Chapter 17. Ensuring High-Quality Student User Experiences: PARS and the Technical Communication Online Writing Class

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Abstract: When teaching online, our students are functioning not only as learners within our courses, but as users of the technologies and resources we utilize to facilitate their learning. User experience design (UX) can thus be a useful process for teachers of online writing classes, especially those that are teaching classes in technical communication. The UX Process invites teachers to develop classes that are usable and useful through preliminary research, prototyping, usability testing, and maintenance. These are processes that teachers of online writing classes already use in some form or another, whether they realize it or not, but this chapter illustrates the full UX process for course development, with PARS as the definitive goal of an online student user experience. Treating PARS as the definition of a high-quality user experience for student users of online writing classrooms means ensuring that online courses are developed, implemented, and continuously improved in the direction of being personal, accessible, responsive, and strategic. PARS-committed instructors, like their UX counterparts, need to be willing to shift and change over time as well, always remembering that the primary goals is the best student learning experience we can deliver.

Keywords: user experience, technical communication, course development, instructional design

When teaching online, our students function not only as learners within our courses, but also as users of the technologies and resources we utilize to facilitate learning. This is never more the case than when teaching an online technical communication class. In such a class, students often face not only technological hurdles, such as navigating a course website or learning management system (LMS), but also hurdles that involve technical knowledge-making, such as how to build a website of their own or how to draft a technical report that uses Plain language. In all online courses, we must think about the experiences students have as users of our courses. In online technical communication courses, however, it is often the difference between success and failure for many students.

In this chapter, I will lead readers through the user experience (UX) process,

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with PARS as the definitive goal of an online student user experience. The central term for UX work beyond the classroom is the UX Process or UX Lifecycle, which can be defined as the sum total of activities that need to occur to ensure a high-quality user experience (Hartson & Pyla, 2012). These stages typically include preliminary research, prototyping, usability testing, and maintenance. Treating PARS as the definition of a *high-quality user experience* for student users of online writing classrooms means ensuring that online courses are developed, implemented, and continuously improved in the direction of being personal, accessible, responsive, and strategic. This will involve a brief discussion of PARS and how it intersects with UX, an exploration of the UX Process, and finally a road map of how PARS can be practically applied at each stage of the UX Process during course development. Sprinkled throughout will be actual examples of my own teaching strategies to illustrate key points. And I will also emphasize how instructors with no background in UX can fold this process into their regular course development activities, and how, in fact, it will benefit them to do so.

PARS Meets UX Process

UX can be defined as the sum total of activities needed to create a high-quality user experience. Although intersections of UX and online pedagogy, such as universal design for learning (UDL), have developed a strong history in education research as approaches to accessible pedagogy for all learners (Coyne et al., 2017; Hall et al., 2012; Meyer et al., 2013), and though the field of technical communication has demonstrated dedication to UX and universal design for over a decade (Dolmage, 2009; Melonçon, 2013), practical approaches to UDL, such as PARS, in technical communication classrooms are scant with a few notable exceptions (i.e., Borgman & McArdle, 2019; Walters, 2010; Williams et al., 2013;). In their previous book, *Personal, Accessible, Responsive, Strategic: Resources and Strategies for Online Writing Instructors*, Borgman & McArdle (2019) define the following goals of the PARS process, when applied to instructional and course design strategies (p. 7):

- Cultivating relationships virtually with students (Personal)
- Creating an identity and presence as an online instructor (Personal)
- Setting boundaries for instruction/grading/virtual availability (Responsive)
- Handling the extra written communication (Accessible/Responsive/Strategic)
- Responding to student writing in digital environment (Responsive/Strategic)
- Creating an entire course prior to the class ever meeting (Accessible/Responsive/Strategic)
- Being strategic in pedagogy and facilitation of a course (Personal/Strategic)

- Cultivating support from the WPA or department chair (Personal/Responsive/Strategic)

In other words, courses that are personal, accessible, responsive, and strategic (PARS from here on) should involve all the above activities. In the world of UX beyond the classroom, we would call these goals *requirements*. When UX specialists begin work on a product or service, you see, they begin by defining what the requirements are for the product or service, both from the standpoint of an organization's goals and from the standpoint of users. In the case of online course development, the touchstone we are seeking is between the institution's standpoint, the teacher's standpoint, and the student's standpoint. Online writing courses are a service offered to students (users) who are seeking to learn some aspect of writing. Teachers offer them because they are required to by their institutions and/or because they fit their pedagogical goals. Institutions benefit from these courses by providing required classes to students in an accessible manner that doesn't require physical space. UX happens where these student goals, teacher goals, and institutional goals meet.

