USERS AS CO-DEVELOPERS: A USER-CENTERED DESIGN

APPROACH TO ANALYZING STUDENTS' WANTS

AND NEEDS FOR A NEW WRITING

CENTER WEBSITE

by

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DEDICATION

I would like to dedicate this thesis to my supportive family, especially my mother Cindy Koch. For the past eight years, I have flown through my undergraduate and graduate studies. In these eight years, my mother has been the wind that keeps me up in the air and pushes me to reach my goal.

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CHAPTER I

INTRODUCTION

In reflecting on the scholarship from rhetorical theory, I was motivated by

Thomas B. Farrell (1993), who stated that the rhetorical audience is "the one who

decides...the fate of the discourse" (p. 69). The importance of the audience being the

primary decider of a discourse inspired me to think of my position in the Texas State

University Writing Center. As I was designing and developing pages on the writing

center website, I realized that (a) the website was rhetorical in that, students use it to find

information on writing and for making tutoring appointments, and (b) that I was not

including the audience in the design of the website, or the fate of how the website was

designed. Instead, I was relying on what the writing center wanted in the design and

content. Farrell's theory made me want to include the audience or the students in the

discourse or the design of the website because ultimately the students are the ones who

use it.

In the article "The Idea of a Writing Center," Stephen North (1984) said writing

centers have a philosophy that focuses on meeting students' wants and needs for writing

(p. 433). Since 1984, this philosophy has remained a primary drive and goal for most

writing centers. Generally, the concept of a writing center is as Muriel Harris (1988)

specifies on the International Writing Center Association website: "Although writing

centers may differ in size, specific services, source of staffing, and organizational

procedures," they share notions such as, "tutorials are offered in a one-to-one setting,

tutors are coaches and collaborators, and each student's individual needs are the focus of

the tutorial" ("Writing Center Concept"). However, the tutees, or students, themselves

sometimes do not understand the concept of a writing center or what a tutorial session involves because the students are either not informed by their professors or they think they do not need the help.

All writers have their own individual needs that they have to develop during their writing processes. Most of the time, students know what they need from a tutor, but sometimes they do not know or understand what their needs are for their writing. During my time as a writing center coordinator for the Texas State Writing Center and as a graduate teaching assistant, I have heard students repeatedly call the writing center a "fix-it shop." When I discussed the writing center with my own students, they said, "Why do I need to go to the writing center? I don't have any issues writing my papers." Similarly, North (1984) argues that a student's lack of understanding is a common issue tutors come across in a writing center. Harris (1988) also examined the same misunderstanding writers have when coming to a writing center: "Writing center directors frequently find that those outside the center—administrators, teachers, and students—do not have a very clear understanding of the function of tutorial instruction and tend to think of the center as a place limited to remediation" ("SLATE Statement"). On the other hand, students may think they are "good" writers and do not think they need the writing center (Harris, 1988). The misunderstanding of what students need from a writing center is hard to overcome unless writers experience a session with a tutor.

In "Why Writers Need Writing Tutors," Harris (1995) examined what students experience during a writing session with a tutor. Harris said that when a tutor meets a writer's individual needs, the writer is more inclined to feel progress with her writing and eventually understand what a writing center is and can offer her (p. 28). In a typical

individual session, a writer can get her writing needs met and not feel she will be graded or judged but feel rather that she can succeed in her own writing. For tutors, asking a writer what she wants is a key point for training, but many tutors often forget to ask or include a student's wants during a session. As a tutor, I have seen writers change their attitude from negative to positive once I concentrated on what they wanted to focus on in the session. I have also observed sessions in which tutors did not ask students what they wanted to work on; the students left the writing center feeling as if they did not receive any help. Tutors, like writing centers, need to understand what writers want in a tutoring session in order to help students improve their writing. If tutors do not ask what a writer wants, then writers will be passive receivers of information as opposed to active co-creators of knowledge.

Much like a tutoring session, a writing center website provides information to meet the same philosophy of improving students' writing. Although websites provide students with the same writing information that tutors offer in an individual tutorial, the same philosophy for meeting the needs of students is typically not included when writing centers design and develop websites. For web development and design, like tutor training, users' needs and wants should be the force that drives the website. Rubin (1984) discusses how meeting the needs of website users are important when designing websites in that writing is a representation of "not only the techniques, processes, methods, and procedures for designing usable products and systems, but just as important, the philosophy that places the user at the center of the process" (Ruben, 1984, p.10). Rubin goes on to say writing center websites try to convey what it offers in its physical space by providing the same information on its website: such as the hours of operation, location,

contact information, and services available; making an appointment; handouts or resources for writing improvement; information on events; tutor and staff qualifications and biographies; and online tutoring. This information "increase[s] awareness of the writing center and encourage clients to come in for tutorials" (Colpo, Fullmer & Lucas, 2000, p. 81). As much as the tutorial sessions can fulfill the philosophy of meeting the needs of writers, writing center websites can too. Websites bring what the students need in the tutoring session: information to help students with their writing needs.

The Problem

Websites are meant to bring students into the writing center and provide information to meet their writing needs. However, some writing centers lack funding, knowledge, experience, and research either to find out what students want or to create and design a new writing center website to connect to students. In "Writing Center Websites, Then and Now," McKinney (2010) argues that writing center websites suffer from insufficient funding and a lack of [designer] experience (p.8). McKinney goes on to say, "[writing centers] have lost control somewhere between the second era and the third [era of writing center websites] because outside forces now dictate content or design" and cautions that "we may be forced to compromise our online vision or not be able to fully articulate it because we are not given support to do so, financial or otherwise" (p.8). McKinney's argument that design control and financial costs are important and a valid one because writing centers are lacking in these areas, but I argue that writing centers should try to move past the financial and design control issues and focus on what users want on a writing center website.

For example, as a writing center coordinator, I was in charge of redeveloping the

handout and PowerPoint pages as well as the overall design of the website. I noticed repeatedly that I was designing from my own perspective (needs) and not the perspective (needs) of students. This concern was not because of financial reasons, but because I understood from years of tutoring training, tutoring students, and reading writing center scholarship that the main reason writing centers existed was to help students to improve their writing and critical thinking skills. I also recognized that the staff and director were also putting information on the website based on their own assumptions and previous individual tutoring research of what students wanted. Even though there are other disciplines that include students, or users, in the development process, such as Technical Communication, Library Science, and Mass Communication, my point here is that writing centers, specifically, are not seeking out their website users to find out what they want. Therefore, I surveyed students of Texas State University in order to create and design a new writing center website that meets their needs.

In the last ten years, there have been few writing center researchers who have focused on analyzing the inclusion of users in the web design process. Salvo, Brizee, Driscoll, and Souza (2007) conducted a usability test with user-centered design (UCD) to test with its users on the functionality of the Purdue Owl. A usability test typically studies several user volunteers who go through different website pages and test the links, fonts, designs, and content. Usability researchers Salvo et al. discuss in their report the incorporation of user-centered design as a means for gathering and implementing user (student) data into their research. User-centered design is an approach designed with iterations to gathered user data and to improve websites based on users' constant cyclical feedback, perceptions, and experiences. By conducting a usability test with user-centered

design, Salvo et al. did involve users in the end design (usability testing) of the Purdue On-line Writing Lab (OWL), but they did not mention in their report the involvement of users during the upfront development of their website.

Shortly after Salvo et al. conducted a usability test with user-centered design on the Purdue OWL, Salvo, Johnson, and Zoetewey (2007) include the importance of incorporating users and UCD in website design, particularly in earlier design cycles. Including users in the beginning stage is similar to tutors asking students what they want to work at the beginning of a tutorial session. In addition, Johnson, Salvo, and Zoetewey point out that end-of-development usability testing fails to capture important user input that can be of great value earlier in the design cycle (p. 320). This type of research compares to a tutor waiting until the end of a session to ask what a student wants to work on. Even though usability testing is important for examining how a website will work with end users, the authors argue that there is still a lack of research involving the users (students) in the initial upfront design process. Johnson, Salvo, and Zoetewey present a challenge of involving users in the beginning as a "profound interest in creating a user-centered culture in which human beings and their attendant physiological and cognitive needs and limitations are the center of technology design rather than on efficiency and the demands of the technological systems" (p. 324).

Thus, I intend to rise to Johnson, Salvo, and Zoetewey's challenge by including the students, as co-designers, in the web development process. In order to co-design with students and analyze their wants and needs for a writing center website, I conducted a case study that sought to answer two overarching questions:

1. What do students want in a new writing center website?

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2. How could students' wants impact current writing center web design?

I specifically chose students and not tutors or faculty because I wanted to understand the primary audience of the Texas State Writing Center without the actual influence of the writing center or the administration. I chose a case study because it allows me to conduct questionnaires, an affinity diagram, and a discussion group to gather specific data about a certain group. The results of this study are specific to Texas State University students and may not be generalizable to all writing centers. However, the concepts, methods, and discussion of results will provide a general understanding of how other writing centers may conduct the same study.

In the following chapters, I address the literature, methodology, findings, and discussion. In attempting to answer my research questions, Chapter II examines what the literature on writing center websites, the web, library websites, and department websites says about students wants. I also examine how to analyze students wants with the UCD approach. In Chapter III, I discuss the UCD approach and the techniques I use to acquire and analyze the students' wants for designing a new writing center website. Chapter IV contains my results from the UCD approach and techniques. In this chapter, I analyze and interpret the data I collected from a questionnaire, an affinity diagram (an activity in which students write ideas on sticky notes and organize them based on priority), and a discussion design group (a group that will discuss the results from the affinity diagram and implement them into a mock design). In the last chapter, I discuss my findings in connection to the literature, UCD, and my research questions. I also discuss how the Texas State Writing Center and other writing centers can use and implement my results for future website development.

CHAPTER II

LITERATURE REVIEW

Currently, there is little scholarship dedicated to researching what students want from writing center websites. The reason there is limited scholarship on writing center websites is that writing centers tend to focus more on of meeting the students' needs during the individual tutoring sessions. Even though meeting the students' needs in the tutorial is a philosophical drive for tutorial sessions, I argue that the same philosophy should also apply to meeting the students' need on a writing center website. In other words, when designing writing center websites, writing centers should do so by asking what the students, or tutees, want and need from a writing center website. Therefore, in this chapter, I examine the scholarship on writing center websites, and, since there is not much on this, I examine literature on what students want from the web, student support services, and academic departments.

Computers, OWLSs, and Websites

Before writing centers had websites, they had computers, and to stay consistent with the writing center philosophy they incorporated computers into the writing center space to try to meet the needs of their students. From the early 1980s to the 1990s, writing centers tried a variety of ways to incorporate computers and computer support technologies into their centers; they started "first with computer-aided instruction (CAI) and then with administrative support tools, style- and grammar-analysis software, text-production software, network-communication tools, and web-based instructional materials" (Palmquist, 2003, p. 396). During transitions between CAI, administrative support tools, the different types of software, and other technologies, writing centers tried

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to adapt to the constant changes or updates in computer technology to try to meet the center's and students' needs.

In the 1980s, writing centers used what was called "computer-aided instruction" (CAI), which provided students with instructional material such as on screen handouts, grammar worksheets, or quizzes. Computers were also used as units for students, tutors, and writing center staff to store, input, and relay data. In addition, writing centers used CAI for what Kinkead and Ugan (1983) describe in a report from the 1983 CCCC's conference: "At USC, [writing centers] are using computers primarily for teaching revision strategies and plan on programs for pre-writing and organizational strategies in the near future" (p. 6). Essentially, CAI focused on text and context based revisions and organizational issues for students' writing, but CAI did not entirely focus on the students' writing processes or their needs.

As computers were becoming more common in the late 1980s and early 1990s, writing centers began to include administrative software programs, style and grammar programs, and word document software, which were different from CAI in that they were not worksheets that students had to fill out on a computer. Instead, the newly added programs helped students learn to type out their papers and to focus on sentence issues in their writing. Neuleib and Scharton (1990) describe how the writing center at Illinois State University added to their previous computer technologies (CAI) with programs for tutoring grammar, writing papers, or keeping records of tutorials: "Every staff member, including the secretary and student secretaries, had a computer and a printer. All appointments, reports, and record keeping procedures were done [by staff, tutors, and directors] on computers" (p. 49). With computer access staff, students, and directors

could improve not only administrative and record keeping in the writing center, they could also tutor students more effectively with the issues students were having with their writing.

