Beyond Anecdotes and Disciplinary Lore: The Case for Usability Research as "RAD" in

Writing Center Scholarship

Kylie Wojciechowski

Saginaw Valley State University

Beyond Anecdotes and Disciplinary Lore: The Case for Usability Research as "RAD" in Writing Center Scholarship

Introduction

In recent writing center scholarship, there has been a strong call for a commitment to data-driven research, away from historical commitments to and reliance on anecdote and simple observation as accepted, robust research methodologies. Usability studies, when applied to writing center theory and practice, can be one way to answer this call. This argument will be illustrated using a specific example of how two different methods of usability study can be used to further examine the usability of an online writing center platform in a replicable, aggregable, and data-driven (RAD) way.

Writing center scholars Dana Driscoll and Sherry Wynn Perdue have explored this call for "more evidence to validate our [writing center] practices" (2012, p. 11). They began this exploration by tracing the short history of writing centers, marking the beginning of writing center theory and practice as a legitimate form of scholarship with the emergence of two prominent publications in the field: *The Writing Lab Newsletter* in 1977 and *The Writing Center Journal* in 1980. Before these scholarly publications were formed, and while they were still in the early stages of their formation, writing centers were viewed still as largely understood "as site[s] of remediation" (p. 12) for their parent discipline, the English literature department; Driscoll and Perdue have called this relationship "a history lesson that reveals methodological rivalries" (2012, p. 13). In the late 1970s and early 1980s, according to Driscoll and Perdue, empirical research methodologies were the targets of harsh criticism by compositionists; as the field of English literature then struggled to define its own concept of research considering these criticisms, so too did the field of writing center studies struggle to define 1) its own legitimate boundaries, as separate from its parent and 2) its own concept of research (Driscoll & Perdue, 2012).

Writing center scholars persisted through these struggles rather quietly until 2005, when the results of these "methodological rivalries" mentioned by Driscoll and Perdue were perhaps most clearly shown. Richard Haswell, professor emeritus of English at Texas A&M University, declared then, in an article published in *Written Communication*, that there has been a steep decline in the support of – a war on, actually – RAD scholarship by the National Council of Teachers of English and the Conference on College Composition and Communication, part of the parent discipline of writing centers. In this context, Haswell defined RAD research as any form of empirical inquiry that has *replicable* methods, *aggregable* results, and *data-driven* conclusions:

RAD scholarship is a best effort inquiry into the actualities of a situation, inquiry that is explicitly enough systematized in sampling, execution, and analysis to be replicated; exactly enough circumscribed to be extended; and factually enough supported to be verified. (2005, p. 201)

This war on RAD (or empirical) research, which began in the late 1970s, is detrimental, according to Haswell:

As when a body undermines its own immune system, when college composition as a whole treats the data-gathering, data-validating, and data-aggregating part of itself as alien, then the whole may be doomed. Even now, the profession's immune system—its ability to deflect outside criticism with solid and everstrengthening data—is on shaky pins. (2005, p. 218)

As the field of composition experienced this "war on research", writing centers have also internalized this conflict (and the detrimental effects of such) of its parent, showing extreme reluctance to engage in, support, or publish RAD research to a certain degree, instead relying on other forms of research, what Jeanette Harris has called "'this-is-what-we-do-as-my writing center' scholarship (as cited in Driscoll & Perdue, 2012, p. 16). Driscoll and Perdue note that this form of scholarship, "while … often marketed as research[,] … offers little more than anecdotal evidence, one person's experience, to support its claims" (2012, p. 16).

Writing center scholars Rebecca Babcock and Terese Thonus have provided insight into how other writing center scholars can make their research more RAD (2014). They admit that, at its core, writing center work is informed by "theoretical and practical currents from across disciplines" (2014), but they then acknowledge that the research produced and published as a result of that work does not align with that foundational origin:

Much of what we [writing center scholars] have termed 'research' amounts to disciplinary lore: we talk about what happens 'in our writing center,' believing that anecdote provides adequate mediation between theory and practice. Anecdote, however, does not generalize beyond the local setting. (2014)

This, Babcock and Thonus argue, makes it difficult for writing center scholars to understand research in other fields, which, in turn, makes it hard for researchers in other fields to understand exactly what writing center studies accomplish. Driscoll and Perdue suggest, to allow writing center scholars to understand scholarship in other fields, and to allow those in other fields to understand writing center scholarship, writing centers must embrace RAD research as "a language for the future of writing center publications", as a "common research language" so that writing centers can "better represent the efficacy of [its] practices and … influence the way that we [writing center scholars] teach and talk about writing across the disciplines" (2012, p. 36). Usability studies can help writing centers begin speaking that common research language.

