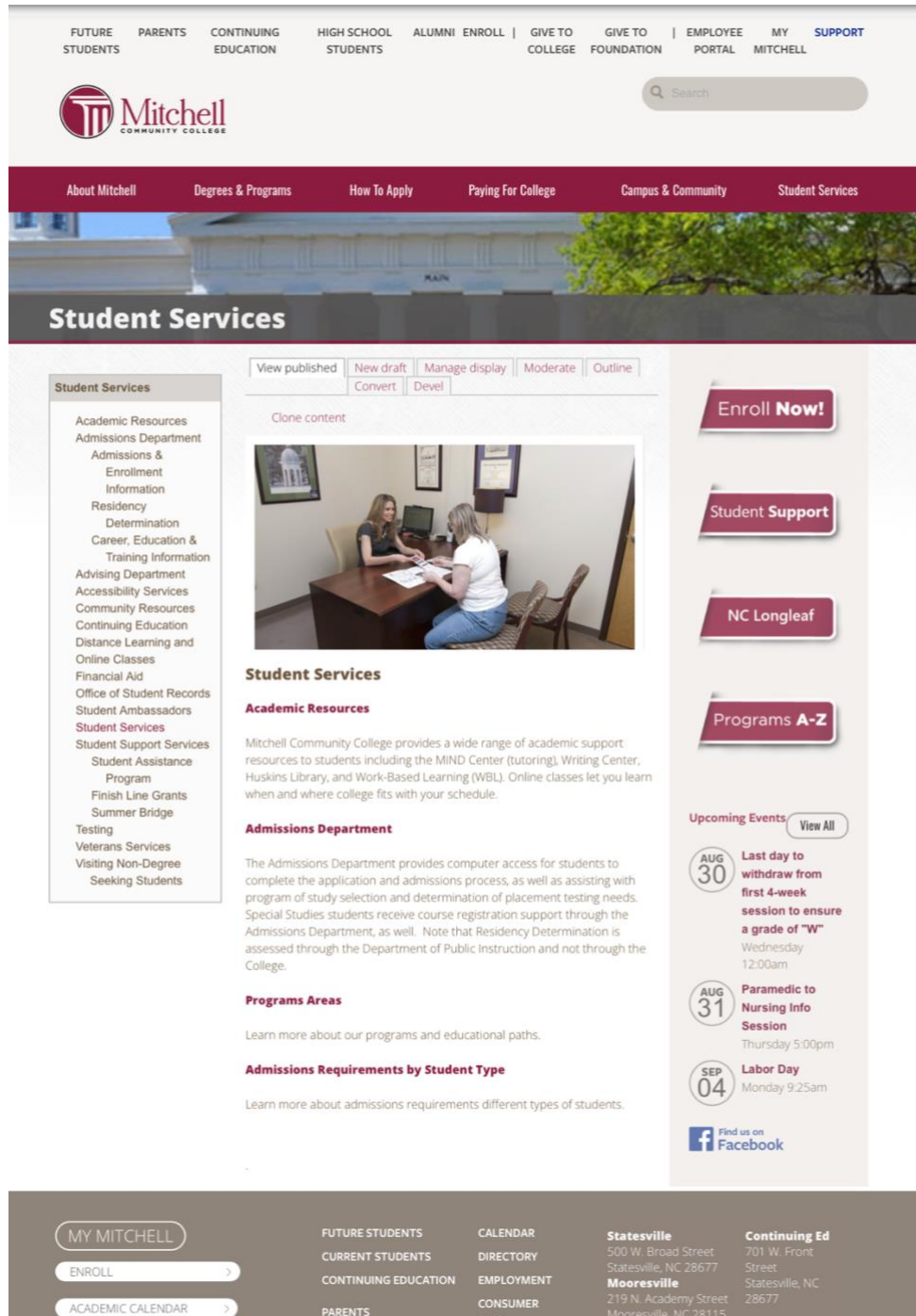


Figure 4.1: Old Design of Mitchell CC Student Services web page

A summary of that conversation was submitted below for the asynchronous interview answer:

Mitchell Community College

User 6

User Profile: Administration

Asynchronous Interview:

1. The group is aware of the website's dysfunctionality in helping users understand the process of enrollment but hopes for the design of the Student Services web page to be more user-friendly, with a goal for users (students, specifically) to better understand the process of enrollment and the navigation of resources available to them through Student Services.

This asynchronous interview sought to better understand User 6's vision for the purpose of the website – specifically in the development of a multilinear navigational structure of the student services section of the Mitchell website. With this asynchronous feedback along with example websites of other community college websites favored by User 6, the current design of Mitchell's website (see Figure 4.1 on pg. 159) was revised in the new design which aimed *to provide solutions for those needs by allowing user feedback to be prioritized in influencing the planning and overall goals for the redesign process*. This was done in the following ways:

- This design considered the lack of understanding that users initially received when visiting the original student services web design so it

provided multiple navigational options through the presence of the main menu, the secondary menu, and an new “Student Services” menu option that would appear once on this web page.

- Visual cues for navigational direction were also added in the form of images and descriptions of individual student services departments which would direct users to individual web pages about each department.

Guided by a preliminary script of this research’s interview questions, this researcher met with User 6 in an impromptu “brainstorm” meeting about the web design process in September of 2023. User 6’s comments are recorded via meeting notes¹³:

Mitchell Community College

User 6

Persona: Administration

Pre- Interview data:

1. “The Student Services web page provides students with an understanding of the process of enrollment and an easy navigation of resources available to them through Student Services.”

¹³ User 7 has since given permission to use these interview notes within the publication of this research.

2. "The enrollment process needs to be more visible to students without overwhelming them with information. An obvious step-by-step process."
3. User 8 did not comment but stared at the screen for around 15 seconds. To prompt conversation, the primary investigator asked of User 8: What do you not like? User 8 responded: "This is not the design I was imagining. It just doesn't flow like I wanted it to. But it is exactly like the examples I provided. It just doesn't work. The process isn't obvious like I wanted it to be, and something about the order of information on the page. And more call-to-actions..."
4. "It's not hard to understand but it doesn't flow naturally. It doesn't tell me what I need to know."
5. This question was "answered" both during the interview and post interview with email examples of elements of different websites (community college / educational institution websites) that made sense to User 8 in organizing Student Services information. Each example had a heuristic theme of circular navigation options, and obvious informational pathways.
6. This question was not addressed in this meeting.

Using User 6's synchronous interview feedback, a second revision was made on the Student Services web page. Not only did this revision aim *to provide*

solutions for user needs but it also made revisions with the *understanding that everything on a website is a system of meaning that feeds into the users' understanding of the contextual situation*. At that understanding (or misunderstanding) was important to the rhetorical design choices of the web page. With data gathered in asynchronous and synchronous interviews, this research took User 6's feedback and applied it to a revision of the Student Services web page in the following ways:

- Information listed on the web page to represent each Student Services Department was condensed to get-to-the point;
- Departmental buttons were condensed and then rearranged to the top of the Student Services web page for easy access / and user recognition (via a template. All Student Services sub-web pages now have this template for circular navigation options; see below);
- Circular navigation to resources need in each step of the enrollment process is represented by department buttons (which led to department webpages) added to each student services web page. As stated above, each Student Services department web page. These buttons are also in bright, college colors to as a visual cue to draw attention to each department;
- Additional resources were added as blocks at the bottom of the page. These resources are informed by common questions that students ask;

- The above navigational options were added in addition to the constant presence of the primary and the secondary navigation menus to provide users with the agency to redirect and reorganize information at any given time.