In 1994, writing centers adapted from the worksheets and instructional software to working more with web-based software. In the same year, Harris and Manley coined the term "online writing labs" or "OWLs" to create the first writing center OWL or website geared towards electronic tutoring and writing resources (Brown, 2000, p. 18). OWLs were an online equivalent of the writing center practices and philosophies that included connecting to "their audience with exciting e-mail encounters; focusing upon issues outside face-to-face tutoring; helping tutors collaborate more in pairs and triads, [etc.] (Shadle, 2000, p. 6). Just as writing centers try to meet students' needs, OWLs focus on helping students develop their own writing through different types of technology: email, online tutoring, and online resources. OWLs became popular and still are to this day, and from my experience as a teacher and a tutor, the Purdue OWL is one of the most used OWLs that provide students with resources to meet their needs: some of the resources they offer are citations guides, grammar and punctuation help, researching, and writing. After Purdue created its OWL, many other universities and colleges started creating and researching OWLs and websites.

In the 2000s, scholars began to research how OWLs and writing center websites were built and financed. Some of the research on OWLS was focused around the fundamentals and development for writing center websites (Harris & Pemberton, 1995). McKinney (2010) examined the ways and reasons writing centers developed OWLS and transitioned to websites. In the following list, McKinney discussed the following

techniques writing centers used to create websites, as well as the corresponding literature:

- Mid-1990s: Early Adopters

  Early adopters started OWLs, many using e-mail, chat rooms, MOOs, or campus networks for asynchronous tutoring. *The Association of Computers in Writing Newsletter* and *Computers and Composition* both devoted issues to online tutoring in 1995. *The Writing Lab Newsletter* published at least eight articles on OWLs between 1992 and 1995.

- Late 1990s to Early 2000s: Tipping Point

  Programs like *Dreamweaver* and *Frontpage* allowed users to compose websites without knowing HTML. With a little practice, users made sites on par with professional sites. During this time, three key texts on online writing center work, *Wiring the Writing Center*, *Taking Flight with OWLs*, and *Electronic Writing Centers,* were all published.

- Mid to Late 2000s: Institutional Takeovers, Third Party Apps, and Social Networks

  By this time, web programming evolved beyond HTML. Many colleges and universities used content management systems to regulate school websites, which are now a major marketing and PR tool, resulting in design restrictions on writing center websites. Some writing centers tap into third-party applications and social networks to conduct

writing center business (e.g., scheduling, chatting, tutoring, blogging). Articles on online writing center work were less frequent. (p. 6)

In the "Early Adopter" stage, the research follows the literature I mentioned above about OWLs. Yet in the "Tipping Point" stage, the research published focuses on how writing center staff and writing center directors create websites.

Now the asynchronous tutoring and individual web development may seem like they follow the writing center philosophy, but there is no actual literature mapping out how writing centers are meeting students' needs. In the "Institutional Takeover" stage, there was a wide range of scholarship in departments and support services other than writing centers. The reason there is more research in this area is that content management systems provide departments and support services with the means to create their own websites, which I discuss further on in the chapter. The universities or colleges then manage the layout and design properties of the websites; they also provide web design training, college- or university-themed looks, server availability, and ways to for staff and users to collaborate in the design platform.

Although there is more scholarship from other academic areas of research involving students in web development, very few studies or articles suggest student involvement in the beginning design phase of writing center websites. In addition, writing center literature on websites tend to focus more on the staff, director, or university creating websites rather than on what the students want from the websites. One of the main reasons, as McKinney mentions in her article, directors and staff design develop websites is because of institutional finances, staff, and resources for development.

Similarly, Shadle (2000) examined the same issues writing centers had when developing OWLs in the early 90s. Even in the early stage of OWL development, students were not involved because of finances, staff, and development. Shadle identifies that the main producers of OWLs were the directors and staff:

> About 60% of OWL builders were writing center directors and just over one third were writing center staff. Other students or computer-center staff assisted one-sixth or respondents. English and writing teachers, WAC faculty, writing program administrators, outside consultants, and a Chair of Humanities also helped construct OWLs.... Nearly 90% of OWL builders reported that they lack the necessary equipment, training, and support. (p. 10)

Even though Shadle mentions student involvement, he does not expand further in his research on how and when students were involved. Hall and Wolf (2003) discussed similar issues during the development process of writing center website; because of limited resources and design help, writing centers were left with the responsibility to create websites based on staff and directors' knowledge of what they thought websites should include (p. 1). Hall and Wolf also say that developers of websites were not typical users. They explained, "We relied heavily on input from our own writing assistants (WAs) and a wide array of campus resources" (p. 2). Relying on the writing assistants to develop the online writing space does include one side of the tutorial (the tutor) and brings an aspect of the writing center philosophy, but the authors do not mention the other side of the tutorial (the student). The authors went on to say, "We decided to make our online site congruent with the theory and training used in our tutor-training seminar,

ensuring that our WAs could work effectively in both face-to-face and online settings" (p. 2). Having the face-to-face session online does relay the writing center philosophy, but the methods to create the online site left out the primary audience, the students, whose needs must be met. With a dearth of literature about student involvement and needs, I must look the research on student involvement from other student support services and departments to understand what students actually need in a website.

Students' Wants

Just like writing centers, libraries and academic departments have to correlate their philosophies in both their physical and online sites. For a library, its website typically "requires an interface that can accommodate the different needs, scholarly disciplines and capabilities of the many and varied users within its institution" (Raward, 2013, p. 124). In other words, libraries have learned to diversify their websites to make sure that their websites are meeting students' needs.

When departments focus on what they can provide for students, they find that students generally ask for "genuine information about the quality of education, courses, and programs…" (Zengin, Arikan, & Dogan, 2011, p. 295). As I have said before, more research focuses on what students want for library and department websites. By examining the research in these areas, we can form a basic understanding of what students want in library and department websites to what students want in a writing center website. First, I examine what students generally want from the web so I have a foundation for understanding what students want from the department and library websites.

With more students required by professors to go online to write, research, and

read online texts as part of their studies, there is a need to examine what students want so that writing centers may understand where to start when including students in the design process. In 2010, the Neilson Norman group conducted a study with forty-three college students in four different countries to show what students want in an academic website. Neilson and Norman (2010) first focused on what students do not want; they found that college students "avoid Web elements that they perceive as 'unknown' for fear of wasting time," and they "pass over areas that appear to difficult or cumbersome to use" ("College Students on the Web"). In this study, Neilson and Norman also found that students do want immediate information and feedback. If students have to wait or if they get an error on a web page, they will not spend much time on that page. Neilson and Norman also say students want familiar web interfaces and not anything new or confusing to figure out (Neilson, 2010; Pendell & Bowman, 2012; Pittsley & Memmott, 2012).

In addition, Neilson and Norman said that college students like and want multimedia and "social networking services like Facebook" ("College Students on the Web"). They went on to say that if college students want to know any specific or detailed information on a subject they would go to a search engine (such as Google or Bing) ("College Students on the Web"). Knowing that students are eager to find information and that if they do not find it on a particular website they will go somewhere else, helps anyone developing websites to identify users specific wants for certain information. This can be comparable to a student searching for help with grammar or how to write an introduction to a paper on a writing center website. Essentially, the students desire to have easily accessible information that is clear and in a format they are used to navigating

(Grabowksy & Wright, 2013). Generally knowing what students want in an academic website helps web developers understand where to start when asking students to be involved in the web design process. To put this type of knowledge into an academic conversation, I now look at a specific student support service, the library websites, which focus on these types of students wants.

Libraries are one example of a student support service that places its users at the forefront of their technology changes, specifically in their websites and in their development. Like writing centers, libraries are a part student services: they provide support, resources, and discussion. With the design principles and library philosophies (like the writing center philosophy of meeting students' needs), researchers have found that implementing a user-centered design for developing a library website could identify students' wants.

Users have become an integral part in the development of academic library websites. There are currently more journal articles, books, and electronic references focused on libraries conducting user-centered design and usability studies than in writing center research. In the book *User-Centered Library Websites: Usability Evaluation Methods*, George (2008) identifies, through a user-centered design method, why users are so important to the design process and should be included in the development. She argues, "Products, gadgets, systems, and websites need to be easy to operate and useful if people are to continue to use them, and it is the target users who determine what is easy. That is why products and systems need to be user-centered" (p. 3). In library websites, just as Norman and Neilson found in academic websites, students want websites that are easy to access and operate. George also indicates that academic libraries rely on user

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input and acquire the information through a user-centered design so that students' needs are met:

> The major reason to design a user-centered library website is to make it easier for users to access the vast amount of information, to a great extent scholarly, provided by libraries through their websites. As the usability of a website increases, it is reasonable to conclude that users' access to the website and consequently their use of scholarly information will increase. (p. 6-7).

The ease of use, or access, in George's excerpt is determined by including users during the design process. Users can provide essential information such as page clicks, searches, and scrolls, so researchers can see exactly where students will be navigating on the website. If academic websites are to promote scholarly information and ease of access then the inclusion of the people who will be accessing that information should be necessary during the design process. In other words, for a writing center, the scholarly information is the information given by the tutor and the people accessing that information are the students who need help with their writing. The main goal for why academic libraries incorporate users in the design process is what students most often say they need or want, which is often the ease of use and access of information. By conducting a user-centered design, writing centers can learn what students want just like libraries and in the tutoring session.

In "Academic Library Website Design Principles: Development of a Checklist," Raward (2013) explained that since the early 90s libraries have been concerned with the needs and wants of websites users as well as development. Raward stated, "A major

consideration in the design of academic library websites is the multiplicity of users and information needs that exist in the university environment" (p. 124). Early on, libraries wanted to know how to focus on their primary audience and incorporate them into the design of library websites. In the same article, Raward discussed how two university libraries conducted focus groups, or a user-centered design, on their first "generation" websites. In the study, Raward found that the librarians realized that they were not focusing on their primary audience, the students; instead, they were prioritizing the needs of the library over the needs (research, help screens, communication) of their users (p. 129). By conducting a user-centered design with the students, the libraries found that they needed to focus on what the students wanted on the websites, instead of what they wanted. Although Raward did not mention what specifically the students wanted from the libraries websites, she did specify that by incorporating a user-centered design a library (or a writing center) could identify with students what they want.

Like library websites, developers of department websites sometimes used similar methods of analysis and design with surveys and questionnaires to identify user wants. However, Zengin, Arikan, and Dogan (2011) indicate that using a user-centered design can help students indicate what they want. Zengin, Arikan, and Dogan surveyed one hundred and twenty-five students all around Turkey with eight criteria: "accuracy, design, content, currency, ease-of-use and feedback mechanisms/ interactivity" (p. 300). The surveys were used to assess "what university students think about the website of a higher education institution is one of the primary objectives of this study" (p. 300). With user perceptions, the authors found specifically what students wanted in a department website. The results of the students' opinions were similar to those of regular websites as

well as library websites; the students' wants included the following:

- The home page (opening page) of web site should be plain.

- The web site should have clear and hierarchically structured submenus.

- There should be a balance between visual and textual elements.

- The web site should have a variety of colors.

- The web site should have animations.

- The web site should have introductory video.

- The web site should provide the institutional information in a transparent manner.

- Attention should be paid attention to update the web site. (Zengin, Arikan, & Dogan, 2011, p. 302-3)

Zengin, Arikan, and Dogan indicate many more responses from the students, but I include these because they were the most related to the library and academic research on students and what they want from a website. The authors also explain how student responses can help future web developers, but they do not go into a deeper discussion of their results and the importance of students wants. There is, however, a commonality between all of the studies done with the different types of websites: the students wants and needs seem, to me, to focus on ease of use, accessibility, and visuals. By using a user-centered design to gather this information, writing centers, like libraries and departments, can seek out what its users specifically want in relation to their philosophies.