Like learning, UX is both a process and a product (Allabarton, 2019). It is a process in that it provides a roadmap for the process of creating digital experiences that ensure a high-quality experience for users. And it is a product in that the outcome of the UX process can be defined as a product called *a high-quality user experience*. So, just as students who engage with an online technical communication course (or any online course) need to have certain experiences to successfully navigate the course, their combined experiences in that course are a product of all the activities, technologies, and interactions they encounter. When seen this way, PARS becomes a list of requirements for balancing the goals of institutions, teachers, and students within an online course. And UX specialists excel at designing digital experiences based on requirements.

Like learning, UX can also seem more complex than it actually is. What follows is a rather technical description of the UX process to give a sense of what it entails. UX is formally practiced in higher education, but is far more prevalent outside of academia, where web designers, mobile app developers, and creators of other IT products and services regularly use it to increase usability and usefulness. It's important that all practitioners of UX have a firm grasp of these basic concepts.

As mentioned previously, the central term that UX specialists use to define their design process beyond the classroom is the UX Process or UX Lifecycle, which can be defined as the sum total of activities that need to occur to ensure a high-quality user experience (Buley, 2013; Garrett, 2003; Hoober, 2014; Hartson & Pyla, 2012; Morville, 2007). This process is typically depicted as a series of stages that a designer (or more often: group of designers) goes through to produce a digital product or service for a specific community of users. These stages are:

1. Preliminary research
2. Prototyping

3. Usability testing of prototype
4. Maintenance

Essentially, designers start by doing preliminary user interviews, preferably conducted in the context in which users will be using an application. These interviews might be followed up with observational sessions in which UX specialists note common work practices, technology usage, and other elements of the users' context. From this contextual data, a rough prototype of the application (i.e., a simulation of one or more features of the final product) is developed. In the past this has commonly started with the development of a paper prototype—which is still the case according to my anecdotal interactions with UX practitioners—but often quickly proceeds to the development of a low-fidelity, or simple and low-tech, clickable prototype that can be used in usability testing. This prototype is then refined through succeeding rounds of usability testing until it reaches high fidelity, or very similar to the final product, and then is finally launched as a product or service. Maintenance of the product or service often entails updates, design tweaks, and content strategy for the product, with the design process beginning again in earnest when an exigence for major changes arises, such as changes to web standards or organizational goals.

If that sounds like a lot of work, it is! And if the UX process seems overwhelming, that is also a common concern. However, instructors who have taught online before may also recognize some of their own course design process described above. Many of us have done lots of preliminary research, even talking to students about their needs, while designing our courses. And we have *all* created prototypes of our online courses before they ever launch, whether that is a combination of a course website, a syllabus, a list of activities, a learning management system, or all of the above! Many of us then share these prototype classes with our colleagues for testing. That's why for the remainder of this chapter, I'm going to illustrate each stage of the UX Process and how it can be applied to the design of online technical communication courses, or any online course. For each stage, I will also highlight how the list of PARS requirements I mentioned above can be implemented. At the end of this chapter, readers should have a much firmer grasp on how to apply the UX Process to their course design and will hopefully be convinced that this will help them produce better online writing courses.

Preliminary Course Research and Development

The most important step in developing an online writing class that will include PARS learning goals is understanding the mental models and overall expectations of students who will take the course. Nielson (2010) reminds us that what a user believes about a system, like the collection of people, technologies, and interactions that make up an online writing course, affect how a user is able to use that system. The collection of these beliefs and expectations is called by UX designers a mental model. Assessing the mental model of incoming students is

particularly important in a field like technical communication where students often come to classrooms with little to no knowledge of the specific workplace contexts being explored.