Because User 6 is a part of the administration for Mitchell Community College, this researcher felt that his pre and post design feedback was valuable to the reiterative design process because his feedback and participation determined if the reimagined website design aligned with institutional purposes alongside the purposes of Mitchell's specialized audiences. The user testing process also engaged User 6 in the heuristics for equitable user design across a span of several months, engaging in *Learning, Providing, Understanding* throughout the design process and then finally – not ceasing the process but *Listening* to user needs and experiences on a continuous basis and reacting to those experiences through reiterative design to meet evolving user-audience needs. For this reason, another meeting was held with User 8 using the same interview questions in a more formal, synchronous session.



Student Services

Welcome to Mitchell Community College! Student Services is committed to providing an array of programs and services that support the recruitment, retention, transition and academic success of Mitchell Community College students. Your success is at the core of everything we do.

Student Services is here to support you throughout your college journey - from the time you're accepted through graduation day. Unsure about your academic plan? How about getting involved around campus? Let us help you make your years at Mitchell Community College the best years.

Student Services Departments

To learn more about Mitchell's Student Services Departments, please click the buttons below.



Accessibility Services
ensures students with disabilities have equal access to educational opportunities, support services and resources.



Advising
assist students with academic advising and success coaching to support new first year students.



Career Services
guides students to resources for career opportunities and exploration.



Registrar, Records & Recruitment
processes student records for the college.



Student Support Services
assist students with emergency needs such as transportation, food and technology.



Admissions & Testing
provides guidance with the admissions application, NC Residency and testing requirements.



Counseling
delivers emotional and mental health counseling to students.



Financial Aid
helps students with completing the FAFSA, work-study jobs and scholarships.



Student Life
provides a variety of opportunities for students to engage in organizations and clubs.



Student Conduct
shares student rights and responsibilities with students, staff and faculty.

Find More Resources

Mitchell is committed to connecting students to information and resources that are useful. The buttons below link you directly to the bookstore, graduation, mentoring programs, security and veterans' web pages when clicked. We have also included a frequently asked questions area for students.

[Meet the Vice President for Student Services.](#)



Questions?
> Additional Information

Follow Us Online



Figure 4.2: Redesigned Student Services web page

User 6's comments on the newest version of the Student Services web page as well as their reflection on the participatory redesign process are as follows:

Mitchell Community College

User 6

Persona: Administration

Synchronous Interview:

- 1.** The purpose of the Student Services webpage is to have a central landing place on the website where prospective and current students, faculty and staff can find all information concerning student services.
- 2.** It was truly an exercise. I learned there was Student Services information all over the place on the website. There were outdated pages and old information still accessible to the general public.
- 3.** I noticed a lack of alignment in student services information and messaging. The webpages belonged to the same division but did not seem to speak to each other. It was also very challenging to search for information.

4. The old web design hindered students, staff and faculty from finding germane information. The search feature was inefficient. The design and layout of the pages were hard to read and understand. Simple changes to the old website were painful to make and so most people did not bother. This changed with the new website. The search feature is amazing. The layout is visibly appealing, and students can find information faster.

5. Easy navigation is critical for use. High mobile functioning is important. Clear guidance of users to the most important information. Ability to highlight good videos and pictures and have accessibility features.

6.

- Providing current information.
- Marketing and promoting the college.
- Communicating to all stakeholders
- Education
- Building a community presence
- Convenient and accessible information to all

User 6's final reflective feedback solidifies that using an administrative viewpoint as a pre and post test to the web design process has ensured that Mitchell's website design is fulfilling institutional goals alongside this

research's primary goal to create a space for a multitude of user-audiences to derive their own meaning from a multitude of navigational pathways to sort information. But the design is not done; it must continually improving its design to be relevant for multiple user audiences.

In summary, feedback from the User Tests reflected this research's goal to provide equitable user experiences for a multitude of audiences. Each persona appeared to have a positive and/or improved experience on the website they were testing and that's productive progress for the development of the LPUL website model for equitable user experiences. Most importantly, this research's takeaway is that reiterative design is *providing* solutions to effectively improve the usability of the website through *understanding* and *learning* about users' needs and frustrations and continued *listening* to those evolving needs.

The results of the user test described in Chapter 4: Findings, provide evidence that although equitable user experience is inclusive, it is also – by nature – elusive in its definition because it is hard to apply a standardized answer of effective success to a multitude of different audiences. Because user-audiences in digital spaces are different; they possess different knowledge, experiences, behaviors, habits, and purposes which shift and evolve depending on the real-time moment. Therefore, the user testing kept participatory design as a focal point in the reiterative design process to make

sure that the development of an equitable web design heuristic was this research's outcome.

In pursuing this creation of more equitable user experiences in digital spaces, the heuristics of: *Providing, Understanding Learning, and Listening* were developed as real-world solutions to feedback gained from participatory research in web design needs for specialized user audiences:

1. *Providing* solutions for those needs by allowing user feedback to be prioritized in influencing the planning and overall goals for the redesign process;
2. *Understanding* that everything on a website is a system of meaning that feeds into the users' understanding of the contextual situation by conducting asynchronous and synchronous interviews with individuals who represent each website's specialized user-audiences;
3. *Learning* about the specialized website's user-audience(s) and their needs and frustrations through pre-design survey data;
4. *Listening* to user needs and experiences on a continuous basis and reacting to those experiences through reiterative design to meet evolving user-audience needs.

Putting user's needs, frustrations, feedback and most importantly – their agency – *first* in the design process allowed this research to be naturally guided by one simple basic: the user's experience. This research shed the

conventional web design heuristic of making meaning *for* the user by instead letting the user *make meaning for themselves* in real-time moments, through participatory feedback and design influence from start to finish. By placing the user and their agency as the priority, this research was able to create a space where specialized audiences can find their own meaning for their own purpose using the information present. It is key here to emphasize that this research focused on specialized user-audiences who are often marginalized because they do not fit the norm of a linear system of web design heuristics. They are forced to receive one narrative, one way of being and knowing because of traditional, limited or controlled navigational structures on informational websites.

But these audiences are in pursuit of a specialized knowledge to fulfill a specialized purpose. So, the key to building a more equitable user experience for these specialized user-audiences is through their own determination of the *usability* of the specialized website and if it was *usable* to their purpose. But this metric of usability based on individuality can be messy it doesn't measure feedback in black-and-white metrics. This research doesn't want to draw a boundary or put a limitation on the way that the specialized websites of this research (the Fanny Fern Archive or Mitchell Community College website) are analyzed by individuals. Instead, this research wants to explore the gray areas, the marginalized knowledge, and both the negative and the positive feedback from the user testing to find a

common ground where all user-audience needs can find an equitable user experience. After all, that is the functionality of this developing set of heuristics:

- *Provide* solutions based on your user-audience(s) and their frustrations and feedback;
- *Understand* that the website is an evolving, contextual situation with rhetorical elements that influence knowledge-making in a multitude of ways for a multitude of audiences;
- *Learn* about your user-audience(s);
- *Listen* to user-audience(s) evolving needs and engage in a participatory, reiterative design praxis to create space for equitable user experiences;

The process is ongoing, reiterative, and evolving to ensure that equitable user experience to make sure that these digital infrastructures remain relevant to specialized audience needs and purposes.

