Chapter 18. Usability Testing for OWI Instructors

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Abstract: This chapter explains how online writing instructors can test for the usability of their courses. Drawing from PARS principles (Borgman & McArdle, 2019), testing for usability becomes a pedagogical enhancement in an online writing course for students and instructors alike. Designing and deploying a usability test can seem daunting, but this chapter will offer the basics for setting up a simple usability test and will prepare instructors to eventually develop their own usability approaches for future classes. The usability testing I describe in this chapter will help instructors identify a specific task that they want to explore for usability, and then introduce a procedure whereby students themselves act as the testers of their own course while also writing toward an assignment for their class.

Keywords: usability, OWI design, student feedback, online education

This chapter explains how online writing instructors can test for the usability of their courses. Drawing from PARS principles (Borgman & McArdle, 2019), testing for usability becomes a pedagogical enhancement in an online writing course for students and instructors alike. Designing and deploying a usability test can seem daunting, but this chapter will offer the basics for setting up a simple usability test and will prepare instructors to eventually develop their own usability approaches for future classes. The usability testing I describe in this chapter will help instructors identify a specific task that they want to explore for usability, and then introduce a procedure whereby students themselves act as the testers of their own course while also writing toward an assignment for their class.

Usability testing is defined by the International Organization for Standardization (ISO) as "extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use" (Standardization, I. O., 2019, p. 3). That's a lot to dissect. For now, think of usability as the extent to which your students are able to complete the goals you have created for your online writing course. I don't mean their ability to write a paper, but their ability to find the resources (such as readings, assignment prompts, and other supporting items) that will help them effectively complete their work in class. This chapter is meant to be a brief introduction to usability testing that online writing instructors can quickly use in their courses. There are many other topics related to usability testing that can make the

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experience more rigorous and enriching that this chapter will only briefly touch upon. Resources identified in the References and Further Reading sections make excellent follow-up reading if you'd like to learn more about this tool. What follows is meant to show how a simple usability test can be an instructive opportunity for students and instructors alike and can help reshape the design of a course to be more accessible for all students.

PARS and Usability Testing

The PARS approach lends itself nicely to usability testing. I see alignment with all of the PARS letters and usability testing. For example, when we invite students to write about their personal interactions with the course design, it allows teachers to respond on a personal level. Usability testing can capture issues with access so we know when students are not able to interact with our tasks. A good usability test is responsive when we examine the data our students create and make changes to our courses. Finally, usability testing is strategic in that research shows that just 4 to 7 testers can uncover most usability issues (Sauro & Lewis, 2012). This number is probably much lower than the number of students in most OWI courses. The PARS approach can work well for instructors who want to deploy usability testing to be able to assess the student experiences completing different tasks in a writing course.

One of the things that first drew me to usability testing was that it offered me a mechanism to find out if my students were having the sort of experience in my class that I was envisioning and designing for them. Early in my teaching career, I heard from a student that, while she did have a computer at home, she did not have a reliable internet connection. She had to go to the local library and download my videos and assignments and then take them home if she wanted to work. This information changed how I designed the online components of my course. Still, I never would have known this had she not told me about her situation, which is why usability testing for online courses is so important. While user testing invites students to tell their teachers about their experiences interacting with the course, teachers may also get some hints about the contexts in which students access our courses. When we know more about *how* they interact with our courses, we can better conceptualize how to design a course for them. Our assumptions about instructional design as teachers is limited by our imagination about what the student experience is like. When we value the experiences our students are bringing to our classrooms and keep an open mind about what those experiences could look like, we can design in ways that are more thoughtful and responsive to their needs.

Usability testing done thoughtfully can be a way to let the diversity of student experiences become apparent. Adam Banks (2006) argues that, due to the fact that race and gender can be hidden online, "in cyberspace, it is finally possible to completely and utterly disappear people of color" (p. 1). We need to resist this erasure by centering the experiences of our students, especially students from his-

torically marginalized communities, when we think about designing for usability. While we cannot rely on usability testing to do all the work of addressing racism and microaggressions built into our online platforms, it can allow instructors to identify and remedy issues quicker than doing nothing. When teachers reconceptualize and redesign their courses to meet their students' experiences, they can also aid in not isolating entire groups of students who do not have computers or internet access at home.

