Design Thinking as a Pedagogical Tool for Writing Centers

Vittoria Rubino
U.S. Military Academy at West Point

Keywords: design thinking, writing centers, empathetic listening, ideation, critical observation, generative processes

Introduction

Design and writing habits externalize a sense of process and are predicated on social interaction—both central to the work of the writing center. As Stephen North suggests, the goal in teaching writing should be "the development of general patterns of thinking and writing" (1984, p. 435). These general patterns of thinking require "acts of discovery, the recursiveness of invention, the consciousness of experienced writers and designers of their own processes, and the essential role of audience analysis in a problem" (Kostelnick, 1989, p. 278). However, surprisingly, the connection between design thinking and the work of the writing center in higher education continues to be an under-researched and under-theorized area of study.

In its ideal form, a writing center offers a dedicated space to facilitate compositional production and generative interaction where students learn about the art of composing through their own work. Although writing centers operate with slightly different priorities contingent on their institutional context, Evelyn Ashton-Jones argues (1988) that "our major theorists do agree that writing centers exist primarily to further the cognitive growth of students through individualized, student-centered pedagogies" (p. 30). She goes on to further clarify her own imperative that "in training tutors, writing center directors must present the kinds of tutoring methods which

Contact author: vsrubino@gmail.com

foster a spirit of critical inquiry, which do not cast tutors in 'little teacher' or 'writing consultant' roles" (p. 30). Peer consultants—called "consultants" throughout—can support student writers—called "clients" throughout—with an approach to the composing process shaped by a design thinking lens. In other words, consultants and clients can partner to develop a solution-based, iterative methodology to solving the challenges of composing effective communications—a spirit of critical inquiry and problem solving. Design thinking recognizes learning as a multi-staged journey—one that "focuses heavily on involving users of a solution in its design" (Boller & Fletcher, 2020, p. vi). As the pandemic and associated global traumas of recent years continue to reverberate through higher education, a design thinking framework at the center of writing center consultations can foster a human-centered approach to and contextualized, structured practice within the composing process.

This article begins by broadly answering the following questions: what are the characteristics of design thinking, and why is design thinking important? Some individuals attempt to define design by principles, while others define design by the standards of a design or the qualities of a designer. As writing studies as a whole turns its attention towards the elements of design, writing center consultants can more consciously incorporate design thinking processes and practices into their consultant training, especially when addressing professional and technical communication tasks in the writing center. Although writing centers can also be responsible for workshops and group-based experiences, this article focuses strictly on the one-to-one consultation service of the center.

Higher education curricula have already borrowed some of the key ideas, principles, and methods of design theory. My argument is to fully understand the potential for design thinking pedagogy in the writing center, we can turn to definitions of design thinking in allied fields to see it in context. Then, I will focus more specifically on the implementation of design thinking in writing center work and how this pedagogy can shape how consultants approach their work with clients in the writing center. Specifically, I will be using the Stanford University d.school updated design thinking framework, which includes empathize, define, ideate, prototype, and test.

Design, Design Thinking, and Their Associated Functions

Because the connections between design, design thinking, and writing studies has, to this point, been an under-researched and under-theorized area of study, I begin here with an admittedly cursory overview

on informative scholarship, results, and insights that would be valuiable for a writing center adminsitratoradministrator to consider.

Design is a rather loose term; however, there are clear connections between the intentions or uses for design—functional, practical applications—and design thinking. Our earliest scholar is Denman Ross (1904), a scholar of art history and design at Harvard University who is most known as an important figure in Boston's fine arts scene and as the design theorist who shifted theory from John Ruskin's romantic naturalism to the formalist aesthetic that characterizes modern art and architecture. He wrote that the:

> Design of any work, the art of it, is seen, not in its motive or purpose, not in its usefulness, not in its truth, not in its righteousness, but in its execution, in what I have called the performance . . . what materials have been used, what terms, how the materials or terms have been combined and arranged . . . the plan or system of the work, the ways, means, and methods which have been followed in bringing it to completion . . . the correlation of the parts, the fitness of the parts to the whole, the organic and perfect unity of the whole, and lastly, the appropriateness of the whole to its motive or purpose. (261)