One way of ensuring this equitability is to think about the design of the information present on the specialized website. In the illustration below, the *Providing, Understanding, Learning, and Listening* website heuristics are demonstrated in application to information design of a specialized website. It can also be noted that these heuristics are not linear but are instead, they can be applied in and out of order, repeated, paused, and started over:



**'PULL'ing
away from
traditional
web design**

Figure 5.1: Providing, Understanding, Learning, and Listening web design heuristic

In creating an agency-centered set of web design heuristics to create equitable user experiences, I needed a way to visualize the application of the PULL web design heuristic model. At a similar time in my research, I took coursework on educational technology and was introduced to models for instructional design. Influenced by two of the most popular instructional design models – the ADDIE model and the SAM model, this research's own PULL web design heuristic model is dynamic in its potential for the dissemination of information in its evaluation and real-world application because not only does it consider traditional, linear elements of website design like "recognition over recall," it also merges these concepts with eLearning and instructional design scholarship. The PULL web design heuristic model takes note of the ADDIE model of information design is simplistic in its nature and thus its application for information design is easy-

to-follow; but its simplicity is also its disadvantage because it does not accurately reflect real-world situations forgoing the opportunity to iteratively evaluate at each stage of the process to produce an effective instructional design. The ADDIE model is often described as a “waterfall model” in which each phase is completed sequentially, but this might risk losing an accurate assessment of the relevant characteristics of the target audience – because by the time a design step is complete, the target audience characteristics might have shifted.

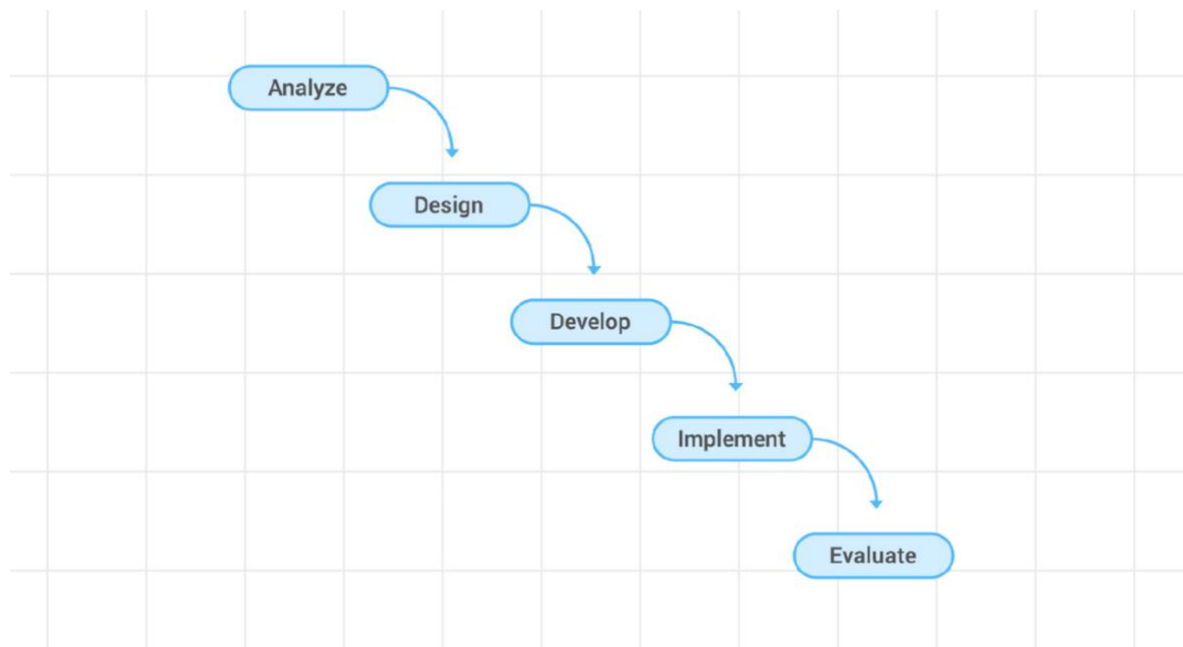


Figure 5.2: ADDIE instructional design model

The LPUL web design heuristic model also considers how the instructional design SAM model accounts for the actual messy reiterative process of user-focused design and therefore, it more accurately represents effective real-world projects in instructional design. Because of its reiterative

process, the SAM model ensures that whatever the project scope is, it is likely to be “up to date” but it also focuses on rapid design which could negate perfection. But its messiness could also deter creators from actually utilizing it because it is hard to apply without guidance or real-world application suggestions.

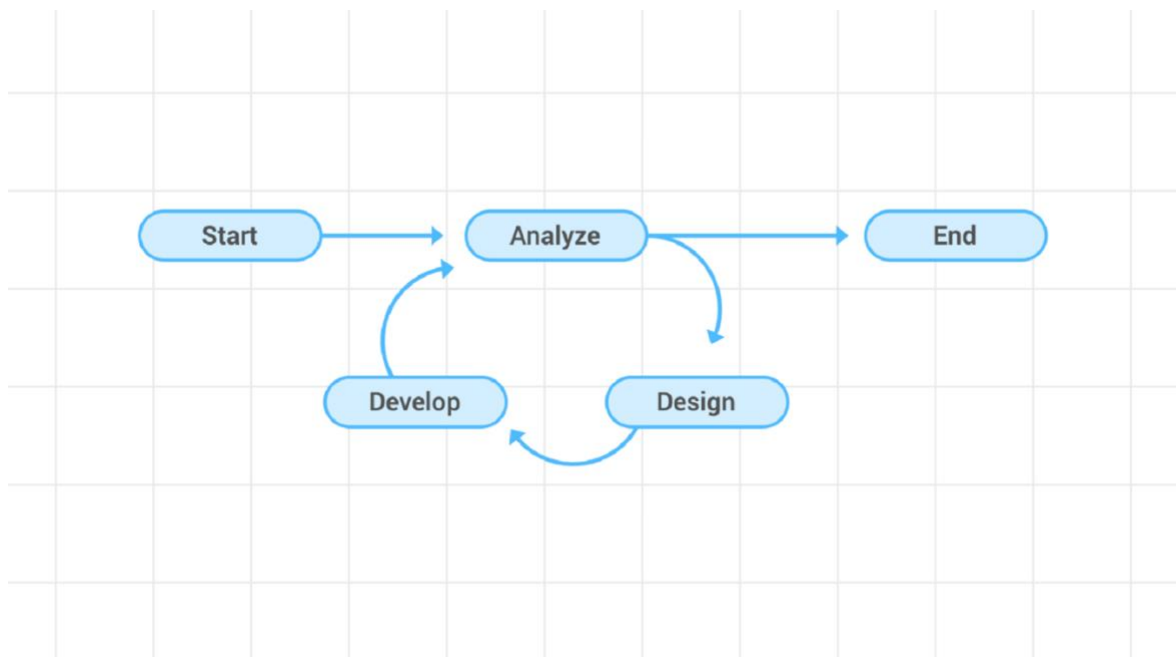


Figure 5.3: SAM instructional design model

As explained by eDesigner, Tim Slade, creator of *The eLearner’s Designer Academy*, (“What is the SAM Model...,” 2024) says:

“You see, whether you take a linear, waterfall approach to your projects where you complete each phase in succession or you take a cyclical, iterative approach, it’s not about the model you choose to follow; it’s about what happens within the model.”