It is also important to take note that each student's report about their experience is personal, and user-testing should be seen as a reflection of their individual interactions with the course. As instructors, we need to honor the personal nature of a user test. We cannot simply look at a usability failure as an error on the student's part. We need to look at their individual issues and try to creatively resolve them. It may be possible that out of a group of 60 students, only five will report a usability challenge. As instructors with this data, we have to make decisions about how we respond. If we adjust the design of the task, do we risk more students have a different set of issues? Is it worth the time to overhaul the design to address an issue faced by just 8% of students? These are questions instructors must grapple with when they consider their course designs.

While discussing accessibility in OWI, Borgman and McArdle (2019) observe that, "it is good and right to create an accessible and inclusive space for students. However, many instructors struggle, or avoid, consideration of this principle because they lack the knowledge and experience on how to make things accessible" (p. 36). These next few pages offer online writing instructors the sorts of knowledge and know-how to incorporate usability testing into the classroom in a way that is instructive and useful for both the student and the instructor.

Task-Based Usability Testing

The first step toward understanding the usability of our courses is to become more focused on what concerns us. We may be so preoccupied by the fear that our courses are difficult to use that we lose sight of the places where these difficulties can actually emerge. The trick to creating more usable interactions for students is to think smaller than the whole course itself. Instead of thinking about making the whole course itself more usable, think about making tasks students have to complete more user-friendly. Usability experts agree that the way towards designing strong usability testing involves thinking about user experience at the task level (Barnum, 2011; Krug, 2014; Rubin & Chisnell, 2008). The International Organization for Standardization (ISO) (2019), implores designers to consider three things when drawing up plans for an interactive system: the users (in our case, students), the environment (in our case, an online LMS or instructor-designed site), and tasks. Thinking about usability at a task level gives us the ability to work more nimbly in enhancing how our students interact with our courses.

We might not realize it, but a lot of our web experiences outside school and

work is task-based. We go to retrieve what we need and then do not return to the site until we need something similar again. Consider if I wanted to find the scores for a recent golf tournament; if I am sitting in a dentist's office and the sports section of a newspaper is nearby, I might pick it up and after a little searching find what I am looking for. In this case, due to the context, the newspaper was arguably more useable because it was within an arm's reach, and I could get the information easily. Now, if I did not have the newspaper nearby, I might reach for my cell phone to get the information. First, I unlock my phone, then I look for the proper application, then I find the "scores" area on that application, and unless there was a major tournament in the past few days, I'll probably have to tap on the "scores" button and search through a drop-down menu and then click on the "golf" button to be taken to a page dedicated to golf scores. Assuming there aren't too many tournaments going on, I should be able to get the information I want and move on with my life.

Yet, in searching on the phone, every step I mentioned is an opportunity for a usability failure. Each step was a task I had to complete, and the ease with which I accomplished them helps app designers monitor the usability of the app. For instance, when I look at the drop-down menu under "scores," were the sports listed in alphabetical order? How far do I have to scroll before I get to "Golf?" Do I have to scroll past Archery, Baseball, Basketball, Bobsledding, and so forth to get to the "Golf" button? Or, is the information listed by league, so I need to get down to PGA, which would be even further down the alphabetical list? Or, do the designers redesign the menu so the golf scores are closer to the top when a major tournament is ongoing? This approach could be good for one weekend but it would also mean the menu is subject to change in the future, so a user could not rely on using the same strategies to find the score two weeks later. These are just a sample of the sorts of decisions designers must make to satisfy their users. We can also see that the usability of a website or app can be held up at any number of tasks as our users try to achieve their goal. The role of thinking about tasks gets a little trickier when we extend it to OWI.

Baselines Constraining Usability in OWI

If we are using Learning Management Systems (LMSs), our students may be used to an interface but have several different teachers organizing information within those sites differently. To that end, students have to learn a new way of accessing information on the site, and different ways to complete the same task, at the start of each class and keep that structure in mind as they interact with each course site. Trickier still, some LMSs have rigid design structures that do not allow instructors to make substantive changes to the site that could enhance usability, while others are so flexible that students find it difficult to apply procedural knowledge they know from one course to the next. Some instructors insist on making their own sites using What You See is What You Get (WYSIWYG)

structures such as WordPress. Here again, students must navigate an unfamiliar site and learn its architecture in much the same way they find their classroom in a new building on campus. Due to the structures imposed by LMSs or WYSIWYG website templates, it may be difficult to imagine what sort of tasks you actually have control over designing. You may be surprised to learn that even though you cannot change the layout of your course site easily, you still have a lot of control over how students interact with the content you post. As online course designers, we can help enhance the usability of our courses by designing experiences that come close to our student's intuitive interaction with our course sites, no matter where we operate them.

