5. Card Sorting as a Way to Prioritize Content for Websites

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Abstract: Prioritizing content is an important part of developing a content strategy. As a research method for websites, card sorting has most frequently been used to categorize content and create an information architecture. In this chapter, using a user experience/user-centered design methodology, I investigate how useful card sorting would be for prioritizing topics as part of developing a content strategy. First, I review the results of a site visit that provide topic ideas for website revision. Then I conduct a card sorting activity where users group content into tiers. Finally, I validate those tiers through user testing, observing users as they complete tasks on a prototype and using active intervention to gather self-reported data. The card sort provided a strong indication of what topics were most important to users, showing me which content needed prime real estate and more focus on the site. In the user test conducted to validate the results of the card sort, only two topics shifted up a tier, the rest (four) remained in their original locations. The results suggest that web writers, content strategists, and technical communicators who have identified appropriate topics can use card sorting to help them prioritize their content.

Keywords: Card sorting, content strategy, websites, user experience

Content strategy "continues to evolve" and endure "growing pains," meaning we need more research to help technical communicators better implement key principles (Bailie, 2019; Sedmak et al., 2019). The broad brushstrokes were largely set throughout the last decade: professionals need to address content throughout its lifecycle, identify effective processes to evaluate and maintain content, and put the right people in place to produce and approve content (Halvorson & Rach, 2012; Kissane, 2011). The methods we use to achieve those goals still need a plethora of research.

We are, however, making progress. Sedmak et al. (2019) created a framework that helps "communicate current state, show the evolution of deliverables, identify content issues, and guide future planning." This approach appears more helpful in keeping track of the scope of an organization's content than the traditional spreadsheet. Researchers have sung the praises of audience analysis tools such as personas to "allow the voice of users to be heard without sacrificing rhetorical appeals or the designers' rhetorical agency" (Friess, 2017; Redish, 2014). We have also seen maturity models introduced to help technical communicators "assess

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content operations, identify gaps, and then develop a content strategy" (Campbell & Swisher, 2023). Sparingly, practitioners have been able to read about other professionals conducting content strategy projects in their own context (Getto & Labriola, 2016; Ting & Ding, 2023).

However, one understudied part of content strategy is what methods we use to prioritize content. Prioritization is a vital part of the process of creating and maintaining effective content (Halvorson & Rach, 2012). For websites, this may be especially important because of users' tendency to skim through content until they find something they want to read (Nielsen, 2006; Redish, 2014). Tang and Huiling Ding (2023) encourage professionals to base prioritization on user research and emphasize that it is vital in intercultural contexts, but what methods best help writers isolate prioritization so that they can make good informed decisions?

We have examples of researchers collecting this data through surveys and ideation workshops (Crane, 2022; Thominet, 2022), both methods having strengths and weaknesses that I will discuss in the literature review.

User testing is another way to get at prioritization, but UX (user experiences)/UCD (user-centered design) best practices suggest it is essential to build the first prototype off of previously collected data (Still & Crane, 2016). Also, using other user research methods in conjunction with user testing can create more valid results, allowing researchers to triangulate and reinforce data (Still & Crane, 2016; Sundt & Eastman, 2019). In my context, there was little sense in creating a prototype without some understanding of prioritization first, so I looked for a method that would allow me to isolate, as much as possible, the prioritization of content. I considered several methods, but the more I read about card sorting, the more opportunity I saw.

First, card sorting had traditionally been used to separate information into categories, which was the very thing I needed a research method for (Nielsen, 2004; Righi, et al., 2013; Sundt & Eastman, 2019). Second, Meghan Casey (2023) suggested card sorting, or what she calls "topic sorting," might be a good method to better understand user's content needs and how they prioritize content. These two facts combined made me curious about how effective card sorting could be, and because there are few studies exploring card sorting's effectiveness for this purpose, I decided to research it myself as I worked through a larger project.

This IRB approved study[1] uses a UX/UCD methodology to investigate how well card sorting helps web writers, including technical communicators, prioritize their content early in the process. While the specific results are not generalizable, the practice of using card sorting to prioritize content may be. That is, if it works in my context, web writers may be able to adapt the practice in their context with success. In the next section, I discuss the literature surrounding content strategy, prioritization, and card sorting.

1. Texas Tech University, 2019.

Literature Review

Communicating through technology is a core competency for technical communicators, and websites are a common technology for which they create content (Society for Technical Communication, 2023). Organizations write, including on websites, "to connect with others inside and outside the organization to accomplish key organizational goals (Hart-Davidson et al., 2007), but unless users find the content they want and can use it for their purposes, they will quickly move on to other options: connection lost. That makes effective content an important part of the user experience (Garrett 2011; Redish 2014). Because of this reality, organizations need to create a content strategy that provides the information users are looking for and sends messages that correspond with organizational goals (Halvorson & Rach, 2012).

Content strategy is what "guides your plans for the creation, delivery, and governance of content" (Halvorson & Rach, 2012). It seeks to direct the process of content development throughout the information's entire lifecycle (Clark, 2016). In this way, content strategy is an expansion of content management in the same way that UX is an expansion of usability (Bevan, 2009). Whereas content management is concerned with "organizing, categorizing, and structuring information resources so that they can be stored and reused" (Hackos, 2002), content strategy takes a broader approach to include every moment of the content lifecycle from conception until archiving or deletion (Clark, 2016; Rockley & Cooper 2012). It answers questions about business needs, content needs, user needs, operational needs, and technology needs, all part of creating, evaluating, and maintaining content products long term (Bailie, 2019).

Most importantly for us, content strategy for the web "typically addresses marketing content and brand messaging" (Sedmak et al., 2019). As we tried to grow our program, we needed to send a clear message about who were and what distinguished us from other writing programs.

