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*Currents in Teaching and Learning* is a peer-reviewed electronic journal that fosters exchanges among reflective teacher-scholars across the disciplines. Published twice a year, Currents seeks to improve teaching and learning in higher education with short reports on classroom practices as well as longer research, theoretical, or conceptual articles and explorations of issues and challenges facing teachers today. Non-specialist and jargon-free, Currents is addressed to both faculty and graduate students in higher education, teaching in all academic disciplines.

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### EDITORIAL

### Returning to the Classroom After a Year of Lockdown —Benjamin D. Jee

### Dear readers of Currents in Teaching and Learning,

For those of us in higher education, fall is a time of reunion and renewal. A return to long-vacated offices and classrooms, catching up with colleagues and students, commencing our classes and starting new projects. These are things that I have missed over the past year of lockdown and social distancing. As I look ahead to the fall, I feel invigorated by a return to an academic life that is at once routine and also a vast departure from the daily rhythm that became the new normal.

I am also exhausted. For many of us, remote instruction involved fully rethinking our teaching, our assessments, and our expectations for our students and ourselves. Much of this work was conducted under a cloud of uncertainty—about how long remote instruction will last, about the pros and cons of our pedagogical choices, about our own capacity to fulfill our commitments. Often, this work was part of a balancing act that involved caring for our families, engaging with larger societal and political matters, and (usually last on the list) maintaining our own physical and mental health. So, as I look ahead to the fall, I also feel overwhelmed, weary from the burden of a year of upheaval.

As the stress and anxiety of our pandemic year recedes, I want to take stock of the things that I missed about normal academic life, as well as the silver linings of doing it all remotely. I'm trying to reign in my tendency to dive headfirst into the semester, towed along by the currents of teaching, research, and committee work. I want to rethink my purpose in the classroom, and what I can give to my students while also restoring myself. Indeed, teaching is ideally a positive-sum game, one in which knowledge, passion, awareness, and respect are enhanced for everyone involved. I view my work on Currents in Teaching and Learning in a similar way. Editing this journal has been challenging in the past year, but it has rewarded me with the opportunity to learn, to be inspired, and to look at teaching and learning in new and important ways.

The present issue of Currents contains a number of inspiring and thought-provoking pieces. In the article, "Jumpstart Your Lesson: Connecting Students to Content," Lynne Kennette and Morgan Chapman draw on cognitive psychology and universal design principles to suggest ways to "hook" students during the crucial first minutes of class time. Their recommendations are intended to not only energize the classroom, but also to activate students' knowledge, experiences, and goals in order to foster deep, personal learning. In "Design Thinking in First-Year Composition: Writing Social Innovation into Service-Learning Pedagogy," Jason Tham presents a model of design thinking in which students tackle real-world issues, engaging with people and institutions in their broader communities. Tham describes five key steps in the design thinking process—1) empathize with users/constituents/audience, 2) define the users' needs/problems and your insights, 3) challenge assumptions and create ideas for innovative solutions, 4) prototype solutions, and 5) test. The article describes how these principles could be applied to a broad range of course topics, and presents an example in which students used design thinking to develop creative products that address the problem of food scarcity.

This past year of remote instruction has underscored the importance of belonging to a university community in which students have access to helpful people and materials outside of my classes. I gained a better understanding of when and how to draw on these resources to complement and supplement my own teaching. In their article, "Mathematics Tutoring in Higher Education: Impact on Students and Student Tutors," Eileen Perez, Elizabeth Gilbert, Jessica Harter, and Linda Larrivee explore how peer tutoring affects both the provider and the recipient of the tutoring. The authors surveyed students who visited a university math center, as well as the student tutors who worked there, probing both their math performance and their attitudes. Their results suggest that peer tutoring is mutually beneficial for tutors and pupils, pointing to the promise of peer-to-peer instruction in math and potentially other

### A Year of Lockdown continued

disciplines. To that point, Jennifer Gray's article, "Slow Wriwting: Student Perspectives on Time and Writing in First-Year Composition Courses," reports that students value the opportunity to collaborate on writing and share ideas with their classmates. Yet, time pressure often limits these productive activities. Gray's article provides suggestions for how to slow down the pace of a course to cultivate quality student work, and to nurture habits of mind that are often undermined by the frenetic pace of a typical course. Rounding out the issue is Elizabeth Siler's review of Karen Costa's book, "99 Tips for Creating Simple and Sustainable Educational Videos: A Guide for Online Teachers and Flipped Classes." As you can read, Siler shares a number of useful lessons about video making from the book, many of which are valuable for teaching in online, hybrid, and flipped classes.

As we prepare for the return to campus, I hope that you have time to process your experiences over the past year, and to find inspiration in the scholarship of teaching and learning. I am thankful to all of the authors for their contributions to the present issue. As always—but especially in light of the challenges of the past year—I am grateful to the reviewers, copyeditors, and members of the Currents advisory board for their time and effort. I also want to note the work of Jonathan Tegg, who has worked to revamp the Currents website. We aim to make further improvements to the site in the coming months. Finally, I am deeply appreciative of Dr. Linda Larrivee, who helped to keep the whole operation afloat. I'm hopeful for calmer seas in the year ahead.

Until next time,

Benjamin D. Jee

### BRIEF REPORT

### Jumpstart your lesson: Connecting students to content

-Lynne N. Kennette and Morgan Chapman

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### Abstract

Students' engagement is key to their success. How can instructors "hook" students from the very beginning of the class? We propose, following the Jumpstart lesson planning model and Universal Design for Learning (UDL) best practices, to include a Connection Activity at the onset of every lesson. The Connection Activity connects students with content and engages several important cognitive processes for learning, including elaboration and retrieval.

### **Keywords**

lesson plan, engagement, content, connection, retrieval

### Introduction

Universal Design for Learning (UDL) is a best practice because all students are able to learn equally, and it removes the necessity that students with accommodations identify themselves to their instructors (Center for Applied Special Technology [CAST], 2018). It consists of three principles: multiple means of representation, action and expression, and engagement. Importantly, engagement impacts students' motivation to learn (Casuso-Holgado et al., 2013). And recent metaanalysis showed that using UDL increases both student satisfaction and engagement (Al-Azawei et al., 2016). Given these findings, instructors should consider how they engage students from the beginning of each class. The Connection Activity component of the Jumpstart model is one way to increase student engagement, implement UDL, as well as harness the benefits of the cognitive processes of retrieval and elaboration.

### Jumpstart Model

Durham College's Centre for Academic and Faculty Enrichment (Centre for Academic and Faculty Enrichment [CAFE], 2012), developed the Jumpstart model to encourage active learning experiences. It was inspired by the work of Kolb and Kolb (2005) and Zull (2004), who proposed diverse types of instruction, including experiential learning, due to improved student attention and the engagement of multiple areas in the brain, resulting in deeper learning. Instructors have known for decades that deeper encoding leads to better recall than more superficial encoding (Craik & Lockhart, 1972). Furthermore, being presented with information multiple times, especially in varied contexts, helps to move it into long-term memory (Baddeley, 1997). Using the Jumpstart model, instructors introduce each new content unit with a Connection Activity, which helps connect students to this new content. Then, instructors present the course content and allow students to practice it, cycling through content and practice until the unit is completed. Finally, a summary activity synthesizes the unit. The focus of this report is specifically on implementing the Connection Activity component. This component will be described, and the benefits of two of the cognitive processes engaged during these activities, retrieval practice and elaboration, will be discussed.

#### **Connection Activities**

The Connection Activity is the "kick off" to the lesson and is intended to be relatively brief (5-10 minutes). During this time, instructors attempt to capture students' attention by connecting the lesson's topic to students' own knowledge, personal lives, and/or future

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### Jumpstart your lesson continued

careers. The Connection Activity allows the instructor to uncover what students already know about the topic, which may reveal knowledge gaps or misunderstandings. Introducing new content with a Connection Activity provides an opportunity to encourage students to be focused, engaged, and present (CAFE, 2012). Students' engagement (Greenwood et al., 2002) and motivation (Fortier et al., 1995) are related to their performance. That is, the more students participate and the more effort they put into their learning, the higher are their grades (Amari et al., 2011; Fortier et al., 1995; Greenwood et al., 2002). Connection Activities can be directly linked to the course content and learning objectives (e.g., critical thinking, group work, etc.) and can even be used as opportunities for formative assessment, making valuable use of class time from the first few minutes.

### **Cognitive Processes**

The Connection Activity is important in a lesson because it involves three key cognitive processes: retrieval, elaboration, and integration. Retrieving prior knowledge allows for processes such as elaboration and integration to occur (Beker et al., 2016; Carpenter & DeLosh, 2006; Karpicke & Smith, 2012). It has long been known that elaboration leads to deeper processing and consequently to a richer memory, so elaboration is key for long-term retention (Anderson & Reder, 1979; Bradshaw & Anderson, 1982). Integrating previous information with new information is another important part of learning (Beker et al., 2016). Information integration creates new connections and allows students to develop more complex cognitive networks, which leads to improved understanding (Bowman et al., 2013; McDaniel & Masson, 1985; Roediger & Butler, 2011). Recently, Kennette and McGuckin (2018) also found that using a Connection Activity that combined elements of retrieval practice, elaboration, and collaboration among students resulted in higher final grades in the course, compared to when students simply reviewed their notes for the Connection Activity. Therefore, there is substantial evidence that Connection Activities (and the cognitive processes they engage) can be beneficial to student performance.

**Retrieval.** Retrieval refers to accessing information from long-term memory. In a key study demonstrating the importance of retrieval practice on long-term memory,

Roediger and Karpicke (2006) assessed participants' memory for passages they read. In one condition (Study), participants were asked to re-read the passage to study the information; in another condition (Test), they wrote down everything they could remember about the passage to study the information (i.e., retrieval). The students who retrieved the information (Test condition) had the best recall when tested one week later, and the more Test conditions students engaged in, the better their performance was one week later. In contrast, re-reading the passage did not afford this same performance benefit. It appears that repeated retrieval improves performance by protecting more effectively against forgetting than repeated rehearsal (Adesope et al., 2017).

**Elaboration**. Another key cognitive process engaged during Connection Activities is elaboration. This, ability to combine old and new information (Richardson et al., 2012) has been shown to facilitate later recall (Symons & Johnson, 1997; Willoughby et al., 2000; Wood, 2010). Elaboration has also been shown to be beneficial to information retention (Baddeley, 1997; Craik & Lockhart, 1972). This is because elaboration leads to deeper processing of the material, and more effective learning.

#### Examples of Connection Activities

Now that we've made a case for the benefits of using Connection Activities, we provide a number of examples. The Connection Activities listed offer options for both inclass and online learning and can be adapted for various pedagogical goals. To promote discussion, consider presenting a news story, statistic, song, image, video, or advertisement that is related to the lesson topic to link the (sometimes abstract) content to real life. Studentcentered options like a survey, brainstorm (perhaps using Padlet) or an internet scavenger hunt (using Kahoot, Poll Everywhere, or Socrative) may also be employed. Some or all students may share, but instructors should synthesize or summarize before moving into the content.

#### Suggestions for Implementations

Starting the first class of the semester with a Connection Activity immediately establishes why students should be interested in the topic of the class, and embodies the "Multiple Means of Engagement" component of UDL (CAST, 2018). It also establishes a routine for the

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beginning of every lesson thereafter. Instructors may choose to vary the Connection Activity or establish a standard introduction for each class (e.g., playing a song). Connection Activities are ideal for both online and in-class learning environments and can provide fun, easy, low-stakes opportunities for students to engage and experiment with technology. Instructors should be cautioned that long activities risk losing impact and focus, thus course learning objectives should be kept in mind.

### Conclusions

Connection Activities align with good teaching practices (e.g., UDL, elaboration), and are a quick and fun way to build rapport with students. Connection Activities provide an opportunity for students to observe the instructor's personal teaching style, whether faceto-face or online. Each Connection Activity is like an audition to win students over, inspire them, and kick off a great class.

### Jumpstart your lesson continued

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### TEACHING REPORT

### Design Thinking in First-Year Composition: Writing Social Innovation into Service-Learning Pedagogy

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### Abstract

As a field, writing studies has been an astute proponent for service-learning and social justice advocacy. From writing in the classroom to writing in the world, scholars and teachers have continued to expand the scope of "writing" as a way to address pressing social issues and create better advancement opportunities for individuals in our global community. Much of these efforts have resulted in service-learning courses designed to broaden students' agency and access to community issues. But as social problems continue to emerge and evolve, so must our methods to service-learning pedagogy and social justice practices. We need to design socially responsive courses and devise effective ways to deliver them. Given the growing prominence of design thinking in higher education, many fields in social science and humanities may benefit from a design-driven framework for facilitating service-learning pedagogy and social justice practice. In this essay, I present a pedagogy case where service-learning meets design thinking. Through critical reflections by students, the community partner, and the instructor, I demonstrate how an integration of design thinking with first-year composition can inspire social innovation and activate social change.