And this research agrees. In thinking about the contextual, rhetorical situation of websites, this research set out to develop a web design model to create a space for specialized audiences to engage in user-centered practices that give opportunity to the user-audience to interpret meaning for themselves in a multitude of ways based on their own critical thinking, and thus shifting the traditional balance of the rhetorical situation from the agency of the orator (or creator) to an empowering shift to the agency of the audience, and their choices, and purposes. This research felt that the developed "tacit knowledge" (Spinuzzi, 2005) of users of the actual technology should drive the design process because it is relevant to the relationship between humans and technology. A human user-audience's user experience is inexplicably tied to the rhetorical influences of the technology (i.e. a website) that they interact with, and it is this key term of *relationship* where the alignment of equitable user experiences can occur. A website is developed for a purpose to meet an end that usually fulfills an organization or an individual's sole purpose but at the end of the day, it's about the individual, the user-audience, the end-user. And if a website is designed with that relationship in mind, then equitability can find its place within user experience because the design seeks to meet the user-audience where they are at on a spectrum of knowledge and experiences to fulfill their purpose in a real-time moment.

The LPUL web design heuristic model was created through the natural interaction of putting user-audiences first in the design process, but in its creation, it also combined elements of the ADDIE model in that its steps can be followed sequentially – as a grasp of the concept – but each step is reiteratively circular in its evaluation and application, similar to the SAM model. The LPUL web design heuristic also keeps in mind the traditional methods of web design heuristics like the linear “recognition over recall” heuristic but it “stays with the trouble” by contesting that there is one way to recall information by implementing multiple navigational options and visual cues to sort and recall information in a way that best suit the user-audience.

The findings did reveal that this website’s design was successful in implementing visual cues and new ways to recall information for users. But in keeping with the LPUL model for equitable user experiences, a website’s design is never truly finished. Therefore, user test participants did offer suggestions for the improvement of the design which are as follows:

Fanny Fern Archive suggestions:

- User 1 (student) suggested use of more photos on the website to provide further context as well as break up the lengthy ‘Biography’ web page.

- User 3 (student) did have an initial issue with the Finding Aid stating that they were “thrown off” by the design because it was not a traditional menu to interact and sort information.
- User 5 (literature aficionado) suggested a more direct search bar function in addition to the finding aid.

Mitchell Community College website suggestions:

- User 2 suggested that the website’s black navigation bar and potentially the footer should be pinned to the screen, so that when the user scrolls, the navigational options never disappear.
- User 3 suggested a more obvious route to departmental contacts and campus locations.

All of these comments are good feedback for exploring different sorts of user experiences. Using the PULL model for equitable user experiences, these comments will be applied to future design developments of both websites because reiterative design is a part of a user’s evolving needs. By *listening* to user needs and experiences on a continuous basis and reacting to those experiences through reiterative design a website can continue to meet evolving user-audience needs and stay relevant to an audience’s agential purpose.

The PULL model would not be so effective without the influence of previously existing scholarship. Involving users and their feedback through participatory design was crucial in which the user functioned “as both an actor and a co-designer to co-construct the whole design practice and make design decisions collaboratively” (Acharya , 2022, p. 13). Updated scholarship in digital humanities and technical and professional communication seem to agree: putting the user at the center of the design praxis is key to effective usability as alluded to in the scholarship of many current scholars, including Grice (2013), St.Amant (2018), and Jahnke, Schmidt, Pham, and Singh (2020).

The rhetoric that is present within the digital information infrastructure reveals an open opportunity to critique a traditional website’s relationship with its predecessor, acknowledge that its knowledge and content are rooted in imperial pasts where one party of the rhetorical triangle has the upper hand over the recipient of the information. This research sought out to switch that agential dynamic of the rhetorical triangle from the creator to the audience. In doing so, this research hopes to not only provide a digital space for user-audiences to make meaning for themselves but to also create an awareness for user-audiences of the digital rhetoric of online spaces and traditional models of authorizing logic to fulfill dominant ontological purposes.

Haraway poses that we – the human – function as modest witness in our relationship with technology. Haraway’s term of “modest witness” is used to describe human subjectivity among technologically assumed objectivity (Haraway, *OncoMouse*, 2013). The human user-audience functions as a natural object whose knowledge is disrupted by technologically assumed truth; the human witness is modest because they are unassuming and unquestioning of the information presented to them. Meaning is made for them. This modest witness concept is built into traditional website heuristics because we unquestioningly receive information from digitized information infrastructures and assume it to be fact – as one way of knowing and being – without questioning if there is another way to sort and perceive the information. The information – and the organization of that information – matters, because it builds truth and knowledge for the individuals receiving it.

In the words of Haraway, it matters what knots, thoughts, descriptions, and ties we leave behind that weave (or unweave) knowledge-making possibilities for others (Staying with the Trouble, 2016, p. 12). These othered possibilities can create space for specialized user-audiences to find specialized information that fulfills their real-time purpose by giving them the agential choice to recall information in a multitude of ways to make meaning for themselves. In an online interface, a user’s needs are ever evolving, and one linear way of web design cannot accurately fulfill an

audience's purpose with the human-nature of evolving needs, purposes, and knowledge.

This research incorporates many elements from a variety of different academic subjects including but not limited to: digital humanities, professional and technical communication, web design practices, instructional design, and more. With this intersectional approach, this research sought out to "advocate [for] inclusion and critical analysis...situated in the materiality of technologies...central to an intersectional approach to digital humanities" (Risma 2015). And this intersectional approach was largely focused on the usability of digital/ized rhetoric to improve commonplace design heuristics to create equitable user experiences. I feel that by approaching equitable user experiences in an intersectional way, this research can draw stronger connections between the way we read and process information in a digital space and the way that info is structured for us for a predetermined purpose.

When envisioning this method of digital rhetoric awareness in action, specialized user-audiences searching for information online can feel a sense of "wherelessness " that embodies their own experiential knowledge to set them apart as an individual seeking specific knowledge; when they encounter traditional information infrastructures like a website or digital archive, or even social digital infrastructures like social media, they can experience a situated sense of being told "where" they *should* be which is

narrated by the broad picture painted by a standardized, clean institutional narrative. Functioning as both an affordance and a drawback, the standardization of any technology – but for this research’s purpose, a website – can create a sense of belonging that, at the same time, can squander counter-knowledge and individual experience. An individual’s meaning and knowledge making is defined by their positioning with/in society and this boundary-drawing can translate into the digital sphere as well; therefore, the messy goal of this research in thinking about websites not as standardize individual experiences and knowledge but rather an equitable space for a multitude of user-audiences and their purposeful meaning. At the conclusion of this research, this researcher feels that a more localized sense of “wherelessness” can be harnessed in the PULL web design heuristic model to help specialized user-audiences have a discourse with themselves about their own knowledge-making practices by:

- Providing digital agential tools that help user-audiences identify how to organize the information in a way that engages with their own experiential knowledge, for their own pedagogical purpose, by letting them make meaning for themselves.
- Engaging in participatory knowledge-making practices that draw upon the critical thinking skills of user-audiences to make meaning for themselves based on the contextual situation.

This “wherelessness” is contrary to Haraway’s aforementioned concept of a modest witness because “wherelessness” creates a sense of unbelonging, a boundary-drawing that produces a feeling within the user to feel “wherelessness ” that embodies their own experiential knowledge to set them apart as an individual seeking specific knowledge. They know of their purpose, but *where* does it fit? This “wherelessness” creates an action to seek out knowledge, to make meaning for yourself, using your own tacit knowledge – if given the right tools to do so. In contrast, a modest witness moves without question through parallels of standardized information and remains modest to the meaning, purpose, boundaries, etc.