Methodology

One way for writing centers to begin speaking this common research language, to go beyond the disciplinary lore and anecdotes, is to engage in research methodologies that are themselves replicable, aggregable, and data-driven: one of these is usability studies.

One definition of usability, provided by Jakob Nielsen – one of the world's leading experts on Web usability – is "a quality attribute that assesses how easy user interfaces are to use" (2012). Studying this attribute can be considered RAD as defined by Haswell in that the methodologies of doing such are *replicable*; there are hundreds of usability research methods with standardized procedures that researchers follow or adapt and then thoroughly document. They are *aggregable*; researchers can combine the results of different studies, whether they are different due to their varied methodologies or their different iterations, to get a comprehensive view of a particular object of study. They are also *data-driven*; there's factual and statistical artifacts that can be collected from any

usability research methodologies, examined, and upon which conclusions and discussions can be based.

There are five key components to of usability, according to Nielsen:

- Learnability: Researchers should ask, "How easy is it for users to accomplish basic tasks the first time they encounter the design?"
- Efficiency: Researchers should ask, "Once users have learned the design, how quickly can they perform tasks?"
- Memorability: Researchers should ask, "When users return to the design after a period of not using it, how easily can they reestablish proficiency?"
- Errors: Researchers should ask, "How many errors do users make, how severe are these errors, and how easily can they recover from the errors?"
- Satisfaction: Researchers should ask, "How pleasant is it to use the design?"

Ways to Study Usability

The most basic method of studying usability is through user testing with thinkaloud protocol. Here, researchers observe representative users performing representative tasks with a certain site or tool, and they "shut up and let [them] do the talking" (Nielsen, 2012). But there are other methods, like A/B testing, contextual inquiry, participatory design, value opportunity analyses, and so on. There are many different reasons for choosing to employ a different method depending on the current phase of the larger research process and the resources available to the researcher. Regardless of the methodology, the results of these usability studies will show researchers how easily a user is able to perform a specific task or set of tasks with the site or tool.

Reasons to Study Usability

Usability as a way to gather data from beyond anecdotes and disciplinary lore. Specifically, usability studies in the context of writing center scholarship can be used to gather data that doesn't rely on anecdote or disciplinary lore. Steven Blythe, in his 1998 chapter of Eric Hobson's *Wiring the Writing Center*, said that writing center researchers need ways to gather meaningful data if they are to make informed decisions about the usage of technologies in writing centers. With this meaningful data about how technologies are used in the writing center, researchers can gain real "insights into how people [actually] interact with sophisticated technologies" (p. 105), rather than be forced to rely on assumptions about how they generally think users interact with technologies.

Usability as a way to ensure technological innovations are justified.

Usability studies in the writing center can then also be used to justify technological innovations, and this justification ensures the technologies are needed and thus useful in some way, as Hobson indicated was necessary in his introduction to *Wiring the Writing Center* (1998, p. xxi).

Hobson's introduction to the text is titled "Straddling the Virtual Fence" — the obsolescence of this statement, as we've certainly already crossed the fence, highlights the growing need for usability studies in relation to writing center work, especially as the

technological reliance of writing center services only continues to grow in terms of online resources and services.

As Salvo, Ren, Brizee, and Conrad-Salvo wrote in 2009 in their article about the re-design of Purdue University's Online Writing Lab, "[u]sability testing ensures that writing labs and online writing labs keep pace with these changes and continue to address the needs of users..." (2009). If a writing center's services aren't usable – or learnable, efficient, memorable, error-free, or satisfying – then students won't use them, and writing center practitioners certainly aren't justified in expending resources on disseminating or developing them further.

Usability as a way to reflect on how users interact with writing centers and technology. Furthermore, usability studies allow writing center practitioners to *reflect* on how users interact with technology in various networked environments; from the results, they can better serve their users according the ways they actually interact with technology, as Blythe mentioned:

Usability research methods ... provide one way to reflect critically upon the interaction between users, environments, etc., not by helping us build abstract models by which to design networked technologies for writing centers, but by helping us to observe and reflect upon tutorial interaction mediated by networked computers. (1998, p. 112)

Usability as empowerment. Additionally, Blythe pointed out that usability studies allow for the inclusion of end users into the decision-making and design

processes, giving them a significant voice and representing their needs and desires from writing center resources and services more fully:

Not only do usability research methods make users equal partners in a dialogic act rather than the subordinated component of a larger technology, the inclusion of end users into the design process can give them a significant voice, thereby allowing their needs to be represented more fully. (1998, p. 111-12)

Usability as a venue for collaboration. Furthermore, usability studies are a venue for collaboration between departments. As Salvo, Ren, Brizee, and Conrad-Salvo again noted, there was ample opportunity for collaboration and cross-over in their work with the Purdue OWL, as it brought together the work of professional writing faculty, writing center administrators, graduate students, and undergraduate professional writing students (Salvo, Ren, Brizee, & Conard-Salvo, 2009). My work with usability has allowed me to bridge the gap between my work as a junior researcher with the SVSU Center for Usability Studies and Universal Design and my work as a senior tutor in the SVSU Writing Center.

