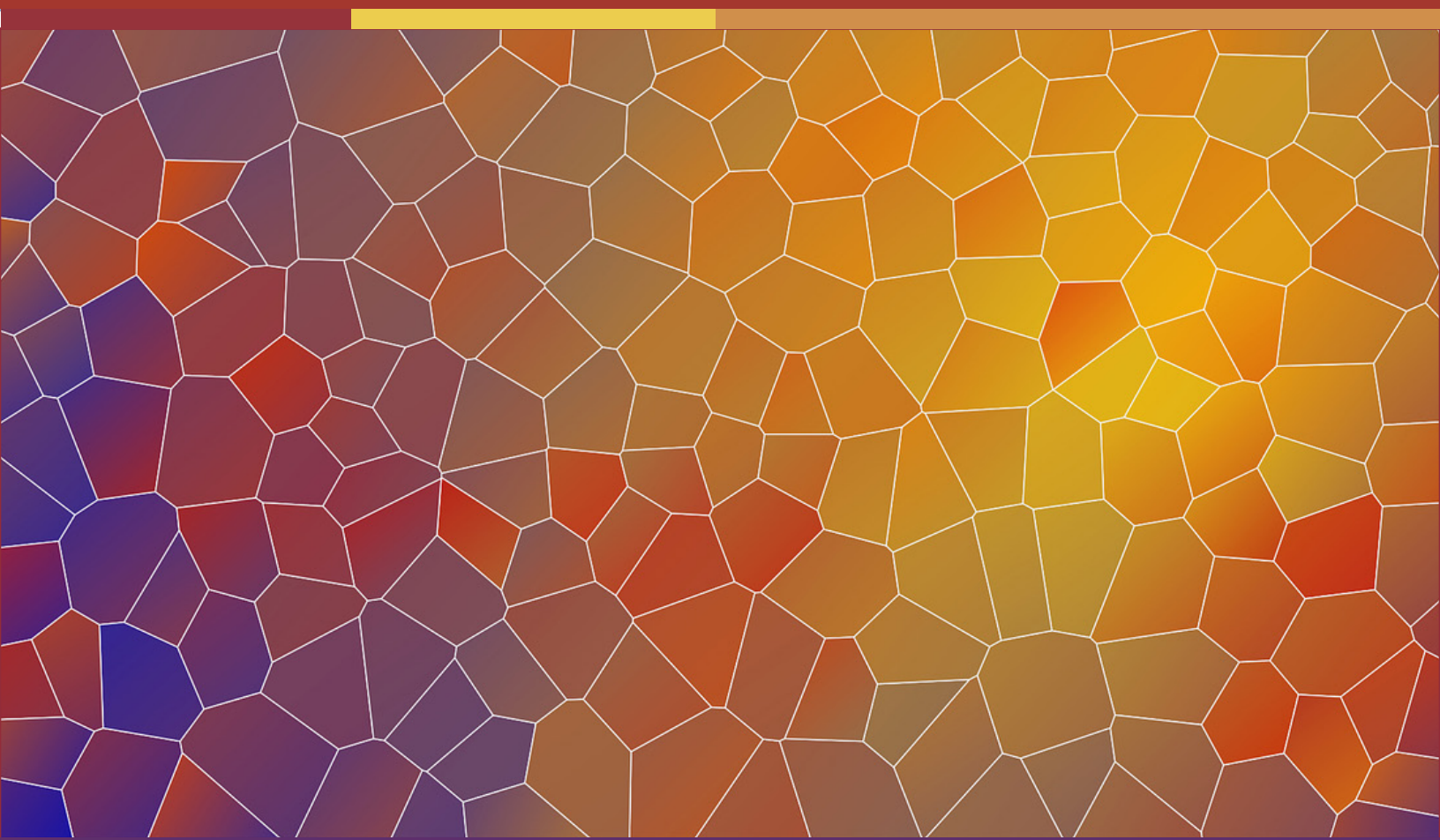# Currents

In Teaching and Learning | ACADEMIC JOURNAL

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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

The Ways We Think About Teaching and Learning
—Benjamin D. Jee

Dear readers of *Currents in Teaching and Learning*,

I'm happy to introduce this latest edition of *Currents*. As always, one of the goals of the journal is to facilitate conversations across disciplinary lines. These exchanges foster new insights and open our eyes to the limitations and implicit assumptions of our own field. When entrenched in a single domain, we may fail to notice that we are taking a perspective, one among many.

Similarly, as instructors we may adopt a particular framework for teaching and learning without explicitly acknowledging or evaluating the alternatives. When teachers are asked to describe their pedagogy, several kinds of ideas emerge, often taking the form of distinct *metaphors* (Alger, 2009; Badley & Hollabaugh, 2012). These metaphors provide more than colorful descriptions of different teaching styles, they influence how we think and behave at a deeper level (Hofstadter & Sander, 2013; Lakoff & Johnson, 1980). It is worth a moment to consider the implications of these different metaphors and how they might inform your teaching philosophy and practice.

Consider first the once-popular metaphor that depicts teaching and learning as a *transmission* process, with the teacher broadcasting ideas to students in their classroom—the "sage on the stage." It is not a coincidence that a conventional name for a student is a pupil, the part of the eye that lets in light. While this way of thinking has not disappeared—for instance, most classrooms are still organized such that the instructor stands at the front of the class and the students face toward them in the same direction—contemporary teachers are more likely to express student-centered metaphors of their practice.

One common metaphor is the idea of a teacher as a *guide*. This suggests that the teacher's role is to help students navigate their learning journey, rather than to simply transmit knowledge. As a guide, the teacher recognizes the importance of slowing down or changing course when needed, taking cues from students' comprehension and interest.

Other teachers express the metaphor of the teacher as a *coach*. In this framework, the teacher's role is to help students reach their full potential. Whereas a guide takes students down the same path, a coach recognizes that students may seek different destinations. The teacher aims to help students develop the knowledge and skills they need to reach their goals. The coach metaphor emphasizes the importance of building strong relationships with students and providing personalized support.

Another widespread metaphor is the idea of a teacher as a *gardener* (a metaphor that has also been applied to parenting; Gopnik, 2016). In this framework, the teacher is responsible for tending to the classroom "garden" and nurturing the growth of each individual student. Whereas the guide and coach metaphors highlight the teacher's role as a provider of knowledge, the gardener metaphor emphasizes the teacher's role in cultivating of a supportive learning environment for students, in addition to providing patience and ongoing care.

As these examples make clear, metaphors involve a *system* of interrelated ideas that allow us to make sense and draw inferences. The metaphor of a teacher as a guide goes hand-in-hand with the idea of learning as a journey. In this framework, we are invited to view learning as an ongoing process that involves exploration, discovery, and growth. Likewise, students are encouraged to see learning as an exciting and rewarding endeavor. Of course, no metaphor is perfect. Nor is any single metaphor the best for all occasions. Metaphors bring to mind certain aspects of an object or situation, but tend to hide other qualities. The 'a teacher is a guide' metaphor may neglect the importance of developing students' leadership abilities and other important skills.

The Ways We Think About Teaching *continued*

Like our own disciplinary lenses, metaphors influence how we think and behave, what we expect, and how we respond in our role as instructors. Indeed, we are likely to encounter and use many different frameworks in our professional lives. Thinking of students as customers, for example, can be useful for illuminating the incentive structures and financial relationships that affect higher education. Thinking of an instructor as a gatekeeper highlights the importance of enforcing standards. Thinking of a class as a learning community emphasizes teamwork, cooperation, and trust. By becoming aware of the metaphors that permeate our teaching lives, we may not only understand ourselves better, but also appreciate the perspectives of colleagues, administrators, and students themselves. As you explore this latest issue of *Currents*, I hope you are inspired to reflect on your own approach to teaching and learning, including the metaphors that shape your practice.

The first article in the present issue is "An Examination of College Students with Disabilities' Perceptions of Instruction During Remote Learning Due to the COVID-19 Pandemic" by Michael Faggella-Luby, Lyman L. Dukes III., Emily Tarconish, Ashley Taconet, Nicholas Gelbar, and Joseph W. Madaus. The authors surveyed 216 college students with self-identified disabilities in order to assess their experiences with the pandemic-induced shift to remote instruction in spring 2020. Their results identify some noteworthy advantages of remote instruction, such as self-paced learning and accessibility of course materials. As colleges and universities return to more in-person instruction, the findings of Faggella-Luby and colleagues show how certain pandemic-era practices may be worth holding on to in order to support students with disabilities.

In "Has the Pandemic Affected Student and Faculty's Use and Perception of Universal Design for Learning?" Lynne N. Kennette, Kathleen Flynn, and Morgan Chapman explore student and faculty perceptions of the use and usefulness of Universal Design for Learning (UDL) principles before and during the pandemic. Their work provides an interesting glimpse into the UDL practices that were perceived to be effective by students and faculty, and how perceptions differed before vs. during the pandemic, when instruction was mostly online. While there were many points of agreement between student and faculty ratings, and between the

two time points, there were also interesting differences. For example, students ranked the opportunity to practice course content as the most useful application of UDL, whereas faculty considered it far less important. These mismatches represent ways that faculty might improve how they prioritize and implement UDL principles in their classes.

Continuing the theme of lessons learned from pandemic-era instruction, Suzanne Grossman and Danielle DeRise explore how historical depictions of a past pandemic can inform students' understanding of the COVID-19 era. Their paper, "Using the Past to Inform the Future: An Interdisciplinary Collaboration to Address Undergraduate Pandemic Concerns" reports students' impressions of disease and its consequences as portrayed in the novella, Pale Horse, Pale Rider. Students completed course assignments that prompted them to evaluate the events described in the book, and to reflect on the connections to the present day. The authors discuss how the reading of historical texts can help students process contemporary matters, including traumatic events.

During the pandemic, hands-on learning experiences were few and far between. In their paper, "Hands On Workshops for Real World Experience: Scaffolded Assignments and Archival Objects in the Historian's Craft," Abigail P. Dowling, Kristen Bailey, Kathryn Wright, and Adam Griggs explore what students learn through hands-on activities in the context of a history course. The researchers designed a series of scaffolded assignments in which students worked with archival objects (coins, figurines, beads, etc.), exploring how and why the objects were created by a particular society. Though digital archives abound in this day and age, the authors argue for the importance of engaging with physical artifacts, and provide evidence that students appreciated the value and utility of the hands-on workshops.

The final article in the present issue is "Instructor Perspectives on Failure and Its Role in Learning in Higher Education" by Jennifer N. Ross, Dan Guadagnolo, Abigail Eastman, Matthew Petrei, Angela Bakaj, Laura Crupi, Shirley Liu, Nicole Laliberte, Fiona Rawle. Given that failure is an integral part of the learning process, it is worthwhile to examine how instructors view the role of

The Ways We Think About Teaching *continued*

failure in their teaching. Ross and colleagues conducted interviews with instructors from a range of disciplines at their home institution. They report several ways in which failure was perceived by instructors, including an appreciation of its dual nature as a teaching tool and a risk for student retainment and advancement. The authors present ideas about how to navigate these complex issues, including pedagogical methods that could help students learn from their inevitable encounters with failure.