CHAPTER III

METHODOLOGY

Approach

In this case study, I use the analysis and design phases of user-centered design to identify wants and needs of Texas State students. User-centered design (UCD), originally brought to technical communication practices by Rubin (1984), encompasses "not only the techniques, processes, methods, and procedures for designing usable products and systems, but just as important, the philosophy that places the user at the center of the process" (p.10). In a way, UCD is the same as the writing center philosophy in that it focuses on understanding and analyzing what users want. For example, UCD is comparable to tutors conducting a session in that they ask questions, organize the discussion, and focus on what the tutees wants.

Since 1984, this type of approach has been used to gather user data for websites in technology-driven companies. UCD improves website performance by reducing the number of user errors and increasing the ease of use; it can increase traffic and number of returning and new visitors; it can reduce resource burdens by reducing cost, time, training, and documentation; and it can increases sales and purchases ("Benefits of User-Centered Design", 2014). Essentially, user-centered design facilitates "the development, communication and assessment of user-center design processes for creating usable interactive systems, covering analysis, design, evaluation, construction and implementation" (Gulliksen, Göransson, Boivie, Blomkvist, Persson, & Cajander, 2003, p.403). Much like the writing center philosophy, user-centered design principles focus on the analyses of students and their wants for a website. Generally, with the abetment of the

principles, researchers, depending on the scope of the project, spend days, months, and

sometimes years collecting upfront information from users to create personas (stories)

and other user experiences for developers to use when designing software. Thus, the

users become a part of the full development process; in other words, users become co-

designers throughout the entire design process (Beyer, Holtzblatt, & Baker, 2004).

In their article "Designing for Usability: Key Principles and What Designers

Think," Gould and Lewis (1985) defined users as being a part of the initial design team,

especially when the project or product is for an in-house design, like a writing center

website. For my research, the users (the students) became co-designers with the

developer (me) in creating a new writing center website.

Each principle of UCD supplied a foundation and framework for me to co-design

with Texas State users and to seek out what their wants were for a writing center website.

In order to seek out this information, I implemented parts of a UCD step process

developed by Henry and Thorp (2008). Their UCD process contains five steps that begin

with a researcher (me) collecting data in the upfront stage through to the end stage.

Within the scope of this project, I conducted parts of the initial upfront stage of analysis

and design, which included analyzing users' goals, challenges, categories, tasks,

architecture, workflow, and scenarios. I chose to focus on these parts of the process

because they are specific to user responses, which are of most interest to the writing

center community and other readers.

Participants

For this study, I had two sets of participants. For the first set, I administered a

questionnaire (see Appendix A) to one hundred semi-random participants from Texas

State classes who visited the writing center for a class tour: English 1310, English 1320, University Seminar 1100, and other writing intensive classes. There were about twenty students per tour. The writing center tutor giving the class tour and I administered the questionnaire to five classes, or one hundred students, so that I could account for those who chose not to respond. We gave each student in all of the classes a questionnaire. During the class tours, each class was directed into a classroom in the writing center to learn how to make an appointment. At the end of the tours, we passed out the questionnaires to every student, who then returned it as he or she left the classroom. I chose this type of selection because the classes would already be in the writing center, which is centrally located on campus. This selection provided me with a reasonable number of participants during the period I had available. For the second set of participants, I emailed six non-random participants who agreed on the questionnaire to participate in the group discussion and affinity diagram. I then placed these respondents on a list in a random order. I emailed the six respondents on the list to meet on Friday, February 21, 2014 at 1:00 P.M. for a two-hour session.

Participant Alterations

The only change to the proposed participants was in the second set of participants. As planned, I emailed six students who responded on the questionnaire. On Friday, February 21 at 1:00 P.M., however, none of the respondents showed. Instead of giving up on my group, I went into Flowers Hall, the English Department, and asked six random students if they wanted to participate. I offered them the incentive of food, a $10.00 gift card, and a chance to be the first group of students to participate in helping design and develop a new writing center website.

Settings

The setting for acquiring the questionnaires was in the writing center meeting room, ASBN 108, at Texas State University because it is conveniently located near the center of campus and is the center of study. I had the writing center distribute my questionnaires during the regular hours of operation, which are Monday-Friday 10:00 A.M. – 7:00 P.M.

Setting Alterations

I held the discussion design group and affinity diagram in Flowers Hall 302 because the writing center was being used for training purposes. I also made sure to inform each participant that all results would be anonymous and that there was minimal risk for them involvement. In addition, I mentioned that my thesis would be available through the interlibrary loan and be available to a wider audience.

Techniques

Within the UCD process steps and for this study, I used three techniques to accomplish my analysis and answer my research questions: a questionnaire, a group discussion, and an affinity diagram. Below are the descriptions, uses, and objectives for each technique.

Questionnaire. A questionnaire (see Appendix A) helped me to define and answer my first research question: what do students' want in a new writing center? The main objectives for distributing the questionnaire were to help me to understand what to build, to identify key system functionality, to determine at least one possible solution, and to understand the schedule and risks associated with the first part of the UCD process step one. I analyzed question one "Have you ever used the Texas State Writing Center

website?" in association with question five, "If you were to create an entire new Writing Center website, what do you imagine would be on it? Please use the backside of this paper to draw, add a list of key items, and/or describe your response." I then used data from question five to develop the vision, goals, and objectives for a new writing center website. Answers to question five also helped to create the look and feel of the site. To guide the design choices, I also used the categories of information given by respondents to identify particular categories of information, features, or other aspects of a website, at least through the initial phase of the design process. Finally, the responses from question five helped to identify potential challenges, constraints of the website and its design and implementation. Because the responses from question five were imaginative and creative, they may reveal challenges with certain elements of a website. For example, the responses could pose potential challenges or constraints in the design, such as, the limitations with the content management design system, the changes to the content or style are drastic from one student to the next, or the challenge of having too many themes or categories available to users.

Participant selection and questionnaire distribution. I distributed the questionnaire to one hundred randomly selected students who came into the writing center for a class tour. Professors at Texas State scheduled classes ranging from English 1310, 1320, and University Seminar 1100 as well as other writing intensive courses for the class tours. I chose this type of selection because the students were already coming into to the writing center, thus they would have had a more common connection to the writing center after the class tour. The students' statuses and ages range from freshmen to seniors, or from eighteen years old and up. During a class tour, a tutor guided the students

through the writing center and into a meeting room located in the writing center, ASBN 108. In the meeting room, the tutor discussed what the writing center could offer and showed the students how to make an appointment, to look at staff selections, and to look up resources on the current writing center website.

Questionnaire design. The questionnaire (see Appendix A) includes open-ended and close-ended questions. To determine the respondents' familiarity with the current Texas State Writing Center website, the students responded to questions one and two. To determine accessibility or the ease of use or access of a website to the participants' needs, they answered questions three and four. To see how the participants envision and connect their experiences to create an entirely new website, they answered question five. I added a section for the students to select whether or not they would like to participate in the affinity diagram and discussion group.

Data analysis. The responses to questions one and three provide single answers with either a "yes" or "no" and a number from a Likert Scale of one to five. Based on the number of actual responses from the questionnaires, I added up and averaged the single "yes" or "no" responses. I also analyzed how many students visited the writing center website in connection to the website's ease of use, or accessibility. I then analyzed the responses in reply to questions two, four, and five. In looking at the data, I was most interested in how questions one and three influence each student's response to question four and five, and what they think and essentially need in a writing center. By creating codes based on the patterns in the responses to question two, four, and five, I could search for patterns to determine what the students generally wanted. Once I finished categorizing and tagging, I determined the most the responses then the data provided me

with the most repeated categories, themes, and ideas that I used to inform the affinity diagram and discussion design group questions.

Affinity Diagram

I conducted an activity in which a second set of participants created an affinity diagram. With the results from this technique, I sought to answer my first research question: what do students want in a writing center website? The objective for the affinity diagram is to develop a visual idea of what the students actually need and want in a new writing center website. During the activity, participants structured, categorized, and conceptualized their experiences, needs, and wants into a draft design of a new writing center website.

Participant selection. After the questionnaires were collected, I made a list of the email addresses of respondents who indicated in question six that they would be willing to participate further. I emailed a preliminary invitation to those who selected "yes" to participate in the study. (To view the email, see Appendix B.) Those who accepted to participate in the study were put on a list in a random order and sent an email with the details of the project. (See Appendix C to view the second email.) In the second email, the participants were invited, on a Friday, to a one-day two-hour session beginning at 2:00 P.M. Flowers Hall 302.

Affinity diagram procedure. Like outlining for a paper, an affinity diagram allows a group to write down and categorize ideas. I had the participants conduct this activity by providing them with pens, pencils, and sticky notes. I began by introducing the project myself. I then discussed with the participants a verbal consent, which was an acknowledgment that all results and analysis of their responses were anonymous and

would not reflect their identities in any form. Then, I started the affinity activity by asking them how and what they thought they wanted in a writing center website. For the next five minutes, the participants brainstormed this question and wrote their ideas down on the sticky notes provided. After the brainstorming question, I asked them to combine and sort their responses as a group; they had fifteen minutes to complete this task. After they sorted and categorized their sticky notes, they created an affinity diagram. When we finished with the affinity diagram, I gave them a five-minute break to prepare for the next technique, the discussion design group.

Discussion Design Group

A discussion design group provided me with data on how students' expectations or experiences can influence the design of a writing center website. The objectives for the group discussion were to get a more detailed understanding of what students might want and need in a writing center website. The group discussion was organized to design tasks students may want to perform on a writing center website, design how the site might be organized, and design how it might look and feel.

Discussion design and procedures. The participants identified the tasks, workflow, organization, and look for designing a new writing center website by writing, thinking aloud, and creating a design draft. I provided the group with pads of paper, pens, and pencils to write and draw their ideas on. The paper they used provided me with a tangible record of their ideas. I also gave students one minute to write down what they would want the website to look like. After that minute, I facilitated additional group questions based on findings from the affinity diagram. The additional questions were conducted with a think-aloud protocol. A think-aloud protocol allows participants to

discuss their ideas aloud without any interruption as they are going through how the website might look. I then asked them, as a group, to take their ideas from the affinity diagram and turn it into a design draft of the website. We began with the homepage. I gave the participants fifteen minutes to develop this design draft. After they had a draft of the design, I spent another fifteen minutes asking them to prioritize what they thought was most important. This discussion provided a design draft of how they expect their results/ideas to work, what they thought would go into the tasks needed for their ideas to work, how their ideas would work and flow within the website, and how they thought the categories and themes would be organized and look. I then spent the last fifteen to twenty minutes discussing with them their results and ascertaining if there was anything I did not ask or if there was something I missed.

Data analysis. After the discussion design group and affinity diagram, I analyzed the sticky notes, drawings, and designs created by the participants. I then conducted the coding techniques from the questionnaire with the data from the discussion group and analyzed what the participants believed were the key features of a writing center website. I focused on their experiences, their needs, and their wants to identify the key features. After I analyzed the results from the affinity diagram and the discussion design group, I compiled and coded the data collected from all the techniques. I then compared my coded results from the full analysis to see if there are any trends or associations that are similar or different from each technique.

Limitations

As with all studies, with this analysis, I had limitations. The first limitation I had with this analysis was with a lack of access to a completely random participant selection.

Because I was not sampling the entire student body, I chose to select students who came into the writing center or Flowers Hall as it turned out, which limited my participation selection to semi-random and non-generalizable participants. I also had a lack of staff members to facilitate the group discussion and affinity diagram because I conducted this study alone for my thesis. Another limitation was the time to conduct and gather data from all three techniques. At the time, the writing center only had a few class tours available for me to submit my questionnaires to, so I had a week to gather as much data as I could. I also had a limited amount of triangulation and reliability in my data because I was only conducting one analysis with one group of Texas State users.

Academic and Educational Approval and Ethics

During this project, I took observation notes to collect my data samples and reports. Even though I was a part of the team, I was responsible for keeping the identity of the other members anonymous. With my International Review Board exemption # EXP2013G189302S, I ensured that all my results were recorded in a way that my subjects were not identifiable and that the questions included posed minimal risk during the study. I also certified that all of my volunteers were eighteen years old or older, and that I used a verbal consent process to inform my research subjects that their information and responses would be used in a thesis. I also informed them that all collected material would not identify them or put them at high risk in any way.