And anyone who has ever taught a class has assessed the mental models of their prospective students, whether they realize it or not! Whenever we begin to design an online class, we teachers think about things like:

- What introductory experiences will students need to familiarize themselves with the course materials (Personal/Strategic)?
- What technologies will help students best communicate with the teacher and with each other (Personal/Accessible)?
- What challenges might students face as they begin to work on course activities, including those related to technology, social interaction, and learning style (Strategic/Accessible/Responsive)?
- What biases might students enter the class with that should be addressed (Personal/ Accessible)?

These are all questions similar to those that UX designers ask their users when building a new application.

Often, designers will interview prospective users to gather data on their individual mental models. They then code this data to look for patterns amongst their user base and display this data as personas, or archetypal users (Goltz, 2014). That often isn't realistic for teachers, however, whose students don't engage with a class until it launches. That's why I recommend to teachers that they come up with what are sometimes called "assumption personas," or personas that are based on what the designer, or in this case the teacher, thinks their users will be like. Much of the information for an assumption persona can be gleaned from our institutions which share information with us like our students' demographics, majors, and career goals. Such personas should contain info like the following:

> Name
>
> Photo (can be gathered from online student records)
>
> Demographics (age, race, gender, location, occupation)
>
> Story: what makes them a want to take this class? What values do they bring to the class?
>
> Goals and Challenges: what is the student-user trying to accomplish with the help of this class? What pain points might they experience that can be alleviated through experiences they have in the class?
>
> How I Can Help: what can I (the teacher) build into the course to help this type of student-user achieve their goals and alleviate their pain points?

Note the above use of the phrase "this type of student-user." Users are all different. There is no rule about how many personas represent a given user base, but there are typically more than one. For an example student persona and more tips about how to create one, please see Getto and St.Amant (2014).

Some good starting personas to think of are students with some experience in the course material, students who have no experience whatsoever in the course material, students who will struggle heavily with the course material, and students who will struggle with the technological aspects of the course. Planning for these four basic personas will help teachers create welcoming, usable online course environments that can cater to a broad array of student-users.

Some scholars and practitioners have expressed concerns that personas can promote biases by underrepresenting already underrepresented student groups. This is a danger *if personas are not representative of your actual students,* which is why it's important to craft personas for the students in your actual course, rather than using predefined ones. After the course launches, it's important to update your personas based on the students you're actually teaching. Once teachers have an idea of who their student users are, it's time to prototype a course environment!

Prototyping Online Tech Comm Courses

After a basic, PARS-oriented student user experience has been defined, instructors need to assemble a collection of technologies that will enable them to bring that student user experience to life. This will most likely include some combination of:

- Learning management systems (LMS; i.e., Moodle)
- Content management systems (CMS; i.e., WordPress)
- Social media platforms (i.e., Twitter, LinkedIn, Tumblr)
- Proprietary resources (i.e., online textbooks, peer review systems, etc.)

The most important part of this step is ensuring that all technologies used form a coherent technological environment that actively enables PARS-related goals mentioned at the beginning of this chapter. Too often, we load our online courses down with the latest and greatest technologies only to find that there might be an older, more reliable one, such as email, that would solve problems more simply (PARS: Strategic/Accessible). Sometimes our institutions require the use of some technologies over others. There are always limitations as we build online course environments, just like in the private sector when UX designers are subject to budget limitations, deadlines, organizational goals, and other project specifications.

Prototypes are used by UX designers to create a simple version of an application for testing before designing the whole thing. The goal is to spot problems early on so they don't spread throughout the whole application (Cerejo, 2010). A great way to start this process is to think about the first three or four interactions a student-user might have with an online course. These interactions might include:

- Introducing themselves to the teacher and other students (Personal/Responsive)
- Completing and submitting their first assignment (Accessible/Responsive/Strategic)
- Collaborating with their peers on a shared assignment (Personal/Responsive)
- Asking for help when they get lost and don't know how to proceed (Personal/Responsive)

Teachers might create a learning environment that enables such interactions in order to look at things from the student's point-of-view. Many LMSs include the ability to launch a course with a test student user account that can only access what students will see, for example. Regardless, teachers should create a simple prototype of their course *before designing the entire course* to try to spot usability problems early on, before they get built into the entire workflow of the course. It's a lot easier to fix an online interaction that occurs once than it is to fix that interaction if it has been embedded dozens of times. Once teachers have a simplified course environment that they think will meet the needs of prospective student-users, it's time to do some usability testing to improve the prototype before launch.