One thing we must remember is that we do not need to see students encounter a design failure to consider something to have a usability issue. A design failure in one place on the site could have a relatively catastrophic consequence for our students. They may not be able to complete their assignment, or access important information. However, catastrophes are rare and when they do occur, students are usually quick to point out the issues. To borrow from a golfing metaphor, catastrophes are like taking a shot that ultimately goes into the water and results in a penalty and a second shot, a re-do. When it comes to online course design we have to go in and fix things so that students can start again, which, while embarrassing, is usually easy enough. The things that worry me are the smaller usability issues. The ones that make a student sigh and mutter "now I have to do this again" under their breath. They know how to complete the task before them, but they find some part of it is convoluted, tedious, boring, or unclear. These are exactly the places where I think students are more reluctant to reach out with their concerns. To that end, we, as instructors, must be proactive in identifying the annoying and upsetting problems in our courses. Usability testing helps us better understand what is and is not intuitive for our students.

What Usability Could Look Like in OWI

Here is a common scenario you may encounter: You want students to write a discussion board post about a recent reading, but you'd like them to connect their response to a text they read two weeks ago. Students need to be able to access both readings so they can pull quotes and reference information in the discussion board post. You have placed your readings in folders corresponding to which week number it is in the course. It is week 9, but students need to connect the week 9 reading to a week 7 reading. Here is a potential usability problem: how easy is it for students to find the reading from week 7? Will they need to check the course schedule to remember which week they read the week 7 text? Does the schedule offer a breakdown of which week is which? In a lab, we could do the work of giving students a task and observing in real time what they do to accomplish that task. Five students may demonstrate three different paths to retrieving the week 7 reading, and as user researchers, we could examine each path to find

out which one is the most efficient or productive toward their goal (efficiency is not always the standard by which we want to measure usability, but I'll get to that later). This data is invaluable to designers as we get a sense of what the intuitive user experience looks like, and we can adjust based on what our users do.

What I just described is an example of a potential challenge that can be tested for usability. A few years ago, I, along with Julianne Newmark and Tiffany Bourelle (2018), designed and carried out a usability test for an online introductory technical writing course. We recruited students from an upper-division technical writing course to test a "Start Here!" module that all students would go through at the beginning of class. We had four different versions of the course and divided up the student-testers so we had an equal number of testers for each site. All we did in designing the usability test was ask the student-testers to click on the "Start Here!" button and see how long it took them to get through the first module and observed places where they had trouble. We were not interested in seeing which teacher's design was "best." Usability testing should never be a competition—it should always be formative. Moreover, usability testing should not be seen as a way to train students about how to use their course interface. What instructors should be interested in is how new data about usability might impact our course designers.

While we (myself, Bourelle, and Newmark) wrote a couple articles about the testing, we deployed a rather time and labor-intensive setup to get our information. In our protocol, I had to sit and moderate each student's 30-minute usability testing session. A few years later we (now working with Michelle Stuckey) tweaked the protocol so we could have students perform the tests remotely, so we would not have to personally observe each student as they worked through the testing. Remote usability testing is used widely by online shopping platforms (although they still use traditional user testing from time to time as well). Customer-testers download apps such as dScout, follow instructions and then make short videos describing their experience completing their assigned tasks (they are also paid for this work). The information they share is invaluable to designers, and without the restrictions of having to observe each tester individually designers can pull from a much larger collection of data to help inform their design choices.

Online writing instructors can take a page from the remote usability testing setup without having to spend the sort of money on testing that companies must invest in this process. Moreover, online writing instructors can creatively collect data about how students interact with a course website while also contributing to learning objectives in class. The next section of this text sets out a procedure to accomplish both.

Your First OWI Usability Test

Try to choose a task that is relatively novel to the course; something the students may not have done before. For this reason, it is probably best to have students perform their tests early in the term. Students are good at learning how to nav-

igate websites, and if they have already learned the ins and outs of your LMS or course site, they may interpret what they have learned as marking an easy user experience. There are other papers to be written about the value of learnability and its relationship with the design and usability in the context of OWI, but I won't engage that here. For now, strive to find the most novel user experience students will engage at this point in the course.

Find a Task to Test

Unless students make clear that they are struggling with a particular part of an online class, it may be hard to figure out what task to have them test. Do not worry too much about finding the best task to test right now; focus on something simple so you comfortably build up your confidence in usability testing.