As editor of *Currents*, I hope that you find the present issue interesting and informative. I am grateful to the authors for submitting their work to the journal, and for their diligent and thoughtful efforts throughout the review process. To the reviewers, copyeditors, and members of the *Currents* advisory board, I offer a heartfelt thanks for generously contributing your time and expertise to the journal. These individuals are acknowledged in the back section of the issue. I also appreciate Henry Theriault's many contributions as the executive director of *Currents*, including his behind-the-scenes efforts to ensure that the journal continues to thrive. Finally, I am thankful to Jonathan Tegg for his excellent work on the assistance *Currents* website. It has been a pleasure working with you all.

Until next time,

Benjamin D. Jee

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TEACHING REPORT

An Examination of College Students with Disabilities' Perceptions of Instruction During Remote Learning Due to the COVID-19 Pandemic

—Michael Faggella-Luby, Lyman L. Dukes, III., Emily Tarconish, Ashley Taconet, Nicholas Gelbar, and Joseph W. Madaus

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Abstract

Due to COVID-19, most institutions of higher education delivered instruction remotely partway through the spring 2020 semester. This rapid shift resulted in many instructors changing course format with short notice. To understand how this shift impacted learner perceptions of remote instruction in spring 2020, we conducted a survey of 216 college students with self-identified disabilities. Postsecondary students with disabilities were queried about benefits of remote learning, feedback for instructors regarding remote learning, and instructional practices they believe should continue when face-to-face instruction resumes. Results indicated students benefitted from self-paced learning and improved access to materials during remote instruction. Student feedback suggests instructors incorporate course procedures that include flexibility and improved accessibility. When institutions return to typical course delivery, students suggested continuing the following online practices: maintaining class materials on the course learning management system and incorporation of web-based course delivery platforms. Recommendations for future research and practice are provided.

Keywords:

COVID-19; college students with disabilities; remote instruction; postsecondary education; higher education.

In March 2020, SARS CoV 2 (referred to in the remainder of the paper as COVID-19) overwhelmed the United States, rapidly forcing the majority of the population to shelter in place. Institutions, such as colleges and universities, shifted almost all delivery of education to web-based platforms (e.g., learning management systems [LMS], Zoom, Microsoft Teams). In fact, delivery of remote instruction, for many postsecondary institutions, continued into the subsequent academic year. Unsurprisingly, college students have reported significant challenges personally and academically due to

Examination of College Students with Disabilities *continued*

the pandemic (Madaus et al., 2021). For example, students have noted income, housing, and food challenges, increased levels of stress, and academic difficulties including a lack of collaborative opportunities, inability to have course questions answered, and inconsistent access to the internet and necessary digital learning tools (Means & Neisler, 2020). There were a number of student populations that more often reported facing such challenges including first-generation students and those from lower socioeconomic backgrounds (Soria et al., 2020). Emerging literature suggests college students with disabilities have been disproportionately impacted by the COVID-19 pandemic as well (Lalor & Banerjee, 2020; Soria et al., 2020).

Legal Context

Legislation prohibits discrimination based upon disability and also requires the use of reasonable and appropriate accommodations. Section 504 of the Rehabilitation Act of 1973, amended in 1998, mandates colleges and universities make "reasonable accommodations" to enable students with disabilities to participate in educational programming (Walker et al., 2018). All entities receiving federal funding, which includes almost all colleges and universities, must be in compliance with Section 504 (Shaw & Dukes, 2013). In 1990, the Americans with Disabilities Act (ADA) was passed. Under Title III of the ADA, disability discrimination on the part of public accommodations and services, even when privately owned, is prohibited. Like Section 504, the original ADA and the subsequent ADA Amendments Act requires postsecondary institutions provide reasonable accommodations for qualified individuals (Keenan et al., 2018).

Moreover, under Title II of the ADA, "no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity" (Americans with Disabilities Act, 1990; 42 U.S.C. § 12132) and colleges and universities are included as part of this Title. Additionally, Title II of the ADA and its subsequent updates requires communications be equally effective for persons with or without disability (Americans with Disabilities Act, 1990). The Office of Civil Rights (OCR), a sub-agency of the United States Department of Education, has

interpreted the phrase "as effective as" to mean (1) the timeliness of delivery, (2) the accuracy of the translation, and (3) provision in a manner and medium appropriate to the significance of the message and the abilities of the individual with the disability (OCR, 2003). The Department of Justice (DOJ) has stated the ADA applies to online communication noting:

> Covered entities under the ADA are required to provide effective communication regardless of whether they generally communicate through print media, audio media, or computerized media such as the Internet. Covered entities that use the Internet for communications regarding their programs, goods, or services must be prepared to offer those communications through accessible means as well (Patrick, 1996, p. 1).

Litigation related to online learning in colleges and universities is not uncommon. For example, numerous institutions have faced lawsuits due to the inaccessibility of their online learning content (National Association of the Deaf, 2019). OCR noted shortly after the closure of schools and colleges due to COVID-19 that accommodations and other supports guaranteed under Section 504 must continue to be provided (OCR, 2020; Center for Learner Equity, 2020).

College Students with Disabilities

Online learning is frequently viewed as a means of expanding student enrollment (Dukes et al., 2009). Consequently, institutions of higher education are responding by making online course development and delivery a significant part of their long-term strategic planning. Additionally, the move to online learning has been regarded as a means of potentially improving access to education for students with disabilities (Fichten, et al., 2009). Not surprisingly, online course development is quickly becoming more instructionally sophisticated. Video, in particular, is becoming a staple in online instructional environments (Martin et al., 2020). In one study, the majority of students indicated online videos aided their learning of course content (Berg et al., 2014). Prior to the pandemic, some students with disabilities have reported benefits in online learning such as flexibility to complete assignments on their schedule, a reduction in disability stigma, and the use of universal design (UD) methods (Kotera et al., 2019). Moreover,

Examination of College Students with Disabilities *continued*

students with disabilities have reported greater access to higher education as a function of online educational options (Valenzuela, 2020). However, as Betts et al. (2013) noted, "…increased access to higher education does not necessarily equate to increased accessibility in terms of course content, learning activities, and assessment" (p. 49).

UD is a framework to optimize learning by removing barriers and ensuring access to content for an array of students, including students with disabilities (Dukes et al., 2009). Specifically, UD is defined as a framework that promotes the design and delivery of inclusive instruction with the intent of reducing barriers to learning (Faggella-Luby et al., 2017). Originally regarded as a means of improving physical accessibility, the concept of UD is now being applied to academic instruction (Morris et al., 2016). For example, the principles of Universal Design for Instruction (UDI) (Scott et al., 2001), include equity, flexibility, perception and a community of learners (see Scott et al., 2001 for other principles). This can be translated into instructor focus on multiple means of representation, multiple means of action and expression, and providing multiple means of engagement with the goal of ensuring learners have various means by which they can acquire knowledge and demonstrate understanding (CAST, 2011). By offering clear and accessible design features in an online course, all learners can benefit from the design and content likely dramatically reducing or eliminating the need to rely upon accommodations to access the curriculum. However, Faggella-Luby and colleagues (2017) determined while there has been significant interest in UD in higher education, at that time, there were only 44 data-based publications on the use of UD relative to students with disabilities in postsecondary settings. As a result, the vast majority of college students with disabilities continue to rely upon accommodations to promote equal educational access as university policy and practice move toward potential implementation of UD practices.

Prior to the COVID-19 pandemic, a majority of college courses, and the accommodations students with disabilities used for them, were offered in-person (McFarland et al., 2018). The most common accommodations were applied to exams, including receiving extended time to complete them, and taking exams in a different setting.

Other typical accommodations included extended time for assignments, use of a reader, use of a calculator, note-takers, disability-related computer use (Gelbar & Madaus, 2020; Newman & Madaus, 2015; Sokal & Wilson, 2017), and the utilization of adaptive equipment and technology, such as, taped texts, recording devices, and adaptive computer equipment (Barber, 2012; OCR, 2007).

While data regarding the experiences of students with disabilities during the pandemic are scant at this time, emerging data suggest postsecondary institutions sometimes struggled to meet students' needs for accommodations and supports. In spring 2020, Anderson (2020) stated students with disabilities "… have been put on the backburner 'en masse' …" (para. 2). As it would turn out, a great opportunity was missed to embrace more inclusive pedagogies.

Though many instructors have had previous chances to learn about, design, and deliver digital course content, the onset of COVID-19 prompted an unremitting push to immediately provide all instruction to students remotely. However, as one example, in a regional sample of 127 U.S. universities, Meleo-Erwin and colleagues (2021) found that regardless of university size, few schools made disability/accessibility service information directly available on their websites for students with disabilities. Of the resources posted, most dealt with assisting students with remote instruction (Meleo-Erwin et al., 2021) though it is unclear how these supports impacted students with disabilities.

COVID-19 has likely served as a catalyst to accelerate institutional acceptance and use of UD practices that might otherwise have been adopted much more slowly. Yet, this opportunity appears to have been inconsistently embraced by postsecondary institutions and perhaps unintentionally negatively impacting college students with disabilities (Anderson, 2020). Fortunately, in some cases, students have reported a willingness of institutional faculty and staff to assist with educational access challenges. For example, one student said, "When I reached out and said I had a problem, everyone I spoke to has stepped up and helped me when I had an obstacle that I needed to overcome" (Roff, 2020, para. 25).

Examination of College Students with Disabilities *continued*

Study Purpose

The current study examines the open-ended remarks of self-identified students with disabilities shared from a larger mixed-methods study about their experiences transitioning to and learning in remote environments during the spring 2020 semester. Manifest content analysis (e.g., Kleinheksel et al., 2020; Krippendorff, 2012) was used to analyze participants' responses relative to specific questions outlined below regarding their experiences and recommendations for both remote learning and planned return to face-to-face learning.

Methods:

Participants

Participants were 216 self-identified college students with disabilities from two- and four-year schools in the United States. Female respondents represented 153 of the 216 (70.8%), with ADHD (n=84, 38.9%), mental health disabilities[1] (n=85, 39.4%), and learning disabilities (n=61, 28.2%), as the most reported disability. Notably, these disabilities are "hidden" and without documentation may go unobserved by professors. The majority of students were in bachelor's programs (n=147, 68.1%) and attended four-year public schools (n=120, 55.6%). Slightly more than 29% (n=63) of respondents reported attending a four-year private school and 15.3% (n=33) reported attending a two-year school. School size varied with 58.8% (n=127) of participants indicating their institution had over 10,000 students, while 40.7% (n=88) of participants indicated their institution had less than 10,000 students. The most frequent geographic area of institution was the New England region (CT, ME, MA, NH, RI, VT) with 47.2% of participants (n=102). Table 1 provides additional participant demographics.