What we have here is an early definition and methodology for design. Ross' exploration and understanding of design shows he sees the design of an object not simply in the intention or functionality of the object, but in the process and formal aspects that led to the finished, whole work. Design, then, is much more than making physical or digital artifacts, adding visual alongside the textual, or making for its own sake, as is unfortunately still often misunderstood in writing studies. It is the combination of materials, organization, and methods that contribute to the unity of the work, which has come to influence important contemporary scholarship in writing studies such as work by Jody Shipka (2011) and Jason Palmeri (2012). Unfortunately, too, as Charles Kostelnick predicted, the affinities and positive possibilities for design in writing classrooms "more the legacy of a waning movement than the foundation for a sustained disciplinary shift" (275). However, this is why it is important to recover definitions of design and design thinking from designers themselves before we build our bridge towards design thinking in writing centers.

Richard Buchanan (1992) attempts to define and categorize four broad areas of design, in particular, to help the public understand the purposes for design in a fairly disgestible manner. The first area

he discusses is symbolic and visual communications, where he claims design explores the complications associated with sharing information, ideas, or arguments through both words and images. The overlap in attention toward symbolic and visual communication in both design studies and writing studies may indicate the broadening means of communication in modern society—but I resist scholars in writing studies' desire to simplify this to digital technologies. The second area Buchanan unpacks is material objects; the design of material objects includes the problems of the visual appearance, assembly, and structure of day-to-day objects, as well as how humans interact with those material objects. This also shows up in the literature of writing studies as scholars become more interested in expanding notions around student products or artifacts, and what the design of a work indicates to its audience, such as emphasized by Geoffrey Sirc (2011) and later by Carrie Leverenz (2014). The third area Buchanan explores is activities and organized services, where he explains that design issues associated with activities and organized services have evolved into a concern with logical decision making, strategic planning, and organic flow of experiences. Perhaps this could be associated with the turn to social action by writing scholars, but that may be a stretch—it may more closely resemble discussions on balancing choice and improvisation in the classroom. Lastly, Buchanan examines complex systems or environments for living, working, playing, and learning in relation to design. This last area is the design most concerned with the totality and interconnectedness of a system or with the way humans exist within or adapt to certain environments (p. 6-7). I see this as connected to both Shipka's sense of wholeness as well as the New London Group's interest in preparing students for globalization and their evolving communities and workplaces. Although these are not necessarily linear bridges between the two discourses, it may help us to better frame our understand of design from this perspective in order to see its growth toward design thinking and, eventually, as a pedagogical approach in the writing center.

Clearly, the work of designers spans across specific disciplines or professions, showcasing how design frames all human experience. Buchanan writes of the four areas, "Properly understood and used, they are also places of invention shared by all designers, places where one discovers the dimensions of design thinking by a reconsideration of problems and solutions" (1992, p. 7). Each of the four areas above serve some sort of function or purpose with a different set of skills, loci, or specializations. Joe Scanlan (2007) complicates our understandings of design further by arguing that design serves a functional purpose with

a consumer audience. Taken together—Ross, Buchanan, and Scanlon—designers draw their inspiration from a particular problem or motive, they must consider the holistic nature of their design, and they must often consider the needs, values, and means of communication of their audience ahead of their own preferences.

Many scholars sidestep the dilemma of defining design by, instead, focusing on the qualities of a designer—this is where contemporary research on design thinking begins to take root. According to Buchanan's understanding, designers are observant, flexible, and willing to explore multiple avenues for development. They are skeptical, analytical, and methodological. Buchanan may call design a "liberal art" (2012, p. 11), even though it can be quite technical, to accommodate the intellectual (i.e., reasonable, discretionary) and abstract aspects of design thinking. Sharon Boller & and Laura Fletcher, authors of Design Thinking and Development (2020) argue, on the other hand, that "Design thinking does not have its origins in design" (p. 12), but the connections are implicit—the established qualities of a designer paved the way for modern understandings about design thinking. Further, in "What is Design Thinking and Why Is It Important," Rim Razzouk and& Valerie Shute express:

> At its core, design thinking refers to how designers see and how they consequently think. It is an iterative and interactive process where designers (a) see what is there in some representation of problem-solving concepts/ideas, (b) draw relations between ideas to solve a problem, and (c) view what has been drawn as informing further design efforts. (2012, p. 335)

Design thinking, as a methodology and a process described here, helps people to think like designers by identifying challenges and enacting subsequent problem-solving steps such as drawing connections and learning skills such as close observation and transferrable applications. Using design thinking as a method, an individual works towards a specific outcome or purpose, but the process often evolves over time and through a series of steps. The process for design thinking, then, depends on preparation, assimilation, and strategic control. Razzouk & Shute (2012) further elaborate that design thinking is an "analytic and creative process that engages a person in opportunities to experiment, create and prototype models, gather feedback, and redesign" (p. 330). This interpretive and innovative process implies there are a set of stages from pre-creation to post-creation.

More contemporary research in design thinking centers it as a

human-based process, which does move it further away from earlier notions about design and the qualities of a designer. Boller & Fletcher (2020), for example, describe design thinking as a "problem-solving methodology that focuses heavily on involving users of a solution in its design" (p. vi). With this perspective—based on their goal to redesign training and development—we shift from "audience analysis," as highlighted in earlier definitions of design and its associated functions, to "insight gathering." This is, particularly, where the recent turn towards the human-centered nature of design thinking arises—the designer focuses on people by clarifying the user's wants and needs and gathering their perspectives rather than making assumptions about the learner fueled by limited facts. Jacqueline McLaughlin et al. (2022) provide a definition most closely reflecting contemporary needs and possibilities for design thinking in that it is "an iterative, human-centered approach to problem solving that synthesizes what is desirable, equitable, technologically feasible, and sustainable" (p. 1). Human-centered design, then, requires designers to practice empathy to understand people's needs and wants, place stakeholder's desires at the center of the problem-solving process, and ensure tenable dynamics between stakeholders across an ecosystem.

Design Thinking in Writing Studies

Design thinking is multifaceted and is used as a methodology across disciplines outside of art and design like writing studies, architecture, and the sciences. The compulsion towards design thinking stems from our existence as cognitive beings with the intention to change circumstances. My argument that design theory and design thinking apply to methods in writing is an idea that has been taken up previously by Charles Kostelnick, as mentioned earlier, who was an English department chair and a critic in the 1980s. In his article "Process Paradigms in Design and Composition: Affinities and Directions," he argues that comparing the process approach in writing to the design process movement will expose the evolution and future direction of writing studies. In this article, Kostelnick (1989) investigates the two movements to uncover shared ground and productive pedagogies. He begins with the argument:

> Process theories of design broadly encompass visual thinking, both applied and expressive, in a variety of disciplines . . . As a medium for creativity and communication, design is the natural counterpart to writing, one adapting visual, the other verbal, language to diverse contexts and audiences (1989, p.

267).

Strains in design and writing studies advocate for a diversity of methods in approaching tasks (such as visual and textual) showcasing the possible uniqueness of each creative act and highlighting the unpredictable nature of creation. Ultimately, aligning the visual and the verbal with the current need or rhetorical situation may invite writers and designers to re-envision and re-invent their work in a flexible manner. He mentions the "wicked problems" of design, a term he borrows from earlier scholars such as Richard Buchanan, Horst Rittel, and others. Rather than focusing on the possible problems posed by design, Kostelnick focuses on the affinities and possibilities for design in writing classrooms. More importantly, as inherently creative acts, he argues both design and writing are interdisciplinary and recursive processes that include, as Kostelnick outlines in his conclusion, "acts of discovery, the recursiveness of invention, the consciousness of experienced writers and designers of their own processes, and the essential role of audience analysis in problem" (1989, p. 278). He also notes that both composition and design externalize process (1989, p. 272), are predicated on social interaction (1989, p. 273), are rhetorical in approach (1989, p. 274), and collaborative (1989, p. 274). Kostelnick decisively suggests:

> That the two process paradigms evolved in isolation from each other both further validates the universality of these principles and makes the parallels between the two movements all the more remarkable. (1989, p. 274)

This plethora of similarities, even by sheer coincidence, suggests a deeply interesting connection between the two disciplines. By grappling with the problem of literacy and invention, contemporary scholars now understand the opportunities of interdisciplinary work such as Kostelnick's. However, despite Kostelnick's work, design and design thinking remains a narrowly researched area of study for scholars of writing studies.

Some scholars in writing studies advocate for design thinking in higher education because it is an approach to problem solving that can help students see the connection between writing inside of school and outside of school. Mainly, though, their shortcoming is their focus on design's connections to multimodal and multimedia writing exclusively—in a sense, a simple connection, though helpful for scholars in writing studies at the time. James Purdy, a scholar of writing studies

with a special interest in design, explores how and why writing studies scholars invoke design in their articles by conducting a grand and encompassing overview of writing studies literature utilizing the term design. In his abstract he claims:

> I argue that design thinking not only offers a useful approach for tackling multimodal/multimedia composing tasks, but also situates the goal of composition studies as textual action and asks us to reconsider writing's home in the university (2014, p. 612).

Like Purdy, I can understand why writing studies ought to begin aligning with the art and design disciplines instead of remaining in its traditional home in English departments. Purdy references Sirc's (2002) text and highlights the problems with the professionalization of the field, the design of the classroom, and how that design impacts what happens in the classroom. Purdy goes on to define design thinking by characterizing it into several approaches: forward orientation (p. 620), use of synthesis and analysis (p. 626), and generation of many solutions (2014, p. 626)—all fair and accurate, though still most explicitly aligned to multimodal and multimedia composing.

Carrie Leverenz, as cited earlier, is a composition and rhetoric scholar interested in New Media & Digital Humanities. In her article (2014) "Design Thinking and the Wicked Problem of Teaching Writing," she describes how she critically read monumental documents issued by organizations such as the WPA and the NCTE, and then she proceeds to scrutinize their standards for student writing. She addresses the need for these organizations to broaden their focus beyond what she calls academic writing. She writes, "I believe we need to question our complicity with this predominantly conservative educational mission. What students need to learn about writing is not just how to work within existing conventions but how to make them anew" (2014, p. 2). Leverenz suggests scholars undertake future efforts to reimagine or redesign writing courses to incorporate design thinking. She sees four main approaches to the application of design thinking in writing classes:

1. teaching writing as a design process
2. creating wicked writing assignments
3. encouraging writing in teams, and
4. fostering experimentation through prototyping (2014, p. 1)

According to Leverenz, design thinking gives students the opportunity to be creative in their approach to assignments. Design thinking, "an inventive process engaged by designers" (Leverenz, 2014, p. 2), is applicable to the classroom because it moves theory into practice based on a practical approach to problem solving. She, like Jody Shipka (2011) and Jason Palmeri (2012), focuses on the importance of teaching remediation of genres and forms in writing classes. Leverenz argues that design thinking "eliminates the question of how to fit multimodal composing into writing classes since it focuses on designing solutions to problems rather than creating forms for their own sake" (2014, p. 3). This idea also fits nicely alongside scholars such as Tom Romano (2000) who argue that the organization and layout of a product (i.e. multigenre projects) should come about organically from the rhetorical situation rather than from a pre-packaged genre. This remediation of communicative means gives students more opportunities for exploration and more of an understanding of what works and what might not. Leverenz continues:

> All designers, including writers, must accept our limited control over the materials we work with and the contingent nature of the effects we wish to produce, even as we must continue to engage with those materials in an attempt to produce an effect (2014, p. 4).