CHAPTER IV

FINDINGS

This chapter is a discussion of the results from the questionnaires, the affinity diagram, and the design discussion group. Within the results, I have found common categories, patterns, and issues with what students want and need in a writing center website. I begin with the results from the questionnaire to show the beginning patterns of what students want and specified in their responses. I then followed with the affinity diagram and the design discussion group.

Questionnaire

From the one hundred questionnaires I distributed, I found that ninety-one students responded to at least one question or more. The remaining nine questionnaires, out of the one hundred, are not completed and are not included in this analysis. Out of the ninety-one questionnaires, participants answered a series of questions depending on their answer to question one: "Have you ever used the Texas State Writing Center website?" If the respondent answered, "yes," she skipped question two and answered questions three, four, and five. If the respondent answered "no," she answered questions two, four, and five.

Website use. The results from the first question are that 56%, or forty-one out of the ninety-one questionnaires, of the students responded "no" to not having used the writing center website. The other 44%, or the remaining forty-two questionnaires, of the respondents responded "yes" in that they have used the writing center website. The forty-two students who responded "yes" to using the website also indicated (question two) on a Likert scale of one-to-five for how accessible (or ease of access) the current website is

(see Chart I), one being a low accessibility and five being highly accessibility. Thirteen of

the forty-two students responded that the website had an accessibility of five, which is

highly; twenty-one indicated the scale of four, which is mid-high; three indicated the

scale of three, which is in the middle; and one indicated the scale of two, which is

medium low; there were no responses to one, which is low.
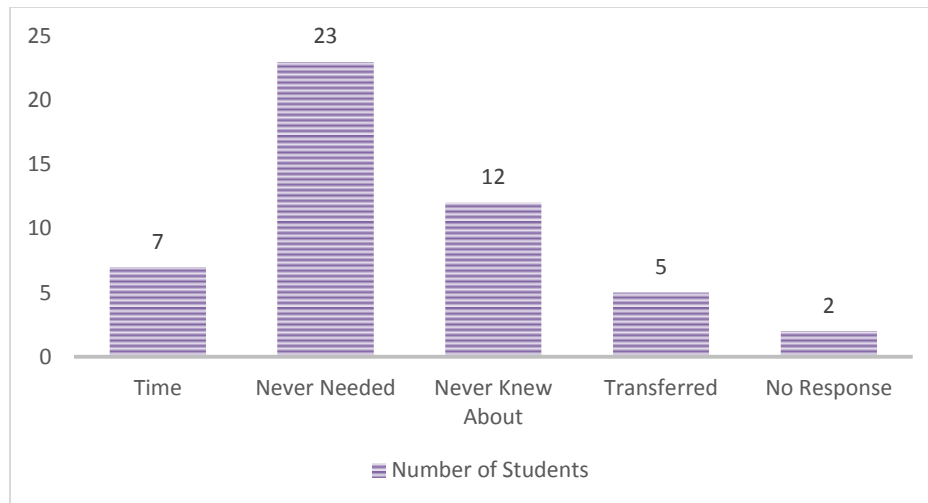
Chart I

Rate of Accessibility
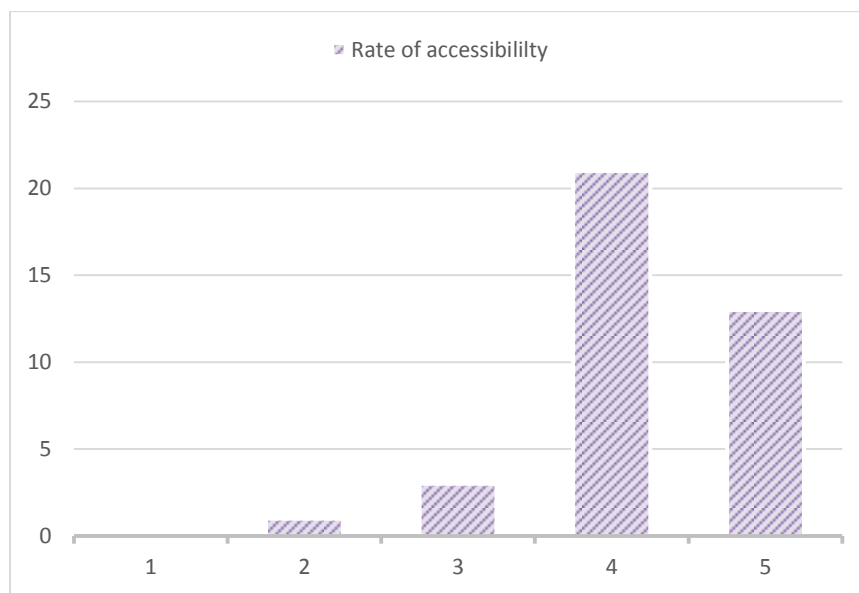
Note. This chart shows the different percentages based on responses (forty-two out of

ninety-one) to question three where the students rated the current writing center website

based on a scale from one to five—one is the lowest rating and five is the highest rating.

Those who answered "no" to question one responded to question two and were

asked to explain why they had not used the website before. The students gave five main

categories as reasons for not visiting the website: time, never needed, never knew about,

transferred, and no response. Out of the forty-nine responses, twenty-three or 47% of the

students said they did not need the writing center website; twelve, or 24%, said they

never knew about the website or that it even "existed"; seven or 14% of the students said

they didn't have time; five or 10% of the students said they had just transferred; and, two

or 4% of the students didn't respond.

Chart II

Five Main Reasons Why Students Have not Used the Writing Center Website

Note. This chart lists the five top reasons participants gave for not visiting the current

writing center website. The most rated response being that they never needed the writing

center.

Accessibility. Accessibility, in this study, represents the ease of use or access to

the pages, links, tabs, and buttons. The responses from questions four and five follow the

same categorization as question two. I separated the responses because question four has

two parts. The first part asked whether they (the students) thought the current website

was accessible/easy to use. Out of the number of students who said "yes" to question one

(forty-one students) and responded to question four, thirty-five students said "yes" the

website is accessible, four said "no," and two said they were "not sure." Of those

respondents who said "no" to question one and still responded to question four (twenty-

six students), sixteen students said "yes" it is accessible, and ten said they were "not sure."

The second part of the question asks the students to explain "why" or "why not" the website is accessible/easy to use. All of the students who said "yes" and "no" to the website's accessibility, they explained that it was because of resources, appointments, links, tutors, and appearance. For instance, the students said, "Yes, it is very accessible to students and it provides many programs which are useful to many students"; "I would just have simple links to make an appointment for tutoring"; "Yes, it allows easy access in choosing what time and how long you want the appointment to be, also you can choose your favorite tutor which is very nice"; "The colors, easily accessible". All of the responses were either to keep these categories the same because they were useful, or to improve on them to make them more useful.

Creative wants. Question five asked students to be more descriptive and to imagine, create, or list what they wanted for a new writing center website. Seventeen students who responded "no" to question one responded to question five, which is stated below, as well as twenty-five students who said "yes" to question one and responded to question five. Eight out of the seventeen who said "no" had constructive responses about what they thought a writing center website should look like. The eight students suggested the Texas State Writing Center website have "easy to navigate links," a "usable search bar," a "section to make appointments," "name of all tutors," "example essays," and "tabs that lead to different categories of help." Out of those who said, "yes," fourteen responded with similar constructive suggestions. These students said they wanted to "see the available times each tutor has"; to have "easy, accessible common knowledge

grammar chart. Or maybe a little dictionary app"; to see "more visual, add pictures"; to include "setting up appointments"; and to add "an MLA citation creator." The responses from these participants did not include any other detailed information other than what I have listed. They gave no indication to how these things would be used or implemented in the design of the website. (See Chart III for student responses to question five.)

Chart III

Creative Wants

CREATIVE WANTS

Yes   No
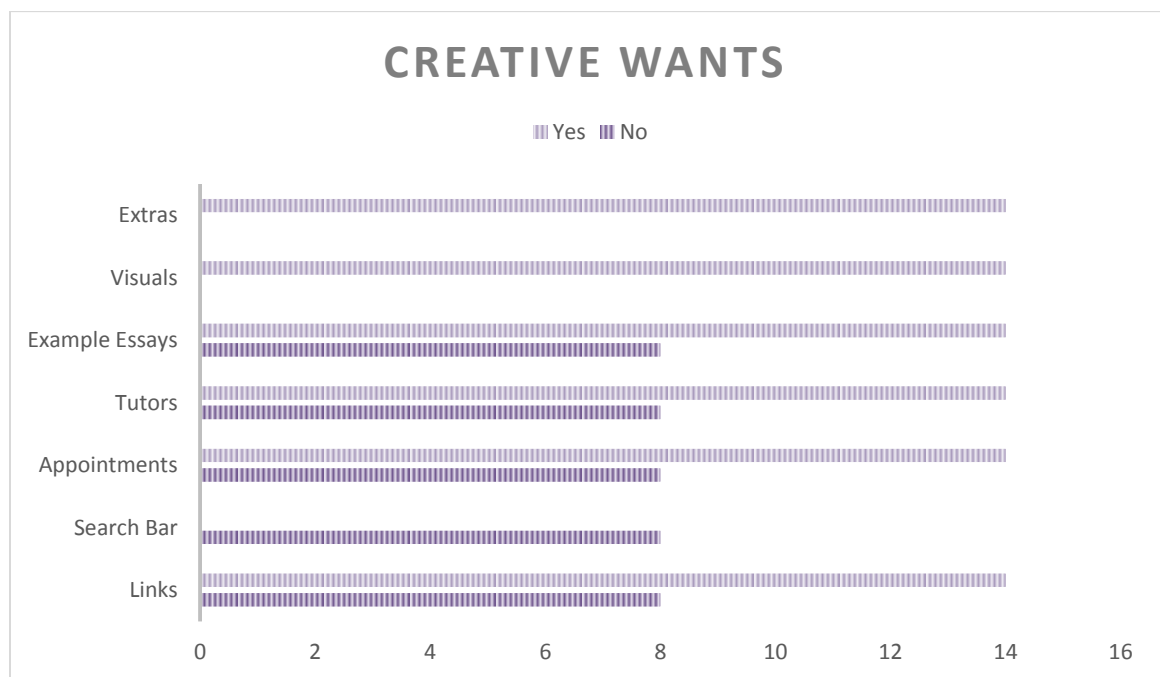
Note. This chart shows the responses from question one in relation to question five. The number eight signifies the students who responded "no" on question one but gave suggestions for question five. Fourteen represents those who answered "yes" to question one and gave suggestions for question five.

The students were also asked to draw what they would want to have on the website. Two students drew images that focused on simple designs, resources for veteran writers, a live chat box for instant feedback, and help on essays. See Figure I for the

categorization of resources, including writing for veterans. See Figure II for the student's

design and concepts, like a chat box and resources, in response to question five.
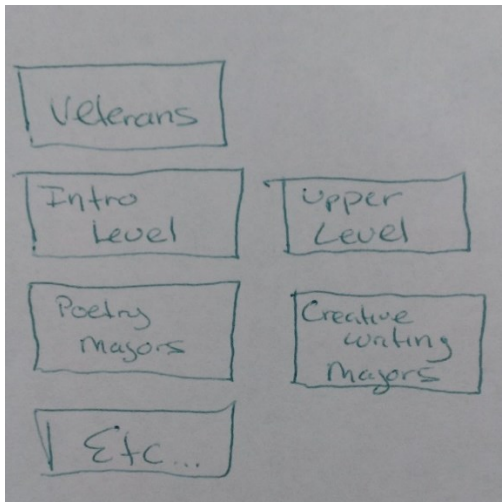
Figure I. Student Drawing of What They Want in a Writing Center, I. *This figure shows*

the level categorization the students wanted to see on a new writing center website. This

student's response included specific page categories for veterans, levels of writing, and
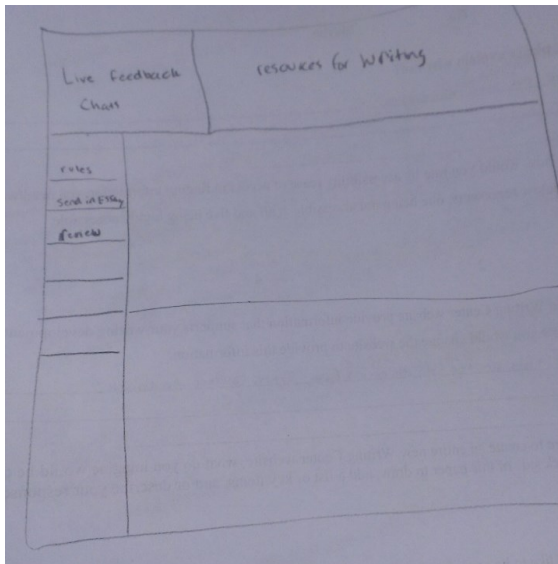
creative writing.