Data Collection Instrument

The research team developed an electronic survey, the *Survey of College Students with Disabilities during COVID-19*, to measure college students with disabilities' perceptions of remote instruction during the spring 2020 semester. The survey items were based on an open-source question set, including the AHEAD Ireland survey (AHEAD, 2020, used with permission) and the

EDUCAUSE DIY Survey KIT: Evaluating the 2020 Spring Semester (EDUCAUSE, 2020). The *Survey of College Students with Disabilities during COVID-19* contained questions requesting demographic information, remote class format (asynchronous, synchronous) and types of instructional methods utilized (e.g., video lectures, uploaded readings). Survey participants were asked to indicate via a Likert scale how supported they felt shifting to remote learning and about their remote instruction experiences. In addition, the survey included three open-ended questions, which provided an opportunity to expand upon their quantitative responses and included questions such as: (a) What benefits or advantages did remote learning offer?; (b) What would you like to share with your instructors regarding components of remote learning they could change in order to improve your remote learning experience?, and (c) Describe any teaching practices utilized in your remote courses that could improve your learning experiences in face-to-face classes. Participants reviewed an informed consent which explained the survey purpose, length, potential risks of participation, the anonymous and voluntary nature of their participation, and researcher contact information in the event of questions. They were offered the option to accept and continue, or to decline and opt out of the survey.

Procedures

Institutional Research Board Exempt Approval was received by researchers prior to beginning the investigation. The electronic survey link was provided to two accessibility services offices, one at a public and the other at a private institution, to the administrator of an email distribution list of a national postsecondary education and disability conference, and two moderators of national groups for college students with disabilities, asking each to share the survey with their respective students. Several recipients also requested and were granted permission to distribute the survey to additional postsecondary education and disability networks. Due to the experiential nature of the data in relation to the pandemic conditions created in the spring 2020 semester, all data collection occurred via the electronic survey platform to capture perceptions in a timely fashion.

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[1] *Mental health is a broad construct with many variables (see Soria & Horgos, 2021). However, due to the self-report nature of disability by survey participants, we embraced the larger term to be inclusive of individual difference. This is consistent with the use of Learning Disabilities, rather than dyscalculia, dyslexia or dysgraphia.*

Examination of College Students with Disabilities *continued*

Table 1 Participant Characteristics

Demographic	n	%
Gender		
Male	42	19.4
Female	153	70.8
Nonbinary	13	6.0
Prefer not to say	5	2.3
Other	2	.9
Missing	1	.5
Disability Type1		
ADHD	84	38.9
ASD	30	13.9
Chronic Health	48	22.2
Deafness/Hard of Hearing	21	9.7
Mental Health	85	39.4
Intellectual disability	9	4.2
Learning disability	61	28.2
Mobility/Orthopedic disability	27	12.5
Speech/language impairment	8	3.7
Traumatic or acquired brain injury	17	7.9
Visual impairment (including blindness)	16	7.4
Other	28	13.0
School Type		
2-year private	1	0.5
2-year public	32	14.8
4-year private	63	29.2
4-year public	120	55.6
School Size		
<5000	42	19.4
5,001 to 10,000	47	21.8
10,001 to 20,000	58	26.9
>20,000	69	31.9
U.S. Region		
New England (CT, ME, MA, NH, RI, VT)	102	47.2
Middle Atlantic (NJ, NY, PA)	29	13.4
West South Central (AR, LA, OK, TX)	26	12.0
South Atlantic (DE, DC, FL, GA, MD, NC, SC, VA, WV)	24	11.1
East North Central (IN, IL, MI, OH, WI)	14	6.5
Other	21	9.7
Degrees Currently Pursuing		
Associate's Degree	30	13.9
Bachelor's Degree	147	68.1
Graduate Degree	25	11.6
Spring 2020 Graduate	11	5.1
Missing	3	1.4

Note. 1As participants could select more than one response, the sum of the disability categories will add up to more than 216.

As noted above, a total of 334 participants completed at least a portion of the larger survey. However, 216 participants, or 65%, responded to at least one of the study's relevant open-ended questions to be analyzed in this paper. There were between 41 and 88 missing responses per question with an average of 64 missing responses across the three open-ended questions. Thus, the results pertain to the study subsample of 216 participants. Blank fields and responses such as N/A were not included in the result totals presented. For more on the larger study sample, please see Madaus et al., 2021.

Data Analysis

As the first study to address the learning experiences of postsecondary students with disabilities during the COVID-19 pandemic, the researchers sought to "stay close to the text," and use participants' words to "describe the visible and obvious in the text" (Bengtsson, 2016, p. 10). Given that, manifest content analysis was used to analyze participant data (e.g,, Krippendorff, 2012). This method involves using frequency counts to "understand a phenomenon," and "assumes there is objective truth in the data that can be revealed with very little interpretation" (Kleinheksel et al., 2020, p. 128).

To conduct the manifest content analysis, four steps were applied: decontextualization, contextualization, categorization, and compilation. During decontextualization, the researchers read the text several times to "obtain a sense of the whole," and to answer the research questions, identified "the smallest

Examination of College Students with Disabilities *continued*

unit that contains some of the insights the researcher needs" (Bengtsson, 2016, p. 11). The second step, recontextualization, involved rereading the data to ensure the coding schema reflected the content. Next, categorization was conducted by examining identified codes for each of the five questions and grouping similar codes into larger categories. The final stage, compilation, involved clarifying the positionality of the analysts in order to examine the data from a neutral perspective. An example of the process for data organization and analysis is illustrated in Figure 1.

Figure 1

Example Coding Tree: Benefits of Remote Learning
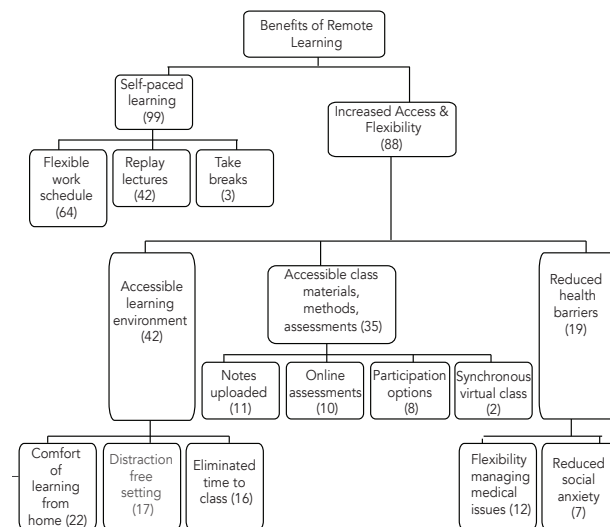
Credibility Measures

To establish trustworthiness in qualitative content analysis, the researchers followed the recommendations of Elo et al. (2014) in all aspects of planning, preparing, and analyzing the data, as well as when reporting the findings. The interpretive analysis was conducted by two researchers who had previous experience as postsecondary education disability services professionals and are currently involved in an undergraduate advocacy group for students with disabilities. The two researchers engaged in initial coding of qualitative data both identify as graduate students with disabilities and in accordance with qualitative methodology acknowledge their background and experiences may impact their practice (e.g., Elo et al., 2014). To ensure credibility and reliability of the findings, the researchers recognized these

positionalities and incorporated routine check-ins during the interpretive analysis process. Figure 2 illustrates the codes, categories, and themes in order to allow the reader to evaluate the trustworthiness of the results.

Figure 2

Example of Coding, Categorization, and Theme Development

Excerpt	Code	Categories	Theme
"I could do my work at any time of day, and I could go at my own pace rather than the pace of a whole class."	Work at any time of day	Work at own pace	
"The ability to work at my own pace, on my own time, was tremendously helpful. If I was struggling at a specific time, I could take that time off to take care of myself and then return to work when I was ready."	Work at own pace Could take time off	Time flexibility Work at own pace	Self-paced/ time flexibility
"I was able to pause asynchronous lecture videos and take my time with writing notes. I didn't feel rushed to get everything down like in face-to-face classes."	Take breaks Not feel rushed		

Examination of College Students with Disabilities *continued*

Results

Benefits of Remote Learning

Self-Paced Learning

Despite the challenging circumstances, students conveyed that remote learning offered several benefits. The most commonly reported benefit, which was noted by 100 students (46.3%), included being able to self-pace one's learning. Students benefited from the ability to work at any time of the day, take self-determined breaks, and pause and replay recorded lectures. One female student at a 4-year institution said,

> The ability to work at my own pace, on my own time, was tremendously helpful. If I was struggling at a specific time, I could take that time off to take care of myself and then return to work when I was ready. This was very helpful!

Another female student at a 4-year private school described the utility of recorded lectures. "I was able to pause asynchronous lecture videos and take my time with writing notes. I didn't feel rushed to get everything down like in face-to-face classes."

Increased Access and Flexibility

Eighty-one students identified ways remote learning increased access for them, including providing a more accessible learning environment, accessible class materials, methods of instruction and assessment, and reducing health barriers. Thirty-four students (15.7%) found remote learning environments more accessible, noting they were able to study and listen to lectures in distraction-free settings, felt more comfortable learning from home, and did not have to travel to participate in class. In fact, twenty-one students mentioned working from home eliminated travel time, which enabled them to dedicate more time to academic work. Students also stated class materials and methods, including uploaded notes, synchronous virtual classes, use of closed captioning or transcripts, participatory flexibility (e.g., breakout rooms, chat features, video on or off), and virtual office hours, were more accessible and available to everyone. Fourteen additional students noted remote assessments as being more accessible, as exams were often open-note/book, students could opt to complete them in a distraction free setting, and assessments generally shifted from those completed in person to performance-based tasks. Eleven students also communicated facing fewer health barriers, including less social anxiety and increased flexibility to manage medical issues.

Feedback to Instructors on Remote Teaching Practices

When asked to comment on ways instructors might improve remote-teaching practices, students described four categories of teaching strategies instructors could utilize: incorporating flexible options, building in accessibility, offering more support and communication, and ensuring accommodations are appropriate and in place. Approximately half of the respondents (n=154) indicated instructors needed to incorporate flexible options into remote classes. For example, students preferred flexible deadlines, transparent attendance policies, options to work in groups for activities, clear participation expectations, and multiple ways of expressing learning on assessments. Students said these alternatives were especially necessary during the spring 2020 semester due to the unexpected and abrupt shift to remote instruction. As an example, while most students described the benefits of remote learning, a small number did indicate working from home was more challenging, due to family or work responsibilities.