Ideal writing center technologies and interfaces for usability research. In terms of web usability, which is often more critical than in other media according to Nielsen ("On the Web, usability is a necessary condition for survival" (2012), there are two ideal technologies and interfaces associated with writing center work that can be studied according to usability research methodologies: writing center websites and online writing center platforms. The writing center website, which, as Bemer points out, is often the first point of contact students have with the writing center, so the sites must attract, retain, and teach them (2005), and usability studies can help practitioners determine whether the sites are accomplishing those goals. Then there's also the online writing center platform, the focus of this research.

Usability in the Writing Center: A Case Study

The purpose of this particular case study, which makes use of the usability research methodologies of cognitive walkthrough and heuristic evaluation, was to study and learn how WCONLINE® is used as the SVSU's Writing Center platform for its Online Writing Center (OWC) and appointment scheduling using the methodologies of heuristic evaluation and task analysis.

WCONLINE®. To provide some context for WCONLINE®, it is a web-based tool that the SVSU Writing Center has used since May 2014 as the scheduling tool for tutoring sessions by appointment and as the platform for online tutoring sessions. Since then, 838 sessions have been since scheduled in WCONLINE®, and 155 of these have been marked as "No-Show", meaning, for some reason or another, the student did not show up for the appointment. Of the 11,716 total tutoring sessions that have been conducted since May 2014, 177 (about 1.5%) have been conducted online; the rest are conducted face-to-face in the physical Writing Center in the Zahnow Library.

The research questions informing this case study are based on the aforementioned statistics: I wondered, "Why is the number of "No-Show" appointments so high?" and "Why do so many more sessions occur face-to-face than online?" To

begin to answer these questions, I engaged in two specific methods of usability research on WCONLINE® as the SVSU Writing Center uses it.: cognitive walkthrough and heuristic evaluation.

Method 1: Cognitive walkthrough. in their book *Universal Methods of Design*, Martin & Hanington provide overviews of more than 100 different usability research methodologies, including cognitive walkthrough. It's described as that which "... evaluates a system's [or service's] relative ease-of-use in situations where preparatory instruction, coaching, or training of the system is unlikely to occur" (2012, p. 32). It can be a particularly effective research method where a person is likely to be a "first- or onetime user of a system" (p. 33) or service. This method is useful in finding the pain points related to use of a system, or the areas or steps in a process with which users struggle the most.

The cognitive walkthrough of WCONLINE® is a step-by-step task-based procedure of how users access and then interact with the system. It's not based on the way that I or other online writing tutors access the platform or approach our tutorial sessions; it instead details all the possible ways a user could access the platform, making it a form of RAD research, not based on generalizations or assumptions.

Methodology 2: Heuristic evaluation. Martin & Hanington also describe the methodology of heuristic evaluation, which is described as "[a]n agreed-upon set of usability best practices [that] can help detect usability problems before actual users are brought in to further evaluate an interface" (p. 98). Jakob Nielsen's 10 principles for

interaction design are often used as the point of comparison for heuristic evaluations. These are heuristics, or general rules of thumb, not specific usability guidelines that a service or site must follow to be considered usable.

Results

Cognitive Walkthrough

As mentioned, the cognitive walkthrough is a step-by-step task-based procedure of all the ways a user can access and then interact with SVSU's iteration of WCONLINE®. I began by determining the main task to be performed, and then breaking the main task into several sub-tasks that can be accomplished through one or more actions.

Task: Sign up for online / graduate tutorial appointments through the WCONLINE® platform using the graphical interface (i.e., not text-only). If an online appointment, access the appointment, too.

Sub-task: Get to svsu.mywconline.com.

Action 1: Navigate to svsu.mywconline.com

Process 1-A: Navigate to the platform from the SVSU Writing Center webpage. Then, click "Graduate Tutoring" or "The Online Writing Center".

Process 1-A-1: Navigate to the SVSU Writing Center webpage from Facebook.

Process 1-A-2: Navigate to the SVSU Writing Center webpage from Twitter.

Process 1-A-3: Navigate to the SVSU Writing Center

webpage from search engine results.

Process 1-A-4: Navigate to the SVSU Writing Center webpage from a bookmark.

Process 1-B: Navigate to the platform from a bookmark.

Sub-task: Sign in.