By creating equitable spaces for a multitude of user-audiences and their purposeful meaning using intersectional approaches to web design, these equitable user experience heuristics have the potentiality to create digital spaces that function as agency-reactive websites for user-centered interpretation of knowledge. The process of digitizing information puts this knowledge in a space that can be shared and accessed in a multiplicity of layers of meaning. I argue that this kairotic space functions as a commonplace where digital rhetoric can serve as a method and a positionality to facilitate a space where the user-centered reactive organization of knowledge-making praxis can be determined by the user-audience in a real-time scenario as they interact with a context-saturated

information infrastructure, ultimately creating a space for agency-based knowledge production on a digital platform.

This research project supports the affordances of possibility of a new model for the information stored and disseminated by a digital archive, and how this (re)organization of information can be presented to a user in new ways that give the interpreter of the information more agency to make meaning for themselves rather than have that meaning made for them.

CHAPTER FIVE: CONCLUSION AND FUTURE RESEARCH

This research contributed a reimagined approach to traditional and standardized web design heuristics by considering an audience-centric methodology that was practical and applicable for web design praxis. This audience-centric approach in web design troubled the concept of traditionalized web design which makes meaning for user-audiences as opposed to providing equitable digital spaces for user-audiences to make meaning for themselves.

In traditional web design heuristics, the web designer, creator or rhetor (for purposes of this research) has the agency to control the actions of the communicative rhetorical situation that is a website. When you add the context, which is the exigence, the purpose, the genre, and the text, the bare-boned rhetorical triangle becomes a "situation" because elements and actors are *situated* in certain roles to either give or receive information.

This situatedness is portrayed as one widely-accepted web design model that emphasizes one way of knowing things. This liminal view creates a networked, habitual use of a set of web design heuristics that standardizes the way websites are built and standardizes the way that we receive

information. These heuristics are created as *meaning made for* audiences in that decisions about design and the structuring of information are made well before the audience even sees the website. Information is structured for you in a way that is deemed acceptable by generalized public audiences because the information infrastructure is not questioned – quite the opposite; public user-audiences function as “modest witness” (Haraway, 2018, p. 23) to the linear stream of information received. This infrastructure model for web design is utilized on repeat by both the web creator and the user-audience – removing a user-audience’s agential choice from the situation.

Therefore, this research set out to reimagine and rethink generalized ideas of knowledge-making and how it is influenced by a network of digitized information by centering the audience in the design process with a focus on the following contributions to scholarship:

The classification of a new genre of website (niche) that needs different and more audience centered design approaches.

This set of web design heuristics for niche websites should focus on the specialized content of a niche website which would only be sought out by specialized audiences who possess specialized knowledges. The audiences of these websites possess or seek niche knowledge and therefore, the experience of the user couldn’t be too narrow because the website needed to

serve the purpose of multiple audiences for multiple purposes around this specialized knowledge, but it also couldn't be too broad in that, the different user-audiences needed a way to navigate and organize relevant information for their own contextual purpose.

This reimagined reconsideration is particularly important with the ongoing growth of information delivered digitally / online, particularly with the increasing prevalence of apps on easy-to-access mobile devices functioning as digitized information infrastructures situated in unequitable user experiences. The vastly different niche websites tested in this research show that an approach to any design of a digitized information infrastructure of which public user-audiences interact with can utilize the PULL model to facilitate more equitable user experiences.

According to user feedback data gathered from this research, the design of both websites was effective in helping user test participants find information that fulfilled their purpose, but only because they were with an emphasis on PULL and other audience centered frameworks.

This emphasis of centering the audience within the web design process helped user-audiences and their like-minded personas feel more invested in the information available to them. With this heuristic framework, the rhetorical situatedness is tipped in favor of the audience with the design

creating inclusive spaces and agency-driven knowledge-making tools that are based around the needs of that specialized, niche audience.

Both the Fanny Fern Archive (fannyfernarchive.org) and Mitchell Community College's website (mitchellcc.edu) were built while studying in USF's doctoral program in Rhetoric & Composition with a focus in digital humanities alongside coursework in USF's Instructional Technology: Web Design program. This highlights that theory can inform practice, as was demonstrated by the convergence of my academic studies influencing web design praxis for real-world user-audiences.

This research can rejuvenate its findings towards a more informed and updated scholarship on usability and web design.

In looking for ways to create audience centric web design approaches, it was noted that there is a large disconnect with any synthetic work that covers this particular topic. Rather, the concept of audience centric web design is scattered across disciplines, and in subjects where these topics are discussed, the scholarship is too outdated to meet modern user-audience needs. The traditional framing of information for the purpose of the website creator negates the relevancy of fulfilling an audience's purpose. But change the frame, and you change the meaning of the situation. In the case of niche websites with specialized knowledge for specialized audiences, shifting the

agential choice to the audience(s) creates more of a value for knowledge-production.

Limitations

Limitations of this research account for an untraditional web design model that may or may not affect a screen reader's ability to navigate or interpret what is on the screen. This has not been tested so it is an unknown. Another implication is an open acknowledgment for the messiness of this equitable design heuristic. To be equitable, one model cannot fit all but this also creates a difficulty in creating metrics for success and effective communication other than constant user feedback. Therefore, the PULL model may not be a suitable model for *all* genres of websites, especially if that website's intention is to make meaning for audiences (i.e. in the case of certain e-commerce or political websites, etc.).

Implications

Expansion of usability testing

One of the most implications of the search for a more equitable heuristic approach was in shifting the actual design of user testing. Historically in technical and professional communication and user experience (i.e. Murphy 2000; Southard 1996; Vassileva 1996), usability focused on task-based approaches. That is, website usability and the way audiences

interacted with them almost exclusively focused on how well audiences could find an item or information or interact with the website. The results of the user testing completed for the two specialized, niche websites meant that I had to consider how to approach user testing that focused on the audience's agency and their comprehension of the information. Traditional usability testing that focuses on findability leaves out the important aspect of audiences and their uptake of what it is they find. While classic texts on user testing (i.e. Rubin & Chisnell, 2008) make implicit the need to probe users and their understanding, the lack of a direct heuristic that emphasizes the comprehension and potential use of the information found should be a foundational component of user testing that is made explicit. The focus on comprehension and user agency aligns with research in technical and professional communication that has examined the best approaches for design information to move beyond findability to findability and comprehension (i.e. St.Amant & Melonçon, 2015).

Ironically, part of the expansion of usability testing I call for is to make it more user-centered, which has been the call since the rise of the internet and technology (i.e., Johnson, 1998). But the current focus on users makes assumptions about those users and too often considers an ideal user (i.e., Melonçon, 2013) in an ideal finding situation. For niche websites, the user approach to the site is more nuanced and users are often more invested in

finding information. Thus, findability is important but more so, understanding what they find becomes paramount.

For example, when setting my user testing, I did not follow the prescribed way of doing a pre-test that was focused on demographics and general knowledge. Rather, I focused the pre-test on the user's interest in the specialized content on the website and how they best navigated that content using the digital infrastructure. This research was interested not in traditional aspects of findability in which the researcher observes the user's ability to find a pre-prescribed item that I instructed them to find. Rather, this research was interested in the meaning created by the user for the user during their real-time interaction with the information available on the website.