Figure II. Student Drawing of What They Want in a Writing Center, II. This figure shows

how one student wanted "live feedback" and a simple design. In addition, the student

created an actual drawing of what he wanted the website to look like, which includes categories of rules, sending in an essay for editing, and resources for writing.

Affinity Diagram

The results from the affinity diagram are from six participants who listed and organized their wants for a new writing center website. The participants include one female and five males. Their academic levels range from sophomore to doctoral studies, which included Anthropology, Education, Business Administration, and English. In the first five minutes of the session, the participants wrote on sticky notes what they wanted from a writing center website. They filled out eighteen sticky notes and placed them on the table. In the next fifteen minutes, they organized the sticky notes in order from highest importance to lowest importance. To see the actual organization of their sticky notes, see Figure III and IV. In the order of their choosing, the students said a writing center website should

- look inviting with pictures, quotes, and student work

- be safe for all students to learn

- be welcoming

- have appointment times

- have a chat box

- have a FAQ (frequently asked questions) section

- have tips

- have samples

- have games

- have tutor bios and tutor pictures

- have a video of a session

- have events

- have an English teacher be able to communicate with

- have help bar

After the students categorized and arranged their ideas, they did not go into further detail about each category until the design discussion group. At this point, they had a sense of direction to begin discussion group.

Figure III. Affinity Diagram Organization I. The images in this figure represent the students' categorization of terms listed above. The colors only represent the person, not

the priority. The notes in the images range from highest to lowest, highest being at the top

of the picture and lowest being the bottom of the picture. The notes reflect the list above.
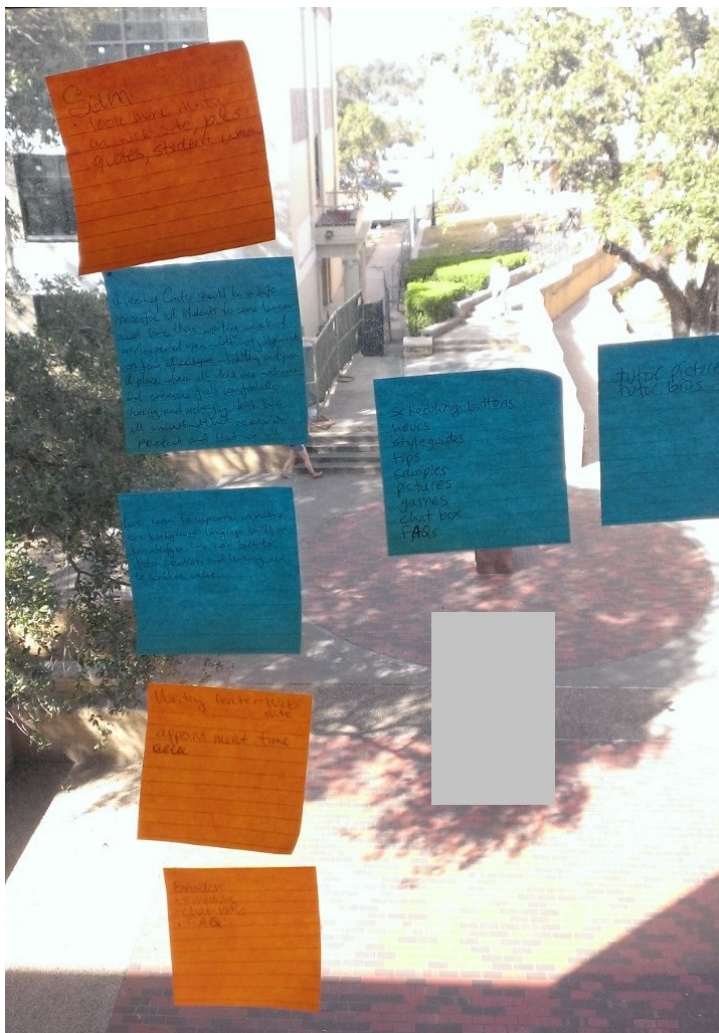

Figure IV. Affinity Diagram Organization II. The images in this figure represent the

students' categorization of terms listed above. The colors only represent the person, not

the priority. The ideas on each note are a continuation of the list above, most are repeated

ideas from different group members.

Discussion Design Group

For the discussion design group, the participants started by drawing what they thought the writing center should look like. For the next ten minutes, I observed the students drawing, listing, and completing common web tasks. They drew the frame of a website, tabs, sidebars, content, and visuals. Only one participant out of the six drew pages other than a home page. After the students finished their drawings, they took turns individually describing what they drew. For the next fifteen minutes, each participant continued to discuss his or her ideas and homepages. I observed each participant start with the banner at the top of the page with scrolling pictures, texts, and resources. They then moved on to tabs and the sidebars or the workflow of the homepage. Listed below are the tabs and sidebars that participant 1 and 2 each had on their drawings. Two participants only had tabs; the others all had sidebars. These two participants' drawings not only have more items than the others have but also include the same information that is included in all of the drawings. (See Table I for Participant 1 side bar links.)

Table I

Sidebars for Writing Center Website from Participant 1

Left Side Bar	Right Side Bar
Writing Center Intro	Hours of Operation
Schedule	Location on Campus
Forums	Events
Tutor Help	Calendar

Table I (Continued)

Sidebars for Writing Center Website from Participant 1

Video of Session	Articles
Pictures	Writing Reserve
Resources	History
Chat Room	Workshops
FAQ	

Note. This table represents a participant's categorization of what a sidebar should look like.

In Table II, Participant 2 drew two-tab bars one on top below the banner and the other at the bottom of the page. The participant indicated that he wanted to see the main categories aligned from left to right for easier access and readability. (See Table II for the categorization of tabs.) The participant's tabs were organized in the same manner as the affinity diagram, which was in order of highest concern to lowest beginning from the left.

Table II

Website Tabs for Participant 2

Tab Top	About	Make Appointment	FAQ	Tutors	Events	Writing Reserve
Tab Bottom	Make App.	Texas State Logo	Live Chat	Submit Online		

Note. This table represents a participant's categorization of what the tabs on the top of a website should look like. In this drawing, the student indicated that her wants were for appointments, tutors, event, and online tutoring.

As each participant described his or her drawing, I occasionally observed participants return to their drawings and add additional items, such as an educational

quote on the homepage. One particular option they discussed was the inclusion of a writing reserve, or a page that has submissions or examples of other students' papers, essays from tutors, and examples from professors. During this activity, however, they did not discuss the idea of a writing reserve more in detail. The participants instead focused on discussing their inclusions of session videos, quotes, and the "About" section of a writing center. (For participant drawings, see Appendix D.) When discussing their drawings, the students also indicated some of the priority items from the affinity diagram. They discussed in general details that the games would help students work on grammar and citations. They also discussed the necessity for a FAQ page; they said that it should be included as a quick reference guide to help students find help and resources in a quick and easy manner, so that users are not confused about what and where to find the information they are looking for.

After they finished discussing their drawings, participants then collaborated to synthesize their designs into one master design. Participants were asked to engage with a think-aloud protocol as they collaborated. As the participants began discussing their ideas, I did not want to disrupt their train of thought, so I took down their ideas on sticky notes and organized them as they directed me. For the next thirty to forty minutes, we discussed the design of what they wanted for a writing center website. The results from this activity include the importance of highlighting the "About us" page, making an appointment, creating a personalize student account, having one-page resource handouts, including additional resources, expanding tutor information/specialties and bios, and adding a chat box. They designed the layout with a banner at the top of the page that included an academic quote, pictures, and events. They also wanted a chat box to the

right of the banner, and a tab bar under the banner, which had the following headings from left to right: About/ Resources/ Tutors/ FAQ. They also designed a left side bar that was organized from top to bottom: About/Make an Appointment/ Student Testimonials/ Videos. In the center of the page they wanted to put the hours of operation, how the writing center can help their writing, and support links. (To view these designs see Figure V.)

Figure V. Home Page Design. This figure shows the design layout and categorization of priorities for the homepage of the new writing center website. The sticky notes are also in the same design they wanted to see on the homepage from the "About Us" tab on the top left to the chat box on the top right.

After the participants organized the design of the homepage, they focused on the workflow for each tab and the importance of why they should be in that order. The results

they came up with was that the "About" tab should be on the top left hand side where every student could see it. During the talk aloud protocol, the participants discussed how the "About" tab would flow into two different pages: the "About" page and the "make an appointment" page. They identified the importance of including the "About" page because they said it would help students understand what the writing center offers. They also mentioned that because not many people read the "About" page, it should be also on the "make an appointment" page. In addition, the participants said there should be a few lines of content that contained what the writing center is all about and offers, as well as the inclusion of an embedded login frame to make an appointment followed by "what to expect" information. They also stressed that all of this information should all be on one page, instead of having to go to three different pages to get the information.

The next section the participants focused on was the "Resource" tabs and page. The students said that the "Resources" page should include single page handouts because they, like their friends, do not like to read more than one page, especially if they are looking for quick help on a subject like grammar or punctuation. They also wanted to include a live chat section of this page so that if they had any quick questions about their paper, resources, or anything, they could get quick feedback. Another idea they included was a section on the page for sample essays. They said if there were sample essays that they could read, they would have better success at writing. They included style guides and online tutoring towards the end of the conversation but did not go further in detail. Instead, they began a new line of thinking, personalization.

For the last twenty minutes of the think-aloud protocol, they came up with the idea that the writing center website should have a student login service. They said this

service would act as a student's personalized writing center; one that includes their own papers, their most frequently used resources, their past and current tutors, their appointment times and dates, their grammar and citation quizzes, and their own testimonials. They designed this idea by first adding a login button on the top right hand corner of the homepage. Once, the student had logged in the button name would change to "my account." The student could view all of her writing information on to her own writing center page. (To view the design layout see Figure VI.)

Figure VI. "My Account" Design. This figure shows the design of their invention of the "My Account" page for the new writing center website. The colors do not have any significance. The organization of the sticky notes also indicated their layout of what the homepage of their account would look like.

Once they had the design layout completed, the participants focused on discussing how the peer-review would need to work in this section. They all agreed that there should be a user hierarchy by which they meant that if a student used their account more frequently and showed significant improvement in their writing (based on their tutors responses), they would be granted access to peer-review other users' papers. The

participants decided to call these users "Writing Center Super Stars." They also outlined the rules: no line-by-line editing, only suggestions on organization, grammar, and content. The participants said that this would not only help get students more involved in the writing center and their writing but also to become a part of the writing center. The participants were excited that they had created a peer review system that they all had thought about at one point or another. Overall, for all of them to come together and agree that there should be a peer review section they were able to meet and ultimately understand their own needs.

After they discussed the rules for the peer-review, the conversation dwindled down and the design discussion group ended. I finalized the discussion by asking them if I had missed anything or had not asked them any important questions. They did not indicate any feedback.

From the results of the questionnaire, affinity diagram, and design discussion group, students want a website that is accessible, personalized, quick and easy to find resources and information about writing, and instantaneous with feedback. By accessible, the students meant that all the links, tasks, and resources are easy to access and find. As the literature on what students want in libraries and department websites, these students and participants all seek and want similar tasks and ease of use. The only thing that the participants came up with in the design discussion group that differentiated from the literature was the "My Account" section of the new website. This detailed personalization of belonging to a site, situates the students specifically in their wants while corresponding to the writing center philosophy in that the student becomes a part of the process when asked what they wanted.