### **Keywords:**

Design thinking, service-learning, design challenge, social justice, social innovation

### Introduction

Our expert knowledge, reflected in threshold concepts or keywords, helps us understand and convey how writing is never just writing. They help us say things like this: writing is social and rhetorical. Qualities of good writing are shaped by people, with purposes, in specific places. (Adler-Kassner, 2017, p. 332)

In her Chair's Address at the 2017 Conference on College Composition and Communication (CCCC), Linda Adler-Kassner urged rhetoric and writing studies scholars to embrace a broader definition of "writing" to include advocacy and social justice labor. Our scholarship and pedagogy, as Adler-Kassner (1995, 2017; Adler-Kassner et al., 1997) and many others have contended, should serve beyond helping students acquire technical skills. As students practice and develop their writing, we must also harness the opportunity we have with them in the classroom to cultivate an awareness of social problems and grow students' motivation to address these problems as engaged citizens of their communities. Certainly, such pedagogical labor isn't easy work. Writing instructors face institutional and structural challenges to enabling social justice pedagogy. Carrie Leverenz (2014) called these challenges "wicked problems," a term frequently used in design-thinking literature to represent the lack of singular, definitive solutions to complex problems.

As social problems continually emerge and evolve, so must our pedagogical methods, particularly in servicelearning projects and social justice practices in order to design socially responsive courses and to measure their impact. Kathleen Kelly Janus (2015) reported that "the strong interest among the college-aged in doing social good has led to an explosion of social entrepreneurship university programs around the world" ("Bringing

Social Entrepreneurship"). While writing studies may not be focusing its pedagogy on entrepreneurship *per se*, it certainly strives to prepare students for a world of changemaking. Within the social science tradition, changemaking is a pedagogical paradigm that aims to affect "transformative agency among historically marginalized individuals and communities toward specific and consequential ends" (Bang & Vossoughi, 2016, p. 173). Social innovation helps accomplish this mission by providing creative and radical mindsets for developing innovative solutions (Mulgan, 2006; Taylor, 1970). Together, they afford us the methodology to teach our students to be ethical leaders with strong rhetorical awareness and proficiency in affecting positive change in society.

To keep pace with global and local social conditions, our pedagogy must reflect flexibility to a degree in which institutional and structural challenges can be overcome. For this purpose, we may turn to design thinking to devise a design-driven framework for facilitating socially relevant pedagogy and practice. Given its grounding in democratic and iterative innovation, design thinking can be a viable methodology for creating activism learning activities from within the writing classroom. This essay aims to provide a precedent by sharing a story of design thinking deployment in a first-year composition setting.

### Literature Review

### Service-as-Learning and Social Justice

Social justice is a way to increase students' abilities to articulate their experiences, critique their world, and address those identified issues with subsequent action. (Chapman et al., 2011, pp. 539-540)

Entering the 21st century, writing studies has experienced a notable "public turn" (Mathieu, 2005) where theorists and instructors were most enthusiastic about advocating for community based pedagogy. Scholars like Anne R. Gere and Jennifer Sinor (1997), Thomas Deans (2000), Thomas Tai-Seale (2001), Ellen Cushman (2002), and more recently Ashley Holmes (2016) have championed service-learning as socially responsible and community involved pedagogy in the writing classroom. While service-learning remains a current trend in our field, Adam Webb (2013) argued there needs to be more integrated models for teachers to create service-learning projects and collaboration with communities. Students should not be merely volunteering for the community (e.g., painting shelters, visiting senior homes). Rather, service-learning should be an experience that facilitates students' critical thinking about the community they serve, while at the same time, educating community partners about the pressing social issues at hand.

The first step toward such integration is understanding what service-learning means to writing instructors and the community at large. In the introduction to her anthology, Susan Garza (2013) argued that servicelearning in the writing classroom should not be "a means to an end, but rather an environment in which working with community partners on real documents allows students to see that learning occurs because of the service" (p. 4).

In Writing Partnerships: Service-Learning in Composition, Deans (2000) pointed out a critical goal for service-learning pedagogy: it must center "on a dialectic between community outreach and academic inquiry" (p. 2) so service-learning courses must balance the goals of the course as well as those of the community. Melody Bowdon and Blake Scott (2003, pp. 5-6) provided a useful set of guidelines for setting up service-learning courses, i.e., projects should:

- relate directly to course goals,
- address a need in the community,
- involve developing reciprocal relationships between the college/university and the communities in which it is embedded, and
- involve critical reflection on the student's part.

As I have alluded to earlier, we are continually faced with evolving challenges in service-learning pedagogy and social justice advocacy. Changing social problems require innovative approaches and scholarship from design driven problem-solving practices has shown great promise in creating sustainable pedagogical frameworks. Next, I provide an introduction to design thinking and its associated literature pertaining to the disciplinary

focus of writing studies. Coupled with the exigency for service-learning in writing pedagogy, I demonstrate how design thinking works to create actionable social justice efforts from within our classrooms.

### Actionable Social Justice: Introducing Design Thinking to Service-Learning

Design thinking is a human-centered problemsolving philosophy and methodology that aims to pursue solutions or strategies to address complex social problems through an iterative design process. Design thinking scholars typically look to four landmark texts that laid out that basic concepts of design thinking: Bryan Lawson's *How Designers Think* (1980), Robert McKim's *Experiences in Visual Thinking* (1980), Peter Rowe's *Design Thinking* (1987), and Richard Buchanan's "Wicked Problems in Design Thinking" (1992).

Many writing scholars have explored the uses of design thinking over the years. They began as early as 1989 with Charles Kostelnick's "Process Paradigm in Design and Composition: Affinities and Directions," where he critiqued the then buzzword, "process pedagogy," and offered design as a counterpart to the writing process. Twenty years later, Richard Marback (2009) offered design thinking as a "new" paradigm for composition. Since Marback's (2009) influential discussion of the "design turn" in composition studies, many scholars have taken up design not just as aesthetics but as a rhetorical lens for framing and addressing complex problems we and our students face in personal, social, and professional lives. Design is both process and product and can thus be aligned with writing. James Purdy (2014) argued that "design thinking offers a useful approach for tackling 'wicked' multimodal/multimedia composing tasks" (p. 614). Purdy contended that design thinking forces writing studies to move beyond print based conditions and explore other modalities as available means of meaning making. Leverenz (2014) also advocated for design thinking as a teaching framework and composing process for multimodal texts: "... it 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" (p. 3).

Most recently, across rhetoric/composition and professional/technical communication studies, scholars

have advocated for design thinking as pedagogically sound approaches for problem-based learning (Bay et al., 2018; Pope-Ruark et al., 2019) and cultivating a creative habit of mind (Wible, 2020). Design thinking can "prompt students to dive more deeply into the cultural community they are working with," as Scott Wible (2020) observed from teaching via this method.

Nevertheless, design thinking is more than just *thinking*. With the intention of giving its practitioners real-life problems to solve, design thinking is celebrated as an actionable, transformative learning approach to help students commit to creative problem-solving (Sheridan, 2010). Rebecca Pope-Ruark and colleagues (2017) broadly defined design thinking as "the human-centered, empathy-driven process of imagining, creating, testing, and revising responses to critical, highly contextual, dynamic, and messy problems" (p. 520). Design thinking is typically represented in a 5-step model (see Figure 1) as follows:

- 1. Empathize with your users (constituents, audience)
- Define your users' needs, their problems, and your insights
- 3. Ideate by challenging assumptions and creating ideas for innovative solutions
- 4. Prototype to start creating solutions
- 5. Test solutions

### Figure 1

*Five Components of Design Thinking According to the Stanford d.School (2017)* 



Design thinking lets students lead the change-making process by taking social justice matters in their own hands, defining and ideating actionable solutions, and developing those solutions for actual implementation. In

the next section, I present a first-year composition course designed to achieve the aforementioned goals of social justice pedagogy through design thinking. I encourage readers from disciplines outside of writing studies to read with the intention of learning how the application of design thinking to a service-learning course might be applied to their own disciplines, including anthropology, sociology and political science, social work, and public policy, to name a few.

#### **Course Specifics**

The course discussed in this article was WRIT 1301 – University Writing for International and Multilingual Students (INTL). The study was conducted with 11 students who enrolled in a summer INTL section of WRIT 1301 between June and August 2018. Eight of these students were from Oman and three from China.

Following Bowden and Scott's (2003) direction, this course was designed to link the goals of service-learning described in the previous section with the needs of our community partner, Minnehaha Food Shelf (<u>http://www.minnehaha.org/foodshelf.html</u>). The Minnehaha Food Shelf is a joint initiative by three local churches in south Minneapolis, Minnesota, that provides food for more than 600 people in need who live in the Minnehaha neighborhood. The readings, activities, and assignments that students encounter center on social justice, social change, and social issues specific to the food shelf.

Within the 8-week summer course, students were immersed in an intensive rhetorical experience where conversations about academic writing, social and professional compositional conventions, and social justice concerns were infused into the weekly class meetings:

- Week 1 Introduction to literacies and social action
- Week 2 Discourse activities
- Week 3 Rhetorical situation
- Week 4 Design thinking orientation
- Week 5 Design thinking sprint
- Week 6 Digging deeper into social justice and social issues
- Week 7 Implementation strategies
- Week 8 Team presentations

The assignment sequence for the course was intentionally designed to mirror the design thinking process. The first three assignments aimed to cultivate empathy and develop students' analytical thinking with rhetorical awareness. The last two assignments, one individual and one team based, focused on enabling students to address the design issues facing our community partner. Figure 2 shows how the assignments in this course are mapped onto the design thinking process.

### Figure 2

### The Assignment Sequence Mapped onto the Design Thinking Process



Students were first invited to reflect on their personal literacy histories, values, and practices to explore the influence of cultural traditions and personal experiences in their own literacy development. This exercise was set in place before the introduction to design thinking as a way to promote self-evaluation and to cultivate empathy toward others. Then, students practiced listening to others and reporting on others' perspective. The second assignment was a summary essay where students picked two assigned readings and capture the essential arguments in those readings by quoting, paraphrasing, or synthesizing key points.

Next, students were given an overview in rhetorical theories and approaches; the associated exercises included an in-class collective analysis of pop culture references. For their third assignment, students were asked to individually select an artifact of literacy or social

identity to pick apart rhetorically. Through the lens of the rhetorical situation and rhetorical appeals, students developed their ability to critique the design of everyday literacy and social identity products—ranging from books, computers, and smartphones, to schools, libraries, coffee shops, workplaces, and religious institutions. The primary learning objective of this assignment was to develop critical-rhetorical thinking skills in the students.

The personal literacy narrative, summary essay, and rhetorical analysis assignments were introspective in nature. Students looked into their own experiences; chose materials that resonated most with their own beliefs, thinking, or aspirations; and analyzed objects they felt most attached to. The next set of assignments were more empirical in comparison.

The fourth assignment required students to observe and report on their study of the Minnehaha Food Shelf based on their engagement with the community partner volunteers and a one-day site visitation and volunteering experience. Students developed potential research questions and documented their encounters with our community partner and the actual service-learning experience in the form of an ethnographic report.

Based on their ethnographic experience, students were formed in teams of two to three members to fully engage the design thinking cycle. As they have already begun to empathize with complex social issues, students were asked to produce a design challenge report that specifies a definition of the particular food shelf related issue their team chose to address, their ideation of a viable solution, and a prototype of the model solution. Then, in the second part of the report, students were tasked with testing their prototype and presenting a final version of their recommended solution to the class at the end of the semester.

To give readers a sense of the student projects and their process, I feature here a sample prototype which students have granted permission to share. Figure 3 shows a prototype of an interactive food shelf supply poster. The student team that produced this poster examined the existing outreach effort of the food shelf and recommended expanding the scope of the food shelf's promotion and advertising. After visiting the food shelf and observing its client population, this student team noticed that most clients seemed to come from a particular neighborhood and very few from other areas that were supposedly covered by the food shelf service. This student team spoke with the food shelf director, understood the challenges of reaching population in those secluded areas, and devised an outreach plan that aimed to increase the awareness of the food shelf in those areas. The students determined that while getting more exposure is morally good for the food shelf, the increased traffic must not become a burden to its current operations. The team prototyped and tested a new communication material; that is, the interactive poster shown in Figure 3. The students designed the poster to be more than just a visual attraction, but also functional as it would be posted in schools, markets, and other populated public spaces where individuals, parents, and even children can indicate their needs or make advanced reservations. According to the student team, this poster design underwent several iterations throughout the design challenge as they listened to the feedback provided by their peers during the testing phase.