For example, User 6 of the Mitchell Community College website did not participate in what this research defined as user testing to simply test out an ability to find information. User 6, as an administrator at Mitchell, utilized the opportunity to bring the collective knowledge of an institutional purpose and the participatory feedback of their department together to create a new design for Mitchell's website that suited their target audience: prospective and current students. User 6 had internal knowledge of the recruitment process, administrative knowledge of institutional goals, and an access to user-audience personas that enabled this research to gain valuable user feedback at all stages in the redesign process.

By prioritizing purpose-driven user testing over findability, and through application of the PULL model, user feedback was prioritized in influencing the planning and overall goals for the redesign process. Such as was demonstrated by the pretesting of user-audiences for both the Fanny Fern Archive and Mitchell Community College's website. With the Fanny Fern Archive, specialized user-audiences

By placing the agency of the design process with the user-audience, the website design appeared to create equitable user-experiences for different website personas (according to user feedback). This success in application of audience-centric web design heuristics suggests that this research was able to let user-audiences identify their purpose, and through that purpose, lead the design process in a way that creates a relevant and equitable user experience governed by audience agency.

Expanding Design Considerations in More Equitable Ways

As noted in the literature review, researchers and scholars across disciplines have not done consistent research on approaches to website design. Rather, academics and practitioners alike have used long standing guidelines, such as Nielsen's design heuristics, and supplemented them with other frameworks or approaches such as those like ADDIE or SAM. These more general approaches and the lack of sustained research to update

design approaches to the current era left me wondering how to really center the audience in the design process.

However, by embracing the messiness of the qualitative nature of placing the user-audience at the center of the design process, this research developed PULL with considerations to a user-audience's human-nature to have evolving needs, purposes, and knowledge.

For example, User 2 of the Fanny Fern archive was very direct in their communication about how the design of the website helped and how it could potentially hinder their understanding of the information provided. User 2 commented that the current design of the digital archive helped guide them: "...you can go straight to the biography before you actually get into the archive which I think is really important for someone who doesn't know anything about Fanny Fern – like myself." It was encouraging for this researcher to hear how User 2 felt that the design guided them through the homepage to the biography. But User 2 also commented that the design could have more prompting for a user to further explore the website:

...as a user not having any prior knowledge, I wouldn't say that I would necessarily be driven to keep looking if I was not probed to explore the website... So for someone who has no knowledge, it might be difficult for them to be motivated to keep looking without having examples of work as soon as they get on the homepage.

In alignment with this design feedback, User 3 of the Fanny Fern Archive commented that they liked the informative nature of the archive, but they were “thrown off” by the presence of the finding aid. When asked to explain, This sort of qualitative feedback is messy. It is not a simple metric that can then be easily applied to the design of the website. I designed the website initially in a way that I felt was equitable to users based on pretest feedback. But after conducting the user tests, I learned that although both website designs were received positively, they simultaneously both required change and improvement to better align with users’ needs. But only through a shifting of the control of agency within website design from creator to audience can web design find a relevant alignment with a user-audience’s evolving needs.

Furthermore, it is important to consider that although PULL heuristics create a messy but more equitable space for a multitude of users to apply a multitude of purposes to their interaction with the content of a specialized site, it is also important to consider that some user-audiences may not be as open or as comfortable to a more complex or messy website design (even if it provides more options for unlinear knowledge-making). For example, User 3 stated that the finding aid was “a lot in your face” and thus was more complex as opposed the home page or biography page which had, what User 3 referred to as, a simple layout. I found this comment intriguing because User 3 was the only individual to express hesitance in the usability of the

finding aid. When asked how the finding aid could be improved, User 3 suggested simplifying the design to “what most viewers are used to” but User 3 also added that they could likely adapt to utilized the design if they had to.

The qualitative feedback gained from *all* users is valuable in that it represents the user and their purpose in a real-time moment. And this feedback is what guides my decisions as a designer of these websites. Without consideration of the user, we create digital infrastructures for ourselves and our own purpose – rather than for the purpose of the user who will utilize the website.

Pedagogical Approaches

Technical and professional communication programs have long emphasized design and usability. Recently, Rose and Turner (2023) have begun to look more closely at courses and programs approaching teaching usability and website and information design. Relatedly, technical and professional communication has also long looked to service learning, client-based projects, and community partnerships to provide a hands-on theory to practice approach for students. The research opens up opportunities for students to discuss and to work through different approaches to testing and design. What my research underscores is that using niche websites as a cornerstone to courses can provide value to students and afford them the

opportunity to consider ways to address the needs of the project, while also looking to improve processes and practices. In other words, this project has shown that current pedagogical approaches are valuable for students to build necessary and transferable skills and knowledges.

Educators must take into account how technological tools can impact and affect students' agency and identity by shaping knowledge-production. To avoid linearity in knowledge-production in an online space would be to "incorporate as much data as possible into the student experience to create a customized experience that caters to various types of learners" (Ismail 2021).

In teaching students how to create a digital space to facilitate equitable user experiences requires actual praxis and interaction with the user(s) to *provide, understand, learn and listen* to the evolving needs of a user-audience – needs that are likely different than the website creator's. This idea of "engaging with difference is not only a question of representation but also one of method," that considers the inclusion of a variety of knowledge-making practices (Risam, 2015). Employing difference as a method can trouble the boundary-line that reserves agency of design choice to the creator, and instead, shift that agential choice to the audience. But first, the website creator must have the ability to let go of that agential control and instead, find guidance from the usability (and the users) of the website itself.

This research can be applied in a pedagogical space, in which students would learn to apply the findings of this research to their own web design project through the following process:

1. familiarize themselves with the PULL model;
2. learn their user-audiences through pretest data collection and understand more about user's needs and frustrations;
3. based off of that data collection, students would then begin to build a preliminary design to resolve any issues;
4. students would then take that preliminary design back to the user-audience(s) for additional feedback to make sure the design aligns with the purpose(s) of the audience;
5. students would then apply additional design changes to their web project with the knowledge that their work is not ever done and that true equitable user experience requires active listening to user needs.

Although messy in its iterations, the PULL model has the potentiality to provide multiple learning opportunities for a user-audience, creating a critical thinking space where learners can create meaning for themselves in an educational online environment rather than have knowledge-making processes predetermined for them. Likewise, if students are learning about this PULL model in an educational context, it teaches them how digital information infrastructures are situated spaces and therefore, it is important

to think critically about the information available to you. To incorporate these critical thinking skills into a digital space would further equip students to navigate the modern digital world of the present and future. In a world where we all receive our daily information from a digital device, be it a computer, mobile phone, or other smart device that shares a naturalized information infrastructure, we must learn to recognize that technology is socially constructed to purport a dominant way of thinking and doing, creating assumptions in a world of seemingly naturalized information.

Bringing this idea into a classroom, educators can teach students modern critical thinking skills by helping them realize that technology is socially constructed, and its data and information are not natural and should be questioned rather than accepted as a universal way of being. Much like Haraway's cyborgs (1997), students "are subject to and subjects in a world-making discourse," situated within a "power-knowledge nexus" (p. 114).

Reversely, if students understand the ever-shifting role of web design and its ability to create inequitable spaces for users, this knowledge helps them make more conscientious design choices. This meta awareness of their own design choices places them in this neat crux to be defined as a cyborg, opening a wormhole of critical thinking skills of which students "will be hurtled into unexplored territories" (p. 117).

Future Research

While my next steps will not follow a traditional academic path, I do see areas for future research for both practitioners and academics including the expansion of usability testing, expanding design considerations in more equitable ways, and pedagogical approaches.