Second, fifty-nine individuals (27.3%) indicated an interest in having accessibility built into courses in advance. Suggestions included posting recorded lectures, captioning all videos, sharing class materials and assignments in advance of the course meeting in which they are used, giving consideration to voice clarity, volume, and tone in virtual lectures, repeating student questions, incorporating breaks into synchronous course sessions and applying consistency in meeting times and course procedures. A subset of students illustrated the value of improving accessibility during both synchronous and asynchronous learning. These students noted benefits such as allowing academic obligations to fit around professional and family schedules, learning in self-selected and distraction free spaces, as well as the significant reduction in health barriers (e.g., virus related, reduction of social anxiety) that may occur during face-to-face learning.

Examination of College Students with Disabilities *continued*

A third area of feedback, noted by 107 students (49.5%), indicated that instructors should provide more support and communication, and specifically more frequent and timely communication (e.g., through email or LMS postings). Students also reported a desire for more interaction. They drew a distinction between synchronous classes, which engaged learners and encouraged participation, and asynchronous classes, which they said resulted in specific learning challenges. Noted challenges included feelings of disconnection from peers and difficulty keeping up with class material. A female student at a 4-year public institution explained:

> For three out of four classes I was expected to teach myself with material posted on black board (sic) and then submit assignments and take exams by a date on the syllabus. As someone with ADHD, it's already hard to sustain my attention during an in-class lecture, let alone sustaining attention to give myself the entire lecture alone in my bedroom.

Finally, more than 100 students commented on the appropriateness and quality of accommodations during remote learning. Most comments dealt with institutional disability service office communication and approval processes. For example, one female student at a 4-year large public university summarized, it was faculty that in many cases were on the front lines of accommodation service delivery:

> [Disability services] sent an email that due to everything being online they basically can't help anyone with getting accessibility online and that it all relies on the professor. I was hoping they would say that they made an announcement to the professor to keep accessibility in mind and make sure to keep what is possible of the current accommodations and be prepared to handle new accommodations that may come up.

In fact, in some cases it was noted the professor was the main point of contact, reaching out to discuss accommodations during remote learning. As one student at a 4-year public university noted:

> I was a little unsure of how my accommodations would translate to online learning, but most of my professors reached out to me (and I assume other

students with accommodations) to discuss how the accommodations would take place during online learning, so [disability services] wasn't officially involved in the change for me.

In a parallel example, a non-binary student at a four-year public school noted worries about whether accommodations would be automatically transitioned during remote learning but was able to work directly with the professors to secure desired accommodations.

Yet across the study data corpus, it was clear proactive communication regarding accommodations was not universally experienced. Many students were frustrated with an inability to secure accommodations for remote learning that they believe impacted their overall learning experience. For example, a different non-binary student at a 4-year public university noted a perceived lack of appropriate accommodations, "I got poor grades because of this and I had to convert almost all of my classes to pass/fail."

In particular, students voiced concern over how testing accommodations were perceived by faculty. In some cases, students did not receive additional testing time during remote learning or felt singled out regarding concerns of cheating because of accommodations, while for others distraction-free testing environments were difficult to replicate away from campus.

Feedback to Institution on Instruction

Thirty-seven students indicated a desire for their institution to better prepare instructors to teach remotely. They suggested instruction would have been improved if instructors all received similar technology training and organized courses in a consistent manner. As one female student from a 4-year institution described:

> They could have given classes to all the professors on how to use Blackboard, use screen capture, how to record video and voice, how and where to upload videos, how and where to upload notes … Each professor of mine was using different software and places to put out their information for classes and it made it very hard to keep up with everything and find what needed to be done.

Examination of College Students with Disabilities *continued*

Remote Learning Teaching Practices to Continue in Face-to-Face Instruction

Utilizing web-based LMSs and specifically, uploading class materials were two practices students thought would improve the face-to-face course experience. Forty-nine students (22.7%) stated making class materials available on an LMS allowed them additional opportunities to prepare and review. Recording and uploading lectures, and pre-posting class materials, such as assignments, were the two most common suggestions. Additionally, 36 students (16.7%) mentioned using a course LMS more regularly to supplement face-to-face instruction. Specific recommendations included using LMS platforms for office hours, participation options for class discussions, and for students to ask questions. A final theme in the qualitative data was that professors might be proactive by regularly communicating with students to ensure individual accommodations are sufficiently supporting student learning as assignments and means of instructional delivery vary during the semester.

Discussion

The current study sought to capture and explore open-ended feedback from a sample of more than 300 postsecondary students with disabilities engaged in remote learning because of the COVID-19 pandemic during spring 2020. The study sample drew from predominantly high-incidence disabilities such as ADHD, mental health disabilities, and specific learning disabilities, which is consistent with the general population of college students with disabilities (Madaus et al., 2021). Moreover, this population is comprised of so called "hidden" disabilities, meaning without appropriate related documentation, these students may blend into the learning environment without professors noting particular needs or strengths beyond those of typical students. Therefore, it is critical these students be given voice to provide insight and suggestions to guide future remote learning.

Suggested Remote-Teaching Practices

While Meleo-Erwin and colleagues (2021) note that instructional assistance was the most common resource posted on institutional websites, findings from this study provide further insight. This study supports the conclusions from Anderson (2020) suggesting that improvements are warranted regarding remote-teaching practices from the perspective of students with disabilities across institutions.

Incorporate Flexible Options

By far the most common suggestions made by study participants related to expanding options for flexibility given the uncertainty created by the pandemic. Specifically, the suggestions were predominantly related to assessment or some aspect of course grading (e.g., flexible deadlines for assignments, credit for participation, opportunities to work together in groups, and alternate forms of assessment). This was consistent with the larger study in which nearly one-third of the sample converted a course to pass/fail (Madaus et al., 2021). While the data indicating a move to pass/fail are only descriptive and we cannot be sure why each student made this decision, it appears students may have been concerned about their ability to meaningfully demonstrate mastery of course content through existing assessment and engagement practices. Thus, the desire for flexible deadlines, for example, underscores the variability in how the pandemic, in general, and remote learning in particular, impacted individual students.

Build in Accessibility

Almost 28% of the study sample (59/216) suggested additional accessibility would benefit their learning. Recommendations included two types of practices. First, students indicated a preference for accessibility prior to and immediately following class (e.g., uploading recorded lectures, captioning videos, posting class materials). Such recommendations are more than reasonable and might be considered standard practice in typical remote learning conditions. It is possible that delays were common or certain components of minimum accessibility were missed given the overwhelming task for professors to develop or source appropriate video in addition to posting ancillary materials. The second set of recommendations appear to highlight practices during lessons (most commonly synchronously). Specifically, students noted limitations such as not clearly hearing speakers during virtual lectures, a failure to restate inaudible student prompts when answering questions, a lack of reasonably timed breaks, and inconsistent scheduling. It is important to point out that some web-

Examination of College Students with Disabilities *continued*

based platforms (e.g., Zoom, Microsoft Teams) now have closed captioning features built into their toolkits and could be incorporated seamlessly into course delivery. It is also noteworthy that the suggested improvements would likely benefit all students, not just students with disabilities.

Offer More Support During Self-Paced Learning

More than a third of the sample desired additional support though responses appeared to break down along instructional medium. In particular, students found synchronous instruction to be more engaging and encouraged participation while asynchronous learning left students feeling disconnected. Moreover, asynchronous experiences led to difficulties for many students meeting course deadline expectations. However, study results also revealed ways in which remote learning may benefit students with disabilities in particular. Participants emphasized that remote learning allowed learning at their own pace, which resulted in students who require additional time for learning (or who may need to take breaks) being able to do so without accommodation. The reduced need for travel also gave students more time to concentrate on coursework. Additionally, some students found remote courses were more manageable as they were able to review recorded lectures and take exams at whatever time best met their needs. Consequently, future instruction might leverage these beneficial components throughout the design and delivery of courses.

Increase Levels of Communication

Again, almost one-third of the study sample indicated a desire for improved communication. Students said communication was too inconsistent, desiring instead a more personal approach with frequent interaction, especially relative to course assignment or assessment deadlines. Several students noted the convenience of virtual office hours for personal meetings with the instructor.

Ensure Appropriate Accommodations are in Place

Regardless of the instructional modality, students with disabilities have a right to appropriate accommodations. For some students, it was clear accommodations approved prior to the pandemic required changes. Of note is that many students commented on the increasing trend of relying on faculty to receive accommodations, rather than coordinating with disability services staff. While it is helpful for faculty to check in with students during the course of the semester regarding the effectiveness of accommodations, especially if changes in modality occur, it is likely not in the best interest of postsecondary institution compliance for accommodations to be provided without disability service staff involvement.

Enhance Instructor Preparation

Students experience a variety of instructional practices each semester, and data in this study confirm it is faculty who serve as the regular point of contact for service delivery and often ensure appropriate accommodations are in place. Yet if individual professors are reaching out, rather than trained institutional disability service staff, there is no assurance of institutional systemic compliance with federal laws. For example, some students noted access to accommodations was not clearly understood or applied during learning. Moreover, some faculty even singled out students with disabilities during exams online, publicly challenging institutionally approved accommodations. Universities risk litigation when protected classes of students are publicly singled out for traits such as having a disability. Moreover, the risk of alienation and pathologizing of students with disabilities may impact attrition and university reputation.

Finally, student perceptions were clear that their institutions did not offer adequate training for instructors to prepare faculty to teach remotely. In fact, no students indicated their institutions well prepared faculty for remote learning. While high quality remote instruction was not likely to occur given the initial rapid transition during the COVID-19 forced implementation, student voice herein has captured just how varied and at times poor their experiences were. Comments from more than 10% of the sample noted instructional inconsistencies significant enough to suggest faculty need "technology training" and consistent, perhaps campus-wide,

Examination of College Students with Disabilities *continued*

organization of course materials. Specific student suggestions bely the inconsistent nature of professors' utilization of LMSs, appropriate digital tools, and facility with e-communication and organization.

Practices to Continue

Students also noted many of these suggestions need not be reserved for remote teaching only. Rather, faculty that make class materials available online, record and upload lectures (even when initially taught face-to-face) and maximize the utility of the LMS would improve learning for students whether it is hybrid, synchronous, asynchronous, or face-to-face. Specifically, students suggested instructors should always upload class materials, including notes and recordings of lectures, both of which allow for extra review. Further, it was desired that LMSs continue to be used by faculty along with web-based video communication tools (e.g., Zoom, Microsoft Teams), online office hours, and options to attend face-to-face class virtually. Remote participation activities were believed to have a place in the face-to-face classroom. For example, incorporating virtual participation tools, such as through discussion boards or anonymous class polls, and holding virtual office hours were highlighted by students. By blending these practices throughout typical course preparation and delivery, professors may be able to maximize the engagement of all students.

Limitations

Limitations to this study relate to sample size and generalizability, as with all qualitative studies. Additionally, a majority of participants identified as female, attended four-year institutions in the Northeast or Mid-Atlantic regions, and reported ADHD, mental health disabilities, and learning disabilities, thus potentially limiting generalizability to students with different characteristics. While the study sample may not reflect national norms which are difficult to confirm (e.g., Leake, 2015) the current data presents perspectives of an underrepresented group (i.e., students with disabilities) during the pandemic necessitating timeliness over generalizability in data collection. Table 1 attempts to clarify this study population, as it was impossible to clarify the percentage of students with disabilities relative to the entire population. Students also self-reported disability, and therefore, this information was not externally confirmed.