According to these scholars, if we learn to teach writing as a design process, we can imagine writing as a problem-solving activity because communication is a complex problem. Students may better conceptualize the "problem" when they are offered the opportunity to explore multiple possible solutions that can be rejected; students can fail upwards, especially when they are asked to draw tentative conclusions from incomplete or contradictory evidence (2014, p. 6).

Although there have been conversations between writing studies scholars about the potential for design and design thinking in writing classrooms, there has been precious little written about design thinking's potential for writing center practice. The bottom line is the teaching of collegiate writing in the classroom and the facilitating of the writing process in the writing center have different goals. Whereas the first-year writing classroom seeks to contextualize students' rhetorical acts of inquiry, discovery, and communication within specific genres of writing or for specific purposes amongst groups of 15 or more students, the goal of the writing center is to help students across an institution to strengthen their writing process and/or skills, whether

it is creative, research-based, expository, technical, disciplinary, or otherwise in nature in one-on-one consultations.

Prospects for Design Thinking in the Writing Center

Typically, writing centers offer one-on-one sessions with either peer or professional consultants, group workshops, and special events for faculty, staff, and students to promote the development of thinking, writing, reading, and speaking across an institutional community. Design thinking can help writing center clients—usually students—and consultants collaborate to hypothesize, test, and evaluate the consequences of their choices. It requires analysis, synthesis, and evaluation; this method of thinking may teach clients and consultants, together, to understand and mediate problems and reiterate processes that lead to positive communicative outcomes. If, as Rebecca McLaughlan & Jason Lodge (2019) argue, "Tomorrow's professionals will require an enhanced capacity for collaboration, cooperation and creative thinking" (p. 81), how can writing centers facilitate these qualities typically associated with design thinking?

In the last several years, the Stanford University d.school reconfigured their steps for design thinking to be: empathize, define, ideate, prototype, and test. Broadly, designers must connect with their clients' needs, facilitate conversations to gain insight into clients' challenges, observe the way clients interact with artifacts and/or their environment, offer recommendations, generate many ideas, sketch up versions of possible solutions, and test their ideas to receive feedback. McLaughlin et al. (2022) argue as design thinking is "adopted by a broader audience, there is an onus on educators to equip students across university disciplines with tools and mindsets" (p. 2). As a writing center administrator, I am taking up the call to further explore the pedagogical potential for writing centers. The steps of the design thinking process can provide a sustained, iterative developmental framework for consultants' work with writers—and with writers' approach to their own compositional process—in the writing center. When consultants begin with the goal and needs of their clients, and engage in short iteration cycles, design thinking supports collaborative solutions to the challenges often associated with communicative projects—especially technical and professional communications.

Empathize and Define

As a human-based discipline, the traditional starting point for designers is empathizing with the target users of their product. To gain insight into the perspective of these target users, designers may ob-

serve or interview them to better understand their wants and needs, the roadblocks in their daily experience, and their motivators. In this "perspective-gathering process," designers develop a sense of how people "might use a potential product and what value the product can provide—from the user's perspective" (Boller & Fletcher, 2022, p. 13).

Carl Rogers, a humanistic psychologist, described empathy at great length, but defined it concisely as a "complex, demanding, and strong—yet also subtle and gentle—way of being" (Rogers, 1980, p. 143). Although the concept of empathetic listening has been studied in a therapeutic context by scholars such as Rogers, it can be applied to the relationships developed and maintained in both a design and peer consulting setting. At its core, empathetic listening is about connecting to others. It occurs when we purposefully slow down the conversation and seek to understand others' perspectives with the intention to understand and relate to them on a human level. With a different point of emphasis than active or reflective listening, which is similar but focuses more on mirroring back a person's language, empathetic listening requires one to understand not only another person's intellectual perspective, but their emotional experience—their needs, motivations, and perceptions. So, why is this important to the work of designers? Because design thinking is a human-centered process, and empathetic designers are enabled to uncover people's needs.