Kristina Halvorson and Melissa Rach (2012) divide content strategy into four broad components with a core strategy guiding decisions in each category:

- **Substance**: What messages do we want to send? What content and tactics do we need to effectively send those messages?
- **Structure**: How is content "prioritized, organized, formatted, and displayed?"
- **Workflow**: How does content get evaluated, published, and updated? What people and processes are involved?
- **Governance**: Who is in charge of the content? How are key decisions about content and strategy made?

Substance and structure are the content components while workflow and governance are people components. The content components obviously relate closely to each other. In substance, topics and tactics work together to send messages.

Topics are what we write about while tactics are the methods we use to discuss those topics and send messages (Garrett, 2011; Halvorson & Rach, 2012). Once an organization knows what topics to write about, what messages to send, and how to convey those topics and messages through tactics, they must prioritize those topics and messages to deliver the best experience for their users because not all content is equal in importance to an audience (Casey, 2023; Garrett, 2011). That's what the structure component of Halvorson and Rach's model provides. It tells us that to lay out a page well and to write the most effective content, we must first prioritize that information. Further, Ting & Ding (2023) conclude that one of the most important strategies for web communication in intercultural contexts is to prioritize content using user research and work on prioritized elements before secondary ones.

Understanding what to prioritize is the challenge, and it requires us to "invest in research and testing" (Halvorson, n.d.). Of course, user testing will play a role in prioritizing content, but alone, it is insufficient because web design scholarship calls for an initial prototype to be built off data already collected from the organization and users (Still & Crane, 2016). Web writers are producing content for the first prototype off of something: either their own experience and knowledge, which can be faulty by itself, or through the input of users and data. Ideally, card sorting and user testing will be used together to validate the structures web writers want to put in place (Sundt & Eastman, 2019).

Casey (2023) suggests using the following methods:

- Surveys
- Task identification activities
- Search intent analysis
- Topic sorting

For my context, the most compelling method from previous research was "topic sorting" (Casey, 2023). Topic sorting is essentially card sorting: having users organize cards or sticky notes into categories that correspond with how important they view those topics (Casey, 2023). Her suggestion is a departure from the purpose of most card sorts but because the method has always been about creating categories from items, it makes sense.

For websites, card sorting has typically been used to help create an effective information architecture, organizing content in a structure that users can recognize and use (Nielsen 2004; Righi et al., 2013; Still & Crane, 2016). It offers a "systematic and statistically significant process for answering questions about hierarchy design" (Hawley, 2008). The method has proven effective in empirical studies, improving users' efficiency on websites and reducing errors (Ntouvaleti & Katsanos, 2022), but the way that researchers conduct card sorting will affect results (Sheldon, 2015). Users either sort data into predetermined categories, a method called closed sorting, or are allowed to make their own categories, a method called open sorting (Righi et al., 2013; Sundt & Eastman, 2019). In both

cases, they may be given items to sort into the categories or asked to provide their own items. At the end of these sorts, researchers have a good idea of the information architecture that users expect to see on the site.

However, information architecture tends to focus on "structure and functionality," not the content details on each page (Halvorson & Rach, 2012). While this process is essential, a compelling user experience also depends on writers creating compelling content on accurately prioritized topics. This chapter builds off Casey's (2023) suggestion and investigates how card sorting can help web writers prioritize their content and identify appropriate tactics before the initial prototype. The idea is not to replace card sorting for information architecture purposes, but to add another use for an already established method: prioritizing content. I believe this paper fills two important gaps:

1. We do not yet have studies that assess how useful this method is for prioritizing content prior to creating drafts or prototypes of a website.
2. We do not have many examples of what this practice looks like within specific contexts. Practitioners often learn from seeing how others have used methods, giving them a model they can adjust to fit their own needs.

In the next section, I discuss the context and work that led to the card sorting activity, providing necessary context for how I used this method.

Project Background

The university is a private school in the Midwest with between 4,000 and 5,000 undergraduate students. When I arrived at my academic institution over a decade ago, the university website had only two sentences about the Professional Writing (PW) major. A year later, the program faced an enrollment crisis: it had zero incoming students, and the administration was beginning to take notice. The program faculty immediately took steps to address a number of issues, including the website. But while the site improved, it remained static and inflexible for several years. In terms of recruiting, PW was missing opportunities. Like most big decisions, prospective students took months to decide what school they wanted to attend and what they would study. PW faculty needed a strategy to engage students throughout the process, a reason for them to interact with the website and other content multiple times.

The program also went through a significant rebranding that the website did not immediately reflect. The PW faculty wanted a process for how to regularly update the site with important and exciting information about the PW program, and we had lots of ideas. But even on the web, space is limited, at least by convention. Users historically have skimmed through sites to find what they are looking for before reading, and too much content can overwhelm them, driving an audience to other sites (Pernice, 2017). Our webpages should not be a repository for all the information we could ever provide about the program (Redish, 2014).

Instead, we needed to understand both what we wanted to communicate about ourselves to prospective students and what content that audience needed to help them decide on programmatic fit (Garrett, 2011; Halvorson & Rach, 2012).

Putting the work of technical communication into practice, I set off to identify what topics, tactics, and messages we needed to succeed, classic elements of content strategy (Casey, 2023). During the process, it became clear how insufficient it was to gather the necessary topics and tactics without prioritizing them. After all, like all sites, the university's redesign provided priority spaces on program webpages and other spaces that readers would only see if they dug into the details. Our priority content needed to occupy priority spaces, meaning we needed to correctly identify what content was most important and present that information in a form that resonated with users. My research into prioritization methods led me to card sorting.