Action 2: Log in after typing e-mail address and password and selecting the appropriate schedule.

Process 2-A: If you don't have an account, you must register for an account with "Register for an account." link.

Process 2-A-1: Fill out "Create a New Account" form. Click "Register". This will trigger an email notification about your new account.

Sub-task: Sign up for appointment.

Action 3: Choose the available cell that corresponds to the date, time,

tutor, and medium that you want for your tutorial session. Click the cell.

Action 4: Fill out the session form.

Action 5: Click "Save Appointment". This will trigger an email notification about your session.

Sub-task: Join appointment.

Action 6: If you've signed up for an online session, repeat Actions 1-3. Click "Start or Join Online Session". A new window will appear, in which your session will take place.

Heuristic Evaluation

With this sense of the processes user may partake in another methodology was need to directly examine how the design of WCONLINE® supported or failed to support these processes.

The heuristic evaluation compares Jakob Nielsen's 10 principles for interaction design as a point of comparison against a web-based service or tool, specifically WCONLINE® in this research methodology. This section will be broken up by heuristic, with each heuristic described and then evaluated as illustrated in WCONLINE®.

Visibility of system status. As described by Nielsen, "[t]he system should always keep users informed about what is going on, through appropriate feedback within reasonable time" (1995). That is, usable systems or services should provide quick feedback to its users to keep them informed about their location or status in the process.

For WCONLINE®, the platform performs according to this heuristic; due to the synchronous nature of the tutoring that occurs on the platform, both users – student and tutor – can see what is going on at any during their interaction, especially through the chat function embedded within the platform. The Send Real Time Chat Updates option (see Appendix A, Fig. 1) can be enabled to allow each user to see when their

counterpart is typing, signaling that a response will be sent soon. Additionally, another feature of WCONLINE® that fits this heuristic is the email notification that is generated to both tutor and student when a session is created, changed, or deleted through WCONLINE®.

Match between system & real world. As described by Nielsen, "[t]he system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order" (1995). That is, the language and information structure used in the system or service should be based on the language and organization its users are familiar with or need, not system-oriented, procedural language.

Objectively, this is one of the weakest points of WCONLINE®, in that "the system" doesn't match "the real world". Put another way, there is little to no integration of WCONLINE® into other services provided by the SVSU Writing Center or any other department at SVSU. It's a standalone system that requires users to sign up for a new account and manage an altogether different password for this platform, highlighting how disjointed its use is from other technologies users may use in their "real world".

Further, though, in relation to this heuristic, as will be described later, WCONLINE® doesn't use explicitly use system-oriented language, but some of the documentation provided doesn't have a clear audience, whether it's intended for heavy users of the system – like tutors or consultants – or clients based on the technical language used. Also, information does not appear in a natural or logical order in that users must log in; navigate to their scheduled session tutor, date, and time; click the corresponding, and navigate to the "Start or Join Online Consultation" hyperlink, shown in Appendix A, Fig. 2. Following a logical order, this procedure would be simplified, and the option to sign up for or start an online consultation would appear immediately after log-in.

User control and freedom. As Nielsen described, "[u]sers often choose system functions by mistake and will need a clearly marked 'emergency exit' to leave the unwanted state without having to go through an extended dialogue. Support undo and redo (1995). This heuristic states that users should be able to correct any options or paths they may mistakenly select.

WCONLINE® allows users to recognize, diagnose, and recover from errors fairly easily; Once a user has made an appointment, they can edit details from their session record or cancel their appointment altogether (see Appendix A, Fig. 3). Inside the session platform, there are "redo" and "undo" options, too (see Appendix A, Fig. 4), to allow users to recover from errors made during the tutorial session on the document area.

Consistency and standards. Nielsen said "[u]sers should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions." This heuristic essentially means that verbiage and language used throughout a system or service should be consistent. The failure to abide by this heuristic can be – and may be – a factor in some of the "No-Show" appointments at the

THE CASE FOR USABILITY RESEARCH AS "RAD"

SVSU Writing Center. Notice, in Appendix A, Fig. 5, in the second appointment calendar, that Madison and Sara have "Online appts. Only" underneath their names. Notice, then, in Appendix A, Fig. 6, that my name appears as "Ky—GRAD Online" and "Ky—F2F GRAD". A user may be unsure what F2F means and may not notice that "Online appts. Only" doesn't appear under my name. An example of how confusing this language can be occurred earlier during the Winter 2017, shown in Appendix A, Fig. 7: a student who signed up for a face-to-face tutorial session sent this email after I sent her a reminder email that we were going to meet in the physical Writing Center.

Error prevention. As Nielsen described, "[e]ven better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action" (1995).