CHAPTER V

DISCUSSION

In this chapter, I discuss how the findings, methods, and literature answer my research questions: what do students want in a writing center website and how could students' wants impact current writing center website design? I also discuss how the Texas State Writing Center and other writing centers can benefit from my results for future writing center web development. In order for this approach to be generalizable, I would suggest that the affinity diagram or the design discussion group be conducted six to eight times with different users in each group. Neilson (1993) specifies that "when repeated user tests are performed as part of iterative design, one should use different users for each test to eliminate transfer of learning from previous iterations" ("Iterative User Interface Design"). With multiple iterations of the UCD techniques, researchers can compare and compile results and findings into trending patterns and categories to make generalizable conclusions. However, because I only conducted one part of the UCD process, my results are not generalizable and are only specific to Texas State University, which was my main goal for this study.

Discussion of the Findings

From the questionnaire, I found that a majority of the respondents never used the writing center website prior to the study. The most common reason the students gave was that they "never needed" the writing center. From the literature and the introduction chapters, we know that writing centers follow a certain philosophy when tutoring students, which is focusing on what students want in a tutoring session. In this study, the students responded that they "never needed" a writing center, which reveals that they

have not experienced a writing center tutorial to understand the benefits for them, or they could have found that it was not worth their time. As Harris (1995) said, once students experience a writing tutorial they learn tutors can meet their writing needs (p. 28). If students do not experience this type of situation then they will obviously think they do not need the writing center. If they do not think they need the website, then they will not use the website; ultimately, without the student writing centers do not meet its purpose or philosophy. I think the reason a majority of students do not know about writing centers is because they have not been fully introduced in their classes to what a writing center provides, whether it be through a tutoring session or the website. As a teaching assistant (TA), I have explained what a writing center is and does both in the physical and online space. However, my fellow TAs have shown, in conversation, that they do not know much about the writing center and what it can offer their students. They tend to follow the typical assumption that students can go to get their papers "fixed." Thus, if a writing center website focuses on introducing what they provide, such as the respondents suggest, with introductory videos and a more dispersed "About" page, then students and teachers might use the writing center and its website for all its intended purposes. The results from my study are limited to Texas State, yet they may provide an overall idea of how writing centers can learn to use UCD to connect the main writing center philosophy to a website, so more students can understand how both tutors and websites will meet their needs.

For the students who responded "yes" to using the writing center website, they also rated its accessibility or ease of use. Overall, the majority of the students indicated that the website had an accessibility rating of four, meaning that it was mostly accessible. The overwhelming number of students who said it was accessible indicates that the

website was easy to use. I found that the students' responses about use, however, did not seem to match some of the responses to question four, which asked the students why they thought it was accessible. Some of the students who indicated that "yes" it was accessible also said that the website should be simple and provide easier access for making appointments. This suggests that the website may provide some of the information students need to succeed, but that it could be better. An example of this would be if a tutor only gave a student a brief but limited explanation on how commas work with an introductory phrase.

Another student who gave the website a four rating said, "I would just have simple links to make an appointment for tutoring." From this response, I can conclude that the student was focused on making an appointment with ease. The student's want of simple links reveals her main reason and want from the website, which is specifically for tutoring. In addition, the fact that the student gave the website a four rating for accessibility suggests she did not have any other concerns about the look, organization, or resources the website provides. However, when students described, drew, or listed what they wanted in a writing center website, as identified through question five, they wanted easy to navigate, quick links for making appointments, more information about tutors, and more links for writing help. When comparing the findings about what they wanted in a website to the findings about visiting the website, as identified through question one, students seemed to think that the website was useful but didn't meet their end needs of providing simple and useful information on writing and writing help.

From these findings, I have come to understand that although the website may provide the typical information the students are looking for, which is why they think it is

useful, the website does not contain information specifically related to their wants. In another sense, I did have some issues with the understanding of the term accessibility. Some students thought it meant an association to the Office of Disability Services. I understand that the term accessibility in technical communication is focused on the parameters of accessibility for disabled users. I would choose a different context or linguistic choice if I were to recreate this study. For future research, I suggest that this term be clearly identified and defined to all participants. I would also suggest further research into the rhetorical use of the term accessibility in relation to web design. It seems that the two different terms are interchanged frequently many studies.

From experience as a tutor, I would say that the typical information given by a tutor during a session is what a tutor has been trained to say to the student instead of asking or listening to what the student wants to work on in her writing. This is indicated in the two drawings from the students whose wants included the addition of pictures and specific categories of help (see Figures I and II). The categories the two students drew identify the specific places of help they needed and wanted, which is also a response to question five (see Figures I and II). In Figure I, the student indicated that he/she wanted information on veterans, creative writing, and upper level writing help. This particular student identifies, to me that each student at Texas State has different needs and wants for his/her writing. For example, veterans or another specific Texas State group of users who are interested in creative writing would benefit from a website that provides information and help for that group and creative writing. If these types of needs are not indicated on a writing center website, or in the tutorial session, then the website and writing center are not meeting the needs of its users. If a website tried to meet the many groups' needs then

the website might get out of hand, but if a writing center website offered the personalization menu system then there might be less of an issue.

I suggest that the expectations of what a writing center provides in a tutoring session should also expand to include students' wants in a website. In this sense, I am not just talking about adding veteran or creative writing information on the website, but I am suggesting that writing centers should take what their school specializes in into consideration. Because Texas State University has a large population of veterans, there will be some need from those students in writing. Many different groups use writing centers, such as SLLs, transfer students, first generation students, and so on. Finding what students want help to connect those groups to both physical and online spaces. I understand that not every category and want from students can possibly go on a writing center website, but if there were main categories (tabs or links) that lead to subcategories, then the website would be meeting the students' needs. I would suggest, for the Texas State Writing Center, that they organize their tabs and sidebars with the main categories: About, Make an Appointment, Tutors, FAQ, Resources, My Account. The writing center could then add subcategories: Events, Workshops, and Links under each coordinating main category from above.

From the affinity diagram and the discussion design group, we can further understand and identify how a writing center website can implement the organization and design of these categories. Much like the images drawn by the two questionnaire responses (Figure I and II), the responses from the affinity diagram also indicate the same wants. The six students in both groups focused on the main categories of appointments, FAQs, resources, and tutors. The subcategories the students wanted are chat boxes,

games, videos, pictures, and tips.

What I found interesting from the participants' wants, and different from what tutors or students want is the FAQ page, sample essays, and peer editing. Much like the library and department website, having an informative page that provides essential information should be a priority for the development of students' writing. However, on the current Texas State Writing Center website, there is no FAQ page. Students want to find quick and simple information to help in their writing with links to MLA or how to use commas. The participants from the study did not go into detail about what should be included on the FAQ page, but, from my experience, I have found that FAQs included quick and helpful information: what to expect, who are the tutors, what is the writing center, how to make an appointment, and what to bring to a session. However, the participants suggested that the FAQ page include how to find writing resources, tutors, and making appointments.

The students also suggested sample papers and peer editing as types of information that would help them to feel more secure and confident before coming in for an individual session. Based on their responses, I think that both sample essays and peer-reviewed papers provide students with something they can tangibly hold or see that they need to fix or work on. Both items also provide students with a sense of quick access of information. I would suggest that the Texas State Writing Center include this page, so that users will be able to access the information they want in a quick and easy manner. I would also suggest future studies and research focus on asking what information students would want to have in a FAQ page. This information will help to specify exactly what they want in relation to their writing development. However, what students want may not

be realistic to accomplish in the end design. For example, when a student in a tutorial session says they want to work on commas and the tutor sees that the student needs to have a clear thesis, the tutorial session is then focused on working on the student's thesis. In my study, I would advocate for working with that tutee on their commas, but I would also recognize that there are other factors required by the tutee's professor. If the students want peer-editing or sample papers then I would suggest considering how it can be possible, but then I would also suggest considering that there may also be academic and administrative requirements for having general samples or peer edits.

The subcategories also reveal secondary wants from the students. Chat boxes and games act as a resource for individuals to work on their own with the assistance of the writing center. I find these chat boxes and games interesting because the students wanted to include ways other than handouts, or the typical resources tutors think students want. The participants said that the chat box should be on the front page. Having a chat box on the front page will help students who have question get quick feedback from tutors. However, the development time behind this gadget would take a couple of months and staffing resources writing centers may not have available. The participants also suggested that the chat box should not be live but be more of a personalized twitter, without the feed on the page. They would send in a request and get a response in a quick/soon manner.

To me the games would be the hardest to incorporate onto website. There is a lot of development that goes into games online (from personal experience), and if writing centers do not have the experience or time to create these games then I would suggest leaving this out. The participants never went into what the games would look like or entail, only that they would focus on grammar and citations. For the Texas State Writing

Center, I suggest that they think of these types of gadgets to include, but consider how much time and extra focus groups it will take to design this idea with students. However, I do think the gadget would give students more of the visual and interactive element that Neilson describes in "College Students (Ages 18-24) on the Web."

In the design discussion group, the participants came up with another design idea that differs from the literature and the responses from the questionnaires, which is the "My Account" page. A student having his or her own account where he or she can keep track of his or her own handouts, papers, resources, links, and tutoring notes, answers the question what students want in a writing center? Although Texas State University has a similar program called TRACS that allows student to save documents, keep track of their class work and readings, and review their grades, it is not the writing center. Students' want a place, or community, online where they can learn and develop their own writing. Much like the individual help a student gets in a one-on-one tutoring session, the main philosophy for all writing centers, the "My Account" page can possibly help to bridge the philosophy from the physical space to the online space. By personalizing the individual's interaction with the website, she can obtain her individual wants for her writing development. I think that making the account page with options such as color schemes, movable folders, games, and a chat box, students would then feel invested in their design and want to continue to develop their writing. I also think that the barriers for this page would be within the content management system (GATO) at Texas State. GATO may or may not restrict these types of development on departmental websites. Therefore, I suggest to the Texas State Writing Center, and others, they should find out what restrictions and possibilities are available for design and development. (There are also IT

grants that might cover this type of development.)

With students having their own account page, a writing center could track what resources, links, and writing improvements each student chooses. The participants explained that each student would be able to click on a resource, link, or paper and upload or connect it to their corresponding folder. I would suggest, to the Texas State Writing center, that they do further design discussion groups to design the "My Account" page in detail.

These choices would give an indication as to what students need help with in their own writing as well as what types of resources they want. Other researchers might think of this as being too invasive or forward with getting students more involved, but I think this would be most helpful in assessing students' wants. The fact that the participants suggested that the writing center keep track of their information and progress in their writing implies that the more the writing center is willing to invest in their development the more students will desire to improve in their writing, which definitely shows when a student is included during a tutoring session.

However, I do think that there are some barriers with having an account page. A barrier I can foresee is the developmental work that would go into designing and implementing this into a writing center website. Like McKinney, Harris, and North, financial reasons do limit this implementation. However, I know that this idea is possible for implementation on a website. All that one would need is a page that connects to a server with download/upload/interaction capabilities. The framework would be a login button at the top of the writing center page that then takes the student to a login page and then to his account. Their account would be a simple design with folders that they can

then upload or link to the page their favorite/most used resources and papers edited in tutorial sessions. Much like a cloud platform, such as Google or SkyDrive, the "My account" page would act as an online writing center folder for each student. Even though there may be some issues with this idea, I do think it is reasonable and provides valuable information to understand what students want in a writing center. I have also come across other software platforms associated with writing center that connect to college and university systems and allow students to log in and make appointment, such as TutorTrac and Cleopatra. The Texas State Writing Center has not used these platforms so I do not know if they would be entirely compatible with what the students indicated in their design.

Discussion of the Methods

I found that the methods were difficult and exciting. I struggled with participant selection for the affinity diagram and the discussion design group. Originally, I sent an email those who responded to question six of the questionnaire, which asked the students to provide an email if they wanted to participate. I had six people respond to question six; I then followed my procedure and emailed them the two emails, the first a week before the meeting date, the second, a reminder email, two days prior. The day of the affinity diagram and discussion design group, no one had responded. I think that the students did not respond because the meeting was on a Friday, and most students at Texas State typically are gone before 1:00 P.M. on Fridays. The students might have had other plans or scheduling conflicts. I would suggest in the future sending out the emails sooner to reach them in time as well as corresponding with them to set a date they are available.