This card sorting activity was part of a larger project to remake PW webpages on the university website. Concurrent with this research, the university redesigned their entire website, an activity that dramatically changed the way information was presented. These changes provided the perfect opportunity to address the web content needs of the PW program.

The full research project included site visits, organizational analysis, competitor analysis, card sorting, and three rounds of user testing with prototypes of various fidelity, but this paper highlights those methods before the first test that were focused on identifying topics to write about on the PW pages and how to prioritize those topics. It then uses the results of the first test to validate the findings of the card sort.

In the research leading up to card sorting, I did site visits to get a sense of what topics users wanted to engage with on the site. A site visit is an "intensive" method that helps designers identify how users use a product or service in their environment (Still & Crane, 2016). The site visits built the foundation that allowed me to conduct the card sorting activity. In the following section, I detail how I completed the site visits and what the relevant results were to this study.

In the site visits, users browsed the university's current professional writing pages. I asked them to interact with the site as they normally would, engaging with only the content that interested them and ignoring what they would normally ignore if I were not present. All three users were first-year PW majors who had not completed any courses in the program as full-time students. I greeted each user and explained what they would do on the site. I used active intervention and talk aloud protocol (Still & Crane, 2016) as I collected user, task, and environmental analysis during these site visits. For each of these three categories, I took handwritten notes on paper, trying to capture every relevant detail (Gaffney, 2015). Specifically, I collected information on the following.

User Analysis: I wrote down any information that gave me a better understanding of how the user thinks and/or why they performed certain actions. This

information was both verbal and non-verbal and collected through observing the user's actions and gathering self-reported data by way of talk-aloud protocol and active intervention. I also took notes on the actions of users as they engaged with the current site.

I gathered information about user preferences on this site, the way they used the site, and their satisfaction and enjoyment of the site. We want users to do more than tolerate a product; we want them to enjoy it (Still & Crane, 2016).

Task Analysis: I documented every task and sub-task the user performed on the site by taking notes by hand, paying attention to both what they engaged with and what they appeared to ignore. Through user analysis, I asked users why they interacted with some content and did not interact with others.

Environment Analysis: While the environment may not affect user behavior much in this context, I still wrote down information about the environment, such as noise levels, other resources the user used, and if anyone or thing interrupted the user.

After users finished browsing the site, they were asked two questions that in part attempted to understand what characteristics made up the brand community of this undergraduate professional writing major (Christiansen & Howard, 2017):

1. What questions do you still have about the program?
2. Who are our competitors?

After users answered these questions, I thanked them for their participation and ended the session.

Because the site visits are not the focus on this paper, I do not provide the detailed results, but a few of the lessons learned are vital to the rest of this research.

While I wanted more information to draw concrete conclusions, the site visits suggested that the skills taught in the program, specifically the writing style they would learn, and career opportunities were perhaps the most important topics to users. Students also seemed interested in the curriculum, a broad description of the program that framed it for them, opportunities to apply their skills outside of the classroom, and what the experience inside and outside the classroom would look like in this major.

The site visits revealed that users typically engage with content in the order in which it appears on the page. Users scanned the top content first and moved their way down the page until they found information they wanted to read. This discovery was not surprising, but it does reinforce that writers need to carefully prioritize content. The most important content (information that best supports organizational goals and addresses user needs) requires space near the top of the page.

Now that I had a list of topics that users want to read about on the site, I needed to identify which topics were the most important to them. My methods were two-fold. I conducted a card sorting activity and will show what that process looked like and how I made prioritization decisions based on the results. My

second method was a low-fidelity protype test used to validate that I was writing about the most helpful topics and had prioritized them correctly. This study will show whether the card sorting activity, built on my site visit, help me accurately prioritize topics before my first test.

Card Sorting Method

I conducted the card sorting activity with three users to identify how they prioritized the site's topics. Card sorting typically requires a bigger sample than three users with suggestions ranging from six (Still & Crane, 2016) to fifteen (Nielsen, 2004). I chose to use only three users because the goals of the card sorting activity overlapped with the goals of the site visit. In both, I sought to identify what topics users wanted the site to cover, how they prioritized those topics, and how they wanted those topics presented (tactics). Because I could combine data from the site visit with the card sorting activity for a fuller picture, I chose to use only three users.

I had two female participants who had just joined the PW program within the last few weeks and one male participant who was a prospective student. These were appropriate users because our main audience was prospective students or current students who might have an interest in switching from a current major to PW. So while they were a convenient sample, they were the exact audience the site was meant to address.

Based on what I learned from the site visits, I wrote topics on note cards. For example, I learned in the site visits that users want information about jobs they can get with a PW degree, so I wrote "information about jobs" on a note card. Users then sorted the cards in order of priority in tiers from top (most important) to bottom (least important). The notecards had the following topics written on them that I derived from the site visits:

- Descriptive overview of the program
- Curriculum
- Information about jobs
- Opportunities to apply writing skills as a student
- Content on what PW students write/create
- Content on experience with PW

On the back of each note card, I wrote down tactic ideas (blog, student portfolios, list of jobs, etc.) that came from site visits and the professional writing faculty. The tactics were important because they are the mechanism by which users engage with the topics. For example, a list of jobs that former graduates have obtained is a tactic to provide information on the topic of jobs. Users verbally gave feedback on each idea and had the opportunity to suggest new tactics or variations of those listed. The tactics written on these cards before user input are provided in Table 5.1.