### Figure 3

A Prototype of an Interactive Food Shelf Supply Poster



Other student projects included 3D models of redesigned floor plans for the food shelf site to optimize volunteer workflow (three student teams did this direction) and digital wireframes of computer-assisted client registration program to update the intake protocol at the food shelf (two teams pursued this direction).

### Methods

To capture the value of design thinking in the course, I employed critical reflection as a qualitative method to gather relevant data. Jennifer Ahern-Dodson (2013) argued that critical reflection at the student, faculty, and community levels enhances service-learning pedagogy. In fact, critical reflections provide crucial insights to the teaching and learning process. Before the course concluded, students were asked to compose their reflection on the semester with special attention to the design challenge project:

- What was your overall experience with this course?
- What was your overall experience with the design challenge component?
- What was your overall experience collaborating with your design team member(s)?
- Describe your design thinking process in approaching the design challenge. What worked and what didn't?
- What was the most important thing you learned from the design challenge experience?
- What was the most challenging part of the design challenge project or experience?
- What was your experience and/or perception toward social justice before encountering the design challenge project? What is like after?
- What would you like to say to George, Judy, and/ or the volunteers at Minnehaha Food Shelf?

I have also invited representatives from the food shelf to reflect on their experience collaborating with our students:

- What was your overall experience with this servicelearning collaboration?
- What do you think worked well and what didn't?

• What advice would you give to students regarding volunteerism?

Lastly, I provided a critical reflection from my own position as the facilitator of this service-learning project. I focused on the following questions:

- What were the evidence of success in the servicelearning collaboration with the community partner?
- What were the evidence of success in the students' engagement with the design thinking and/or design challenge project?
- What challenges did the community partner face in our collaboration?
- What challenges did the students face in the design challenge project?
- How did design thinking manifest in the course, overall?
- If I were to repeat this course with similar learning outcomes, what will I do differently?

To analyze the student reflections, I employed a constructivist thematic analysis method (Braun & Clarke, 2006), looking for articulations of experience that critique the value or benefits, constraints, and future iterations of design thinking and/or design challenge projects in the service-learning course. The goal is not to be reductionist or essentialist but rather to use the discourse provided by students—which constitute multiple subjectivities—to make sense of their experience in the context of this course.

### Results

### Student Reflections

Overall, students responded positively to the outcome and their experience in the design challenge project. All of the students reported they benefited from the food shelf visitation and volunteering experience. They included narratives of engaged learning that reflect benefits of a service-learning approach to writing instruction and highlight the value of design thinking. Students have also expressed appreciation for a hands-on, communitybased project rather than a "typical writing assignment" that students perceived to be unrealistic and impractical.

In the student reflections, I have unraveled instances of emergent learning that demonstrate how design thinking augments service-learning in first-year composition.

In my analysis of the reflections, four major themes emerged. First, students noted that the collaborative nature of the design challenge project has helped them learn to see a problem from multiple perspectives. Students reported how working in teams helped them to not just see a problem from their personal interest points but also consider other probable issues. More importantly, students realized that their goals in the design challenge project are not just about solving the problem at hand, but to consider the human factors surrounding complex social concerns that would not be possibly solvable overnight. Students stated that by collaborating with others, they arrived at solutions that were user-centered and multifaceted.

Second, students expressed early experiences of frustration when they were attempting to understand the design problem and explore viable solutions. Most of the student teams struggled to arrive at a working problem statement for their design challenge project when they were expected to present a narrowed research direction. However, they embraced the ambiguity of the design thinking workflow and upheld their confidence for a working solution. Students noted how design thinking lets failure be an expected part of the problem-solving process, and created space for failures. A student team in particular was relentless in using computational methods for addressing the food distribution method in the food shelf. They did not give up when the first solution they proposed did not work out. Nevertheless, after devoting more time and trials, their solution was among the best recommendation in the final pitch.

Third, most students included reflections of their critical thinking and engagement with social issues that are pressing in our current socio-political climate. Although all of the students in this course were international students, their reflections indicate deep engagement with social problems that have been ingrained in the U.S. culture. Since the design challenge project was set against the backdrop of food insecurity and poverty, many students reflected on the exposure they gained from dealing firsthand with those who were not from a privileged position, and the project has provided students with the real-world encounter of hunger and financial difficulty. During the food shelf visitation, students worked with other volunteers to serve clients and helped them with their specific needs.

Lastly, given that none of the students had prior experience with a food shelf, most students thought this project gave them an experience that was charitable. For many of them, this volunteering experience was the first of its kind, and it has given the students exposure to the ongoing struggles experienced by the food shelf. Not only were they able to see how a food shelf operates, students got to learn about the ins and outs of food shelf politics (since food shelves are mostly grassroot initiatives and non-government sponsored, and are operated based on community goodwill). In the student reflections, I have documented recurring notes of appreciation for being able to experience "real-world" social justice issues.

### **Community Partner Reflections**

To gauge the experience of the community partner in this project, I have invited two representatives to provide critical reflections on their engagement with this service-learning initiative. The food shelf director, George, politely declined to provide any feedback. Judy, who was my first point of contact in this service-learning collaboration, provided a brief reflection. First and foremost, she differentiated her way of engaging with the students from George's:

> First of all, it was a pleasure meeting all of the students. I enjoyed telling them about the Minnehaha Food Shelf and listening to their immediate responses. The students had an opportunity to get two perspectives about food shelves by listening to George and me. His is managerial; mine, more philosophical.

As a volunteer at Minnehaha Food Shelf, Judy was emotionally invested in the students' experience with their service-learning project. Judy, who was a school teacher, felt she needed to engage students on a "more philosophical" level by inviting them to think about the politics, values, and social tensions around serving lessfortunate community members. She thought George's approach was "managerial" in the sense that he was more concerned about the operational and technical aspects of

running a food shelf. While students can certainly learn a lot about the technicalities of a food shelf's operation, Judy felt that a service-learning experience should provide students with an acute exposure to the emotional and mental, not just physical, labor of volunteer work.

Judy was cognizant of the limited interaction students had with the volunteers and clients at the food shelf. She would have loved to have the students spend more time with the food shelf volunteers, or even with just her and George, after the students' volunteering:

> In reflecting, I wish that after the group had been to the food shelf, they would have had time to ask questions and/or comments on what insights they had, if any. This could be of benefit to us. Everyone has something to learn from others.

Both Judy and George did not make it to the final presentations that students gave at the end of the semester. However, these presentations were video-taped and shared with Judy and George after the semester. Indeed, it would have been a more integrated experience if the students could present directly to the food shelf personnel, be they George and Judy, or other volunteers, and receive direct feedback on their proposed solutions. In terms of future iterations of such service-learning course design and collaboration, Judy has suggested an extended "hands-on" volunteering experience-e.g., letting students take charge of the client registration process, collecting food donations, negotiating with policymakers in the area-which, in Judy's terms, will "open eyes not only how food shelves operate but also the ways in which clients benefit-and it's not just foods and other products."

In summary, representing the Minnehaha Food Shelf as the community partner in this service-learning project collaboration, Judy has focused her reflections on the pedagogical importance of a service-learning project. In her response, Judy has emphasized the need to focus on the "philosophical" learning through volunteerism. She has also highlighted the importance of creating a channel for continued collaboration or conversations between students and the community partner as true learning shouldn't be bound by the logistics of a course.

### Instructor's Reflection and Observation

To triangulate the student and community partner experience, I turned to my own critical reflection on this project. First, I acknowledged that any course design is in itself a craft and can be laborious. Creating a course with new emphasis, devising a new assignment sequence, and setting up the logistics for community partnership were time consuming yet rewarding to the teaching and learning experience. Prior to choosing the Minnehaha Food Shelf as the community partner in this course, I reviewed numerous nonprofit organizations for potential partnership. However, given the short turnaround time to meet with these organizations and discuss partnership strategy, I have decided to leverage my personal connection to the Minnehaha Food Shelf and reached out to its coordinators a few weeks before the start of the course. Fortunately, the coordinators were receptive to the partnership proposal, and agreed to their recommended role in the course. In order to prepare myself for facilitating this service-learning course, I visited Minnehaha Food Shelf prior to the semester to get familiarized with its setup and operation.

Overall, I considered the collaboration with Minnehaha Food Shelf a success in terms of accomplishing the predetermining learning contract that is to give students a volunteering experience, to let them experience the "real-world" of food insecurity and hunger issues in our local community, and to give them a chance to interact with volunteers who believe in the mission of the nonprofit initiative. George, the manager of Minnehaha Food Shelf, mentioned in the pre-visitation roundtable meeting with the students that the ultimate goal of his in this collaboration is to "plant a seed" of curiosity and kindness in the students. Given that all of the students in this course had never heard of a food shelf nor interacted with someone who contributes to it, this was a valuable opportunity to expose them to such movement and get them interested in community-organized initiative.

Before my students completed their mandatory course evaluation at the end of the semester, I took the opportunity to engage them in a conversation about the goals of the service-learning course design and their involvement with our community partner. This led to an hour-long serendipitous conversation about the projects in this course and how they were interconnected and

student-centered. Students reported that they appreciate how this course took them out of the classroom and positioned them as changemakers in the community. Most students, unsurprisingly, did not see themselves as influential leaders in affecting positive change in their immediate community. However, after experiencing this course, students reported that they felt more confident in vocalizing their beliefs for better policies serving marginalized and underrepresented communities. This to me is an evidence of success in the design thinking integration; students enter serious conversations about policymaking and influencing change from empathy. They are able to demonstrate how designincluding policies making, community organizing, and volunteerism-should be not only be human-centered but advocating for those who are powerless or less capable to voice their opinions.

Certainly, this project was not without any shortcomings. Given the nature of the summer course and less time for students to truly invest in changemaking, students have reported that they felt rushed and wished to have more intense engagement with the community partner. Most students thought the one-time volunteering experience wasn't sufficient. For our community partner, it was important students did not participate in the volunteering just for the grades in the summer course. George and Judy had really wanted students to see how social discrimination against less represented communities harms certain members of the society. It was heartwarming, however, to find that most students plan to visit Minnehaha Food Shelf on their own after the summer semester because they want to learn more about the community service work and how they can contribute as a member of the neighborhood (students have stated this in their course evaluation feedback).

Design thinking fit naturally with the pedagogical goals and assignment sequence of this course. The way design thinking begins with empathy and ends with iterative revision based on actual user feedback aligns with the way I have been teaching writing. Design thinking let me devote more time in idea generation when I realized that students wanted more time to think about their proposed solution. Design thinking pushed students to make their ideas a tangible reality. It allotted space for students to bring their ideas to life. Instead of just thinking about a solution, they created it.

### Discussion

This study situated design thinking as a viable pedagogical design framework that leverages the ambiguous and iterative nature of design in a servicelearning model. It let students experience social concerns firsthand and embrace failures as opportunities for iteration. Design thinking augments service-learning projects and course design by structuring service-learning experience around actions students can take that lead to innovative solutions for the community partner. Learning is thus proactive and focused on desired outcomes for students and community stakeholders. Whether it is a simple redesign of visual materials or more complex reorganization of existing processes, design thinking gives students a structure to follow; its ambiguity, however, still allows for creative thinking. In fact, one of the key characteristics of design thinking is to start with radical imagination, followed by careful deliberations for viable options based on existing factors, affordances, and constraints. This gives students opportunities to practice their developing expertise in research-problem formulation, data collection, data analysis, and report of findings. In a first-year composition classroom, design thinking makes writing a key part of the problem-solving process rather than just an artificial exercise that is forced upon the students as a course requirement.

Based on the lessons learned through this study and from existing literature, I present a framework for developing service-learning courses that are powered by design thinking. Table 1 shows the guiding principles for such pedagogical design, strategies for achieving those principles, sample assignments or projects, and heuristics for evaluating student learning.