The first area of future research could focus on testing the test. That is, to continue to explore ways to enhance usability testing methods that take into account more views from the users and their purposes for the using a website. Focusing on reimagining testing protocols and approaches to create more equitable user experiences offers the potential to impact not only testing for niche websites but also for the proliferation of mobile apps and information design. But first, the approach to user testing that I took needs further validation in application with other niche websites to expand to other forms of usability testing.

Secondly, more practical and conceptual work should examine PULL and how it can be simultaneously refined and defined. It seems that it could be used in conjunction with Morville's user experience honeycomb (2004), particularly in the characteristics of useful, valuable, and desirable. One of the oversights found in the majority of user centered design frameworks is that they talk about iteration, but the frameworks themselves often leave them out of the process. Understanding that iteration is expensive and often difficult to do in practice does not negate the fact that frameworks should be

explicit in including iteration as part of the process. So, for example, web design application has five steps in its process that ends with “test.” The multitude of visualizations of the framework often has “test” linked back to the initial stages. But the framework and process itself does not explicitly state the goals of iterations. Without including it explicitly, current processes and structures will never change to ensure that audiences are consistently placed as co-creators of both structure and content. Niche websites like the ones I tested should focus more specifically on content, which ties directly to the rhetorical emphasis that technical and professional communication has argued for over the last twenty years.

While scholars and practitioners such as Constanza-Chock (2020) have cogently argued for “design justice,” their work and others like it remain in the area of concept rather practice. In other words, social justice centered scholarship often provides a well-considered conceptual approach but lacks the practical specifics on how to put the theory into practice. The expansion of user testing methodologies and in considering iteration more deliberately in the design process are both ways to start to operationalize the larger issues of justice and equity. It aligns with Constanza-Chock’s emphasis on taking a slower and more audience aware approach to the design process. However, additional work needs to consider how to implement this more regularly into the design process and more so how to make a persuasive

business case for this sort of inclusion in the design process. Data from research in practice can help.

As the project developed alongside changes in my own professional life, it moved from one that was more theoretical and centered on the “archive” to one more practical. However, what the user testing did expose is that there is ripe avenue for research on the digital archive and the deployment of those archives. The technological rhetoric present within the digital archive reveals an ability to critique its relationship with its predecessor, acknowledge that its knowledge and content are rooted in imperial and colonial pasts and thus realize that the archive’s information has the potentiality for false truths and for newly discovered ways of knowing; the digital archive is also a space for digital remediation of critical frameworks that offer a timely opportunity for humanistic critique to imagine new archival forms. Ward and Wisnicki (2019) suggest using the digital archive as a medium to push “the boundaries of archival imaginations,” to demand a shift in the temporality of the information, institute a site of repair and recovery, and “to make visible the painful past” using new concepts of archival design and construction all while being aware of the double-reactivity of potentiality that a digital archive can possess. After all, digital archives should “not only...react to the past but also...engage with a different sort of activity altogether: to build archives that imagine the future as well as preserve the past” (2019).

This kind of research calls for a consideration of new avenues for the design and construction of a digital archive; a model that considers past knowledge with a reactivity of how this knowledge has been molded to fit a more dominant narrative and how this knowledge may move forward into the present and future with more context using the digital archive in its technological praxis rather than purely thinking about the archive through a theoretical lens. The praxis, the presence, and the situatedness of a digital archive displays its own “authorizing logic in ways that make it theoretically, not just technologically, separate from earlier physical archives” because the digital archive is a reactive one; the digital archive is a “political, interpretive tool...[with] a double awareness of [its] reactivity” (2019). This double awareness of theory and praxis is “haunted by its historical predecessor, the imperial archive” which typically “embodies ‘a fantasy of knowledge’” collected and united to serve a more dominant ontological purpose (2019).

The examples of the Fanny Fern Archive and Mitchell Community College’s website were redesigned with the PULL heuristic to create a context-saturated information infrastructure with a reimagined navigation system that allows a user-audience to react to the information present and draw their own conclusions with the presence of supporting and contextual information, rather than allow that information to be narrated by a dominant ontology of prescribed navigational structures that purports standardized knowledge and squander other ways of knowing and being. This research

project supports the affordances of possibility of a new model for the information stored and disseminated by a digital archive, and how this (re)organization of information can be presented to a user in new ways that give the interpreter of the information more agency to make meaning for themselves rather than have that meaning made for them. To start building this model of an agency reactive archive, this research imagines a restructuring of the typical navigational system that a user-audience sees on a digital archive or website.

Finally, I would suggest that future research needs to bring together existing research in a synthetic way to show where more research could be done. One of the frustrations of this project was the “website design” is done across a number of fields and disciplines, and few of those fields and disciplines talk directly to one another. One of the strengths of technical and professional communication has been trying to emphasize users/audiences and the rhetorical aspect of design and content. But the field of technical and professional communication has not sustained its research into web design, information design, and usability. These frustrations bring to the forefront a need for a strong integrative literature review—that includes this work—that would then help scholars see where additional research could be most beneficial. While I have started this work with the literature review and my own research, I still see the need for this sort of synthetic work to be taken

up in a way that could actually move concepts of web design and usability testing forward in audience centric and equitable ways.

Looking Forward

Navigation is like a trail, a pathway. And the creator of that trail is typically the one who standardizes in what way others are to follow. But if there is only one creator of navigation, understanding typically results in only one way of knowing and being – excluding any other possibilities for knowledge. I recently read a book, *On Trails* by Robert Moore, which explores this concept of interconnectedness and how one popularized decision can affect the trails that we, as humankind, follow.

Use creates trails. Long lasting trails, then, must be of *use*. They persist because they create one node of desire to another...because they both possess and fulfil the collective desire, they exist as long as the desire does; once the desire fades, they fade to.

(Moore, 2016 p. 17).

But in this exploration of humanity's trails, Moore explored the intriguing concept of "desire lines" (p. 17) which are informal, impromptu trails that humanity creates when the standardized way of navigation does not a mold that fits everyone's purpose. In thinking about the context of

physical pathways and how they situate standardized efficiency of knowing and being, desire lines function in an opposite way "...slicing off the right angles that efficiency deplores...a shortcut...geographic graffiti, pointing out the authoritarian failure to predict our needs and police our desires" (p. 18). This paragraph made my mind swim with similarities to the way that trails dictate paths much like navigation on a website dictates knowledge-making. We design trails with *our* purpose in mind, with our own agential choice, and we do not make equitable space or consideration for those that will follow.

Navigational lines are determined through use. We make trails that we *think* others want to follow but in doing so, we omit any other possibility for knowing and being because we *assume* we know what is best for the person who follows us – how they should think, how they should act, how they should approach the contextual situation – because that's the way we did. Because we can only know *our* past and our present, not predict the future of *others*. And not every linear way of being and knowing suits every individual.

Therefore, "wise designers sculpt *with* desire, not against it" (Moore, 2016, p. 18). In thinking about the "desire lines" that people create to navigate in a way that suites their own direction rather than established, physical pathways, an equivalent to this action of shifting agency to an audience would be the focus of this project: creating equitable user experiences in online spaces by providing a multitude of navigational options

so that an audience may recall information on a website in a way that suits their real-time purpose. People create desire lines because it is where the user of that pathway is opting to go at that time. Therefore, that action of reclaimed agency functions as an optimal user experience. That user is opting to reclaim choice and create a more equitable experience for their needs. In thinking about website navigation, optimizing for the user is giving them a tool to create those desire lines, those individualized pathways that lead to their own knowledge-making purpose. So, to create equitable user experiences on specialized websites, we must turn our attention to the desire lines of user-audiences who seek out purposeful ways to make meaning for themselves based on their own real-time purpose. We must make room for the desire lines of others' knowledge-making rather than force our own way of knowing upon others.