Table 5.1. Topics and Tactics for Card Sorting Activity

Topic	Tactic(s)
Descriptive overview of the program	Basic skills Career direction, Values of program These three list items are summaries of content to cover in the descriptive overview
Curriculum	Link to the catalog, Course Spotlights, Curriculum page with descriptions
Information about jobs	Job list, Professional profiles
Opportunities to apply writing skills as a student	Opportunities list, Student descriptions of opportunities
Content on what PW students write/create	Student Portfolios
Content on experience with PW	Students discussing experience in the program Recent graduate reflections

I took a picture of how users ranked the notecards to document their results. With their permission, I recorded their verbal feedback as they described why they ranked content where they did because a researcher's memory is not good enough to accurately recall what users said and how they said it (Marsh, 2015). The intent of this study was to see if card sorting could help me identify what topics users found most valuable for the site, allowing me to create an effective initial prototype with proper prioritization.

Card Sorting Results

Participant 1's results are shown in Figure 5.1.

Overview of program: Participant 1 stated that she wanted "to know what I'm getting into" and thinks the current construction works well. She did not suggest any new content.

Curriculum: Participant 1 suggested creating sample 4-year plans so students can see what they might take. This information is already in the academic catalog, and it was not clear if she found that sufficient or not.

Information about jobs: Participant 1 said the job list is "important." She stated that the professional profile was an interesting idea and suggested a Q and A format that addressed basic questions: where graduates work, what they do, etc.

Experience in PW: Participant 1 expected this information to be in the form of student testimonials when she read the card but prefers the idea of a blog where students describe their experiences: "I think it really builds off of the overview."

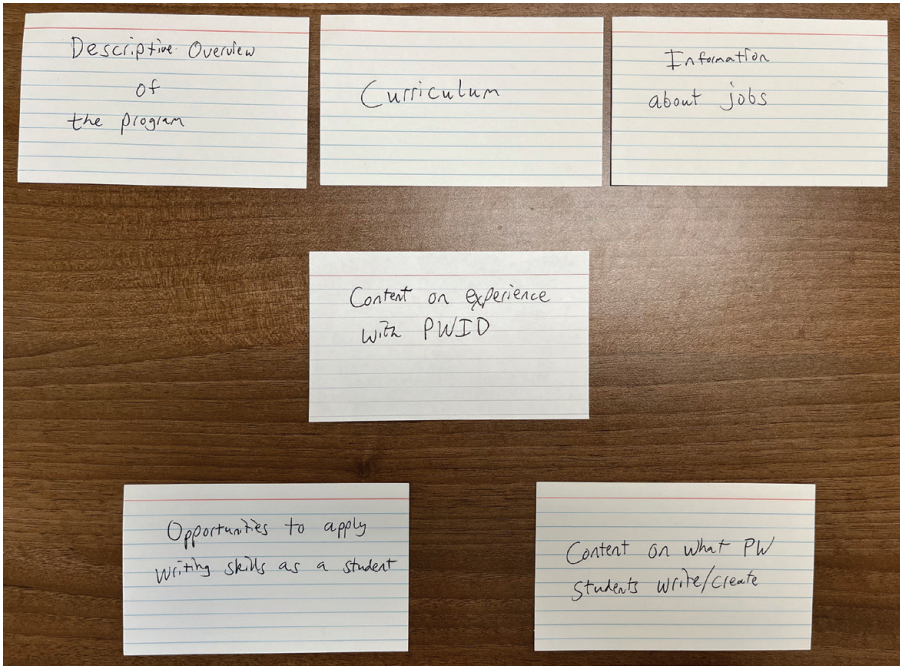

Figure 5.1. Participant 1's results

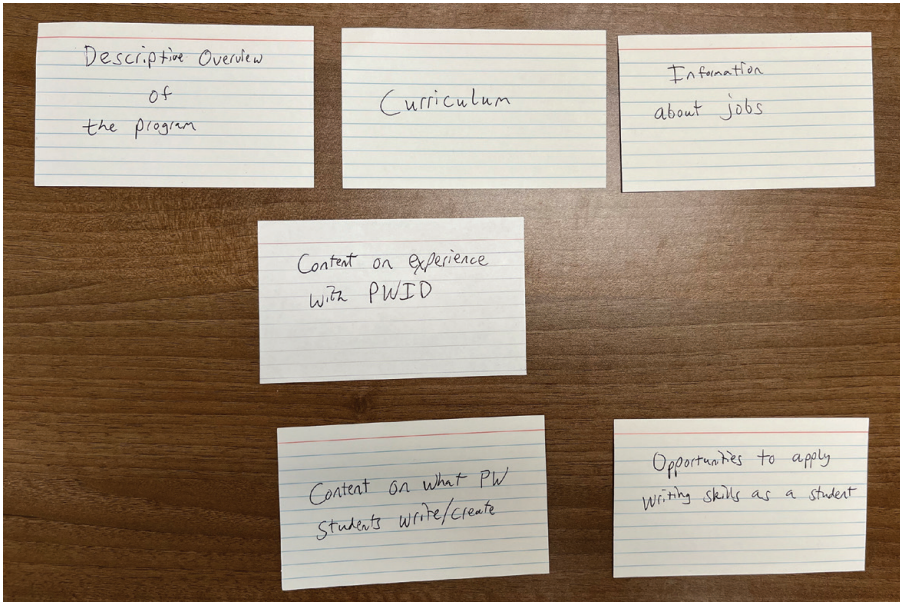

Figure 5.2. Participant 2's results

Content on what PW students write/create: Participant 1 found the student portfolios idea "really valuable." She did not suggest other ways of displaying student work.

Opportunities to apply writing skills while a student: Participant 1 found the list of opportunities helpful but suggested we add student writing organizations to the list. A new creative writing organization had just formed during the semester of the test, so this information was fresh in her mind.

Participant 1 was focused on getting a broad understanding of what the program was (overview), what those details looked like in the classroom (curriculum), and how she could use her skills post graduation (job information).

Participant 2's results are shown in Figure 5.2.

Overview of program: Participant 2 stated that the overview should tell "students what they would learn, what they can expect." She believed the site's current overview has a structure that accomplishes those goals.