WCONLINE® adheres to this heuristic well: a confirmation option is displayed to ensure users actually want to cancel a session, shown in Appendix A, Fig. 8.

Recognition rather than recall. As Nielsen described, "[m]inimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate" (1995).

An example of this heuristic as it applies to WCONLINE® can be seen in the function bar across the top of each tutorial session (see Appendix A, Fig. 9). Users aren't forced to remember HTML code to format their text, and each of the icons

describes its function so users are able to simply recognize their function by looking at them, rather than having to remember the order they're in.

Flexibility and efficiency of use. Nielsen described this heuristic as the following: "Accelerators – unseen by the novice user – may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions" (1995). The function of the "Check box to stay logged in" feature (see Appendix A, Fig. 10) in WCONLINE® is applicable to this heuristic focused on the efficiency of use. Another feature in WCONLINE® that fits this heuristic is that which allows student-users to schedule weekly or monthly recurring appointments at the same day of week, time, and with the same tutor.

Aesthetic and minimalist design. As described by Nielsen, "[d]ialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility" (Nielsen).

According to this heuristic, the design of WCONLINE® is minimalist at first glance on both the home page and the appointment scheduling page (see Appendix A, Fig. 11); however, an example of non-minimalistic information design can be found on the home page when a user scrolls over the question mark icon next to the **Click here to stay logged in** dialog (see Appendix A, Fig. 12). This tool-tip box has *a lot* of information in it – some of which is relevant, some which is not.

THE CASE FOR USABILITY RESEARCH AS "RAD"

Help users recognize, diagnose, and recover from errors. As Nielsen described, "[e]rror messages be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution" (1995).

In this methodology, I could not make an error message appear consistently. What I had thought was a foolproof method – submitting a session record without filling out the required fields that are indicated by red asterisks – actually did not return an error message. As indicated by the **Created** line in Appendix A, Fig. 13, the appointment was recorded without Course, Instructor, Undergraduate OR Graduate status, Due Date, Instructor Notification, Disability, or ESL Status indicated. While this is most certainly an error, as a tutor won't be able to proceed in their preparation for the session without this critical information, there is no indication of this, going against the heuristic guideline.

Help and documentation. As Nielsen indicated, "[e]ven though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large" (1995).

On the screen on which students can schedule appointments, a "Help" option displays a key for interpreting the colors used in scheduling appointments (see Appendix A, Fig. 14). However, there is no point person to contact or documentation in case other assistance is needed.

For SVSU's Writing Center specifically, users will have to navigate back to the Online Writing Center webpage to find the following help:

- A PDF that includes detailed instructions about how to use WCONLINE®
- A video that walks users through how to use WCONLINE®
- The email address and office phone number of our Director, Helen Raica-Klotz, who can help users log in and troubleshoot other minor issues.

In the actual tutoring session, the document area is prefilled with documentation (see Appendix A, Fig. 15) about how to use the various functions of the platform, like the text chat, whiteboard, toolbar, drawing tool, audio and visual components, and so on. Clicking the question mark icon in the top right corner leads to an external website, which includes more detailed information about how to use the functions available -- but this information doesn't seem formatted for student use, or someone in the client role who doesn't frequently use the system.

Discussion

Of Usability Methodologies Themselves

Both methodologies have highlighted some areas that can be fixed or reexamined to enhance usability of WCONLINE® for users.

Through the cognitive walkthrough, through the process of breaking down the task of signing up for or joining an online writing center appointment, a few areas where users may be unsure how to continue to the next step are highlighted. For instance, in Action 3, it's not evident that a user needs to click on a cell to open the session form to reserve that appointment slot.

Furthermore, it's also not clear that a user must follow those same steps but click on a hyperlink within that same form to join their online appointment in Action 6. These errors can break down the workflow of a new or novice user, causing frustration. These potential complex barriers to success can prove debilitating to a user already struggling with the writing process – likely why they're trying to sign up for a writing center appointment in the first place.

From the heuristic evaluation, better adherence to the heuristics can and should be observed, especially "Match Between System & Real World", "Consistency & Standards", and "Help Users Recognize, Diagnose, and Recover from Errors". Other phases of research, though, are required to determine if WCONLINE® is the best tool for its purpose it is being used to fulfill.

Of Usability Studies as RAD Research

The results of cognitive walkthrough and heuristic evaluation are certainly RAD: *replicable* in that anyone interested in using the same methodology as me to study WCONLINE® as the SVSU Writing Center uses it would get similar results; *aggregable* in that the results of similar studies using the same methodology or of different studies using different methodologies but still focused on WCONLINE® would come together to form a comprehensive view of the usability of the platform without directly contradicting one another; and *data-driven* in that the initial conclusions of this phase of research are based on the results gleaned, not on feelings, generalizations, or anecdotes. Thus, usability studies are but one way for writing center scholars to speak "the common research language" mentioned by Driscoll & Perdue.