A design driven service-learning course should begin with empathy. Students should examine their own experience and recognize how personal histories, values, and practices can be influential to their ways of looking at community problems. Once they have completed an introspective review of their own identities, students should interact with community partners to gauge initial understanding of existing problems, hopes, ongoing

### Table 1

### A Design Driven Service-Learning Pedagogical Framework

Guiding principles	Strategies for achievement	Possible activities or projects	Heuristics for evaluation
<b>Empathize</b> with actual users/stakeholders in real- istic, community problems.	Use introspection to examine the role of personal experience in affecting	Reflect on personal experience.	Demonstrate understanding of the human condition.
	future actions.	narratives from users/stake- holders in the community.	Provide insights into unique social environment(s).
	stakeholders to understand the community problem.		Do students understand the communi- ty problem at a personal level?
<b>Define</b> problem areas in terms of human factors in relation to community	Create focused problem statements to guide design process	Compose technical/topical definitions.	Facilitate comprehension of complex issue(s).
conditions.	process.	Share draft definitions with community partners and revise definitions based on participa- tory feedback.	Is there a concrete description that can be understood by experts and non-experts?
<b>Ideate</b> radical solutions and consider affordances	Brainstorm ideas individually and collectively.	Invite community members to share their vision/dreams.	Give design options.
and constraints of commu-	Quere and succlusting an inde		Propose viable direction(s).
nity factors.	ment. Let ideas grow	solutions.	Show design process.
		Create a pros/cons comparison of considerations.	Does the designed solution respond to the community problem at hand?
<b>Prototype</b> potential models for specific community.	<b>/pe</b> potential mod- becific community. Create actual models. Use prototyping or digital fab- rication technologies to create		Build tangible solution(s).
		mock-ups.	Present testable solution(s) with direction for use.
			Does the proposed solution look/feel tangible and is it testable?
<b>Test</b> prototypes with actual community users.	Gather potential users and engage them with the model, preferably in real	Conduct usability tests and user experience research.	Deliver results of user/usability testing.
	community settings.		Indicate next steps in iterative design.
	Collect feedback.		Does the proposed solution work? What is the next iterative design?

tensions, etc. These insights are going to be extremely useful when students enter the next phase that is the define stage.

By working in teams, students would next compose clear definitions of the community problems based on their interaction with the community partners. These definitions should include technical as well as social issues that would inform the design direction for addressing the specific problem each student team choose to focus on. Community partners should be given the opportunity to review these definitions and provide feedback. Such an exercise allows students to practice communicating/ writing to insider and outsider audiences.

Using their finalized definition, student teams can begin ideating possible directions for a designed solution that addresses, but does not necessarily solve, the community problem. Students should be encouraged to begin with radical ideas. Begin with the unrealistic, impossible solutions. Then, ask students to identify what makes these radical solutions unachievable, and look for alternatives. This exercise helps students avoid sticking to ordinary solutions or those that are immediately within reach. Students should also document their design process to not only show their rhetorical thinking, but for reference when they need to go back to revise an idea. Once the team feels confident about their draft solution, students should use various means of fabricating and prototyping to build a mock model of their design. The purpose of this step is to allow students to evaluate and test their design. Students will learn the costs, affordances, limitations, and appeals of materials. Instructors can take this opportunity to discuss the rhetoric of technology and technological cultures as a way of helping students understand their impact on the community.

The last step of design thinking in this model is testing. Students work to put their prototyped model to test, preferably testing with actual community members who would be most impacted by the recommended solution. After careful engagement with users and collecting their feedback on the prototype, students may return to the design board to consider iterative changes to enhance their designed solution. This lets students turn the less functional or less effective parts of their proposed solution into a better design. It also teaches students that designing social innovation, just like writing, is never complete.

A design driven service-learning approach emphasizes the design process. However, it doesn't just end with testing the model students recommend as their final product. The instructor can help students go the extra mile by actually implementing the recommended design in actual community settings. Instructors can work with students to gain community partners' buy-in for onsite testing, gather real user data and feedback, and evaluate the outcome. This would truly take students out of the classroom and into the "real world" where social problems are more difficult to disentangle from political, environmental, technological, and other aspects of our everyday life. This lets students practice applying the concepts and skills they are developing from the classroom into solving problems that matter to the community.

### Conclusion

This study shares a story of design-thinking integration with a service-learning course crafted to empower students in devising actional social innovation that would affect positive change. In a summer firstyear composition course designated for students from international/multilingual backgrounds, I have facilitated a design challenge where students collaborated with a local community partner-Minnehaha Food Shelf-to identify and define existing "wicked" problems, and ideate, prototype, and test user-centered solutions. In the process, students have learned more than different genres of writing, but their role as changemakers through social innovation. Through critical reflections by students, the community partner, and myself as an instructor, I have documented key themes that speak to the viability of design thinking as an effective model for service-learning design and social justice advocacy. I have also provided an initial framework for designing future service-learning courses through design thinking principles. Service-learning provides a meaningful way to promote students' agency and access to community issue; an integration with design thinking in first-year composition can further inspire social innovation and activate social change.

For teachers and scholars in the broader fields of social science and humanities, this study shows that design thinking offers a specific mindset for problem solving and community-based learning. By seeing and understanding social issues through an empathetic lens and designing and developing tangible solutions, students develop better confidence in affecting positive change. If instructors are interested in helping students achieve these skills, I strongly recommend giving the design thinking approach a try.

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### PROGRAM REPORT

## Mathematics Tutoring in Higher Education: Impact on Students and Student Tutors

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### Abstract

This paper discusses the current literature of mathematics tutoring in higher education and examines the effectiveness of the Math Center at a mid-sized University in the northeast region of the United States of America. Two surveys were developed, one for students who visited the math center and one for tutors who worked in the math center. The goal of these surveys was to assess the impact that tutoring has on each group's academic performance, as well as their attitude toward mathematics. The findings were that both the students and the tutors were positively impacted by the tutoring in the center in both areas. A quantitative analysis was also completed and found significant results in the effectiveness of the math center. The findings were that students who visited the math center five or more times were more likely to pass math courses than students who visited less than five times. The conclusion is that institution-based math tutoring services are a valuable resource for students in mathematics courses.

### **Keywords**

tutoring, tutoring center, math center, student academic support services

### Mathematics Tutoring in Higher Education: Impact on Students and Student Tutors

The goal of this study is to examine the effectiveness of tutoring across a range of classes and a range of students. This article examines the impact and effectiveness of a mathematics tutoring center in a higher education setting. Two phases were used in this study: a survey of students and tutors and then a quantitative analysis of student grades. After a brief review of current literature on tutoring in higher education, the survey is discussed. The survey asks both students and tutors to evaluate the impact and effectiveness of the mathematics tutoring center, called the Math Center in this report, from their own perspectives. Following the survey discussion, a quantitative analysis of student grades is presented to determine the effect of tutoring on student grades from the official college transcript. The paper concludes with a discussion of the findings and recommendations for further study.

### The Need for Mathematics Competency

Many colleges and universities have developed programs through which any student can receive free tutoring (Menz & Jungic, 2015; Robinson et al., 2005; Xu et al., 2001). Robinson et al. (2005) noted that there is a need for tutoring in mathematics because competency in mathematics content is a priority for the United States of America, specifically because the United

States lags behind its global counterparts like Singapore, Korea, Australia, and Canada. The United States ranked 19th out of 38 countries in the Third International Mathematics and Science Study-Repeat (TIMSS-R). The TIMSS-R compared mathematics and science competencies of eighth grade students internationally in 1999 (Gonzales et al., 2001). The U.S. ranked 40th out of 70 countries in the Program for International Student Assessment (PISA) study in 2015 (Kastberg et al., 2016). Not only is there a desire to produce students of the highest quality, but as Robinson et al. (2005) asserted, there is a need because the United States is a part of an increasingly global and technological world.

The need to produce students of the highest quality, along with the limited resources in higher education, often leads universities to invest in peer tutoring. Kim (2015) affirmed that employing student tutors for the growing student population was a cost-effective way for universities to provide these services. Studies that have examined tutoring for students in higher education found that university students benefited from tutoring and that the tutoring programs varied to fit the needs and goals of the institution (Kim, 2015; Topping, 1996; Menz & Jungic, 2015).

#### Peer Tutoring in Higher Education

Research into the effectiveness of peer tutoring programs in math, especially in calculus, is emerging. The Mathematical Association of America (MAA) conducted a study on College Calculus finding 97% of the institutes surveyed had a tutoring center (Bressoud et al., 2015). The set up and reporting structure varied with some centers being housed within the mathematics department, others within a school under the dean and still others housed within the general learning support center. The study also found 60% of calculus students never attended the tutoring center and 50% never attended their professor's office hours.

Regarding the impact of tutoring on students' achievement, one community college study found a 19% higher average grade among students who visited the math center than students in the control group who did not visit the center (Jaafar et al., 2016). Additionally, 48% achieved a grade of B or higher compared to 36% in the control group, fewer withdrawals at 0% compared

to 8% in the control group, and finally 25% achieved an F compared to 42% in the control group. Another study at a large, public, mid-western university studied a voluntary tutoring program for first year students and used an applied case-control matched-pairs analysis (Walvoord & Pleitz, 2016). The study found students who attended tutoring had a GPA 0.29 higher than students who did not.

One study involving Calculus 1 students at Oklahoma State University found the tutoring center benefited both high- and low-achieving students (Rickard & Mills, 2018). Additionally, the study found low-achieving students needed to attend tutoring more often to see significant grade improvements. Another study at Colorado State University also targeted calculus students (Byerly et al., 2018). Students who reported increased visits to the tutoring center had a higher likelihood they would pass their Calculus 2 course. This study also pointed out the need to account for self-selection bias on the ability to determine if increased scores and grades were the result of tutoring or if other factors, such as motivation, accounted for the increase.

Other literature has focused on the benefits of tutoring on the peer tutor. A 2019 meta-analysis of the literature on this topic focused on 16 studies (Leung, 2019). The analysis revealed that a greater effect was found for math tutors and same-age nonreciprocal peer tutoring than for cross-age tutoring. Cross-age tutoring is defined as age differences between tutors and tutees (Hänze et al., 2018).

### **Research Overview**

Most prior research has focused on specific core mathematics courses, like calculus. The goal of the present study is to address the gap by examining the effectiveness of tutoring across a range of undergraduate courses. This study examined the effect of tutoring college freshmen through seniors in a variety of mathematics classes, with the goal of determining the broader benefits (and shortcomings) of math tutoring in a higher education setting.

The research centered on the Math Center at a fouryear state university in the northeast region of the United States of America. Classes that were supported

in the Math Center ranged in difficulty from Arithmetic Developmental Math, which re-examined concepts initially taught in the elementary grades, through Calculus II. Undergraduate peer tutors were recommended by their professors for the courses for which they tutored and have demonstrated their tutoring ability to the Math Center Director. Student tutors tended to be approximately the same age as students they tutored.

The mission of the Math Center is to enhance student learning and success in any course that contains mathematical components in an effort to increase student retention. The Math Center is a hub for mathematical learning and dialogue and it allows students to find help from a knowledgeable, friendly tutor who may not evoke the feelings of pressure or judgment that students may experience when interacting with their professors. The literature shows the majority of students prefer peer tutors to staff tutors because peer tutors were more likely to understand the students' problems and show more interest in their lives while assessing the students' learning in a less authoritarian way (Topping, 1996). According to Topping, students' mathematics knowledge and competencies are expanded, as well as attitudes are shifted and improved. The Math Center plays an integral role in the community by helping students succeed in their mathematics classes, ultimately fulfilling graduation requirements.

The following research questions were constructed to determine if tutoring through the Math Center has a positive effect on both the students' and tutors' academic performance and attitudes toward mathematics:

- 1. Do students report that Math Center tutoring had a positive effect on their academic performance?
- 2. Do students report that Math Center tutoring had a positive effect on their attitude toward mathematics?
- 3. Do tutors report that working as a tutor in the Math Center had a positive effect on their own academic performance?
- 4. Do tutors report that working as a tutor in the Math Center had a positive effect on their own attitude toward mathematics?

### Methods

### **Research Site and Participants**

In the academic year 2016-2017, the full-time student body of 4,033 freshmen consisted of 59% female students and 41% male students. The percent of minority students was 26.4%. Students were predominantly in-state residents at about 95% and less than 1% were international students. The average age of incoming freshman is 21.9. Our Math Center offers tutoring that is on a walk-in basis. Therefore, tutoring may be one on one or in small groups, depending on the number of students attending. Tutoring takes place during business hours in the same building that houses the math department. The Math Center has specific blocks of time dedicated to each class that depends on the availability of the tutor. The center reports to dean of the college including all STEM, Health Sciences and Education departments. The Math Center director is a faculty member of the mathematics department. Tutoring is offered in any class with mathematical content. In the 2016-2017 academic year, more than three hundred students visited the Math Center, with a total of almost one thousand visits for the year.