Information about jobs: Participant 2 wanted the job list but also some type of descriptions of those jobs. She did not suggest what form those might come in, just that they would help users understand what these jobs might look like.

Curriculum: Participant 2 said that she "looked a lot at curriculum" because she wanted to write and edit and not do literary critique, something she associated with the English major. Her verbal response seemed to align more with the content on what PW students write/create because she wanted to do one type of writing and work over another.

Experience in PW: Participant 2 stated that it was important to show how students can develop their skills outside the classroom. She felt the blog was an effective place to discuss this topic.

Content on what PW students write/create: Participant 2 did not suggest any other tactics but noted that the portfolios were helpful.

Opportunities to apply writing skills while a student: Participant 2 suggested that students could talk about their professional development opportunities on the blog.

Like Participant 1, Participant 2 prioritized a broad understanding of the program (overview) and jobs. But while she rated curriculum highly, her comments suggested she cared more about the type of writing she would do in the program than the curriculum itself. The curriculum was just a means to better understand the writing style. That means that content on what PW students write/create would have rated highly if she had understood the distinction better.

Participant 3's results are shown in 5.3.

Information about jobs: Participant 3 believed that information about jobs was the most important piece of information. She wanted to know what careers she would be prepared for. Curiously, she said that she "wanted to be writing more instead of writing about writing." That seems to relate more closely to what content PW students create than jobs, though maybe she was distinguishing between writing content that mimicked organizational documents and analyzing

literature. While I felt confident I understood what she meant in the moment, I could have followed up to clarify. In terms of jobs, Participant 3 prioritized jobs she thought were "important" and that she "cared about" over financial considerations. She found the job list helpful but wanted more information on what those jobs entailed. She did not suggest tactics to convey that information.

Content on what PW students write/create: Participant 3 thought that this category closely related to job information because she wanted to see how her coursework would prepare her for future work. She did not suggest new ways to portray this information, but she was visibly excited about the idea of student portfolios.

Overview of program: Participant 3 believed the overview was "a soundbite of the program to get people interested." As with the other participants, she was satisfied with the three topics covered in the current overview.

Curriculum: Participant 3 wanted to see classes that would teach her what she wanted to learn, even if some classes did not look interesting to her. She found the idea of course spotlights interesting, suggesting they should tell what the class is about and how it fits into the broader curriculum.

Opportunities to apply writing skills while a student: Participant 3 stated that this topic was "nice" but less of a deciding factor when choosing a major.

Experience in PW: Participant 3 conflated this topic with community building within the program. That was not a comprehensive view of how I conceived the category, but because she viewed the topic this way, she thought it was the least important. CS Participant 3 noted that academic information was far more important.

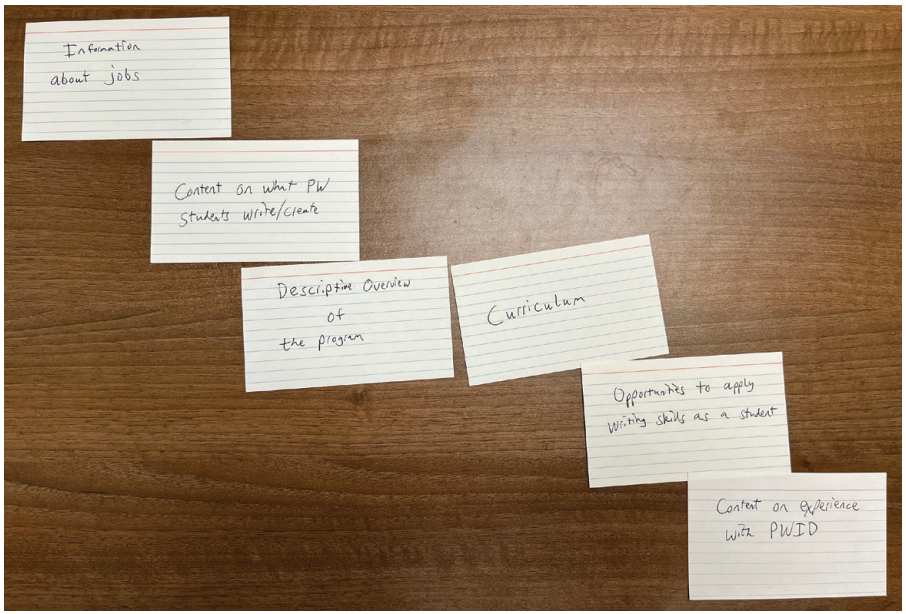

Figure 5.3. Participant 3's results

Card Sorting Discussion

The card sorting activity validated that job information is important and needs prioritized because all three users rated it in their top tier. It was also clear that users want more information than just the job list. Only Participant 1 had a positive reaction to the graduate profile tactic while the other two users wanted descriptions or more information on the jobs, but they did not suggest a tactic. Based on this information, I prioritized jobs as a topic, recognizing that I would need to develop multiple effective tactics because of how important it was.

While content on what students write/create was rated highly by only one user, every user cared greatly about enjoying the program and finding writing that fulfilled them. Participants 2 and 3 both stated that they were looking for a form of writing that they enjoyed in contrast to something else ("writing about writing" and "literary critique"). These responses suggest that while this user group enjoys writing, they prefer specific forms of it and find some ways of writing to be unfulfilling. Based on their verbal feedback, they cared greatly about the type of content they would create as students and my topic was likely worded poorly or not distinguishable enough from curriculum. At the time, I did not seek more clarification because their verbal feedback seemed to clearly show that they cared more about the type of writing than their card sort initially indicated. Knowing that I could validate these results in user testing, I did not seek immediate clarification. In hindsight, this clarification may have been useful, though it seems my initial conclusions were correct.