Active listening and building rapport is are common in writing center practice. Traditionally, writing center consultants are trained to develop rapport, "usually through introductions and simple conversations about the course or assignment" (Hawthorne, 1999, p. 5), and to validate clients using phrases such as "I hear you saying _____. Is that what you mean?" Consultants paraphrase clients' language to "double-check understanding and show attentiveness" and ask open-ended questions to encourage critical thinking (Hawthorne, 1999, p. 4). However, through empathetic listening, peer writing consultants can create a space where developing writers feel safe expressing themselves and their challenges with the rhetorical situation, which in turn lays a foundation for open and honest communication about their writing at hand. Ultimately, when a client feels personally understood, a sincere relationship is established, and a client is given an opportunity to examine their situatedness, an enormous emotional burden is lifted, stress and defensiveness are reduced, and clarity increases, improving the overall effectiveness of the session.

When it comes to technical and professional writing in the writing center, open and honest communication is imperative. Professional communications have moved from more traditional genre theory ap-

proaches (i.e., replicating templates) to deeper considerations about the goals surrounding the need to write—often called the rhetorical situation. While professional writing still uses recognizable forms such as reports, white papers, and so forth, consultants can support clients with an approach these texts that fosters insight into the rhetorical situation rather than simply reproducing the formalistic aspects of the documents. For example, Irene Clark (1999) offers consultants questions to pose during consultations such as:

> What purposes does the genre serve?
> What are the features of this genre?
> How do its particular generic features serve its purpose?
> Whose interests does this genre serve?
> How is this genre similar to and different from other text genres?
> What creative variations on this genre are likely to enhance its effectiveness?
> Which ones will be inappropriate and therefore ineffective? (p. 26)

Whereas the former (genre theory) may come with greater unfamiliarity to peer writing consultants, who tend to be generalists rather than content-area experts (Hammersley & Shepard, 2015; Hubbuch, 1988), the latter (rhetorical situations) comes more naturally, as peer consultants are invited to participate in the work of the writing center based on their exceptional command of language, their keen ability to strategize around the rhetorical situation, and their generous approach to delivering feedback. In any case, trust—an essential component for this kind of collaboration in the writing center and in working with clients as a designer—springs from the condition where consultants not only have built authentic rapport, but where they also put themselves in positions of vulnerability. Often—if not always—the problems designers are trying to solve are their own, and they are certainly not content-area experts in the subject matter of their clients. The same can be said of the work in a writing center. Peer consultants can learn strategies to listen carefully, empathetically, and without judgment while showcasing the limits of their own understanding, putting their clients in an empowered position as the content-area specialists or, at the very least, not the only ones looking for answers. As an example, in not being familiar with the typified structure, argument, and voice embodied in field-specific genres, consultants can model vulnerability through an acknowledgement of their gap and model fact-finding

behaviors so that both the consultant and client can think through and reflect on the purpose of incorporating the typified elements.

Critical observation skills allow people to notice minute details that allow them to maneuver through situations more tactfully. Critical observation skills are different from critical thinking skills, which involves analyzing facts and information to reach a decision or conclusion. Critical observation skills fit neatly alongside empathetic listening. In "Teaching Critical Observation as a Sociological Tool," David Stevens & and Michelle VanNatta (2002) define critical observation as the ability to identify connections between "individual actions and structural constraints" (p. 245). A critical observer, for example, can develop a behavioral description of an interaction barring assumptions of the qualities of those interactions or what the behaviors mean. In the writing center, consultants rely on the client to guide—and be guided by—the process. This process, by its very nature, prohibits both the consultant and the writer from relying on any predetermined models of "the" compositional process. As North elaborates:

> The only composing process that matters in a writing center is 'a' composing process, and it 'belongs' to, is acted out by, only one given writer... What we want to do in a writing center is fit into-observe and participate in-this ordinarily solo ritual of writing. To do this, we need to do what any participant-observer must do: see what happens during this 'ritual,' try to make sense of it, observe some more, revise our model, and so on indefinitely. (1984, p. 439)

In this case, critical observation calls for the consultant's discerning of the exact actions and potentially relevant structural factors at hand for the client. I would argue that the developing writers we work with in the writing center require the sorts of empathy designers have toward their clients. In order to be effective, a writing center consultant can understand the writer's experiences and motivations to tailor the session to the client. Developing empathy for the client helps the consultant set aside her own assumptions about the work or client's processes in order toand gain insight into their needs at that moment.