Usability Testing Online Tech Comm Courses

The development of every PARS-enabled online course should also include some level of usability testing, but to manage this process as part of an already-complex course development process can be challenging for online writing instructors. In the private sector, UX designers often do small batches of usability testing with an average of five users throughout a product development cycle (Nielsen, 2012). In order to fold regular usability testing into the course development process, then, instructors can do two different types of usability testing:

1. Initial testing of a simplified prototype of the course before launch (Accessible/Strategic).
2. Using student reports of problems or issues from the initiation of contact (i.e., pre-course surveys or introductory emails) as opportunities to improve the course (Accessible/Responsive/Strategic).
3. As far as the formal process of usability testing, it is relatively simple (see Figure 17.1):

For a full assignment sequence that includes a list of sample usability test questions, please visit guiseppegetto.com/engl3040/module-4-2/.

This is the process as it is practiced by UX designers. Instructors of online courses (both tech comm courses and otherwise), should feel free to adapt the process as needed. They might get some past students to usability test a course they're developing, for example, or they might go through the prototype themselves and really try to see it from the perspective of different student personas.

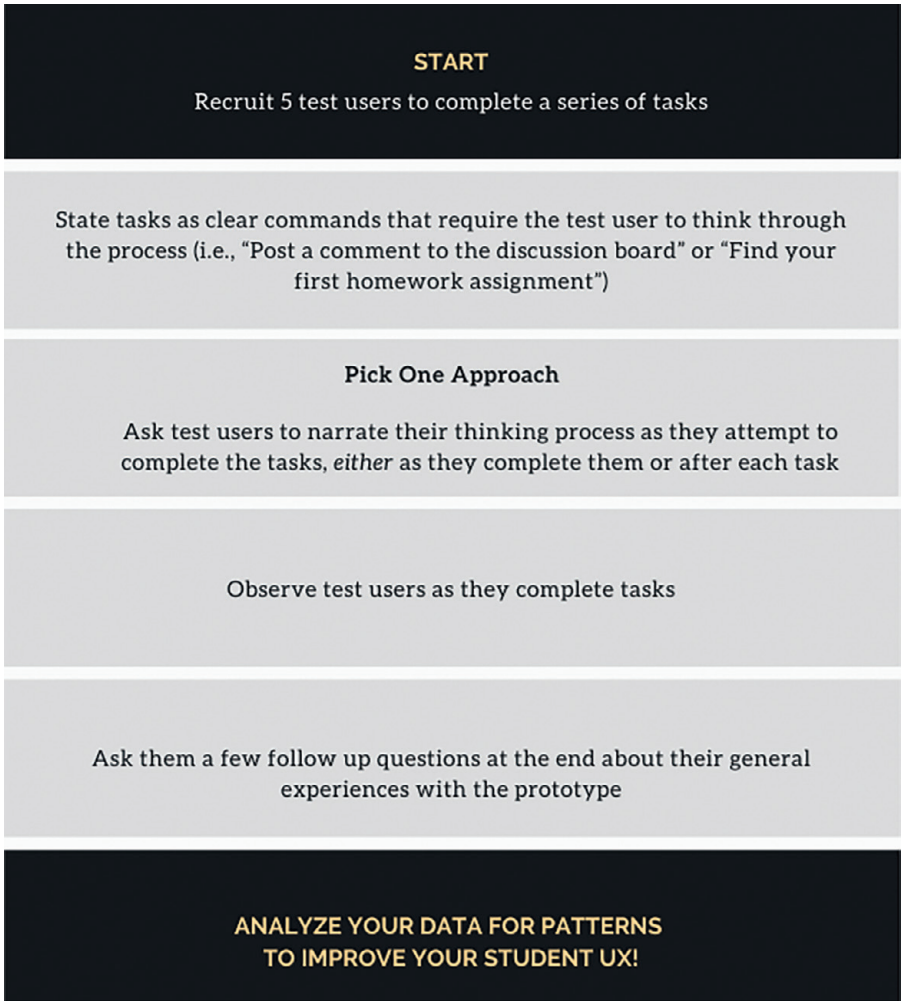

Figure 17.1. Usability testing process.