Implications & Future Research

The rapid shift with short notice required triage response that stressed human and system capacity. Our challenge looking forward is that the pandemic has likely ushered in a new normal in education, meaning wider use of digital delivery is likely here to stay. We need to ensure both current institutional faculty and future faculty-in-training are prepared to deliver effective remote instruction for all students consistent with the rigors and outcomes typically demanded from each discipline.

On the positive side, a function of the rapid shift to fully remote course delivery were several adaptations perceived to improve student learning. When widely adopted, such practices may have the added benefit of reducing the burden on students with disabilities to request specific accommodations, thus avoiding stigma caused by association with separate testing times and locations, in-class supports (e.g., always having to sit in the front row of class), or alternate assignment specifications. Moreover, these modifications also benefit other students participating in courses (Morris et al., 2016). Consequently, as instruction returns to primarily face-to-face, it is highly advisable these changes remain in place.

A second adaptation was the need for modifications regarding how institutional disability service's providers partner and share information with instructors spelling out course accessibility practices, especially during remote learning. The electronic process, rather than manual request for signatures, along with virtual meetings for students with disabilities and institutional disability service staff, increased convenience and accessibility of supports according to learners and therefore should be continued.

Quantitative data indicated, and open-ended data confirm, students felt supported by faculty during the rapid shift to remote learning in the 2020 spring semester. Given their proximity to students, and the desire to improve student perception and experience of campus connectivity, instructors should be supported by institutional capacity and resources to continue to provide frequent and meaningful interactions with students. Further, it is advisable for postsecondary institutions to offer students preparation for remote learning that includes suggestions regarding how to flourish during asynchronous learning such as self-

Examination of College Students with Disabilities *continued*

regulation and cognitive strategies. Similarly, it may be helpful for faculty to note particular learning strategies within their discipline for successful individualized remote learning.

Future research should continue to examine the effects of remote learning on college students with disabilities. While this study captured student experiences during the spring 2020 semester, additional studies should explore how students experienced continued remote learning, for instance, in the fall 2020 and spring 2021 semesters.

Additionally, while the spring 2020 semester forced instructors to rapidly shift to remote instruction, most continued utilizing remote methods in the immediately subsequent semesters. There is a need to explore how design and delivery may have evolved, as instructors adapted to this form of teaching and had more time to prepare. There is also a need to learn how these changes affected students with disabilities. Research may also explore what, if any, practices instructors plan to continue using when face-to-face courses resume.

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TEACHING REPORT

Has the Pandemic Affected Student and Faculty's Use and Perception of Universal Design for Learning?
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Abstract

Universal Design for Learning (UDL) is an educational framework to remove barriers from the learning environment to increase success for all (CAST, 2018). With the shift to online due to the COVID-19 pandemic, we wondered whether students' and faculty's perceptions of universal design for learning (UDL) would be affected. This investigation describes faculty's use and students' experiences of UDL in the classroom both before and during the pandemic. We focus specifically on the perceived usefulness of UDL by both these groups as it relates to student learning. Results showed overall strong correlations pre-pandemic compared to during the pandemic, but that the pandemic has encouraged some changes, including faculty to increase their use of some UDL elements (e.g., capturing lectures) and that students consider more of the UDL elements to be beneficial to their learning than faculty do. These findings and their relevance to UDL scholarship are discussed.

Keywords:

pandemic, universal design, student perceptions, faculty perceptions, accessibility

Universal design for learning (UDL) is an educational framework that has the goal of removing barriers for all students to optimize learning (CAST, 2011, 2018). It recognizes that inter-student variability is the rule, not the exception, providing a framework for building curriculum and learning experiences for various learners. This provides an opportunity for students to cultivate their strengths and bolster relationships. There are three principles that guide this inclusive design: multiple means of representation, multiple means of engagement, and multiple means of action and expression.

Multiple means of representation refers to the "what" of learning (the content). This principle emphasizes providing students with multiple ways to receive information such as writing, videos, graphs, etc. (CAST, 2018; Rose & Strangman, 2007). It also refers to activating students' background knowledge so that they have somewhere to 'anchor' this new knowledge. Combining new information with what learners already know has been shown to increase comprehension (Beker et al., 2016) and retention (Weinstein et al., 2018). Multiple means of engagement refers to stimulating students' interest (the "why" of learning). Essentially, students' interests need to be stimulated and sustained throughout the course, leading to their motivation to learn (CAST, 2018; Rose & Strangman, 2007). Collaboration is one way to engage students in their learning, and has been shown to benefit memory and learning (Cortright et al. 2003; Rajaram & Pereira-Pasarin, 2007). Engagement also includes providing a safe learning environment, free of threats and distractions (CAST, 2018). Encouraging student engagement can improve both actual and perceived learning (CAST, 2018; Hamari et al., 2014; Kennette & Beechler, 2019; Kennette & McGuckin, 2018; Pink, 2009; Willig et al, 2021). Finally, multiple means of action and expression allows students to show how they have learned the course content in multiple ways (the "how" of learning) (CAST, 2018; Rose & Strangman, 2007). For example, as the final assessment, students may choose to write an argumentative essay or present these same arguments in a video format. Similarly, during a test, students

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may be given a choice of answering two of three essay questions. Alternatively, as a final assessment, students may complete either a test or a project that assesses the same learning outcomes. All three of these are examples of the UDL principle of action and expression in that they are giving students some choice or agency in how they demonstrate their learning. Compared to K-12, where curriculum and methodological standards offer less pedagogical discretion, UDL has unique applications and benefits for the higher education environment, a context which has historically been more likely to rely on passive learning. The principles of multiple means of representation, engagement, and action and expression affirm the need for application of knowledge in the college classroom environment (Buckland Parker, 2012). Interested readers may refer to Vukovic et al. (in press) for additional background related to UDL in the Canadian context.

These principles are based on the neuroscience of learning (e.g., Kolb et al, 2000; Zull, 2002; Zull, 2004). Learning is a relatively permanent change in thinking or doing, and, as such, learning brings about (or is a result of) physical, biological changes in the brain (Zull, 2002, 2004). The brain's plasticity allows it to re-wire itself based on what it experiences (i.e., learning), adding or removing neuronal connections (Draganski et al., 2004; Trachtenberg et al., 2002). As we experience the world around us, neurons in our brain are activated, which causes them to reach out and connect with other neurons. This is knowledge in its physical, biological form: a network of neurons.

The best way to learn is to engage multiple areas of the brain. The four primary areas of the cerebral cortex involved in learning, according to Kolb et al. (2000), are the sensory cortex (which allows us to acquire information); the temporal integrative cortex (which plays a role in reflection and meaning-making), the frontal integrative cortex (which processes ideas and abstraction), and the motor cortex (which is involved in actions such as testing). Sequencing learning experiences that involve these distinct brain regions will result in deeper learning than only engaging one or two areas of the brain. This proposal is in line with Paivio's dual coding approach to memory (Clark & Paivio, 1991; Paivio & Clark, 2006; Paivio & Desrochers, 1980), which proposes that we understand better when information is represented in

multiple ways (e.g., verbal + image). This classic idea has more recently been echoed in cognitive and pedagogical publications (Aryanto, 2020; Cruz, 2018; Weinstein et al., 2018). These neuroscience findings help highlight the importance of two of UDL's principles: multiple means of representation and multiple means of action and expression.

Neuroscience also tells us that various states (e.g., reward, fear, peace) produce chemicals that affect neuronal communication/connections in our knowledge networks (Brembs et al., 2002). This emotional connection to learning has important implications for student engagement and motivation (UDL's multiple means of engagement).

Embedding UDL from the beginning (during course design), rather than as an after-thought, means that students will be less likely to require accommodations to course materials for any barriers they may experience and, as such, less likely to feel obligated to self-disclose personal matter with their faculty (Buckland Parker, 2012). From the instructor's point of view, it also means that they will spend less time during the semester modifying content or materials and accommodating students' diverse needs. UDL attempts to remedy the barriers that we have created in education. As such, it is a tool to increase access to learning (CAST, 2011, 2018; Rose & Strangman, 2007). As we create the barriers in our courses by virtue of creating the course itself, it stands to reason that we can also remove these barriers or provide the necessary tools for all students to overcome them.

The Present Study

It is clear that UDL has value in the context of pedagogy. Consequently, describing what is currently being used by faculty and experienced by students is essential. According to Hutchings's (2000, 2013) Taxonomy of Questions, one of the critical questions in the scholarship of teaching and learning (SoTL) is to describe what learning currently looks like, a "what is" question. To this end, the goal of the present study is to inquire about and describe what is happening in the classroom as it relates to UDL, both from student and instructor points of view. UDL is iterative, so describing the current state of UDL allows us to measure improvements from a baseline, reflect and improve

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our teaching practice, and celebrate achievements in curriculum and design. This description is important, yes, but we also wish to compare whether the pandemic has affected faculty's use and students' reported experience of UDL in the classroom. It is possible, for example, that the pandemic might have made students and faculty more aware of the barriers that exist and therefore better appreciate or notice UDL elements when used. Further, this could lead to a better appreciation of and perception that these elements benefit student learning.

In addition to describing the current state of UDL in the college classroom before and during the pandemic, the present study makes another vital contribution to the field of SoTL in that it explores this question in a 2-year college setting, which is under-represented in research. Since the body of research examining 2-year colleges is much smaller than that of 4-year degree-granting universities, this study contributes important context to the functioning of UDL in various types of learners and institutions.

For the two studies that follow, we sampled from the same student and faculty population at two timepoints-before the pandemic and during the pandemic- which meant approximately a 3-year interval between these studies. This between-group design was inspired as a direct result of the pandemic, as we had originally only intended to recruit students and faculty to provide their opinions about UDL in the classroom. However, when the pandemic began, we saw it as a unique opportunity to compare student and faculty perceptions at these two timepoints. We discuss limitations of this approach later in the paper.

Study 1: Before the Pandemic

We wanted to examine how often students reported experiencing UDL elements in their classes and how frequently faculty purported using these elements. We were also interested in students' and faculty's perceptions of how useful each of the UDL elements we asked about were for student learning.

These data were collected approximately one year prior to the start of the COVID-19 pandemic, and included students enrolled in fully online courses, fully in-person courses, as well as hybrid courses.

Methods

Participants

Both students and faculty participated in this first study and included participants from face-to-face, hybrid, and online courses. A total of 19 full-time and contract faculty participated (*n = 5 online; n = 11 hybrid; n = 3 face-to-face), b*ut no demographic data were collected to respect the privacy of our colleagues and reduce the risk of being identified. All instructors taught and were asked about their general education courses.