The two targeted samples for this study were the students who visited the Math Center for tutoring and the tutors who worked in the Math Center. The researchers drew the participant pool from the population of all students who used the Math Center in Fall 2016 or Spring 2017. In the Fall of 2016, 220 students visited the Math Center and 116 visited it in the Spring of 2017, totaling 336 students for the academic year. There may be some overlap between students who visited the math center in the Fall and then again in the Spring. At the conclusion of the academic year, a request to complete the survey was sent twice to all 336 students who used tutoring services at the Math Center in the 2016-2017 academic year. Of the 336 students, 42 chose to participate in the survey, yielding a response rate of 12.5%. Students' responses to each of the questions were recorded.

The participant pool of tutors included all students who worked in the Math Center in Fall 2016, Spring 2017, or both. In Fall 2016, 16 tutors worked in the Math Center. In Spring 2017, two left and three additional tutors were hired. This brought the total tutors employed for the Spring semester to 17 and the

total for the academic year to 19 tutors. Of the 19 tutors, one excluded herself as a co-author of the study, and 15 of the remaining 18 tutors responded, giving a response rate of 83.3%. The survey began with a question about how long the tutor had worked in the Math Center. Responses ranged from one to four semesters, with six tutors responding four semesters, two tutors responding three semesters, four tutors responding two semesters and three tutors responding one semester.

Tutors hired in the Math Center are recommended by the faculty who teach the course and are based on their demonstrated ability in the course, their communication skills and their future plans, with preference given to those pursuing the field of education. All tutors are interviewed by the Math Center Director and if hired tutors undergo training. For Fall 2016, all tutors attended a four-hour training session, which included both administrative tasks and tutoring skills. Administrative tasks cover human resources systems, and the data collection system for students and tutors. Tutoring skills training included a review of the mission and goals of the Math Center, tutoring guidelines, a presentation and discussion led by experienced tutors, and concluded with mock tutoring sessions.

### Survey Instruments

For this study, two survey instruments were created and used by the researchers. The first is the student survey, which gathered information from students on their experiences at the Math Center. Student survey questions can be divided into four categories: background, academic effect, attitude effect, and other. Table 1 (see page 29) contains all the questions for the student survey.

The second survey is the tutor survey, which collected information from the tutors on their experience as employees of the Math Center. This survey also included questions that can be divided into four categories: general background, academics, attitude, and general feedback questions. Table 2 (see page 30) contains all the questions for the tutor survey.

### **Data Collection Procedures**

Data collection for the survey was through Qualtrics,

a survey platform. The web-based platform supported survey creation, platform independent deployment, data collection, and data analysis. Results were stored and can be retrieved in a number of formats for further analysis. Data analysis of this study was based on descriptive statistics using a five-point Likert scale of strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree and strongly disagree.

### Results

#### **Student Survey Results**

All reference to survey questions refer back to Tables 1 and 2 by S# for the student survey and T# for the tutor survey, respectively. In question S2, as shown in Table 3, students reported which specific class or category of classes for which they attended tutoring. Most students came to the Math Center for assistance with developmental mathematics courses or courses for math elementary education. It is important to note that many students do not take advantage of tutoring, especially those who could most benefit from these resources.

#### Table 3

#### Course for which Student Visited the Center

Course Group Visited	Count (n)	Percent		
Developmental	11	26.19%		
Liberal Arts Math	1	2.38%		
Math for Edu- cation Courses	8	19.04%		
Statistics	4	9.52%		
STEM Track	7	16.66%		
Placement Test Prep	4	9.52%		
Non-Math Courses	7	16.66%		
TOTALS	42	99.97%		

In Question S3, students reported which tutor they met with most frequently. Students reported that they met with one of the 23 specific tutor-course pairings between

### Table 1

Student Survey Questions

Number	Question	Type of Response	Question Category
S1	Are you 18 years of age or older	yes/no	Background
<b>S</b> 3	Which tutor did you meet with	list selection	Background
<b>S</b> 4	How did you learn about the Math Center	list selection	Background
<b>S</b> 5	Math Center hours met your needs	Likert Scale	Background
<b>S</b> 6	Tutor hours met your needs	Likert Scale	Background
S7	Tutor demonstrated a firm grasp of the material	Likert Scale	Academic effort
<b>S</b> 8	The tutoring session(s) met my expecta- tions	Likert Scale	Academic effect
S9	The tutoring session(s) helped me grasp the material	Likert Scale	Academic effect
S10	The tutor and tutoring sessions helped me complete assignments	Likert Scale	Academic effect
S11	The tutor and tutoring sessions helped me prepare for exams	Likert Scale	Academic effect
S12	I will return to the Math Center for addi- tional tutoring sessions	Likert Scale	Academic effect
S13	I will recommend the Math Center to my friends and peers	Likert Scale	Other
S14	The Math Center provided a comfortable, welcoming learning environment	Likert Scale	Other
S15	The tutoring session(s) improved my con- fidence in math	Likert Scale	Attitude effect
S16	I feel more positive about math than I did before tutoring	Likert Scale	Attitude effect
S17	If tutoring was not offered at the Math Center, I would hire and pay a private tutor	Likert Scale	Other
S18	Comments and Suggestions	Text	Other

### Table 2

Tutor Survey Questions

Number	Question	Type of Response	Question Category
T1	Are you 18 years of age or older	yes/no	Background
T2	When did you begin tutoring	list selection	Background
Т3	Tutoring increased my understanding of math concepts outside of what I tutor	Likert Scale	Academic effect
T4	Tutoring increased my understanding of the material	Likert Scale	Academic effect
T5	I feel I am better able to explain the materi- al after working as a tutor	Likert Scale	Academic effect
Τ6	Working in the Math Center increased my academic performance	Likert Scale	Academic effect
Τ7	Working in the Math Center improved my attitude toward mathematics.	Likert Scale	Attitude effect
Т8	l know and understand the mission of the Math Center	Likert Scale	Background
Т9	l would benefit from more training on tutoring students.	Likert Scale	Other
T10	l would benefit from more training on administrative processes.	Likert Scale	Other
T11	The Math Center is a good working envi- ronment	Likert Scale	Other
T12	I would work in the Math Center again.	Likert Scale	Other
T13	I would recommend working in the Math Center to my friends.	Likert Scale	Other
T14	Comments and Suggestions	Text	Other

zero and ten times, where zero means the student failed to report the pairing. In Question S4, students reported how they learned of the Math Center, with 78.6 % of students reporting that they learned about the Math Center from their professor, 4.8% from a friend, 4.8% from a current tutor, and 11.9% from another source, including their advisor, the Math Center Director, and the website.

The next two questions dealt with the Math Center hours and availability. Question S5 asked students if the Math Center hours met their needs and 48.8% of students responded that they strongly agreed that the Math Center hours met their needs, 29.3% somewhat agreed, 2.4% neither agreed nor disagreed, 17.1% somewhat disagree, and 2.4% strongly disagreed. Question S6 asked students if the tutor hours for their class met their needs and 40.0% of students responded that they strongly agreed nor disagreed, 20% somewhat disagreed, and 5% strongly disagreed.

Effect on Students' Academic Performance. Questions S7 to S11 asked the students to assess the outcome of tutoring on their academic performance. The responses are summarized in Figure 1. This outcome of academic performance will be revisited in the follow up data analysis.

### Figure 1



Student Report of Math Center Impact on Academic Performance

Questions S12 to S14 addressed the Math Center experience, including would the student return to the Math Center, would the student recommend the Math Center to others, and did the student find the Math Center to be a welcoming learning environment. These finding are shown in Figure 2.

### Figure 2

#### Student Perception of the Math Center



Effect on Students' Attitude toward Mathematics. Figure 3 addresses questions S15 and S16. These questions asked the students to assess the impact of their visits to the Math Center on their attitude toward mathematics and their level of confidence with the subject.

#### Figure 3

Student Report of the Overall Effect of the Math Center



The last two questions, S17 and S18, shown in Figure 4 addressed the use of student tutors and if the students would seek paid, private tutors if the Math Center did not exist. These questions assessed the students' perceived need for tutoring.

#### Figure 4

**Student Preference for Tutors** 



### **Tutor Survey Results**

The tutor survey collected information from the tutors on their experiences as employees of the Math Center. The data collected helped to answer the research questions related to the Math Center effect on tutor academics and attitude toward mathematics.

Effect on Tutors' Academic Performance. Questions about the effect of tutoring on the tutor's academic performance, mathematical understanding, ability to communicate mathematical concepts, and academic performance followed. Figure 5 shows the data illustrating the responses to each of these questions.

### Figure 5





Effect on Tutors' Attitude toward Mathematics. Question T7 asked tutors to assess the impact of tutoring on their attitudes toward mathematics by noting whether their attitude toward mathematics improved by working in the Math Center. The data found the majority, 73.33% of tutors agreed that working in the Math Center improved their attitudes and 26.67% reported they neither agreed nor disagreed. None of the tutors disagreed with this statement. Question T8 focused on the mission of the Math Center. All tutors responded that they understood the mission, with 66.7% responding strongly agree and 33.3% agree. Questions T9 and T10 examined the process and training for tutors. Tutors responses are summarized in Figure 6 below.

#### Figure 6

### Tutors on the Need for Training



Questions T11 to T13 addressed the overall experience of working in the Math Center. Question T11 asked tutors to respond to the statement The Math Center is a good working environment. Of the tutors, 100.0% strongly agreed. Question T12 asked tutors to respond to the statement I would work in the Math Center again, with 100.0% of the tutors responding that they strongly agreed. Question T13 asked tutors to respond to the statement I would recommend working in the Math Center to my friends. Of the tutors, 80.0% strongly agreed with the statement and 20.0% somewhat agreed. Finally, the survey solicited open-ended student comments and suggestions.

#### Analysis of Student Grade Data

To follow-up the survey questions from the 2016-2017 academic year, specifically the questions addressing students' academic performance after visiting the Math Center, an analysis of student grade data was performed after the Spring semester of 2018 using the most current grade data and Math Center data available at that time. This quantitative analysis uses data from the Spring of

2018 and is not the same population of students that participated in the 2016-2017 survey.

In the Spring of 2018, a total of 1,238 students were enrolled in a mathematics course and 118 (9.53%) visited the Math Center. Passing and failure rates for the total number of students in a mathematics course and total number of students who visited the Math Center follow in Table 4; however, we believe tutoring is most effective when students attend multiple times, as it helps to reinforce the material. Therefore, it is beneficial to consider students who have made repeated visits of five or more in the Spring 2018 semester to the Math Center. Visiting the center 5 times would imply that a student visited the center, on average, every other week during the semester. This seemed like a reasonable amount of time to expect a student to visit the center, while still allowing for a large enough sample size to analyze the data. The passing rates for students enrolled in a math class in Spring 2018 are included in Table 5. The final grade in the math class of the students who visited the Math Center 5 or more times is shown in Table 6. Most students who visited more than five times were C level students in their math course, who may have been at risk of failure without the tutoring from the Math Center. A chi-square test revealed that there is a significant association between visiting the Math Center five or more times and passing mathematics courses. ( $\chi^2$ =4.0842 with a p-value=0.043285 and critical ( $\chi^{2}_{_{0.05,\;df=1}}\text{=}3.841)$  The data from the chi-square test is given in Table 7.

### Table 4

Pass Fail Rates for Students

Spring 2018 All Students Enrolled in a Math Course					
	Number of Percentage Students				
PABCD	971	78%			
FW	267 22%				
Spring 2018 All Students Visiting the Math Center					
	Number of Percentage Students				
PABCD	94	80%			
FW	24	20%			

Note: PABCD refers to grades of Pass, A, B, C, D, while FW refers to grades of Failure or Withdrawal.

### Table 5

Pass Fail Rates for Students with repeated visits

Students with 5+ Visits to the Math Center				
	Number of Students	Percentage		
PABCD	34	92%		
FW	3	8%		

#### Table 6

Grades earned in Math Class by Students who attended the Math Center Five or More times

Grade	Number of Students
Passes (P)	1
A range	3
B range	6
C range	17
D range	7
Failures (E and F)	2
Withdrawals (W)	1

#### Table 7

Math Center Visits by Student Grade

Chi-Square Table				
	PABCD	FW		
5+ Visits to the Center	34	3		
< 5 Visits to the Center	937	264		

 $\chi^2$ =4.0842 with a p-value=0.043

### Discussion

The results of the survey study contained interesting findings from both the student and tutor perspectives. The discussion first focuses on how the student survey findings relate to the current literature. The discussion concludes with suggestions for future studies.