References

- Babcock, R. & Thonus, T. (2014). Writing center research: Accessing the Conversation. Retrieved from writingcenters.org/2014/11/21/writing-center-research- accessingthe-conversation-by-rebecca-babcock-and-terese-thonus/
- Bemer, A. M. (2015). Exploring the representation of scheduling options and online tutoring on writing center websites. *Praxis, 12(*2). Retrieved from http://www.praxisuwc.com/new-page-63
- Blythe, S. (1998). Wiring a usable center: Usability research and writing center practice.
 In E. Hobson (Ed.), Wiring the writing center. University Press of Colorado.
 Retrieved from http://www.jstor.org/stable/j.ctt46nzf8
- Driscoll, D. & Perdue, S. W. (2012). Theory, lore, and more: An analysis of RAD research in *The Writing Center Journal*, 1980-2009. *The Writing Center Journal*, 31(1). Retrieved from http://writingcenters.org/wpcontent/uploads/2013/06/
 DriscollPerdue_Proofs_32_2.pdf
- Haswell, R. NCTE/CCCC's recent war on scholarship. Written Communication, 22(2): 198-223.
- Hobson, E. (Ed.). (1998). *Wiring the writing center.* University Press of Colorado. Retrieved from http://www.jstor.org/stable/j.ctt46nzf8
- Martin, B. & Hanington, B. (2012). *Universal methods of design*. Beverly, MA: Rockport Publishers.
- Nielsen, J. (1995). 10 usability heuristics for user interface design. *NN/g: Nielsen Norman Group.* Retrieved from https://www.nngroup.com/articles/ten-usabilityheuristics/

- Nielsen, J. (2012). Usability 101: Introduction to usability. *NN/g: Nielsen Norman Group.* Retrieved from https://www.nngroup.com/articles/usability-101-introduction-to-usability/
- Salvo, M. J., Ren, J., Brizee, A., & Conard-Salvo, T. (2009). Usability research in the *writing lab: sustaining discourse and pedagogy.* Purdue Writing Lab/Purdue OWL Publications. doi: 10.1016/j.compcom.2008.10.001

Appendix A

Chat	-
Send Real Time Chat Updates	

Fig 1. The Send Real Time Chat Updates option available in WCONLINE®'s chat function that allows each user to see when their counterpart is typing during a tutorial session.

Use the form be	low to modify, view, or cancel this appointment	Questions marked with a * are required.	Lenter		
Appointment Limits:	Appointments must be between 30 minute	s and 1 hour in length.	RARY		
Time:	Monday, March 27: 7:30pm ‡ ti	8:00pm \$:017 \$		
Meet Online?	Yes - Schedule Online Appointme	ent Þ		_	_
	Start or Join Online Consultation		7:00pm	8:00pm	9.00pm
Course (Name and Number):	test	*			
Instructor's First and Last Name (please double- check for correct soelling):	test	•	2:00pm	8:00pm	9:00pm
Undergraduate OR graduate:	undergraduate		7:00pm	8:00pm	9:00pm
When is this assignment due?	Today 🗘				
Would you like us to notify your instructor you used the Writing Center?	N/A t		st, integrate research, correct geable undergraduate tutors v	y document sources, or polish a fin who work individually with you to in	al draft. We work with both undergra prove your writing.
Do you have a disability that	No				

Fig. 2. The "Start or Join Online Consultation" hyperlink that a user must click to enter their online writing center consultation.



Fig 3. The functionality within a session record that allows a user to cancel their scheduled writing center appointment.



Fig. 4. The functionality within a tutorial session that allows a user to redo or undo their most recent action.

Mar. 29: WEDNESDAY	1:00pm 2:00pm 3		3:00pm 4		4:00pm		5:00pm		6:00pm		
Mar, 29: WEDNESDAY Madison Online appts. only Sara Online appts. only											
Madison											
Online appts. only											
Sara							00pm 5:00pm 6:00pm				
Online appts. only											

Fig. 5. An example of online writing center appointment blocks for a given week, labeled "Online appts. only".



Fig. 6. An example of online and face-to-face writing center appointment blocks for a given week, labeled "Online appts. only" and "F2F Grad".

to me 💌
Oh I thought that I was making an online appointment! I'm sorry!
Sent from my iPhone

Fig. 7. An email received by the SVSU Writing Center from a student who was confused about the format in which her scheduled tutorial appointment was to take place.