Student participants (*N* = 36) were enrolled in a general education course (*n = 23 online; n = 11 hybrid; n = 2 face-to-face). In terms of age, 51.35% of respondents were 18-21, 16.22% were 22-26, and 32.43% were over 26 years old. Of all the student participants, 56.76% were male, 43.24% were female, 21.62% were registered with our center for students requiring accommodations, while 67.56% were not (and 10.81% provided no answer). Most students were from the School of Business Management and Information Technology (21.62%) and the School of Health and Community Services (21.62%), but most other schools were also represented, including School of Engineering Technology (13.51%), School of Justice and Emergency Services (10.81%), School of Skilled Trades (8.11%), School of Media Art and Design (8.11%), School of Interdisciplinary Studies (8.11%), and the Centre for Food (8.11%). Although we did not ask students which year of their program they were in, the college offers primarily one-year and two-year programs with some advanced diplomas which are three years in length.*

Materials and Procedures

Full-time and contract faculty were recruited via email mid-semester and invited to share their use of, and opinions about, UDL in an anonymous online survey (Appendix A). This survey has previously been used by Kennette and Wilson (2019) to examine student and faculty perceptions of various UDL elements. The items (*N* = 35) were related to each of the three principles of UDL: multiple means of representation (*n* = 11), multiple means of action and expression (*n* = 7), multiple means of engagement (*n* = 17). This survey was originally developed so that it maps on to each of the checkpoints provided by CAST (CAST, 2011) for the three UDL principles (Kennette & Wilson, 2019). Each of these checkpoint items is supported by empirical

Has the Pandemic Affected *continued*

evidence which is published on their site (CAST, 2018). As such, this survey appears to be high in face validity, though it has not been otherwise validated. Which survey items relate to each UDL principle are specified in the appendix next to the survey items, but this information was not shown to respondents during data collection (Appendix A). The number of items related to each principle should not be taken as an indication of its importance, but rather, perhaps, as a measure of the scope of the principle, and/or the variety of elements which fall under it (based on the checkpoints listed by CAST).

Participants were first asked to rate these items on how frequently they use them in their courses and then were prompted with these items a second time and asked to indicate how useful they perceived each element to be for student learning. In both cases, responses were given using a 5-point Likert scale: (1) Not at all; (2) A little bit; (3) A moderate amount; (4) A lot; (5) Unsure.

Students were recruited from their general education courses by their professor posting an announcement in their learning management system (LMS), followed by a reminder 1-week later. Students completed an almost identical questionnaire as their faculty had (with wording slightly updated to reflect the student perspective) and were first prompted to report how often they had experienced each of the elements and then to evaluate how beneficial they perceived each one to be for their learning (even if they had not experienced that UDL element).

Results and Discussion

Student Responses

Due to the smaller sample of some of the delivery modes, student data are reported combined in the analyses below. We first analyzed how often students reported their instructor using UDL principles and whether students perceived these elements as beneficial.

UDL Elements Experienced in Classes. A weighted average was calculated for each item and these ranks are reported in Table 1 (left panel), with the rank of 1 indicating the highest weighted score, and therefore the item that the most students reported experiencing.

When two items had the same weighted average, we assigned each one the mean of the ranks (e.g., if the identical scores would be ranked 4 and 5, we assigned a rank of 4.5 to both items). In cases where more than 2 items were tied, we assigned the lowest rank score to all of the items (e.g., if the identical scores would have been ranked 4, 5, and 6, we assigned a rank of 4 to all three items and followed with a rank of 7 for the next item). Below, we focus our attention on the items that were ranked at the top and those at the bottom.

Prior to the start of the pandemic, students reported frequently experiencing the following elements of UDL in their courses: faculty use of the LMS to post handouts (rank = 1), making lecture slides available on their LMS, providing rubrics for assignments, posting grades online so that students can monitor their progress, and including group work. Further, students reported not experiencing many field trips (rank = 35), opportunities to re-submit assignments, choice in course topics, peer-evaluation opportunities, and flexible deadlines in their courses. These seem intuitively to reflect how the majority of faculty conceptualized their face-to-face or hybrid courses, with the LMS playing a supporting (but still important) role in pedagogy.

Additionally, when the items were grouped based on which UDL principle they represented, for the principle of representation, 47.82% of students felt that these items were used "a lot" in class. For the principle of engagement, it was 51.31%, and for the principle of action and expression, students responded "a lot" for 58.33%. So, it does appear that students are reporting experiencing all of the principles of UDL a fair amount in their courses.

Perceived Benefits of UDL Elements. The rankings for students' perceived value of these UDL elements prior to the pandemic are reported in Table 1 (right panel). Examining the highest-ranked and lowest-ranked items are likely to be the most informative about what students do and do not feel are beneficial UDL elements for their learning. Students perceived the most useful items to be having the opportunity to practice course content (rank = 1), making lecture slides available, providing clear guidelines on major assignments, connecting course content to real world experiences, and providing clear and specific feedback on assignments. At the other end

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of the spectrum, they did not seem to value field trips (rank = 35), peer-evaluation opportunities, having a choice in the course content, using hands-on activities in class, and group work. It is somewhat ironic that students did not value hands-on activities for their learning since Ontario colleges are designed to be practical and promote a more hands-on approach than their 4-year university counterparts, but perhaps students simply had a different understanding of what was meant by this item or rated it low because they recognized learning a great deal from non-hands-on sources such as a textbook.

Table 1.

Students' self-reported experience (left panel) and perceived usefulness (right panel) of UDL elements in classes before the pandemic. Note: The numbers indicate the item's rank based on weighted means and the table has been sorted based on the rank in the "use" column for easier comparison.

	Use	Usefulness
Post handouts on the LMS (or make them available digitally)	1	8
Make PowerPoint slides available to students	3	3
Provide rubrics for major assignments	3	6.5
Provide opportunities for students to monitor progress (e.g., grades posted on the LMS)	3	11.5
Include group work and collaboration with other students (e.g., discussions)	5	31
Communicate with students (in class, outside of class, via message board or email)	6.5	14
Provide sufficient (or unlimited) time for tests	6.5	16
Present the same course content in multiple ways (graphics, video, text, graphic organizers/concept maps, etc.)	8	11.5
Provide clear guidelines for major assignments (e.g., example/sample assignment)	9.5	3
Connect course content to real world experiences	9.5	3

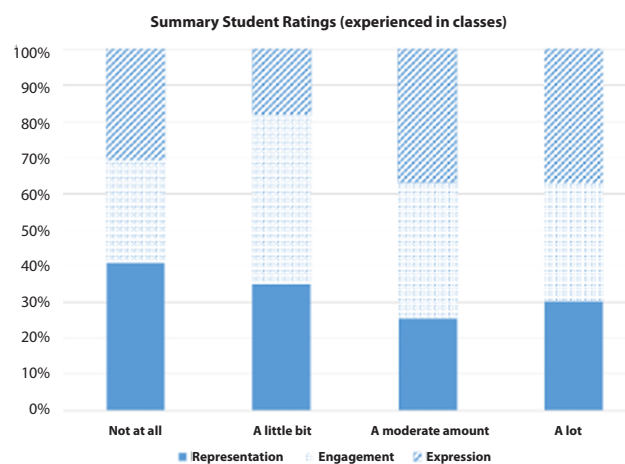|	Use	Usefulness
Allow for some autonomy and/or control in student learning (e.g., options for assignments (topic or format); or choices on tests (choose 1 of 2 essay questions; or pick 5 of the following terms to define)	11.5	11.5
Provide clear and specific feedback on assignments	11.5	5
Answer questions about course content or assignments outside of class (e.g., discussion board, email)	13	6.5
Minimize threats and distractions in the learning environment	14	17.5
Offer interesting and relevant major assignments	15.5	15
Motivate students to do their best work	15.5	11.5
Guide you using increasingly difficult activities or assignments	17	24.5
Guide goal-setting and the development of student learning strategies	18	20.5
Offer an electronic version of the textbook	19	19
Highlight patterns and relationships in the course content	20.5	9
Use gender-neutral language and inclusive examples (race/culture, etc.)	20.5	30
Provide opportunities for self-assessment/self-evaluation and reflection	22	23
Offer ungraded or optional assignments to practice the course content	23	1
Make available a glossary of terms (on the LMS, in the textbook, or other)	24	17.5
Include subtitles on videos (closed captioned)	25	26
Offer alternatives for auditory info (e.g., transcripts of videos) and visual info (e.g., description of images)	26	29
Capture class lectures and made them available to stream after class (video or podcast)	27.5	24.5
Offer a choice of how students want to receive feedback on assignments (e.g., verbal or written feedback)	27.5	22
Use hands-on activities in class	29	32
Upload files can be read using text-to-speech software (e.g., Word documents PDFs)	30	27.5

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|		
Flexible due dates on major assignments (e.g., allowed to turn it in late)	31	27.5
Include peer-evaluation as part of the coursework	32	34
Let students decide which topics are covered in the course	33	33
Allow students to re-submit assignments	34	20.5
Include a field trip	35	35

When collapsing data across all items related to representation, 67.55% felt these items were valuable "a lot". For engagement, it was 66.68%, and for action and expression, students responded "a lot" for 62.95% of the items. Based on these figures, it appears that students perceive all three principles of UDL as beneficial to their learning. Figure 1 illustrates student-reported use and perceptions of usefulness for each of these principles. We can see that students reported many elements of action and expression in their courses (left panel, top portions of the right two bars), but were more neutral in their perception of its value (right panel).

Figure 1. Comparison of reported use and perceived usefulness by students, grouped by the UDL principles.

Comparing Student Use and Usefulness. In order to examine how consistent students' rankings of their perceived use and usefulness of UDL elements were in

Summary Student Ratings (experienced in classes)

these pre-pandemic data, we performed a Spearman Rho correlation on the ranked data. This analysis showed that students' perceived use and usefulness of UDL elements

Summary Student Ratings (perceived usefulness)
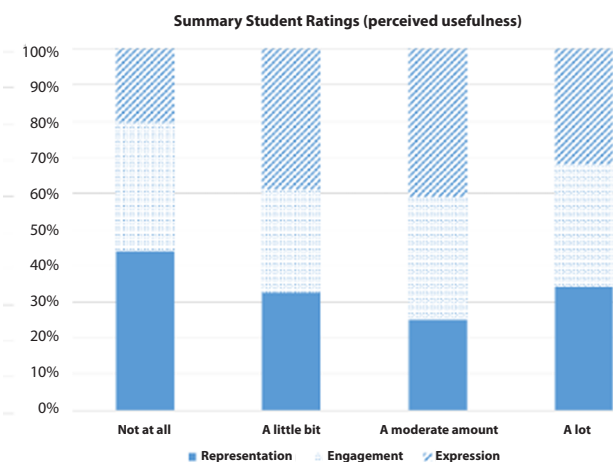
were significantly positively correlated (r_s = 0.69, $p <$ 001). That is, the elements which were present most in students' courses tended to also be the elements which students found beneficial for their learning and those not experienced often were least valued by students (e.g., field trips held the bottom rank in both).