Because I had limited time to collect my data, I had to conduct the study without

hearing back from the respondents. (I still have not had any replies.) I roamed the English department halls looking for students who would participate. My limited time left me with no other alternative. I did not want to request staff from the writing center because they were not my target audience. I also did not have time to email or contact any other students through different methods, more questionnaires, emails from the writing center, or asking fellow teachers to ask their students. Therefore, I found six students who agreed, with a $10.00 gift card incentive, to join the study. Because this happened, I feel that I got a random selection of participants: whom out of the six four had not used or seen the current writing center website. The group's responses and desire to help me made the entire analysis process exciting. At the end of the study, all of the participants were actively engaged and invested in what they had created. They wanted to continue to meet and design the rest of the website. I found that even though the participants were not as random as I would have liked and that the sample did not make for generalizable results, they provided similar results as the literature on what students wanted in an academic, library, and department website.

I also had difficulties with the questionnaire. After analyzing and coding all of the data, I found that my questions should have been more specific to what I wanted to know. For example, I would have asked the students what parts of the website they used and what parts they did not and why. I would have also asked in more detail why they felt like they never needed the website. In my questions, I felt limited to the basic categories of information, such as whether or not they used the website and its use instead of finding out information more connected to their detailed wants such as the "My Account" page. I know that the questionnaire was meant to find the initial ideas of what students wanted in

a writing center website, but I think that in the future I would be more specific with the questions I ask, like the questions above.

The student responses from the questionnaires did, however, provide me with quality data that I could use to analyze in relation to the other techniques and the literature to determine and answer my question: what students want in a writing center website. Ultimately, the results from these methods go beyond what I hoped for with my results. Initially, I did not know what I was expecting from the results, but all of the techniques provided me with detailed wants from students. For example, I learned that they want more information about the writing center throughout the website; they want a writing center website to be more personalized; they want videos and samples of what to expect in a tutorial session and student papers. These student wants are the first look into what writing centers can achieve to find when conducting such a study.

Conclusively, I do not think I could have conceived what the students dreamed up in the discussion design group without using the UCD. I also think that because I am so familiar with the writing center and the website, I would not have been able to think of anything else other than what I thought they would need or want outside of a tutorial stall or outside the realm of writing center research. Being too involved in a writing center website may present issues that exclude students and their wants; the self-design act assumes what people want just like the assumption people have when it comes to writing centers.

Discussion of Design

The user-centered design was very useful in determining what students wanted. It also opens the discussion to answering my second question: how could students' wants

impact current writing center website design. This approach allowed a group of students to feel empowered and excited about creating a website that they could relate to and design. The impact of these students' wants on current writing center web design reveals that students are not only an important part of the individual tutoring session, but also online and should be considered as active participants in both spaces. From the design, I found that the students' wants were similar to most UCD studies conducted and that the UCD helped to identify a solid want from Texas State users (My Account).

Writing centers that may use this case study in the future should consider conducting a full UCD analysis of its students, and examine what students want for their own college or university writing university writing center. The point of conducting a UCD approach is to study and gather data from one's own audience in order to provide a website that will meet their needs and wants. Yet some students may not want their own account; they may just want resources or quick links, or some students may dream of something bigger and better than anyone in a writing center could imagine. Whether a writing center decides to use this approach or another, the key factor is that writing center websites should focus on their own users' wants.

Final Suggestions

I would suggest that the Texas State Writing Center website consider implementing more information from the "About" page into other areas of the website. I would also suggest that they think about creating the "My Account" page if only to continue to discover what students want in relation to the resources, tabs, links, and information on the website. I would also propose that they conduct more discussion design groups like the one I conducted. The discussion design group provided me with

the most valuable information, and the participants all expressed a high interest in returning to finish designing the website. However, the writing center should focus more on discussion and less on questionnaires. The questionnaires did not seem to acquire as much data as the affinity diagram and discussion design group. If I had reworded or used a different website, such as the main Texas State website, for the respondents to answer questions on then I think I would have had more responses that the participants could relate to or understand. For example, if I changed the word accessibility to easy to use, I would have a different set of answers and maybe the respondents would have been more specific in answering question five. For distributing the questionnaires, I would use two or three different pools of users such as students who have used the writing center in the past, tutors, and faculty because the different pools of participants could provide me with specific data about all users of the website.

For other writing centers, I suggest the implementation of the UCD approach to find out what their students want from their schools' writing center websites. If other writing centers research what students want, then there will be new research that can be added to this newly formed area of scholarship in writing center research. In addition, I highly recommend that other writing center researchers take my information and analyze how writing centers can further consider the philosophy of asking students what they want with the design of mobile apps as well as other technologies writing centers use.

APPENDIX A

Writing Center Questionnaire

Writing Center Website Questionnaire

Consent
Thank you for taking part in this questionnaire. By signing below, you are allowing the results of this questionnaire to be included—anonymously—in an academic report.

------------------------------------   ----------------------
Signature   Date

Questions

1. Have you ever used the Texas State Writing Center website?

Yes   No

2. If *no*, please explain why not?
_____
_____
_____

3. If *yes*, how would you rate its accessibility (ease of access in finding information you need/want)? The scale below represents, one being not accessible at all and five being highly accessible.

1   2   3   4
        5

4. Does the Writing Center website provide information that supports your writing development? If *yes*, how? If *no*, how you would change the website to provide this information.
_____
_____
_____
_____
_____

5. If you were to create an entire new Writing Center website, what do you imagine would be on it? Please use the backside of this paper to draw, add a list of key items, and/or describe your response.

6. If you would like to be considered to participate in the development process of a new writing center website please include your email, which I will not use in any way other than contacting you about participating in the project.

Yes, I would like to participate

Email:

This study was approved by the IRB, exemption number: EXP2013G189302S

APPENDIX B

Email for Team Recruitment

To: Possible participant
From: cr1498@txstate.edu
BCC: (possible participants)
Subject: Research Participation Invitation: Users as Co-developers for a new Writing Center Website

This email message is an approved request for participation in research that has been approved or declared exempt by the Texas State Institutional Review Board (IRB), exemption # EXP2013G189302S.

I, a graduate student, am looking for students who would like to participate in a project to design and develop a new website for the Texas State Writing Center.

If you would like to participate in this study, you will become a member of a 5-8-person design team. The purpose of this study is to involve students in the design process, which the current writing center has not done before.

You have been selected based on your indication on the questionnaire form. If you chose to participate in this study, all of your information will remain confidential and not be used in any way to identify you.

For incentive, I will be providing lunch and drinks during the discussion and design, along with a $10.00 gift card.

Please respond to cr1498@txstate.edu if you are interested in helping to create a student designed website for the Texas State Writing Center.

Thank you,
Caroline Richardson
English Graduate Teaching Assistant
Flowers Hall 128
512.954.3445
cr1498@txstate.edu

This project EXP2013G189302S was approved by the Texas State IRB on November 11, 2013. Pertinent questions or concerns about the research, research participants' rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Jon Lasser (512-245-3413 - lasser@txstate.edu) and to Becky Northcut, Director, Research Integrity & Compliance (512-245-2314 - bnorthcut@txstate.edu).

Questions about this research should be addressed to Caroline Richardson, 512-954-3445, cr1498@txstate.edu

APPENDIX C

Email for Participation

To: Participant
From: cr1498@txstate.edu
BCC: All Participants
Subject: Research Participation Invitation: Users as Co-developers for a new Writing Center Website

This email message is an approved request for participation in research that has been approved or declared exempt by the Texas State Institutional Review Board (IRB), exemption # EXP2013G189302S.

Thank you for your interest in participating in this project.

Again, the purpose of this study is to involve students in the design process, which the current writing center has not done before. You have been selected based on your indication on the questionnaire form.

We will be meeting on Friday at 1:00 P.M.-3:00P.M. in the Flowers Hall 302. We will plan to meet for 2 hours. I will provide supplies, food, and drinks for everyone who participates and a certificate at the end of the project.

If you choose not to participate in this study, please email me and indicate that you no longer want to participate.

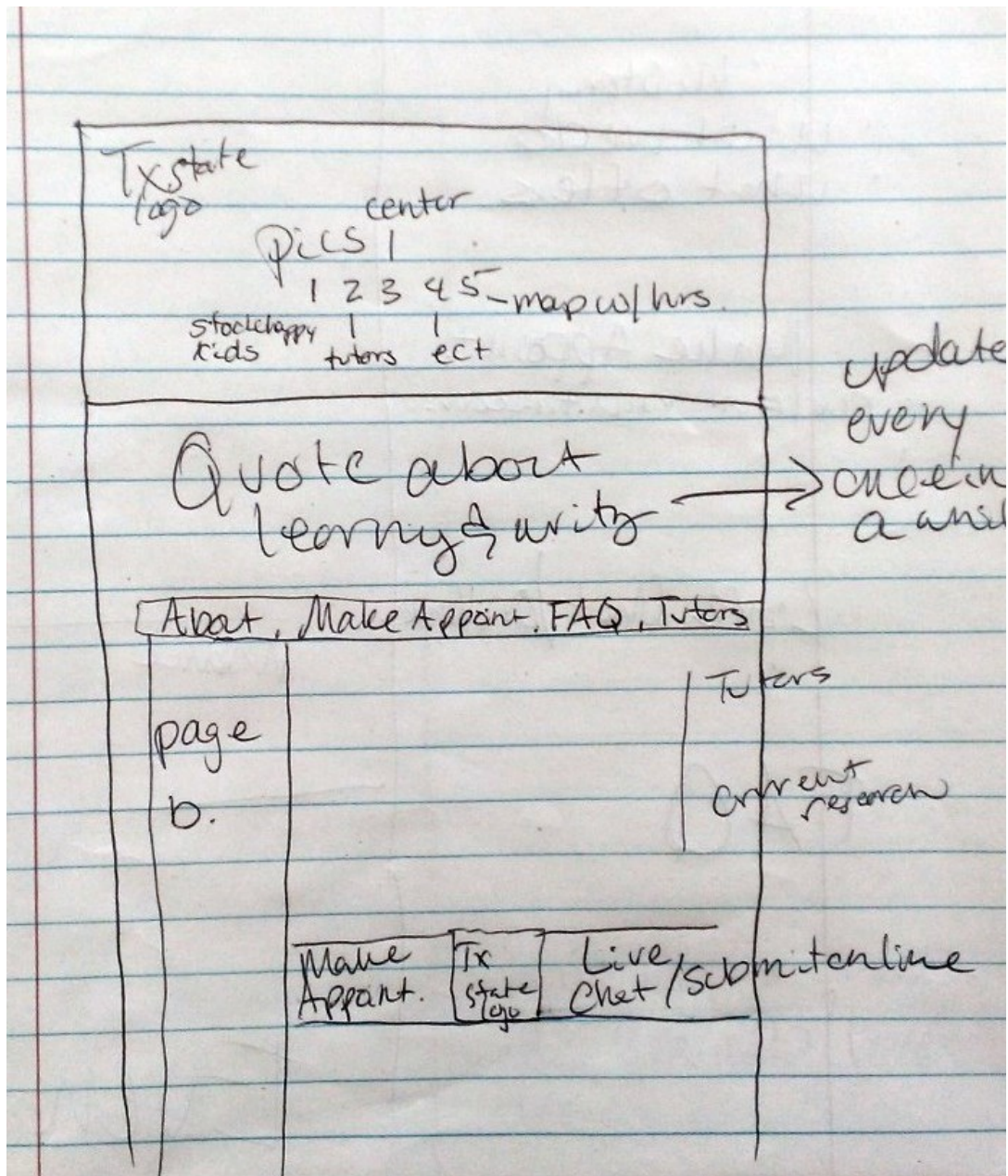If you have any questions please respond to cr1498@txstate.edu.