The other findings were less conclusive, but they pointed me in a reasonable direction. Users consistently rated "opportunities to apply writing skills while a student" as less important than other topics. These users suggested that the content was useful but not as influential in their decision-making process as other topics.

The overview was considered necessary and often influential. Two of the three users ranked the overview in their top tier, and the other user stated that the overview on the current site is what engendered her interest in the program.

Curriculum rated highly for two users, but the comments of one of those users, Participant 2, seemed to suggest that she was more focused on the kind of writing she would do than the courses she would take: she wanted to write professional documents and not literary critique. From card sorting, I prioritized the content in the following way:

- **Tier 1**: Job information
- **Tier 2**: (1) Overview, (2) content that students write/create, and (3) curriculum.
- **Tier 3**: (1) Experience in PW and (2) opportunities to apply writing skills while a student.

Now that I had an initial prioritization of content, I wanted to see if user's

words and actions related to the first prototype would validate this order or not. Essentially, through a low-fidelity prototype test, I evaluated how accurately card sorting helped me prioritize content.

User Test Method

Using what I learned from the card sorting activity, I produced a low-fidelity prototype and user test focused on topics and tactics. The goal of the test was to validate which topics users felt were the most important for writers to address. This prototype contained basic content ideas without any attention given to surface elements. It contained some of the characteristics of a paper prototype in that design was scarce, and it had only basic content ideas and layout (Snyder, 2003). The lack of design allowed me to focus on content (Moran, 2016). Figure 5.4 displays the level of sophistication of this prototype.

The users who participated in this test consisted of four prospective students and one current student who had joined the major within the previous six months. To contact prospective students, I asked the admissions office at my institution to give me a list of prospective students who were interested in writing and would visit the campus during a large-scale recruiting day. I emailed the four prospective students' days before they arrived on campus and asked them if they would be willing to participate. They accepted the invitation, and I set up meeting times with each individual.

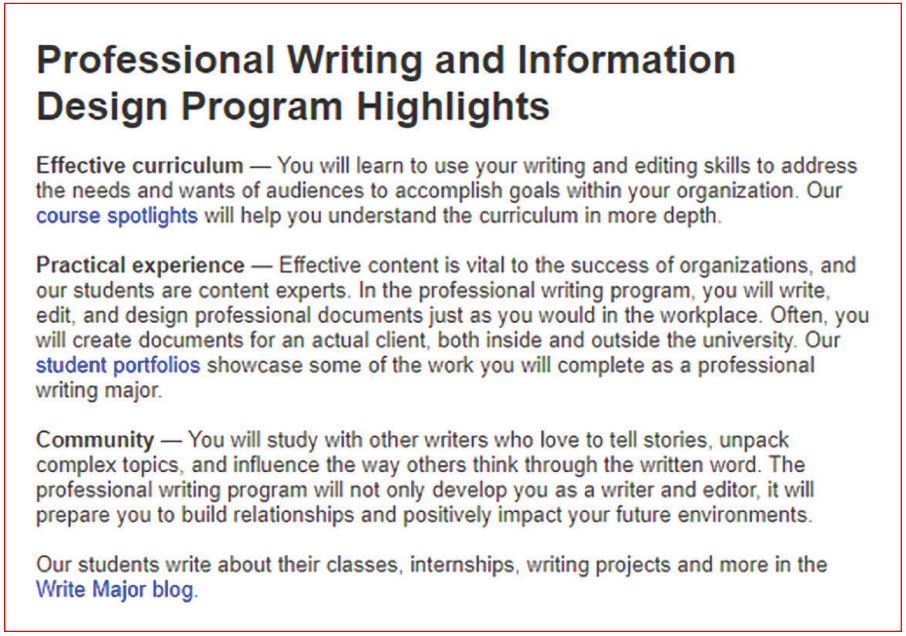

Figure 5.4. Display of prototype fidelity

The test environment needed to mimic the important characteristics of the real context that users would be in when they engaged with the site (Holtzblatt & Beyer 2016). For the web, this often means a quiet space where users can sit and engage with the site without public distractions (Ritter & Winterbottom, 2017).

For this test, users did the following tasks:

1. Write down a list of questions about the Professional Writing program that you have before you begin.
2. Browse the site. You can read, skim, or do whatever you think you would do if you came across this site at home.

I had users write down the list of questions they had about the program before they interacted with the prototype because websites are like conversations where users come with questions or goals and the site responds (Redish, 2014). I hoped that having students write down questions would give me further evidence to their needs, what topics they wanted, and how they prioritized those topics. Then I ask users to browse the site to get answers to their questions. This task was open-ended: giving users "minimal explanation about how to perform the task" (Lanoue, 2015).

To get self-reported data, I used active intervention. It requires the researcher to ask questions as the user completes tasks (Still & Crane, 2016). The benefit is that users and designers can have a conversation about specific decisions as they happen when the thought process is freshest. Active intervention was well suited for this point in the process because I did not care about the user's natural flow through the site yet; I did care why they decided to click on a content feature and if they found a tactic valuable or not.

I also observed and wrote down on a note sheet the user's path through the document and took notes on their answers to my questions during active intervention. Just as telling, I wrote down content that the user chose not to engage with because it allowed me to ask questions about why they ignored that content (Marsh, 2015). I voice recorded the conversations with the user's permission. Finally, I asked them two post-test questions:

- What questions do you still have about the program?
- What was the most helpful part of the site? Least helpful?

I asked these questions to grasp more fully what questions my initial prototype effectively answered and which content users deemed helpful. For this paper, I'm focusing on whether user testing validated the prioritization of the topics from the card sorting activity.