Only after empathizing with the target user, designers can conduct preliminary research and gain clearer insight into the problem, investigate related work, and analyze data which helps them sharpen key questions in relation to clients' needs or challenges. In the writing center, the consultant and client must come together to analyze their observations and synthesize them to define the challenges at hand—

for example, the challenge being some concern about the composition, or a problem expressed by the prompt. Geoffrey Chase (1987) offers that in the writing center, "Definition is a crucial step because definition of the writing task, articulated or not, identifies the ways in which the remainder of the process can be carried out. It is the stage at which the primary goal of a particular task is established" (p. 32). Within this context, consultants support clients as they define their problems more concretely, narrow their focus more specifically, and articulate more concisely their analyses.

While the initial stages of this process are directed towards understanding and defining potential problems through consultations, observations, and engagements, consultants and clients alike will gain a deeper understanding of the issues at hand. information gathering, teams organize, interpret, and make sense of the data to define a problem scope. Information gathering in this way—by empathizing and defining—requires analysis (i.e., breaking down complex concepts) and synthesis (i.e., creatively piecing information together to form whole ideas).

Ideate, Protype, and Test

To ideate, designers will generate a large quantity of ideas or solutions, develop or sketch up a rough version of their idea into a tangible product, and finally test their idea through mockups, storyboards, or other means to receive feedback and continue to improve. Design thinking emphasizes this experimental work and ideate offers a capacious notion of invention that emphasizes knowing one's options before making the best choice. It highlights that one should not get locked into one response too early without considering the options; in this case, consultants and clients question rather than answer. Consultants and clients can interpret their research into a range of creative ideas and potential solutions, incorporating active-learning methods, visualization techniques of "systems-thinking," and other multimodal methods to document brainstorming.

Collaboration during the ideation process can include practices to enhance the solutions and temper expectations until, eventually, a narrower range of possible solutions is identified, and the work of designing begins. According to Chase (1987), ideation tends to be the point in the writing process students neglect because "Students may also not have been exposed to the whole idea of invention and may not be aware of the array of possibilities for generating ideas" (p. 32). Ideas are crucial to design thinking. Designers are deciding how and what to produce—iteratively. Key to this process in the writing center

is drafting, receiving feedback, and revising. Students, too, do not always welcome a more expansive notion of ideating in the writing center because they are often rewarded for finding the "right" answer—and quickly—rather than for generating alternatives or choices (Chase, 1987, p. 32). We think when we write,; new ideas occur, new connections emerge, and sharper ways of stating our points, supporting them, and attributing ideas to sources evolve as we work through an iterative writing process. Consultants, then, must facilitate a space where the recursiveness of the writing process is front and center, where idea generation proliferates.

As ideation moves into prototyping, the expectation is that the client will produce several scaled-down versions or features of the final solution. Doing so allows them to understand better the constraints and benefits inherent to the solutions they have designed for this rhetorical situation. The introduction of new tools and skills can occur during this stage, along with emphasizing collaborative efforts. Learning how to define and evaluate the merit and fruitfulness of a prototype is an essential skill for any communicator. When it comes to technical and professional communications, especially, clients may need support understanding how practical conditions affect evaluation (e.g., industry standards, code requirements) and how outside forces would affect the solution (e.g., broader economic, sociological, and cultural conditions). Collaborations with consultants further expand testing and assessment by offering that springboard or through prompting to return to earlier stages in the process. However, as Chase (1987) duly notes:

> From a tutor's perspective, the most important objective of this stage is to help students become their own evaluators. Tutors can do this by asking students to consider how well they met the goals they set out originally. Perhaps even more important, tutors can ask students to think about their composing processes and ask them which parts of it are "easier" than others and which facets of it need work (p. 34).