### **Discussion of Student Results**

The student survey evaluated the effects of tutoring from the Math Center tutors, and on students' academic performance and attitudes towards mathematics and towards the Math Center. Of the 336 students who used the Math Center and who were asked to complete the survey, 42 participated. The majority of these students had positive experiences in the Math Center. This was evident to the investigators because all questions regarding the Math Center had over 75% agreement from the students. The availability of the Math Center met the students' needs with 79% of the students in agreement. Eighty percent of students felt comfortable and welcomed while learning from a tutor in the Math Center. Eighty percent of students stated that they would return to the Math Center and 83% said that they would recommend the Math Center to a friend or peer. The students' overall comfort with and favorable responses to a Math Center employing peer tutors agrees with Kim's (2015) assertion that students prefer a less authoritarian, fellow student-tutor over their professors. The students' survey responses confirmed that the Math Center and its tutors had a positive effect on the students' academic performances and attitudes toward math.

Students had positive experiences with the tutors. Seventy-eight percent of students felt the tutoring session(s) met their expectations and preferred tutors who were fellow students. Eighty-eight percent thought the tutor had a firm grasp of the material and that the tutor and the tutoring session(s) helped the student grasp the material. Seventy-three percent believed the tutor and the tutoring session(s) helped the student complete assignments and 80% stated the tutor and tutoring session(s) helped prepare the student for an exam. These findings agreed with the literature as Cohen et al. (1982), Robinson et al. (2005), and Kim (2015) reported similar improved academic performance with tutored students.

After coming to the Math Center, 68% of students

felt improved confidence in mathematics and a more positive attitude towards math. This finding supports the mission and goals of the Math Center and thus, the tutors were successful in implementing and practicing the Math Center's mission and goals.

### **Discussion of Tutor Results**

The tutor survey, which had a response rate of 83%, assessed the impact of tutoring on the tutors' understanding of the material tutored, understanding of mathematical concepts beyond the tutored subject, and on the tutors' attitude towards mathematics. The length of time tutors were employed by the Math Center ranged from one to four semesters. Of the fifteen tutors who responded to the question, six worked four semesters, two worked three semesters, four worked two semesters, and three worked one semester. Thus, there was a mixture of new and veteran tutors. The tutors have varying majors, but the majority are mathematics majors.

One hundred percent of the tutors agreed that the Math Center was a good working environment and that they would work there again; however, only 80% agreed and 20% somewhat agreed that they would recommend working at the Math Center to a friend. The investigators think this may be because the tutors would like more tutoring hours and hiring new staff could lower the current tutors' hours. Another reason for this result could be that the tutors see themselves as having a particular set of skills suitable to tutoring, but that their friends do not.

Sixty percent of tutors felt tutoring had a positive effect on their academic performance. This concurs with the literature that the study of the foundations of mathematics improves a person's mathematics capabilities in higher level mathematics courses (Cohen et al., 1982) and their achievement in the field (Leung, 2019). At the time of the survey, each of the tutors was enrolled in a mathematics class of a higher level than the one for which they were tutoring. Nevertheless, 60% of tutors reported that tutoring for the lower level class improved their performance in the higher-level class. Eighty percent reported that tutoring increased their understanding of mathematics concepts outside of what they tutored; however, about 13% somewhat disagreed with that statement. Unsurprisingly, 100% of tutors

agreed that tutoring increased their understanding of the tutored subject. In addition, 100% agreed that they were better able to explain material after having been a tutor. From the tutors' responses of self-evaluation, the investigators confirmed that tutoring helped the tutors' academic performances. These academic improvements agree with the findings of Cohen et al. (1982) and Robinson et al. (2005).

About 73% of tutors agreed that tutoring improved their attitude towards mathematics. Cohen et al. (1982) found similar improvements in the attitudes of tutors towards mathematics. From the tutors' responses of self-evaluation, the investigators confirmed that tutoring helped the academic performances and improved their attitudes towards mathematics of the tutors.

Questions regarding the need for additional training were included on the survey. Only 33% of tutors somewhat agreed that they would benefit from more training on administrative processes, which includes logging hours worked in the Math Center tracking system and reporting hours worked through an online payroll system. Due to the low perceived need, the investigators concluded that in the future, Math Center staff can continue to conduct training on administrative processes and that there is no need to have the payroll department or Human Resources perform the training. On the other hand, 60% of tutors agreed that they would benefit from more training on how to tutor students. The remaining 40% of tutors neither agreed nor disagreed with the need for more training on how to tutor, indicating that there were no strong feelings against additional training. In the future, the investigators will create a tutor training program, as we currently do not have a formal training approach. The investigators will survey the tutors to determine the particular aspects of tutor training needed, but the investigators will also research more formal training programs for tutors.

#### Limitations of the study

One large threat to internal validity of this study is the small sample size and the potential for skewed results due to the self-selection of participation, as identified by the research of Byerly et al. (2018). Another threat to internal validity is that the researchers also serve a supervisory role to the tutors. Threats to external validity include generalization of the results to mathematics tutoring centers in different educational settings whose tutoring models differ significantly. To address the level of external validity, additional studies could be conducted at other types of institutions such as community colleges or private institutions. For this study, the tutoring model was drop-in with students choosing when to seek tutoring. Other studies could evaluate tutoring models that require faculty recommendations or group tutoring models that obtain similar results. Additional studies could examine larger populations of students.

### Conclusion

This study showed that tutoring from the University Math Center benefits both students and tutors. The data showed the majority of students who used the tutoring services felt it helped them improve their academic performance, which was verified in a follow-up quantitative analysis, as well as their attitude toward the subject of mathematics. Tutors reported that working in the Math Center also benefited them in these two areas. Based on these findings, the investigators were able to conclude that both the tutors and students being tutored showed improved academic performance and improved attitude toward mathematics. Additionally, the investigators concluded that mathematics tutoring is a valuable service at the University deserving of further The strong link between the investigators studies. findings and the related literature supported the assertion that mathematics tutoring in higher education is needed and valuable for all students.

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### Appendix A Data Tables

### Table A1

### Students' Report

Question	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree	No Answer
S7 Tutor Demonstrated a firm grasp of the material	62.50%	25.00%	7.50%	2.50%	2.50%	2
S8 The tutoring session(s) met my expectations	60.98%	17.07%	9.76%	9.76%	2.44%	1
S9 The tutor and tutoring session helped me grasp the material	55.00%	32.50%	2.50%	7.50%	2.50%	2
S10 The tutor and tutoring session helped me complete assignments	60.00%	12.50%	12.50%	10%	5%	2
S11 The tutor and tutoring session helped me prepare for exams	53.66%	26.83%	9.76%	4.88%	4.88%	1
S12 I will return to the Math Center for additional tutoring sessions	65.85%	14.63%	12.20%	2.44%	4.88%	1
S13 I will recommend the Math Center to my friends and peers	60.98%	21.95%	7.32%	4.88%	4.88%	1
S14 The Math Center provid- ed a comfortable, welcoming learning environment	60.98%	19.51%	17.07%	2.44%	0.00%	1
S15 The tutoring session(s) improved my confidence in math	41.46%	26.83%	21.95%	7.32%	2.44%	1
S16 I feel more positive about math than I did before tutoring	39.02%	29.27%	19.51%	7.32%	4.88%	1
S17 I prefer that the tutors em- ployed in the Math Center are fellow students	58.54%	19.51%	17.07%	2.44%	2.44%	1
S18 If tutoring were not offered I would hire an a private tutor	12.20%	21.95%	21.95%	28.86%	14.63%	1

### Table A2

### Tutors' Report

Question	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree	No Answer
<b>T3</b> Tutoring increased my un- derstanding of math concepts outside of what I tutored.	46.67%	33.33%	6.67%	13.33%	0.00%	0
<b>T4</b> Tutoring increased my un- derstanding of the material.	86.67%	13.33%	0.00%	0.00%	0.00%	0
<b>T5</b> I feel I am better able to explain the material after working as a tutor	86.67%	13.33%	0.00%	0.00%	0.00%	0
<b>T6</b> Working in the Math Center increased my academic performance.	26.67%	33.33%	40.00%	0.00%	0.00%	0
<b>T7</b> Working in the Math Center improved my attitude toward math	40.00%	33.33%	26.67%	0.00%	0.00%	0
<b>T9</b> I would benefit from more training on administrative pro- cesses including payroll and tracking	0.00%	33.33%	66.67%	0.00%	0.00%	0
<b>T10</b> I would benefit from more training on tutoring students	13.33%	46.67%	40.00%	0.00%	0.00%	0

### TEACHING REPORT

## Slow Writing: Student Perspectives on Time and Writing in First-Year Composition Courses

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### Abstract

Time pressures and heavy workloads place faculty in a state of "time poverty," as described by Berg and Seeber (2017) in The Slow Professor. While the authors focus on faculty at the university level, writing students also face time poverty. Writing students are time impoverished as they rush through papers, and overworked students are praised for their control over time. Being "slow" is not a good thing. This qualitative study listens to students (N = 82) experiencing time poverty within writing classrooms. Results indicate students feel constrained by time pressures, and external issues contribute to lack of participation in the writing process. Based on the survey data, students need more time for feedback and thinking. Applying slow writing approaches to courses can potentially alleviate time poverty. Creating a themed professional development opportunity using the slow movement's principles can extend this approach outside of the writing classroom and into Writing-Across-the-Curriculum and Writing-in-the-Disciplines (WAC/WID) courses and/or programs.

### **Keywords**

slow, writing, professional development, writing-across-the-curriculum, qualitative

### Slow Writing: Encouraging Creative and Original Thinking in the First-Year Writing Course

The Slow Food movement originated in 1989 as a reaction to the elements of the fast food culture. According to the Slow Food (2018) group's manifesto, this movement was created because "[w]e are enslaved by speed and have all succumbed to the same insidious virus: Fast Life, which disrupts our habits, pervades the privacy of our homes and forces us to eat Fast Foods." In response to the negativities associated with fast food, Slow Food encourages conversation, hands-on involvement in the creation of a product, and recognition of the uniqueness in the creation process. Instead of choosing unhealthy products produced in a flash, like a hamburger, Slow Foodies emphasize the creation process and enjoyment that comes from taking time to create, consume, and reflect. The movement uses the snail as its mascot and symbol.

This movement has migrated out of the food arena and into other fields, such as business. Pfeffer (2018) builds on this critique of speed by focusing on the corporate workplace. The author explains how unhealthy choices stemming from economic uncertainty and demanding workplace schedules impact performance, job satisfaction, and quality of life. Faster and more uniform is not necessarily better in the corporate world either, and workplaces are "getting worse" (p. 5).

Honore (2004) does not restrict comments to just the workplace; instead, he expands outside of work to explain that life in general has become an "exercise in hurry," requiring people to live and move at a rapid pace (p. 3). Honore describes the concept of "time sickness" and explains that the "whole world is time-sick" with increasing pressures to "go faster" (p. 3). People are increasingly hyper focused on going fast and cramming in as much as possible in the least amount of time. We are praised for squeezing in more. The consequences for not keeping up can be disastrous: the fast can "eat the slow" (p. 4). Honore calls for a slower pace, as our survival is about the "fittest" and not necessarily the "fastest" (p. 4).

Moving into the university environment, CNN even jumped on the movement, running an opinion piece about applying slow principles to college. Zeppos (2018) advances the idea that the emphasis on "breakneck speed" for college completion is hurting students. He

explains that education should not be a drive-thru service. Instead, educators should "help shape young people as the citizens, leaders, parents and neighbors they are going to become," which "takes time." He applies the health focus of the slow food movement to education, saying that since the slow food movement works to create healthier eaters, a slow education movement could work to create stronger students. Zeppos calls this approach, "slow college."

Berg and Seeber (2017) build further on the Slow Food concepts at the corporatized university. They explain how higher education trends toward a standardized churning out of satisfied customers, made by faculty members who are overworked and underpaid. Instead of unhealthy hamburgers, Berg and Seeber warn that the culture of speed squashed the time and space needed for deep and creative thinking faculty need to excel in their fields and create new knowledge. They even introduce a manifesto, modeled after the slow food movement's manifesto, which suggests that the slow professor can act with purpose, "cultivating emotional and intellectual resilience" by taking time "for reflection and dialogue," and they can regain the "intellectual life of the university" (pp. ix-x). Because faculty exist in a state of "time poverty," according to Berg and Seeber, the "major obstacle to creative and original thinking...is the stress of having too much to do" (p. 28).

I wondered, what does this state of "time poverty" look like for college students, especially those in writing classes? Writing students are impoverished as they blast through tasks, papers, and life. The hurrying and overscheduling is sometimes even praised, as it appears that students have great control over time management. Students rush between work schedules, commuting, errands, and childcare to find time to write in one sitting. Being "slow" is not often considered a good thing in this environment because there is just no time.