Low-fidelity Prototype User Test Results

Table 5.2 details the questions that users wrote down.

Table 5.2. Questions Users Had about the Program

User	Questions
User 1	What types of writing do you do? How do I know if I am a good enough writer for this major? Who is a writer? What skills should I have? What will I learn in the classes I will take? What careers can I have?
User 2	What jobs can come out of this major? What are the design parts of this major? How much writing experience is good to have for this major?
User 3	What am I going to be writing? Are the professors nice? How is this different from creative writing (because I really like creative writing)? Will this program be really hard and boring? What jobs am I going to get?
User 4	What are my career options? What do the classes focus on? What have people in this major done after graduation?
User 5	What kind of writing is most prominent with PWID? Where could I go with this major? Do I have to do a lot of creative writing?

When discussing why they wanted to know the kind of writing they would do, users focused on the need to enjoy their work in the classroom and beyond, noting that they did not want to write "essays" (User 5) or more directly, that they wanted to "enjoy it" and avoid boredom (User 3). This focus on enjoying the writing matched what I found in the site visit and card sorting activity.

When users browsed the site, I noted what content they did and did not engage with. It would become unwieldy to note every element that users interacted with and every comment they made, so I will report on the elements that at least four of the five users interacted with. By identifying what tactics the users engaged with and having a conversation about their choices, I was able to draw conclusions about what content they thought was important.

Overview

Four of the five users interacted with the overview. Table 5.3 provides key insights into their activity and response.

Table 5.3. User Responses to the Overview

User	Key Insights
User 1	The core skills presented in the overview "really get at the idea of helping people." She also noted that it was "helpful that it noted where you would work."
User 2	This user did not read the overview.
User 3	She skimmed the overview looking for bullet points. She said there were "too many words" in the overview for her taste.
User 4	He thought the overview "gave a general overview of the program", which is what he wanted from the content in that space.
User 5	She thought the core skills were enticing: "emphasizing writing, editing, and design makes it (the program) clear." This user was interested in distinctions between the PW program and others that might involve writing in the workplace, most notably a marketing degree.

Only one user did not read the overview while three of the four that did found it useful, emphasizing the core skills as important content. This university required an overview of the program on all academic webpages, so using it to properly preview the program and entice readers was essential. It served as the beginning of the conversation between users and site (Redish, 2014).

Student Portfolios

Four of the five users engaged with the student portfolios, the main tactic to help users understand what kind of content they would write or create. Table 5.4 shows some key insights from each user.

Table 5.4. User Responses to the Student Portfolios

User	Key Insights
User 1	"Gives a clear overview of what these people are doing." She said that "I could relate to these people," noting they were writers like herself.
User 2	She found the portfolios important because they "help explain what I'll be doing."
User 3	This user said the portfolios showed the kind of work that students were doing and provided one thing they designed, both relating to her initial questions about the program.
User 4	He liked that the portfolios show "what they do and why they enjoy it" so he could see if his interests aligned with those of current students. The portfolios also gave him insight into realities he had not thought of before, such as the existence of writing and editing internships.
User 5	This user did not click on the student portfolios. She stated that she would have but did not understand what it was. She explained that she did not think it was "example work", which she would have been interested in because she wanted to understand the writing that students did.

Each of the users wanted to view current student work to get an idea of the writing, editing, and design work they would do. All four users who viewed the portfolios expressed positive sentiment toward the tactic and a desire to learn about the kind of writing they would do. The one user who did not view the portfolios did not understand what they were, meaning that all five users wanted information about the writing style they would learn in PW and what kinds of documents they would create.

Blog

Four of the five users viewed the blog, a tactic that could address several different topics. Table 5.5 shows some key insights from each user.

Users clicked on the blog for multiple reasons, looking for answers to their questions from a current student's perspective. As with past research, this test seemed to make clear that the blog has a useful function, but that the topics covered on the blog needed to be refined to properly address user needs. Two users wanted to know about internships while two were interested in understanding the writing that students do or what class projects are like.

Job list

All five users read the job list. Table 5.6 shows some key insights from each user.

Table 5.5. User Responses to the Blog

User	Key Insights
User 1	"Helped me relate to the people in the major."
User 2	This user did not click on the blog but did note that she could see why others would be interested to see the writing that current majors do.
User 3	This user clicked on the blog wanting to hear about internships, which she finds intimidating. She likes to read about "students doing things."
User 4	He wanted an overview of the various experiences that current students have had, including information about internships and class projects. He clicked on one post, stating that it was "helpful to see what this student did." Another sign that my audience wanted to understand the kind of content students write and create.
User 5	Clicked on the blog to "explore the program", but the preview on the PW homepage did not make it clear what information the blog would provide her. An important part of homepages is to give users a sense of what the site offers and guide them toward a productive part of the conversation (Redish, 2014). This user felt the homepage did not preview the blog effectively. She found the tactic useful once she understood its purpose.

Table 5.6. User Responses to the Job List

User	Key Insights
User 1	She said that "it's nice to know it's broad, that I don't need to know what I'm doing right now." User 1 was more concerned with the kind of work she would be doing than the specific job, meaning that writing and editing were more important to her than a job title. She did not see the need for more job information on the site; users could get that information elsewhere.
User 2	She stated that it was helpful to have a list just to know what the job possibilities are. For additional information, User 2 was interested in information about graduates and where they work.
User 3	She said she wanted to see if the jobs aligned with her interests. Even if she did not know what a job entailed (e.g. content strategist), it would be "cool to learn what that is." She does not "care about money" but would click on more information about jobs if it was on a separate page from the list.
User 4	This user felt that the job list showed him career options and allowed him to explore these jobs further. He would be interested in a description of the jobs in some format.
User 5	She described the job list as "helpful." This user would be interested in a separate page with descriptions of these jobs that answers, "how these jobs are specific to Professional Writing majors."