When selecting a task, think of the specific actions students need to take in class. To name a few examples; students might "post" to a discussion board, "access" a class reading, "download" a rubric, "record" a video, "find" information about the writing center, and so forth. For this activity, I am going to use this task: "Make an appointment with the writing center." It's a real concern for me as an online writing instructor. Figure 18.1 is a screenshot of my course LMS home page. See if you can spot where the link is that gets students to make an appointment with the Writing Center:

I am sure some readers found the link with ease. Others will say that there may be better ways to draw students' attention to the Writing Center. Usability testing will help me better understand if my design choice was useful to the students or not.

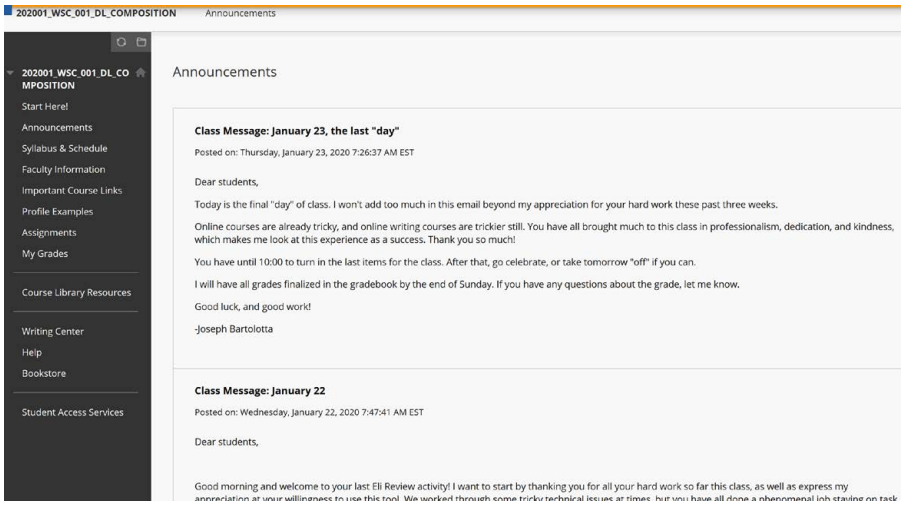

Figure 18.1. Can you find where students are supposed to access the Writing Center in this page?

Note Your Own Assumptions

It's important to note what sort of assumptions you are basing your design strategies from as you enter a usability test. Acknowledging your own assumptions gives you a point of departure as you imagine ways improve your course's design. You can turn your assumption into a user experience map as well, a visual representation of the major points on your student's journey to complete the task you identified in the previous step.

I have a link to my institution's writing center on the left navigation bar of my LMS homepage. I would make a note to myself that I would expect the user experience journey for my students would be broken into smaller sub-tasks, most likely looking like this:

1. Find the link to the "Writing Center" link on the left navigation of the LMS homepage.
2. Once on the writing center's homepage, click on the "Make an Appointment" box on the right side of the screen.
3. On the next screen, fill out the requisite information to make an appointment with the Writing Center

Usability experts would turn this into a user experience map to help visualize the route users take to complete an activity. This is what my very brief user experience map from the scenario I described looks like:

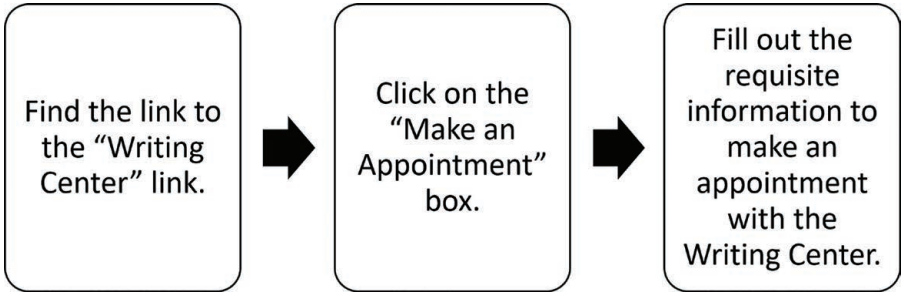

Figure 18.2. A simple activity map with sub-tasks.

It is short, but that is the point; introducing students to user testing practices does not need to be overly complex. It is also important for teachers to keep track of what their assumptions are going into the activity, as this will help uncover some underlying assumptions about design in general.