	- neu morrodine com		m	C		0
after you submit this form):	E Secondariante com		Writing Carrier	vetgas (spotta saena .	10 Heuristics for	Writing Carrier
If you are scheduling an ONLINE session or a GRADUATE session, will you	pieze select	i)*	lenter			
be attaching an assignment sheet or rubric? (Please note: You will be prompted to attach a file after you submit this form):		Are yo	"https://www.mywconline.com": a sure went to cancel this appointment? Cancel			_
Chose ONE main area with which you would like assistance	- piease select	•J*	2.00gen	8 00pm	9:blpm	
Is there anything you would like to share with the tutor prior to your scheduled	a		700pm	EODpm	\$100pm	
please write your comments in the text box below:			2.00pm	EODpm	tilligen	
Admin Options: NOVE APPT. ATTACH & FILE	Walk-In/Drop-In:] Missed:] Placehold Add New Client Report Form.	er: 🗇 🗓 i Braali Cilent? 👩 🕲	echewski-test ort Form			
SAV	E CHANGES CANCEL THIS APPOINTMENT	CLOSE WINDOW	H, integrate research, correctly endly, knowledgeable undergra	document sources, or po duate totors who work in	lish a final draft. We work wit dividually with you to improv	h both s your writing.

Fig. 8. The pop-up that appears to confirm whether a user has indicated they want to cancel their schedule appointment.

Φ TT 2 0 7

Fig. 9. The toolbar available in online tutorial sessions that allow users to format their text in a variety of ways.

Writing Center First visit? Register for an account Register for an account Register for an account Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the Wicking to be box Register for an account by clicking the link to the link		at ZAHNOW LIBRARY
The Writing Center assists students at SVSU at any stage in the writing process, we can help you brainsterm ideas, organize content, integrate research, correctly document	Writing Center First visit? Register for an account. Returning? Log in below. MAL ADDRISE MINIOGEN MAL ADDRISE MINIOGEN MAL ADDRISE CHOCK A SCHEDULE GRAD TUTORING Winter 2017 (*) Check box to stay logged in: (*) LUG IN Maxing trouble logging in? Reset your password. Using screen reader software? Access the text- only scheduler.	Weikome to WCONLINE 51 To get started, register for an account by clicking the link to the left.
sources, or polish a final draft. We work with both undergraduate and graduate students on assignments from all different disciplines on campus. Our Writing Center is staffed by friendly, knowledgeable undergraduate tutors who work individually with you to improve your writing.	The Writing Center assists students at SVSU at any stage in the sources, or polisit a final draft. We work with both undergraduat by friendly, knowledgeable undergraduate tutors who work indi-	z writing process, we can help you brainsteem ideas, organize content, integrate research, correctly document te and graduate students on assignments from all different disciplines on campus. Our Writing Center is staffed vidually with you to improve your writing.

Fig. 10. The option that allows users to stay logged into their WCONLINE® account upon logging in.

First visit? Register for an account.	Welcome to WCONLINE 55 1 left.	To get started, register for an account by clicking the link to the
Returning? Log in below. (MAIL ADDRESS		
PASSWORD		
CHOOSE & SCHEDULE GRAD TUTORING Winter 2017		
Check box to stay logged in: (7)		
Having trouble logging in? Reset your	as sword.	
Having trouble logging in? Reset Using screen reader software? Ac only scheduler.	your p cess ti	your password. cess the text-

Fig. 11. The minimalist design of the home page of SVSU's iteration of WCONLINE®.

	at ZAHNOW LIBRA	RY
Writing Center First visit Register for an account. Exercising Log in below. EXEL ADDESS MINIORI DESVSU. edu ASSEDD: CHOSE A SCHEDULE GRAD TUTORING WINTER 2017 CHOSE A SCHEDULE GRAD TUTORING WINTER 2017 Chock box to stay logged in:	If you check the "stay logged in" checkbox, you won't have to sign in each time you come back when on this computer. Instead, you like automatically logged in and taken directly to the schedule. The "stay logged in and taken directly to the schedule. The "stay logged in and taken directly to the schedule. The "stay logged on and taken directly to the schedule. The "stay logged on and taken directly to the schedule. The "stay logged on and taken directly to the schedule. The "stay logged on and taken directly to the schedule. The "stay logged on and taken directly to the schedule. The "stay logged on and taken directly to the schedule. The "stay logged on and taken directly to the schedule. The "stay logged on and taken directly to the schedule. The "stay logged on and taken directly to be schedule."	get started, register for an account by clicking the link to the
The Writing Center assists students at SVSU sources, or polish a final draft, We work with by friendly, knowledgeable undergraduate tu	If you use a shared or public computer (such as in a computer lab or library), you should not check the "stay logged in" checkbox. It's who work interfeasity with you to improve your within	irm Ideas, organize content, integrate research, correctly document from all different disciplines on campus. Our Writing Center is staffed

Fig. 12. An example of how this minimalist design is interrupted by three paragraphs of content included in a tool-tip.