However, professional writers know that a slow approach is often critical for creation and creativity, as the writing process is difficult to rush. DeSalvo (2014) identifies the biggest challenge of writing as "our need to slow down to understand the writing process so we can do our best work" (p. xxiv). Her entire text slows the writing process down for writers, so they can take a "slow writing path" to think deeply about their products and purposes (p. xxiv). DeSalvo claims this slow approach is essential to improve self-empathy and to resists "the dehumanization inherent in a world that values speed" (p. xxv). The slow approach, or path, is her suggestion for not only finding a writing process that works but for becoming an engaged and successful writer.

Many writing instructors are not surprised to find that students are stressed about time. The writing classroom is a "miniature, temporary society" that is a microcosm of higher education (Rose, 2012, p. 165). The frantic pace of the university can be seen in the frantic pace of the writing classroom. We hear plenty of feedback from students about time pressures, procrastination, and requests for extensions (Gray, 2019). The time pressures to produce a final product and the typical slower, processoriented philosophies guiding a first-year writing class are two ideas in opposition. According to the Conference on College Composition and Communication's Position Statement on Principles for the Postsecondary Teaching of Writing (2015), "Writing, like thinking, takes shape over time. Writers need time...writing is not produced in one sitting." First-year writing classes focus on exploring and implementing the writing process, which is a circular process ranging from invention and thinking to drafting, revising, and publishing. Often, writers abandon ideas and start back at invention. They need to re-think their ideas and re-present them in a different approach. Speed is the enemy for this writing process (DeSalvo, 2014). How do student writers work within the constraints of their fast-paced, time-impoverished life and the slower circular time-intensive writing process? Oftentimes the students simply skip over these processes, such as peer-review and re-vision, because they have no time to write a draft, and there is little time in life outside of the classroom for such luxuries as invention and thinking. Students are not experiencing their own recursive writing processes and instead are just producing writing like robots in one shot. I wondered if students would benefit from a slow-food pace in a writing class, so I asked them. My research questions include:

- What would students think of a slower paced writing class?
- What are students' perspectives on time pressures in their current writing class?

### Methods

After receiving IRB approval, I surveyed 98 students across several sections of first-year writing at a small college in the Southeast granting four-year baccalaureate degrees. Out of the 98 students, several were under the age of 17, so their results were not used as participants under the age of 18 are considered vulnerable population members according to IRB regulations. This adjustment in participants brought the final surveyed number down to 82 (N=82). I developed and administered a 13-question survey incorporating yes/no questions, as well as several open-ended questions, such as "If you were asked to bring a draft for peer review and you didn't bring one, what might be some reasons why you wouldn't have a draft?" and "What do you need in order to be creative?" The open-ended questions were crafted to provide students with space to speak freely about their perspectives regarding speed, pacing, past writing experiences, and current classroom activities. For example regarding the draft question, I didn't want to assume that the reason a student didn't have a draft was because the student was lazy or unmotivated. I wanted to create a space to be open to other possible reasons why someone might not have a draft. Because qualitativebased research seeks to "listen well to others' stories" and experiences (Glesne, 2006, p. 1), I chose to include the open-ended questions to learn more about the students' lived experiences and to listen well to these students.

The participating students were enrolled in the first semester of a two-course sequence in first-year writing at the study site. This course is part of the General Education curriculum required by all students. Lecturers (5/5 course load) and tenure-line faculty (4/4 course load) primarily teach this course, housed in the Arts and Humanities department. Some instructors have been trained in composition studies and some have a literature background. The typical class size is 25, and most instructors use a variety of assignments ranging from traditional essays, such as personal narratives and poetry explications, to multimodal projects, such as podcasts or infographics, to short-answer or essay tests. Some instructors use process-based instruction, teaching about the writing process and including revision opportunity. Other instructors use more of a current-traditional approach to writing instruction that focuses on a product-driven experience with no revision and little to

no process instruction. While there are common course learning outcomes, such as an awareness of audience or proper citation conventions, instructors have the freedom to create assignments that meet the demands of the course learning outcomes. Instructors can select their own textbooks and course materials, and there are no standardized assignments or pedagogical approaches.

After collection the survey data from the participants, I compiled the results by hand and inputted the material from the yes/no questions into an Excel spreadsheet. In terms of the open-ended questions, I made sure to use a reflective journal to jot down emerging patterns or remarkable commentary, as I was first passing over the responses. For example, if I noticed a theme that was common, such as "more time," I made note of that point in the journal and wrote down any initial thoughts, such as surprise or a comparison with current pedagogical practices. I then formally grouped the open-ended questions and answers into thematic categories, such as silence or work influences, and I placed the specific language from the students under each category. For example, if the thematic category was, "Silence," I would place this theme at the top of a page and then copy in the exact language from students who mentioned this theme. This organizational choice helped me show the specific language the students used in reference to the themes. I let a few days pass, and then I rechecked the responses after recording them to double check for accuracy. The results from ten of the applicable questions will be displayed below, some with graphics. Results will be reported first prior to discussion.

#### Results

Questions one through three asked about age and housing. The age question was necessary, as many students on campus are dual-enrollment students (attending high school and college at the same time) and vulnerable populations must be protected. The housing question was used to determine if there was a connection between those participants who lived off campus with a long commute and attitudes about slow writing classes. There was no observed connection, as commuters and on-campus students exhibited a similar response throughout the survey. Questions four through six were yes/no questions:

Q4: Do you feel like you need more free time in your life?

Responses: 66 Yes and 16 No

Q5: Do you receive praise if you are able to cram a lot of activities into a short time period?

Responses: 26 Yes and 56 No

Q6: Would you work on your writing more if you had more free time?

Responses: 52 Yes and 26 No (4 participants added a third category, "Maybe," by hand on the survey instrument)

Questions 7 through 12 were all open ended, and the thematic results are grouped below in a graphic form of Figures:

Q7: What activities get in the way of you working on your writing (check all that apply)? Thematic responses were work, other classes, children/parent care, and games. The category of "work" had the highest frequency of response, at nearly 50%, as shown in Figure 1:

### Figure 1





Q8: What specific activities in your writing class have been helpful for you? Thematic responses included talking with group members, work during class, and shorter papers at the start of the term, as shown in Figure 2:

### Figure 2 Helpful Classroom Activities



Q9: What specific activities in your writing class have NOT been helpful for you? Figure 3 shows the thematic responses included lectures, everything is helpful, and short deadlines. Several students left this response blank.

### Figure 3

### Unhelpful Activities



Q10: If you were asked to bring a draft for peer review and you didn't bring one, what

might be some reasons why you wouldn't have a draft? Thematic responses are shown in Figure 4 and included not enough time, forgetting, work for other classes, unsure how to write, and broken printer:

### Figure 4:

Reasons for a Missing Draft



Q11: What do you need in order to be creative? Thematic responses included time, silence, music, an idea, and interesting topic are highlighted in Figure 5:

### Figure 5 Needed for Creativity



Q12: Do you think a slow pace in a writing class could be a good idea? Why or why not?

Good idea: 61 Not a good idea: 13

In terms of the "why or why not" section of the question, responses addressing why this pace was a good idea included points regarding more time for thinking, writing, working, and receiving feedback. Students claimed that "more time equals more work," and they indicated that they needed time not only to "gather thoughts" but also to "practice" and get "more feedback to develop my thoughts." One student wanted more time "…so I could actually learn and think about what I'm doing."

In terms of those who thought a slower pace would not be good, the themes revolved around delay and procrastination. Students said a slower pace could make them "be bored" and could make them "procrastinate." A student mentioned that "life isn't slow." One student said that more time would mean "more time to forget."

Finally, Question 13 asked students for anything else they wanted to add: "Is there anything else you'd like to say about time pressures and your writing class?" Students talked about being engulfed in time constraints: "time pressure affects everything because you don't really care what it [the paper] sounds like—you have other things to do." A student explained that "[t]ime pressures constrict my ability to perform in my writing classes" and another student said that more time would equal less stress: "If I were given more time, I wouldn't be as stressed, and I think my paper would turn out better." Finally, one student explained her connection between creativity and time: "I love writing, I would love to be able to get creative, but time pressure is generally limiting."

In these responses for the final question, "time pressure," is given great power, resulting in feeling unable to perform or being limited in the production of the writing and the writing experiences. However, there is a way to help students find the time and experience less stress due to time pressures: the slow writing course.

### Discussion

While some of the results may not come as a surprise (how many broken printers have we heard about as writing instructors?), there are several elements worth exploring further. The results from question nine were particularly enlightening, as about 34% of responders remarked that there were no activities during class that were not considered helpful. For the same question, 24% of responders left this question blank, which hints at a lack of unhelpful activities during class time or possibly just an unfamiliarity with the names of the types of activities completed during class. The typical inclass activities for the courses that were surveyed might include a range of the following types of actions done during class or for homework: invention activities, such as freewriting or talking with group members about potential topics; drafting activities, such as handwriting initial drafts or visiting the computer-based classrooms to create drafts during class time; revision activities, such as peer-reviews or re-writing attempts at introductory paragraphs; and editing activities, such as proofreading techniques or specific error hunting.

Applying the slow food philosophies to a writing class could involve even more of these hands-on activities during class time, which would allow students to enact the concepts, such as invention, that are discussed in class. These concepts connect back to the slow movement's concepts of collaboration, hands-on creation and experiences, and uniqueness. For example, instead of just spending a few minutes talking about invention, the slow writing class could spend time discussing the concept and then applying different types of invention activities during class on an actual assignment that would be coming due soon. More of this hands-on approach allows students to slowly delve deeper into their unique writing processes, asking questions as they appear and sharing work mid-process. Since nearly 32% of responders in question ten mentioned that they didn't have a draft for a peer-review session because they didn't have time to complete it, using class time to start the draft may directly benefit these students. In this case, the class time could be used for the expressed purpose of creating the draft for the upcoming peer-review session.

Using this in-class time to produce writing (at any stage) would address other concerns shown in the

results, such as with question eight. Here, responders noted that talking with their peer group members (29%) and working on the writing during class time (28%) were two major activities during class that helped them. Dedicating class time to these two activities are easy ways to apply the slow movement's spirit to the writing class. As highlighted earlier, one of the main elements of the Slow Food movement is to experience food and creation together, collaboratively, and this element also applies to writing. A slow writing class can allow students to experience writing and creation together during dedicated in-class time to the craft.

One of the many positive outcomes from the survey data included specific suggestions from students that can be applied in a writing class or in a professional development opportunity for writing faculty in English departments or WAC/WID faculty. Many suggestions from a variety of the questions included adding in more graded stages in the writing process, such as a proposal, first draft, peer-review draft, and a final version. Question 12 highlighted student voices who said, "more time" equals more chances for "work" and "feedback," so students could experience more drafts, or versions, of their paper on the journey to a final product. Students explained in question 12 that they "will procrastinate" if they have too much time passing without a grade, so more frequent low-stakes graded activities could motivate them more to participate in the writing. Ambrose et al. (2010) support this suggestion. The authors highlight how frequent opportunities for feedback, such as multiple due dates for sections of a paper, can provide students with more chances to "refine their understanding" and "stay on track" in their writing (pp. 150, 142). Students make progress in their written products, and they receive targeted feedback focused on that particular section of the work. This approach must be taken with care, however, as too much testing can produce a negative effect. One way through this concern is a completion grade. For example, an early draft activity could be evaluated based only on completion, which could decrease any major test anxiety or assessment pressures. All the student would need to do in this case is bring an attempt at their work, and a completion grade could be used to decrease any assessment pressures. After all, applying a slow approach to writing will not work well if the students are not producing any sort of writing.

In addition to using the student data from the survey to sculpt in-class writing activities, another application could be to use the slow-class approach for professional development opportunities within writing departments as well as WAC/WID courses. Student responses from the survey can be integrated into these professional development workshops, so participants can "hear" student perspectives as the reasons behind some of the slow-class pedagogical approaches. For example, an interdisciplinary-themed professional development session could begin by introducing the slow movement principles, as well as the slow professor manifesto from Berg and Seeber (2017). Student data could be shared regarding the requests for more time for writing during classes and how more time can assist with creative thinking. Creativity is one of the principles from the slow movement, and as Berg and Seeber remind us, we have to avoid being rushed if we want to be creative in our thinking and our work. After this review of the study data and the slow movement principles, leaders could then ask for some reflection on the parts of participants with questions that focus on the slow movement and the slow professor manifesto. Some possible questions could include,

How can I adopt the principles of the "Slow" into my course?

How can I advocate deliberation over acceleration?