In pursuing this concept of creating other ways of knowing and being in a digital sphere – in creating more equitable user experiences – the heuristics of *Providing, Understanding, Learning, and Listening* were developed as real-world solutions to feedback gained from participatory research in web design needs for specialized user audiences. In gathering this research's findings, the pursuit for a more equitable user experience practices through the interweaving of human-centered experience kept at the forefront of this research as users were accessing the equitable user experiences of the Mitchell Community College website, an e-commerce type

model, and the Fanny Fern Archive website, a niche-genre. To measure the success or failure of equitable user experience is messy since this research's proposed equitable web heuristic would work to guide the development of a multitude of website genres. This research sought to construct two different genres of websites with the goal that a user-audience can find possibility in making their own meaning through equitable user experience, as opposed to their meaning being influenced by the designers' purpose. Therefore, centering human experience as an important guiding principal for a reimagined set of heuristics for specialized websites meant that the feedback of the users was crucial to the measurement of success or failure of these website's equitable user experiences.

Because of that messiness, the process of equitable user experiences is reiterative and always evolving. To justly test equitable user experience, research on the narrative importance of navigational infrastructures and the rhetorical significance of finding aids within a digital information infrastructure will need to continue for both the Fanny Fern Archive and Mitchell Community College's website to make sure that these digital infrastructures remain relevant to specialized audience needs and purposes. Additionally, applying this set of heuristics to other types of specialized websites will help expand the knowledge on how *Providing, Understanding, Learning, and Listening* can create equitable user experiences in other online spaces.

But “usability is only an issue when it is lacking or absent (Rubin and Chisnell, 2008 p. 3), and much like the absence of “desire lines” in traditional, linear-navigation websites, the absence of the ability to create other ways of knowing and being is a usability issue that this research sought out to fix. And with this absence, much like Derrida’s concept of hauntology which sees “the terms specter and spectrality ‘specifically evoke an etymological link to visibility and vision’” (2), the absence of a user’s knowledge-making choice on traditional linear-websites aligns with the concept of Derrida’s ghost operating “as a powerful metaphor for encounters with disturbing forms of otherness” one that has “has haunted human culture and imagination for a long time, perhaps even forever... to unlock other worlds and dimensions.” These other worlds – like Haraway’s “Staying with the Trouble” quotation – create realities, create truths.

So in perceiving the rhetorical choice in design of websites, the rhetorical significance of finding aids within a digital information infrastructure, and the bias/influence that a web designer brings into the rhetorical situation of website creation, it is important for a digital creator to truly separate themselves from their digital creation and the urge to think you know what’s best for the user-audience – to “to transfer agency and responsibility to an external, ungraspable, non-material force” (Chun, 2016, p. 5), only then can you begin to create a space for equitable user experience. And like Derrida’s hauntological specter, the transferring of

agency and thus knowledge can be scary, because of the complexity of the unknown.

A web designer must separate from their own individual purpose to create an equitable user experience for others. In thinking about web design in this way, and by making the user the center and continuous focus of that design – I mean truly focusing on what the user *needs* and not what is best for the designer because it's the easiest or the cheapest, or because you like it one way – but by focusing on what truly benefits the human *behind* the user-audience that utilizes the website is how one achieves a digital space for equitable user experiences.

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APPENDIX A: USF IRB APPROVAL



APPROVAL

April 11, 2024

Haley Jones
[REDACTED]

Dear Haley Jones:

On 4/11/2024, the IRB reviewed and approved the following protocol:

Application Type:	Initial Study
IRB ID:	STUDY007076
Review Type:	Expedited 7
Title:	Reimagining Web Design: Empowering Agency of Specialized Audiences through User-Centered Heuristics on FannyFernArchive.org
Funding:	None
IND, IDE, or HDE:	None
Approved Protocol and Consent(s)/Assent(s):	<ul style="list-style-type: none">• Jones_HRP-503a -Protocol_Reimagining Web Design_4.6.23_V2.docx;• Jones_HRP-502b Social-Behavioral Adult Consent_4.6.23.pdf; <p>Approved study documents can be found under the 'Documents' tab in the main study workspace. Use the stamped consent found under the 'Last Finalized' column under the 'Documents' tab.</p>

Within 30 days of the anniversary date of study approval, confirm your research is ongoing by clicking Confirm Ongoing Research in BullsIRB, or if your research is complete, submit a study closure request in BullsIRB by clicking Create Modification/CR.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Institutional Review Boards / Research Integrity & Compliance

FWA No. 00001669

University of South Florida / 3702 Spectrum Blvd., Suite 165 / Tampa, FL 33612 / 813-974-5638

APPENDIX B: MITCHELL CC DATA USE PERMISSION



DATE: 02/01/2024

SUBJECT: Permission for Use of Existing and Ongoing Data for Quality Improvement

As Vice President for Student Services at Mitchell Community College, I approve that Haley Jones has the College's permission to use existing and ongoing data in her current research with the University of South Florida and hereon in future research articles. This research will also provide quality improvement in application to her job responsibilities at Mitchell. The data that Haley Jones has collected during her time here at Mitchell has been imperative in supporting her day-to-day job functions as Director of Marketing and Communication and Public Information Officer. In her role, Haley was tasked with redesigning the College's website, and in that process, she collected primary data from students, faculty, and staff to better improve the overall functionality and relevancy of the website.

It is with this knowledge that I give permission to Haley for use of existing and ongoing data for future research articles and for quality improvement of the institution's website. I look forward to how this data will support her research and future results.

Sincerely,

A handwritten signature in black ink that reads "Daniel T. McEachern".

Daniel "JJ" McEachern, Ed.D.
VP for Student Services
Mitchell Community College

Statesville Campus | 500 West Broad Street | Statesville, North Carolina 28677 | (704) 878-3200 | (704) 878-0872 fax
Mooresville Campus | 219 North Academy Street | Mooresville, North Carolina 28115 | (704) 663-1923 | (704) 663-5239 fax
Continuing Education Center | 701 West Front Street | Statesville, North Carolina 28677 | (704) 878-3220 | (704) 878-4271 fax

mitchellcc.edu
Equal Opportunity College

ABOUT THE AUTHOR

Currently, Haley Lara Jones is employed by her alma mater, Mitchell Community College, located in her North Carolina hometown, where she works as the Director of Marketing and Communications and Public Information Officer. She previously served for over five years as the Director of Marketing for the Carolina BalloonFest, the country's second oldest hot air balloon festival and as a journalist for the only online newspaper in Iredell County (located in NC).

During her time at the University of South Florida, Jones received the opportunity to work for USF World, the university's international hub, in a marketing assistantship capacity. Additionally, Jones was a teaching assistant, worked collaboratively with the First Year Composition and Professional and Technical Communication TAs to create supporting curriculum materials, and served as an editorial assistant for the academic journal, *Rhetoric of Health & Medicine*.

Jones received her associate degree in English from Mitchell Community College, and her bachelor's and master's degree in English from the University of North Carolina at Greensboro before transferring to the University of South Florida to complete her Ph.D. in Rhetoric and Composition with a focus in Digital Humanities.