Although the correlation showed that there was a strong relationship between both lists of rankings, it may be of interest to examine the difference between students' perceived experience of UDL and the reported usefulness of individual items that deviate from this pattern. For example, students reported experiencing a lot of group work (rank = 5) but ranked its usefulness quite low (rank = 31). One possible explanation for this disparity is that students don't yet grasp the value of the skills they are learning during group activities, or their contribution to their learning. Alternatively, students' negative perceptions of groupwork may have caused them to overestimate its use.

Similarly, students reported "offer ungraded or optional assignments to practice course content" as the most beneficial (rank = 1) but did not report experiencing this a lot in their courses (rank = 23). It is possible that students are not recognizing the opportunities given to them to practice (e.g., through third party sources such as the textbook's website), or that faculty simply aren't offering those opportunities. To answer this question, we will need to look at faculty responses.

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Faculty Responses

Given the small sample size in some of the delivery modes (face-to-face, online), we combined the data and did not examine these sub-groups individually. We first analyzed the self-reported actual usage of UDL approaches in the classroom, then the perceived benefits to students. Finally, we examined faculty comments about their rationale for using (or not using) UDL in their courses by way of a content analysis.

UDL Elements Used in Classes. The ranked faculty data for use are reported in Table 2 (left panel). Focussing our attention to the top and bottom of the list of rankings, we see that faculty most often report providing opportunities for students to monitor their progress on the LMS (rank = 1), communicating with students, connecting course content to real world experiences, and answering student questions outside of class. At the bottom, we find field trips (rank = 35), offering students a choice of how they receive assignment feedback, letting students determine course topics, allowing students to resubmit assignments, and providing students with a glossary. Overall, before the pandemic, it appears that faculty are in the driver's seat of students' learning experience, and making many pedagogical decisions without necessarily involving students. However, communication and availability to assist students seem to be key components of these pedagogical decisions.

Table 2.

Faculty self-reported use (left panel) and perceived usefulness (right panel) of UDL elements in classes before the pandemic. Note: The numbers indicate the item's rank based on weighted means and the table has been sorted based on the rank in the "use" column for easier comparison.

	Use	Usefulness
Provide opportunities for students to monitor progress (e.g., grades posted on the LMS)	1	5
Communicate with students (in class, outside of class, via message board or email)	2	5
Connect course content to real world experiences	3.5	1.5
Answer questions about course content or assignments outside of class (e.g., discussion board, email)	3.5	5
Post handouts on the LMS (or make them available digitally)	6	17
Offer interesting and relevant major assignments	6	3
Provide rubrics for major assignments	6	9
Make PowerPoint slides available to students	8	10.5
Motivate students to do their best work	9	7.5
Include group work and collaboration with other students (e.g., discussions)	10	20
Present the same course content in multiple ways (graphics, video, text, graphic organizers/concept maps, etc.)	11.5	10.5
Provide clear and specific feedback on assignments	11.5	7.5
Provide sufficient (or unlimited) time for tests	13	15
Provide clear guidelines for major assignments (e.g., example/sample assignment)	14.5	1.5
Highlight patterns and relationships in the course content	14.5	18
Use gender-neutral language and inclusive examples (race/culture, etc.)	16	29.5
Minimize threats and distractions in the learning environment	17	15
Allow for some autonomy and/or control in student learning (e.g., options for assignments (topic or format); or choices on tests (choose 1 of 2 essay questions; or pick 5 of the following terms to define)	18	12
Provide opportunities for self-assessment/self-evaluation and reflection	19	19
Guide you using increasingly difficult activities or assignments	20	13
Use hands-on activities in class	21	22
Include subtitles on videos (closed captioned)	22	22
Guide goal-setting and the development of student learning strategies	23	15
Offer ungraded or optional assignments to practice the course content	24	24

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Offer an electronic version of the textbook	26	28
Upload files can be read using text-to-speech software (e.g., Word documents PDFs)	26	26.5
Flexible due dates on major assignments (e.g., allowed to turn it in late)	26	32.5
Offer alternatives for auditory info (e.g., transcripts of videos) and visual info (e.g., description of images)	28	22
Include peer-evaluation as part of the coursework	29	31
Capture class lectures and made them available to stream after class (video or podcast)	30	26.5
Make available a glossary of terms (on the LMS, in the textbook, or other)	31	25
Let students decide which topics are covered in the course	32.5	34
Allow students to re-submit assignments	32.5	32.5
Offer a choice of how students want to receive feedback on assignments (e.g., verbal or written feedback)	34	29.5
Include a field trip	35	35

To answer the question raised in the student data, faculty do not report particularly high instances of providing opportunities for students to practice the course content (rank = 24), so this may be an area for faculty improvement. Alternately, this may have been ranked lower by faculty because they themselves are not the ones creating the opportunities for students to practice the course content (or are not keeping track of students' use of them), but instead expect students to make use of practice opportunities available elsewhere such as through the textbook website, or the campus office which provides practice tests and tutoring.

When collapsing data across all items reflecting the UDL principle of representation, 38.89% of respondents felt these items were useful "a lot". For engagement, it was 51.84%, and for action and expression, faculty responded "a lot" for 47.12% of the elements.

Perceived Benefits of UDL Elements. Table 2 (right panel) provides the rankings for faculty responses regarding usefulness. What faculty consider to be particularly useful for student learning is to connect course content to real-world experiences (rank = 1), provide clear guidance for assignments, offer interesting assignments, provide students with the opportunity to monitor their progress, communicating with students, and answering student questions outside of class. A field trip (rank = 35), letting students decide the topics of the course, offering flexible deadlines, and allowing students to re-submit assignments are perceived to be far less beneficial. We see that communication is viewed as more important for student success and student agency is viewed as less important in this process.

When collapsing data across the items which illustrated the principle of representation, 47.96% felt these items were useful "a lot". For engagement, it was 58.13%, and for expression, faculty responded "a lot" for 57.14% of the elements. Figure 2 illustrates faculty-reported use and perceptions of usefulness for each of these principles. We can see that faculty reported using representation the least (left panel, bottom of the first bar) but had a more distributed belief about its usefulness (right panel).

Content Analysis. In order to further probe the rationale of faculty for using (or not using) UDL in their courses, we analyzed their answers thematically to that open-ended question ("Please share with the researchers the reason(s) you have made the decision to implement (or not implement) UDL principles in your GNED courses. For example, your motivation could be from your own experience with challenges in learning, due to increased awareness of best practices from training or resources available on campus, etc."). The data reported are the number of distinct faculty who expressed a given theme in their response (i.e., we did not count a theme twice if the same person included it twice in their response). Our rationale is that we are interested in knowing for what proportion of faculty this theme was relevant, as opposed to how strongly relevant it is (especially since that type of information was provided in the Likert-type items reported above). Although we asked faculty to report their use of UDL (i.e., from the faculty's point of view), it was interesting to see that 26.67% of respondents also included the student's perspective in a portion of their explanation. For example, "…no matter what we tell students, many of them still regard GNED [a general education course] as a burden." This could be interpreted to show that faculty care about the student experience a

Has the Pandemic Affected *continued*

Figure 2. Comparison of reported use and perceived usefulness by faculty, grouped by the UDL principles.

Summary Facuty Ratings (used in classes)

Summary Faculty Ratings (perceived usefulness)
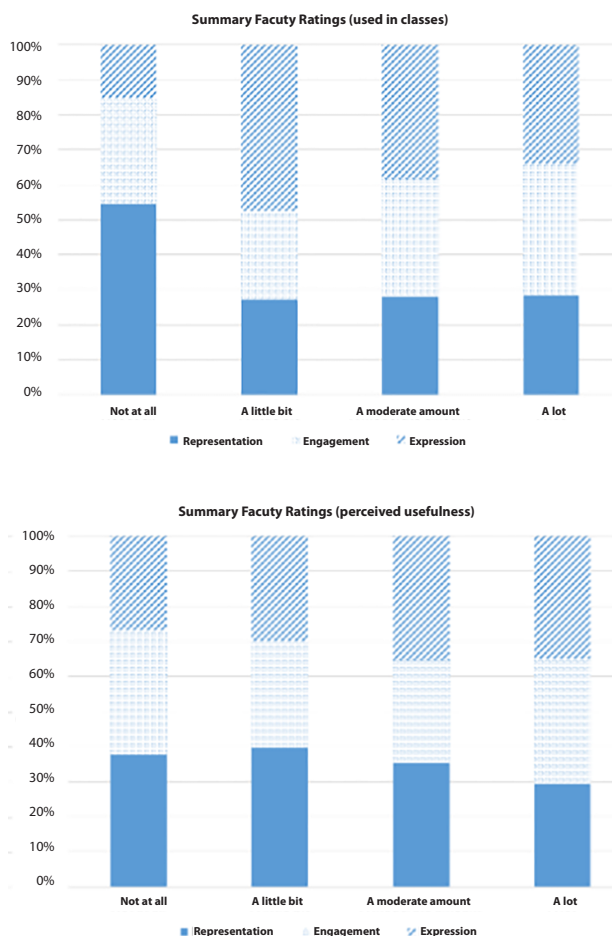
great deal and try to put themselves in students' shoes when designing curriculum.

We received 15 responses, which totalled 854 words (with an average response of 56.93 words per participant). Two responses were coded by two coders to establish inter-rater reliability. This represented 13.33% of total responses, which exceeds the recommended minimum of 10% (Riffe et al., 1998). The overall percent agreement was 100%, so we proceeded with our thematic assessment.

In the responses, no faculty reported not using any UDL at all. However, a few reported themes related to not having courses that employed all of the UDL principles

for three main reasons: (1) some UDL approaches were not relevant for their content or did not align with their desire to prepare students for the real world (26.67%), (2) they had not yet had enough time to create some of the UDL approaches they wanted to add to their courses (6.67%), or they acknowledged that UDL could be difficult to implement (20.00%).

Three primary themes were discovered during the analysis: best practices, student success, and faculty perceptions. Within each of these themes, several related themes were identified that contributed to, or resulted from, these major themes. For example, it appears that faculty are aware that UDL is a best practice in pedagogy, and this awareness comes from their own experience, feedback from students, and professional development. As it relates to student success, faculty report that being inclusive in the classroom and allowing students to plan their time contribute to student success, which is beneficial for students. Finally, faculty acknowledge their perceived limitations of UDL (not always relevant or appropriate and can be challenging to implement) while also advocating for its benefits and wanting to use more (when time permits).

A summary is provided in the table below (Table 3), followed by a graphic representation (Figure 3) of the proposed relationships between the themes extracted from the data.