The users found the job list useful, but each also needed more information on what these jobs entailed, though one user felt she could learn about those jobs outside of the university site. Addressing concerns about jobs is essential; every user wanted more information about them.

Three users looked at the course spotlight page, a new tactic meant to answer questions about both curriculum and the type of writing students do in the program. User 5 stated that the course spotlight was "helpful", and User 2 suggested that it focus on subject matter in the classroom.

After users interacted with the prototype, I asked them two follow up questions: (1) what questions do you still have about the program? (2) What was most helpful part of the site? Least helpful?

1. **What questions do you still have about the program?**
   - **User 1:** None
   - **User 2:** None
   - **User 3:** None
   - **User 4:** What are the jobs that I can get?
   - **User 5:** What kind of writing will I do in the program?

There were not consistent themes of missing content according to the results, but the ones presented reflected the initial questions that users had: topics related to writing style and jobs.

2. **What was most helpful part of the site? Least helpful?**

The content that users found most helpful varied. While given the opportunity, no user provided a least helpful piece of content. Users noted the following as the most helpful pieces of information:

- List of jobs (2)
- Blog (1)
- Student portfolios (1)
- Overview (1)

These tactics were also the most viewed content on this prototype.

This test validated some of the topics and tactics that I need to include on the site. It also helped me identify the two most important questions that users ask: what kind of writing will I do in the program and what jobs can I obtain with this degree. Students prioritized their enjoyment of the writing over other factors, such as salary after graduation or career status. User 3 asked whether the program would be "boring." User 1 desired a major that "represented" who she was, almost as if the major was an extension of her identity as a writer. User 4 wanted to "find fulfillment" in his academic studies. Users contrasted the kind of writing they were looking for with other forms they did not appreciate. That contrast told me that they cared deeply about finding a program that allowed them to do the kind of writing and editing they enjoyed.

While personal fulfillment may have been the most important factor to their decision about a major, users suggested the site include more information about jobs. The fact that all five users looked at the job information and wanted more content on the topic validated what the card sorting activity already told me about the topic: it was of the highest priority.

After the test, I re-created my tiers based on the data:

- **Tier 1**: (1) Job information, (2) content that students write/create
- **Tier 2**: (1) Overview, (2) Experience in PW, and (3) curriculum.
- **Tier 3**: Opportunities to apply writing skills while a student.

I moved content that students create into the top tier because users asked so many questions about it and engaged with tactics to learn about the kind of writing they would do in the program. It was clearly a top tier issue, along with jobs. Every student asked questions about jobs and wanted more tactics related to jobs.

The second tier now included the experience in PW because students clicked on the blog so often, two of them were looking for information about writing styles. But they also wanted information about internships, class projects, and the kind of people that studied in this program. Both the overview and curriculum information were viewed frequently by users but not as often as the tier one content.

Finally, outside of a couple comments about internships, students did not mention opportunities to apply their skills outside of the classroom. For that reason, that topic remained in the bottom tier. The results of the test largely validated

my prioritization from the card sorting activity. Four of the topics stayed in the same tiers while two topics moved one level. There were no major surprises.

Being able to watch users interact with tactics and ask them questions clarified the previous issue on the kind of writing students would do in the program. While participants in the card sorting activity sometimes did not grasp what the topic was from reading it on a notecard, the users in the user test clearly valued the topic highly, looking at multiple tactics to learn about it.

Conclusions

Based on this information, it appears that card sorting helped me prioritize topics well. It gave me a baseline that I could validate with user testing, and that baseline ended up being quite accurate. The order may have been even more accurate if participants in the card sort understood the topics better. I tried to explain them before they sorted, but participants still struggled to grasp one or two. It's important to note that web content writers need to establish what topics users want before they try and prioritize them, but once they've done that, they can use card sorting as a starting point for creating tiers of content. Practitioners may take away the following from this study:

- Card sorting can help writers effectively prioritize content. In my user test, I merely had to tweak my prioritization structure instead of overhauling it. Because card sorting was effective at identifying how users prioritized content, researchers can start the testing process with a strong baseline that only needs validated instead of constructed from scratch.
- Writers need to write clear topics on the notecards and make sure users understand what each topic means or entails. This practice will improve the validity of card sorting results.
- Writers should have some method of validating the results of the card sorting exercise. While the results in my study stayed mostly the same after the user test, I still needed to tweak my tiers to have the most effective prioritization. Best UX/UCD practice suggests that we "trust but verify" all our findings by diversifying the kinds of data we collect and use multiple methods to confirm our conclusions (Still & Crane, 2016).

Card sorting and the subsequent validation through user testing gave me confidence that I understood what content users wanted to read on my site. This process allowed me to give prioritized content more space on their webpages and place those topics in prime locations to draw more attention to them.

While not the focus of this study, I was also able to get tactic ideas from this card sorting activity. I used those tactic ideas to help me create a prototype where I could observe users engaging with topics, but even on their own, tactics are an important part of a content strategy. Further research may focus more on how card sorting can help web writers develop tactic ideas.

This study was limited by several factors. First, typical card sorts usually have at least six participants, and my study had three. I mitigated this issue by using other methods (site visit and a user test) that had the same goals. In all, I had eleven participants doing activities that were focused on prioritizing topics. The second limiting factor is that my results are not generalizable. What is generalizable is the use of the card sorting method for prioritizing content before the first prototype. Web writers and technical communicators should consider how they can adapt my study to their specific contexts.

Card sorting is not a new method, and yet, it has not often been used to prioritized content topics for a website. Based on my study, web writers should consider using it for this purpose. Doing it well will help them understand what topics they should give priority spots to and write about more.

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