Naturally, we could we imagine several ways students might make this journey, but focus on what you think is most likely for now. This will be important for later as you evaluate how your assumptions aligned with student experiences. You may find that students have skipped a step or found themselves adding more steps you did not foresee.

Instruction on detailed prose

The best user experience data is usually the most detailed. This offers usability researchers precision in knowing which design elements need the most attention. Consider perhaps having students first write about a simple task, such as writing a set of instructions teaching a new student how to walk from some place on campus to the nearest off-campus pizza parlor. Ask students to share their descriptions of the journey someplace where other students can see it; perhaps on a discussion board or a shared file.

Students will write their directions with varying degrees of detail. Some may write street names and exact measurements of distance, while others may use campus landmarks to help their audience navigate the route. Later, students can look at what their peers wrote and start to have a discussion about what sorts of details were necessary for the instructions.

Modelling

Consider offering a model where you perform a speak-aloud protocol describing your own user journey while navigating a website. Of course, you will want to avoid the same task that you are asking your students to perform. I suggest modeling how you look for a book in the campus library. I am a big fan of screen capture technologies such as Camtasia and Screencast-O-Matic. Those technologies are particularly helpful if you are trying to teach students how to navigate something on a website. Using screen capture technology, and starting on your own browser, show students what steps you go through to get access to the book. Tell them what you are looking at as you make decisions about where to click. This activity will surely take more time than you would usually spend completing the same task, but that's the point; it is important to let students know that they are making many decisions when they interact with online systems. What they click, what they decide not to click, where they search for information; these are all important components of their journey.

It can also be useful to mention what items on the screen you find helpful. If there is a big blue button that lets you know how to best search for a book in a particular way. As we know, having a sense of what works in writing and design is just as useful as knowing what does not. Get students into the habit of commenting on both the shortcoming and enhancements of the designs they interact with.

The Students Test

Finally, it is time to have students perform their own usability test. Give them a task. In my case, I want them to get to the website where they make an appointment with the writing center. Invite students to find creative ways to make notes about their journeys. If students have a phone with a voice recorder, they could

record their thoughts as a similar speak-aloud practice as they complete the task. Once students feel they have completed the task, have them write up a detailed summary of their experiences and submit them to the instructor.

Debrief

Find a way to debrief students about their work. Collect all of their writing and take some notes about what you see. Was there a typical journey students took? What were the major deviations from each other? Go back and look at your own assumptions about the student's user journey—did students take a similar path to what you described.

Most importantly, let students know how you plan to incorporate their feedback into your course design. Be self-effacing about the effort; let students know about your design decisions in the context of design and writing being an iterative process. Show students the way professionals respond to feedback and give them a sense of how their work could make the course better for both themselves and future students.

Final Thoughts and Application

PARS gives us some nice theoretical frame so we can articulate some approaches to using the best practices in designing and carrying out our online writing courses. I like to think that usability testing can be one of the tools we use to put the ideas presented in PARS into practice. Usability in the Strategic Golf Bag of OWI, if you will. Perhaps, in keeping with the golf metaphor that helps us understand PARS, we can think of usability testing is one of the many clubs in the OWI golf bag. Each club represents a tool we have in shaping effective and inviting courses for our students. I like to think that usability testing is like the sand wedge; it gets us out of bunkers. Over 18 holes even the most seasoned professionals find themselves stuck in a bunker. The wedge can get us out of the sand and back on track to making PARS.

However, we must remember that the club is only as good as the golfer. When you sit down with the student responses, start to explore if some of the challenges students are facing are deeper than simply completing course work. If students are having issues connecting to the internet, do not have access to the textbook, or find the amount of time it takes to complete a task to be too much, you may need to think deeper about adjusting some of the larger parameters of the course. This can be a challenge, but it is also a way to design a course that is more accessible and welcoming to your students, and helps you revise your future courses more strategically.

What I have put forth here is an activity designed to introduce students to descriptive writing practices and letting them see how writing and design are iterative processes. User testing helps to make your courses more strategic and ac-

cessible. Usability testing can help you can get the sort of feedback that can make you more thoughtfully consider your design choices while also engaging students in responding to your course design. As you become more comfortable with the method of usability testing presented in this chapter, you can start to tiptoe into more complex practices like having students test more complex tasks or splitting them into groups to face different designs that you are working on in the course (this would be a form of A/B testing). There are many more exciting and pedagogically rewarding ways to engage students in your course design.

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