Maintaining Online Tech Comm Courses Over Time

Rather than a series of discrete stages, the UX process as applied to the development of PARS-enabled online courses should be thought of as a series of heuristics that guide decision-making over the entire lifecycle of course development, including after the course is taught more than once. UX designers in industry work to continually improve the products and services they are responsible for, and online writing instructors should be no different: the process of research, prototyping, and testing should become a natural part of online writing pedagogy. As instructors solve problems reported by individual students, for example, these solutions should then

be prototyped as potential course-wide solutions that can be tested more broadly, thus gradually improving the course over its entire lifecycle.

I still have many of the original prototypes I created years ago when I first began teaching online. And I have many student personas, snippets of feedback, and comments from evaluations that continue to guide me. The goal of UX is never really fulfilled because, just as it is in teaching, the needs of users shift and change over time. PARS-committed instructors, like their UX-counterparts, need to be willing to shift and change over time as well, always remembering that the primary goals is the best student learning experience we can deliver.

Maintaining online writing classes should include activities like the following:

- Reflecting on overall course design, including individual assignments, assignment sequences, and technologies used, each time a course is taught (Responsive/Strategic)
- Adapting courses to new students, learning outcomes, and institutional goals (Accessible/Responsive/Strategic)
- Ensuring that best practices in course technologies are followed, meaning all technologies follow institutional guidelines and are updated, accessible, and responsive to student needs (Accessible/Responsive)
- Doing additional usability testing of new prototype assignments and other course activities (Accessible/Responsive)

Maintenance is the easiest part of UX to neglect. What worked in a past iteration of a course will probably work this time. This is a mantra we often tell ourselves as teachers, but the reality is that student goals, teacher goals, and institutional goals are changing all the time. We have to continually adapt our OWLs to produce new student user experiences that align with these different interests.

This isn't to say that maintenance requires a fresh start every semester, of course. An important part of UX is also avoiding analysis paralysis where we are afraid to do the same thing even if it has been successful because we haven't tested it with a specific group of students. It's better to prioritize testing new assignments and activities, as these are the most untested and hence the most likely to fail. That being said, we must also use reflection time between courses to look for blind spots in our courses. Are there elements of courses we have kept around because they serve our goals but not institutional or student goals? Or, are their elements that are popular with students, but don't serve institutional or teacher goals? Are institutions mandating language or policies that don't align with learning goals? These are the kinds of questions OWL instructors should be continually asking themselves.

Final Thoughts and Application

When applying the UX process to online writing classes, teachers should think of UX as an additional tool kit to assist with course planning, development, and re-

vision, not as an additional burden to these processes. We all have questions that arise when planning an online writing class, whether we are teaching the course for the first time or for the fiftieth. These questions might include:

1. Which assignments were most successful and which were least successful?
2. Were any intended learning outcomes neglected? If so, why?
3. Were all student needs met? If not, why not?
4. Were there particular aspects of the course (i.e., communication, assignment sequencing, accessing technology, etc.) that many students struggled with?
5. What issues with course design came up repeatedly in student evaluations?
6. How do I (re)develop this course to meet student expectations while also implementing institutionally-mandated learning outcomes?

UX can help us answer these questions by helping us test out our solutions to problems before we implement them. Specifically, the following elements of UX described in this chapter can help with the following questions from above:

Question 1: Usability testing of prototype

Question 2: Preliminary research

Question 3: Preliminary research

Question 4: Usability testing of prototype

Question 5: Preliminary research

Question 6: Maintenance; Prototyping

The UX process, you see, is never finished. Only when a product or service is retired due to obsolescence can we stop adapting it to user needs. As long as we are teaching an online writing course, we must continually adapt it to align student goals and institutional goals with our own. When we notice areas of misalignment, we should begin the UX process over again by inventing a new prototype and testing it with current users. This is how the best technology companies in the world continue to provide exceptional experiences to their customers. And likewise: as teachers we must strive, year after year, semester after semester, day after day, to provide exceptional experiences to the student users whom we serve.

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