How will I make time for reflection and dialogue?

How can I act purposefully, cultivating emotional and intellectual resilience?

How can I create space for deliberate thinking during class?

What do my students say about the writing we are doing during class?

How can I integrate the student feedback into my class?

After this discussion, participants can use the time in the professional development workshop to develop a slow writing sequence for an assignment, and then time can be dedicated to sharing this sequence for feedback from participants. Here, the participants would be enacting a peer-review activity as they shared their slow writing sequence with their peers (other workshop participants). A final activity for the workshop could involve participants crafting a slow writing course manifesto, which can be shared across departments and perhaps even displayed on office doors. Outside of the professional development workshop option, other activities, such as faculty book clubs using *The Slow Professor: Challenging the Culture of Speed in the Academy*, could be helpful and slow-themed.

Another potential campus-wide professional development workshop option would focus on effective writing assignment design, which could be relevant for any discipline that assigns writing in the course. In the study, recall that students mentioned their experiences with feeling pressured and rushed to find ways to fit their writing tasks in to their lives. We can consider restructuring the writing assignments to take on a slower approach: fewer but more in-depth assignments. Here, students can experience the writing process within the classroom setting, spending time during class to go deeper into their written products. Since many WAC/ WID instructors unfortunately lack specific writing instruction training, more discussion in a workshop conducted by experienced writing instructors about process-based writing instruction can be beneficial. Using the slow writing course tactic of using writing assignment design that encourage classtime to produce the writing can help WAC/WID instructors craft helpful learning experiences. As Anderson et al. (2015) indicates, "...effective writing practices are associated much more strongly than the amount of writing with greater student learning and development" (Anderson et al., p. 229). A successful writing course does not have to be full of numerous writing assignments. The research stresses that quality of assignment design does matter, and attention must be placed on "the design and use of the assignments" rather than simply on the specific number of papers or tasks assigned (p. 229). This study's conclusions highlight that a slower and more in-depth approach can improve a learner's experience in a course.

Further study on this subject could include larger studies across multiple institutions, multiple disciplines, and/or different types of writing courses, such as professional or

technical writing. Since the sample size for this current study is under 100 and restricted to one location, a larger study could provide more data for the discussion points, such as which activities in class are most helpful. More demographic data or assessment data could be included in these studies to better understand the commonalities behind the responses. Studies involving writing-acrossthe-curriculum (WAC/WID) courses would also be ideal here, as many courses such as history and sociology use writing assignments extensively. Examining student perceptions about slow writing tactics used in upperlevel writing intensive courses could provide insight about writing skill development across time enrolled in coursework at an institution.

Interdisciplinary studies between composition and psychology could be quite helpful, as personality traits, such as grit, can be a factor relating to workload and time management (Duckworth, 2016; Gray & Mannahan, 2017). In addition, mindfulness and contemplative studies could offer more insight for larger WAC/ WID studies, such as different options for grading and designing assignments. For example, Consilio and Kennedy's (2019) research was inspired by mindfulness and they applied "the lens of mindfulness to inform contract grading for evaluating writing ..." (p. 29). This research study would be a great addition for a WAC/ WID brown bag session centered around showcasing non-traditional ideas of writing assessment. Finally, several questions explored issues of creativity and what students needed relating to creativity, such as a nearly equal amount of silence and music, and more study there could be enlightening for writing instructors.

### Conclusion

With the increased emphasis on austerity campuswide, the need for a slower approach is critical. The writing classroom can be a model for this slower approach in the classroom. The writing classroom is a powerful place, as composition "has served as canary in the coalmine for a wide-scale restructuring of higher education as a whole" (Welch & Scott, 2016, p. 5). As evidenced by Position Statements from the Conference on College Composition and Communication (2018), writing departments commonly fight against these restructuring initiatives, working to instead keep writing course enrollments low, so faculty have time and space to respond to student writing. The fight for time and space must continue. Berg and Seeber (2017) warn about the perils of valuing and being so very "busy": "Academic culture celebrates overwork, but it is imperative that we question the value of busyness. We need to interrogate what we are modeling" (p. 21).

Based on my students' data, my writing classes will work to create a slower environment that apply our own versions of the Slow Food movement's major principles: cultivating joyful connections through sharing our writing, being present in the moment of instruction, depending on each others' perspectives for developing our writing, and advocating for diversity of writing projects and voices. Writing is not simply about robotically rushing through to a product. Instead, slowing down our writing experiences can help students pace themselves as they work to cultivate their writing abilities. As DeSalvo (2014) reminds us, "[j]ust imagine how we might grow as writers if we work in a slow writing way rather than rushing through our work trying to accumulate a pile of pages" (p. xxv).

The Slow Food movement honors the snail by pleading for a slower pace, so in closing, I share a reminder about moving through life at a slower snail-like pace as well as the value that comes from honoring our slower pace: "A last look at the stars and then to sleep. Lots to do at whatever pace I can go. I must remember the snail. Always remember the snail" (Bailey, 2016, p. 161).

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### BOOK REVIEW

### *99 Tips for Creating Simple and Sustainable Educational Videos: A Guide for Online Teachers and Flipped Classes,* by Karen Costa. Stylus Publishing, 2020. —Elizabeth Siler

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Karen Costa's book arrived at just the right time for many of us who never expected to teach remotely, or at least to teach so much remotely! I had never planned to make my own teaching videos, even though most of my classes are heavily discussion-based and moving toward the "flipped classroom" model. Then, of course, the pandemic happened, stay-at-home orders were issued, and all of my classes suddenly had no face-to-face time at all. When I attempted to write up supplementary instructions for accessing library resources for a complex project, a task that normally takes place during class time in front of laptops with students helping each other, that's when I learned (1) just how much information I convey in person through speaking, and (2) how inadequate written instruction are as a substitute. At about that time I learned about Costa's book, and it took reading just a few pages to convince me that making videos could vastly improve the quality of my working life and the quality of my students' experiences.

This book is written, as the title suggests, as separate tips of one to two pages each, grouped into sections by theme. The book includes QR codes (links you scan with a smartphone) to supplementary videos. As Costa says in her introduction, you can use the book in whatever way works best for you-you can read straight through from start to finish, beginning with the underlying reasons and theory, including the requisite connections to aligning your video creation and use to your instructional goals, or, you can jump straight to Tip 91: Make a Welcome Video. The book begins with two sections about why videos are good for both students and instructors, and the ways in which videos can align with your instructional goals. The third section connects video use to several educational theories. Sections 4-10 address different aspects of videos: what types, when to use them, and a comprehensive set of "how-to" topics including sound, lighting, being on camera, and technology. The book ends with a beginning: an invitation and plan to build your teaching video practice, followed by a set of suggestions for practice videos (Sections 11 and 12).

Throughout the book, Costa consistently addresses issues of accessibility (descriptions of images, captioning), of good teaching practices in general, and of striving for humanity rather than perfection. Costa's writing models one of her goals for videos: humanizing online classes. She tells stories of her own experiences, including her mistakes and failures, and of other parts of her life. The result is engaging, instructive, and balanced, and allows us to experience what it might be like to take an online course that uses Costa's approach. An important contribution of this book is her commitment to sustainability: teaching and developing course materials can expand to fill up all of the time that we give it. There is always something to improve, to update, to revise (to grade!). Costa demonstrates two ways that videos can be part of a sustainable approach to teaching: by making imperfect but "good enough" videos, and by building a library of videos you can use for many semesters and courses.

Although it is not directly addressed in the book, Costa's approach to making educational videos also supports trauma-informed pedagogy, a way of teaching that acknowledges the effects of extreme stress or trauma on learning, and designs in ways to help compensate for those effects. One of the most important and effective ways to help students cope is to help them make connections and develop relationships with each other and with us, their teachers. While this might seem like a daunting task in a fully remote, asynchronous class,

### 99 Tips continued

Costa's book overflows with evidence that being present and being yourself, through video, helps students feel connected. My experience bears this out; midway through the fall 2020 semester, I made a video talking about how difficult the semester had been for everyone, myself included, and informing my students that they are not alone in how they feel and how well (or badly) they had been doing in school. To my surprise, students whom I had never met or seen wrote to thank me, and to tell me that they were sure they were alone in "doing so badly" this year. Costa's book is the reason I made that video.

Sections 1 and 2 describe reasons for using videos and ways to align them with instructional goals. The Tips in Section 1, make arguments for using videos, from "be part of a movement" toward more online education to "have fun" and feel connected to students, even if you never see or speak with them. In Section 2, Costas explains her goals for videos, at first "to overcome frustration," (p. 26) and now, to "humanize, instruct, and clarify." She invites us to stop and reflect on our own goals for using videos, instead of just jumping in and beginning.

Each tip in Section 3 makes a research- or theory-based argument for using videos in remote learning. They are: community of inquiry (being present); validation theory; brain-based teaching; bridging the spatial and temporal "transactional distance" between learners and teachers; symbiotic relationships; aesthetic-usability effect; student fear; emotion; commonalities between learners and teacher; and immediacy cues. It wasn't until I had finished this section and was well into the next that I realized I had just read (and enjoyed) a literature review without even realizing that's what I was doing. Sneaky? Perhaps. A model for online learning? Absolutely.

Sections 4—10 address the practical details and guidance for making decisions about what, why, and how to include videos in your courses. Costa's goal of sustainability comes through clearly in these tips, especially in places where she describes her own experiences of "I tried it the elaborate way, and the cost in time and energy was too high; the easy way is more than adequate for meeting my goals." Her approach is particularly applicable to this time, especially for those of us who are overwhelmed by the technological choices and social media photos of multi-monitor Zoom teaching setups. These sections of the book have a lot of information in them, especially for a beginner; at the same time, each tip on its own is completely manageable. This enabled me, for example, to pay more attention to the tips that I needed the most, and come back to the others at more leisure.

Section 4 is about types of videos: "talking head" videos, screencasts (voiceovers of on-screen images), and a combination. Section 5 is where I confess to getting lost in my imagination. This section is filled with possibilities for ways to use video far beyond recording a lecture. For example, Tip 42 makes suggestions for videos as weekly course announcements, and Tip 45 gives several ways to integrate videos into course content, such as an introduction to the week, or walking through assignment instructions. I followed Tip 48 and made screencasts to give each student personalized feedback on a draft of a major project. While it was time-consuming, as Costa points out, it was faster than I expected, and more effective than written feedback has been in past years-most students appreciated and implemented my suggestions.

Section 6 is about lighting, location, sound, and recording devices, very simply and with a minimal budget. A smartphone is more than sufficient for most talkinghead videos. Section 7 is the skill-building section; each tip is one specific way that a video is different from an in-person lecture. Tip 60 addresses eye contact when you are talking to a camera, and Tip 64 walks through why and how to keep your videos brief, under 10 minutes, even if the total video-based content for a topic is longer.

The entirety of Section 8 is dedicated to using PowerPoint effectively, linking back to and applying concepts from the literature, as described in Section 3. Section 10 is the section that I didn't know I needed: all about how to get your videos from your device to your students. This section includes information on privacy and limiting access to videos when they are hosted on public platforms, such as YouTube.

I particularly want to point out Section 9, titled "Is Being on Camera for Everyone?" If your answer is an emphatic "No! It's not for me!", fear not. You can still make videos to meet your teaching goals, including introducing yourself, without using your camera. Other

### 99 Tips continued

tips in this section help you explore and legitimize an aversion to being on camera, and, if you choose, to try it out anyway.

Section 11, "Building Your Video Creation Practice," was written before the pandemic pushed so much online so quickly. It was—and is—intended to help you pause, think, prioritize, and plan as you work, over semesters and years, to integrate more videos into your teaching. That seemed like an impossible luxury to me, trying to move three discussion-heavy courses to fully remote in three months. And yet, the idea of sustainability permeates this section. Find what works for you; make a welcome video if you are overwhelmed and don't know where to start. Reading this section helped me think beyond the immediate need for remote learning and remember that all pandemics end. Section 12 is full of practice exercises. Each short and non-threatening exercise addresses an aspect of making successful videos. Make, review, and delete.

Costa's 99 Tips for Creating Simple and Sustainable Educational Videos delivers just what its title suggests, and more. Videos can be an extremely powerful tool to humanize online learning, to connect with students, and to make the work of teaching more sustainable. Costa is expert at showing the multitude of ways to use this tool, and reminds us over and over to "find what works for you." This book is appropriate for instructors with any level of experience making instructional videos, and for both new and experienced teachers. It is a thoughtful guide to incorporating video into your teaching, whether your classes are online, in person, or somewhere in between.

### Currents In Teaching and Learning



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