• • •	
	svsu.mywconline.com
Use the form bei	KyF2F Grad ow to modify, view, or cancel this appointment. Questions marked with a * are required. Appointments must be between 30 minutes and 1 hour in length.
Time:	Thursday, March 30: 6:00pm \$ to 6:30pm \$ Created: Mar. 24, 2017 (11:41 pm) by Kylie Wojciechowski.
Client:	Ky-test Wojciechowski-test kyliewojciechowski@gmail.com
Course (Name and Number):	*
Instructor's First and Last Name (please double- check for correct spelling):	*
Undergraduate OR graduate:	please select +
When is this assignment due?	please select + *
Would you like us to notify your instructor you used the Writing Center?	please select +
Do you have a disability that affects your writing?	please select 💠
Is English your native language?	please select +

Fig. 13. An example of how a user could leave six "required" answers blank on the tutorial session record and still schedule an appointment without prompting an error message.



Fig. 14. The screen that appears when a user scrolls over the "Help?" option in WCONLINE®, which explains what the various colors mean on the tutor schedule.

THE CASE FOR USABILITY RESEARCH AS "RAD"

	-		-	~	ш
Welcome to your online consultation! The consultation module has a chat area on the right side, a document collaboration space or whiteboard area in the middle, a toolbar that includes an option to draw, and (if turned on at your center) on option to use audio and video.	Ch	at lend	Real T	ine C	ME
TEXT CHAT: The right side of the screen is a text-based chat area. Type in the box at the lower right to have a text conversation. The text can ether show up for the other participant in your session as you are typing, or show up only once you press 'enter' or 'return' on your keyboard. Keep the checkbox for 'send real time chat updates' (at the top of the chat column) checked to allow the other participant to see text as you are typing, or uncheck 'send real time chat updates' if you would prefer to type a whole chat before allowing the other participant to see what you have typed. In either case, press 'enter' or 'return' to have your complete comment/question show up in the chat column.					
WHITEBOARD: The bulk of the screen, where this text is currently located, is the document collaboration whiteboard. Here, you can import a document, paste a document, or type text. Changes made to text in this window are seen immediately by both individuals participating in the online consultation.					
TOCLBAR: The toolbar is across the top of the screen, or divided on the top and bottom if you are using a phone. The icons on the left side allow you to work with a document's formatting, such as by making text bold. The icons on the right side (or at the bottom) include options for your online session, such as importing a document and drawing. Hower over any icon for a text label showing the icon's function.					
 Import/Export: The icon showing two arrows allows you to upload a document to share with the other participant in this consultation. Both of you can type on the document. Once the consultation is over, you can choose to save the document on your computer using the same icon. 					
Timesider: After your consultation, use the clock icon to play back the text changes to the document, starting from the beginning of your session.					
 Show the users on this past. The icon with a person symbol and a number allows you to type a different name (such as a nickname) and/or choose a color to highlight your typing, as well as to see the name of the other participant in the session. 					
DRAWING FUNCTION: Using the pencil icon, open an area that allows you to draw on top of the document collaboration whiteboard. Within the drawing area, there are additional options to draw with a thick brush or thin pencil, change colors, clear your drawing, or use a solid white background. If you would like to draw without seeing the any text in the background, select the white square to make the drawing area no longer see-through. Diagrams, pictures, math problems, etc. are saved within your online session but do not appear in an exported document.					
 Expanding and minimizing: On a computer, after you have clicked the pencil icon, hover over the drawing area to expand it, and hover away from it (such as over the chat area) to minimize it. On a touch screen, touch the pencil icon once to open the drawing function and a second time to expand the drawing area. A third touch closes the drawing area. 					
AUDIO AND VIDEO, IF ENABLED: With audio/video enabled for your center's online sessions, your browser will most likely ask if you would like to allow use of your camera and microphone in this session. The specific prompt depends on your browser, device, and operating system. Follow your browser's instructions to start using audio/video. If you deny access to the camera and microphone or close the question without making a selection, click on the video camera icon to reopen the option. If you are not prompted to allow your camera and microphone, close your online meeting in your current browser and open it in a different browser. Hover over your own image in the video to see options to mute the audio or hide the video.					
AFTER YOUR SESSION: Your chat and document will be saved in this online meeting. You can always come back by viewing your appointment and clicking the 'start or join online consultation' link.					
CUESTIONS: If you have any questions, click the question mark at the top right for more information.	0.04	OPE	10,01	-	

Fig. 15. The documentation that appears by default in every tutorial session, explaining which features are available to users during their session.