Thank you,
Caroline Richardson
English Graduate Teaching Assistant
LAMP 309B
512.954.3445
cr1498@txstate.edu

This project EXP2013G189302S was approved by the Texas State IRB on November 11, 2013. Pertinent questions or concerns about the research, research participants' rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Jon Lasser (512-245-3413 - lasser@txstate.edu) and to Becky Northcut, Director, Research Integrity & Compliance (512-245-2314 - bnorthcut@txstate.edu).
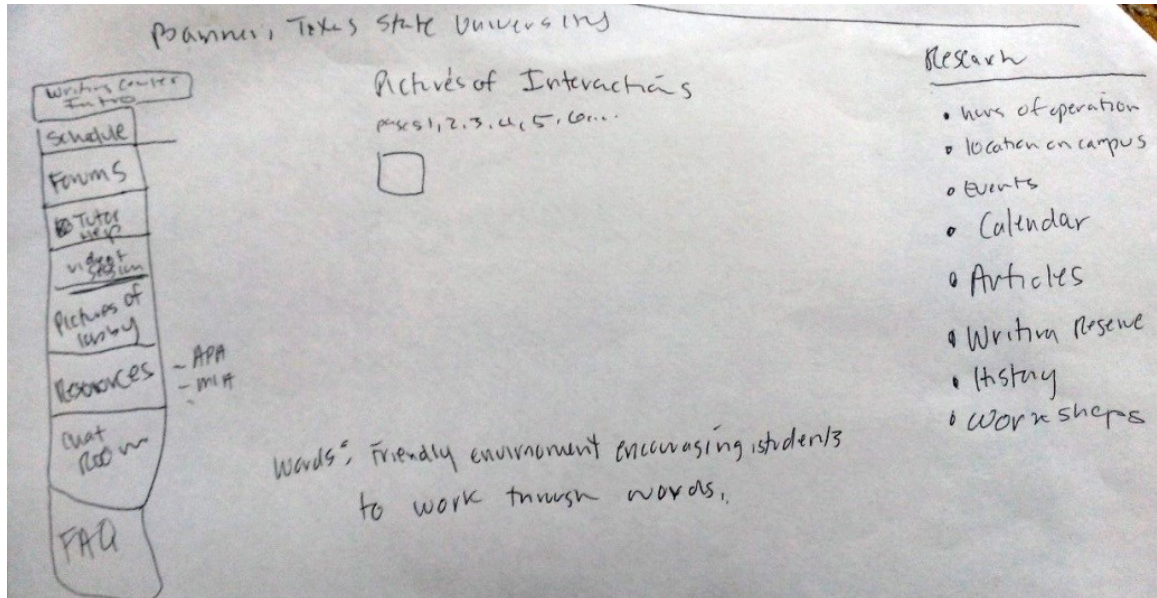
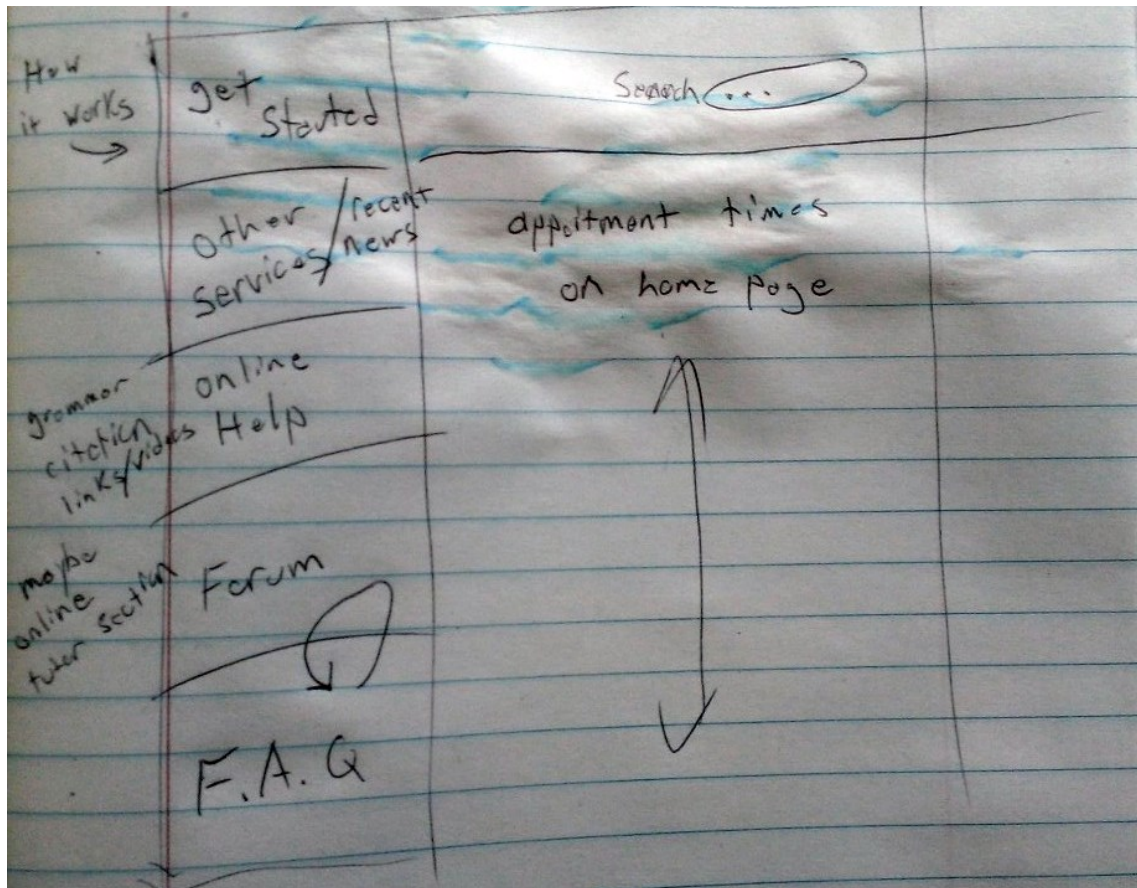Questions about this research should be addressed to Caroline Richardson, 512-954-3445, cr1498@txstate.edu

Drawing of Website by Participant 1

Drawing of Website by Participant 2

Banner: Texas State University

Writing Center Intro
Schedule
Forums
Tutor Help
Video Session
Pictures of lobby
Resources — APA — MLA
Chat Room
FAQ

Pictures of Interactions
pics 1, 2, 3, 4, 5, 6...

Words: Friendly environment encouraging students to work through words.

Research
• hours of operation
• location on campus
• Events
• Calendar
• Articles
• Writing Resene
• History
• Workshops

Drawing of Website by Participant 3

Drawing of Website by Participant 4

What is the Writing Centre

Info on what the writing centre is, what to
expect from an appointment, possible video
of example session

_____

Hours and appointments

Hours

Book Apt.   Info

Tutors

Drawing of Website by Participant 5

SCHEDULE
AN
APPOINTMENT

RESOURCES
STYLE GUIDES

APA
MLA
PUG
:

Walk in Hours T/H 12-3
BY APPOINTMENT M-H 10-7
F 11-4
Su 5-9

What is The Writing Center?

Video ▷

LIVECHAT (available 9-9 M-H)
FAQ
Tutors
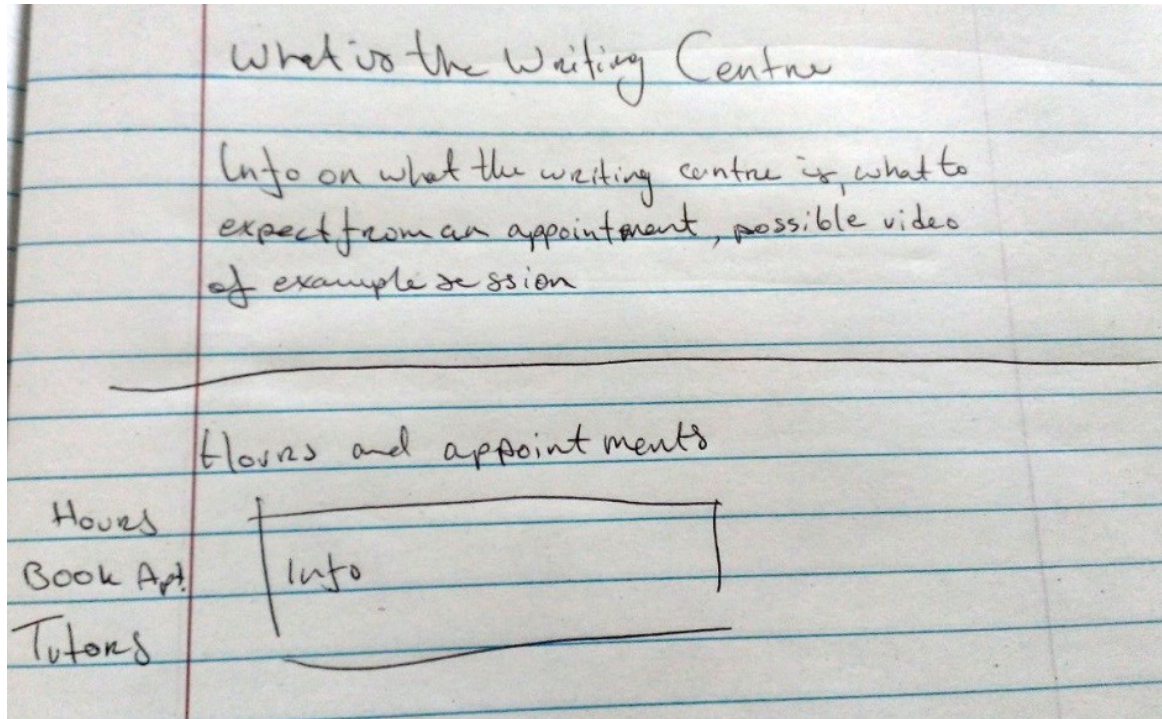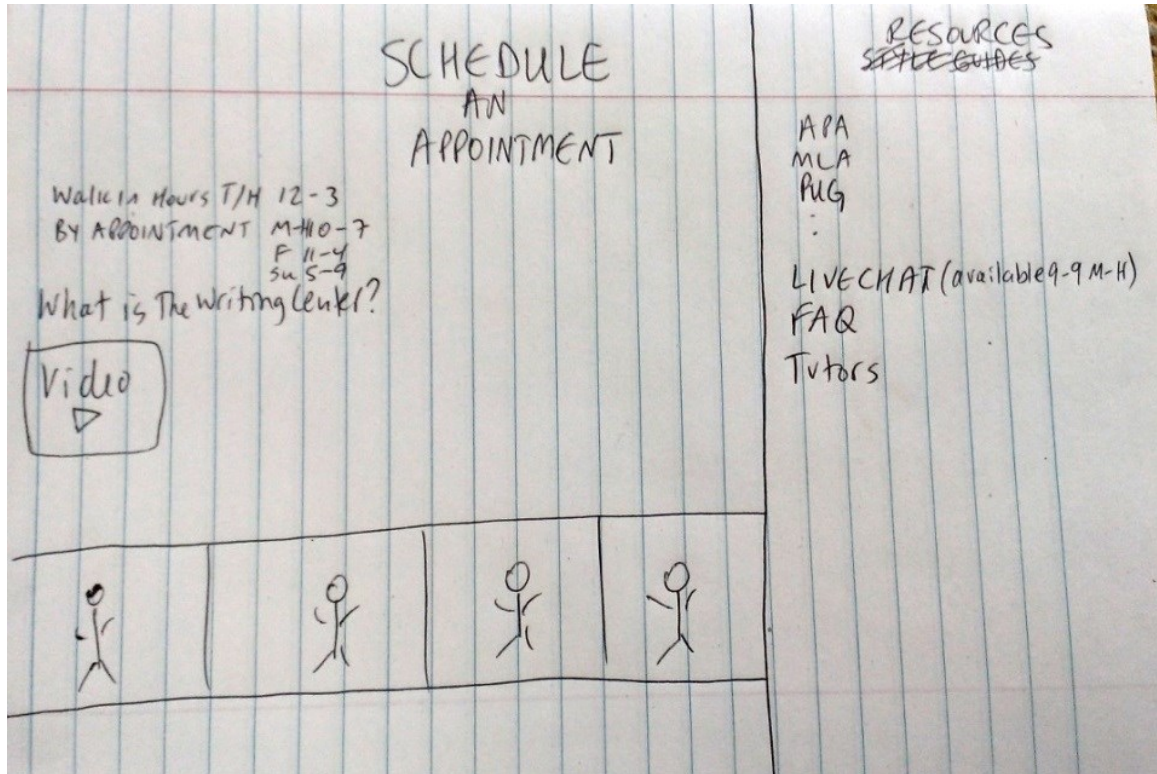
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