Testing, then, is a generative process for redesign as it unveils opportunities for improvement. When this evaluation and improvement is in the needs of the client, it empowers them to find alternate solutions and execute on choices they may not have considered. By trying to determine how and why specific solutions are rejected, improved, or accepted, clients can develop clarity of how real users would behave, think, and feel when interacting with the solution, too.

Conclusion

Design thinking is a nonlinear process. In practice, the process is carried out in a more flexible and non-linear fashion than one can transcribe in a short article. The design thinking process should not be seen as a concrete and inflexible approach to design; rather, the stages should serve as a guide to the activities carried out during a session, and the stages might be switched, conducted alongside one another, or repeated to gain the most informative insights. In either case, breaking it down in this way makes it more accessible and useful as a pedagogical tool in the writing center. Once consultants are familiar with the process, they can call attention to challenges more quickly, and they can intervene to ask the right questions at the right times. Furthermore, seeing writing as a problem -solving process helps consultants become more aware of the various tasks involved in writing and provides them with a technical lexicon to describe that process. Finally, it provides a bridge between theory and practice that allows peer consultants to be more effective because they are more knowledgeable and consequently better able to work with a variety of students with diverse problems.

References

Ashton-Jones, Eevelyn. (1988). Asking the right questions: a heuristic for tutors. *The Writing Center Journal*, 9(1), pp. 29-36.

Boller, Sharon; & Fletcher, Laura. (2020). *Design thinking for training and development*. ATD Press.

Chase, Geoffrey. Problem-solving in the writing center: from theory to practice. *The Writing Center Journal*, 7(2), pp. 29-35.

Clark, Irene. (1999). Addressing genre in writing center work. *The Writing Center Journal*, 20(1), pp. 7-32.

Hammersley, Dory; & Shepard, Heath. (2015). Translate-communicate-navigate: an example of a generalist tutor. *The Writing Lab Newsletter*, 39(9-10), pp. 18-19.

Hawthorne, Jean. (1999). "We don't proofread here": re-visioning the writing center to better meet student needs. *The Writing Lab Newsletter*, 23(8), pp. 1-6.

Hubbuch, Susan. (1988). A tutor needs to know the subject matter to help a student with a paper. *The Writing Center Journal*, 8(2), pp. 23-30.

McLaughlan, Rebecca; and & Lodge, Jason. (2019). Facilitating epistemic fluency through design thinking: a strategy for the broader application of studio pedagogy within higher education. *Teaching in Higher Education*, 24(1), p. 81-97.

McLaughlin, Jacqueline; Chen, Elizabeth; Lake, Danielle; Wen, Guo; Skywark, Emily; Chernik, Aria; & Liu, Tsailu. (2022). Design thinking teaching and learning in higher education: experiences across four universities. *PLoS One*, 17(3), pp. 1-16.

North, Stephen. (1984). The idea of a writing center. *College English*, 46(5), pp. 433-446.

Palmeri, Jason. *Remixing composition: a history of multimodal writing pedagogy*. Southern Illinois UP.

Romano, Tom. (2000). *Blending genre, altering style: writing multigenre papers*. Boynton/Cook Publishers.

Razzouk, Rim; & Shute, Valerie. (2012). What Is Design Thinking and Why Is It Important? *Review of Educational Research*, 82(3), pp. 330–348.

Shipka, Jody. *Towards a composition made whole*. University of Pittsburgh Press.

Sirc, Geoffrey. (2011). *English Composition as a Happening*. Utah State University Press.

Stevens, David; & VanNatta, Michelle. (2002). Teaching Critical Observation as a Sociological Tool. *Teaching Sociology*, 30(2), 243–253.

Author Information

Vittoria S. Rubino is currently an Assistant Professor of English and Assistant Director for the Mounger Writing Center at the U.S. Military Academy at West Point, where she teaches the gateway seminar for undergraduate writing center consultants, oversees the development of the writing center, and mentors a team of professional writing consultants. Vittoria earned her Ph.D. in Composition and Rhetoric at St. John's University. Her recent research has appeared in *Praxis: A Writing Center Journal*, *The Teaching Professor*, and several book chapters.