Comparing Faculty Use and Usefulness. To examine how consistent the reported use and usefulness of UDL elements by faculty were, we performed a Spearman Rho correlation on the ranked data. This analysis showed that the perceived use and usefulness of UDL elements were strongly positively correlated ($r_s = 0.86$, $p < 001$). In other words, the elements which faculty used in their courses tended to be the ones they perceived as most beneficial to student learning. Perhaps not surprisingly, many of the elements that teachers perceived as most valuable to student learning were also the elements teachers reported including in their courses. Two exceptions stand out in these pairwise rankings. First, faculty don't report a high ranking for the use of providing students with clear guidelines on major assignments (rank = 14.5) but they do see it as highly valuable for student learning (rank = 1.5). This appears somewhat contradictory, but could reflect that faculty are aware of their shortcomings and
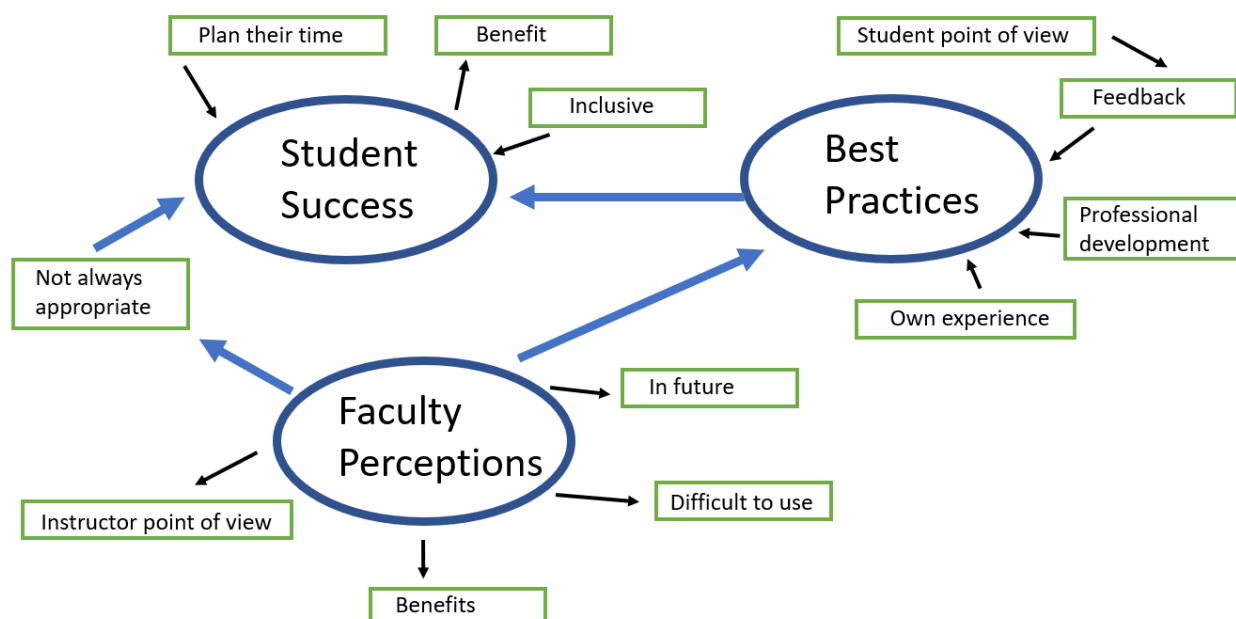
Has the Pandemic Affected *continued*

Table 3.

Summary of themes/sub-themes and examples from the data. Percentages refer to the proportion of faculty whose responses included that theme.

Theme/sub-theme	%	Example
Best practice	53.55	"The principles do inform best practices in my teaching."
Student success	46.67	"Increase the likelihood of student success."
Professional development	33.33	"My awareness ...originated from professional development through the CAFE [Centre for Academic and Faculty Enrichment]."
Personal or professional experience	33.33	"I have additional motivation as someone who faced significant hurdles in the education system due to disability."
Inclusive	26.67	"Now my online courses are set up so that no further accommodations are needed."
Not always relevant	26.67	"...allowing them to choose the due dates and skills that best suit them."
Student feedback	20.00	"My students tip me off to their needs and that helps me learn, too."
Student time management	20.00	"With these adjustments, students can plan their semester out and choose which of my assignments to complete and when."
Better learning environment for students	20.00	"Permits me as professor be to creative and creates better learning environment."
Can be difficult to implement	20.00	"But time or my technological limitations are sometimes an issue."
Benefits faculty	6.67	"Win [students]-win [faculty]."
More planned for the future	6.67	"Some of the UDL points I intend to include when time permits. "

Figure 3. Proposed relationship of themes in faculty participants' responses pre-pandemic, as analyzed by content analysis.

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where they would like to improve their teaching practice. Second, faculty reported high use of posting digital handouts on the LMS (rank = 6), but they did not perceive this to be particularly valuable to students (rank = 17). Explaining this difference is perhaps to due faculty following an institutional policy requiring that material be posted on the LMS, rather than engaging in this behaviour with the goal of supporting student success.

Comparing Student and Faculty Responses before COVID

To examine the agreement across students and faculty perceptions on the use and usefulness of UDL elements, we performed Spearman Rho correlations on the ranked data between groups. These analyses showed that the perceived use (rs = 0.81, p < 001) and usefulness (rs = 0.64, p < 001) between students and faculty were significantly positively correlated. These analyses show consistent perceptions from both students and faculty with both reporting the same elements are used in courses, and, to a slightly lesser extent, agree on which elements are beneficial for student learning.

Overall, there is a great deal of consistency across responses. However, examining the difference in scores between the rankings highlighted a few differences which stood out. First, with respect to the perceived use, the differences in ranks were much smaller than they were with usefulness, so students and faculty mostly agree with what is present in the classroom; but there is more disagreement between the groups in terms of which are most beneficial to learning. Specifically, faculty perceived that they communicated more with students than students perceived them to (faculty rank 3.5 vs. student rank 13) and faculty thought they offered more interesting assignments than students thought they did (ranked 6 vs. 15.5). In terms of usefulness, students perceived having the opportunity to practice course content as much more important than faculty did (ranked 1 vs. 24). Similarly, faculty considered interesting assignments to be far more important for learning than did students (ranked 3 vs. 15).

Furthermore, faculty report using (and consequently students report experiencing) a good representation of all three principles of UDL, rather than primarily relying

Table 4.

Summary and comparison of reported use and perceived usefulness by students and faculty grouped by the UDL principles. Numbers indicate percent of respondents.

		Students				
		Not at all	A little bit	Moderate	A lot	Unsure
USE	Representation	20.04	7.64	11.18	47.82	13.32
	Engagement	14.10	10.27	16.60	51.31	7.72
	Expression	15.08	3.97	16.27	58.33	6.35
USEFULNESS	Representation	10.51	8.25	11.70	67.55	1.99
	Engagement	8.46	7.18	15.84	66.68	1.84
	Expression	4.91	9.82	19.20	62.95	3.13
		Faculty				
		Not at all	A little bit	Moderate	A lot	Unsure
USE	Representation	26.85	11.16	18.31	38.89	4.78
	Engagement	14.86	10.37	21.67	51.84	1.26
	Expression	7.52	19.59	24.98	47.12	0.79
USEFULNESS	Representation	5.88	17.71	25.20	47.96	3.24
	Engagement	5.58	13.69	20.87	58.13	1.73
	Expression	4.20	13.45	25.21	57.14	0.00

Has the Pandemic Affected *continued*

on one area (Table 4, top panel). Both faculty and students also perceived elements from all three principles to benefit their learning (Table 4, bottom panel). From the content analysis, it also appears that faculty are well aware that their choice to implement UDL elements into their courses is essential to student learning and has a direct impact on student success. This awareness and the agreements among faculty and student reports are encouraging from both a student-success perspective and a pedagogical one.

Study 2: During the Pandemic

Approximately one year after our data collection for Study 1, the COVID-19 pandemic was declared. So, we wondered whether being forced online would affect teachers' and students' perceptions of the use and benefits of UDL. We undertook additional data collection to investigate this question. We used the same recruitment methods as Study 1 and from the same student population. At the time of recruitment, the pandemic had been going on for at least 7 months, so both students and faculty had some time to adjust to their courses now being online, and we were past the initial pivot and uncertainty of the winter 2020 semester when the pandemic was originally declared. Almost all of the courses at the institution continued to be delivered online when we collected the data for Study 2, but it is possible that some of the courses that student respondents were enrolled in (e.g., in healthcare programs) could have been offered in hybrid or in-person formats (though we did not collect this information explicitly). However, students were recruited from and asked to respond to the survey specifically about their general education courses, all of which continued to be delivered online.

Methods

Participants

Student and faculty respondents were recruited in the 2020-2021 academic year, where the majority of the courses were still online, and all of the general education courses (the sample from which we collected our data) were being taught entirely online. We collected responses from 9 faculty and 24 students. Again, no demographic information was collected from faculty, but the student sample was similar to the characteristics described in Study 1. Specifically, the student sample was 66.67%

female, mostly aged 19 (37.50%) or over 26 (29.17%), and two-thirds were not registered to receive an accommodation through the college. Students were from a number of schools across campus: 20.83% from the School of Justice and Emergency Services, 16.67% from the School of Health and Community Services, 16.67% from the School of Education Technology, 12.5% from the School of Business and IT Management, 12.5% from the School of Interdisciplinary Studies, 12.5% from the School of Media, Art, and Design, and finally, 8.33% form the School of Skilled Trades.

Materials and Procedure

Full-time and contract faculty were recruited via email mid-semester and invited to share their use of, and opinions about, UDL in the same anonymous online survey used in Study 1 (Appendix A). The 35-item survey first asked participants to rate the items on how frequently they use them in their course design and then to respond to those same 35 items to indicate how useful they perceived each element to be for student learning. Both of these used the same 5-point Likert scale as in Study 1.

Student participants were recruited from their general education courses by their professor posting an announcement. Students answered the same questionnaire as faculty, with the phrasing only slightly changed to reflect the student perspective (i.e., if they had experienced the item and perceived it was beneficial for their learning, even if they had not experienced that UDL element).

Results and Discussion

Student Responses

UDL Elements Experienced in Classes. Examining the ranked student data (Table 5, left panel) we will focus our discussion on the top and bottom items in the list. Students reported frequently being able to monitor their progress in the course (rank = 1), receiving rubrics for assignments, being given some autonomy and/or control in their learning, being provided with clear and specific feedback on assignments, having access to digital handouts on the LMS, connecting the course content to real life, and faculty motivating them to do their best work in their classes. These items in particular seem to point to the perception of a more supportive role by

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faculty and indicate a greater focus on digital access, which is in line with the pivot to remote delivery which occurred during this period of time. Field trips and being allowed to resubmit assignments were very infrequently experienced by students (both of which were tied for the bottom rank), as were being offered a choice of how they want to receive feedback on assignments, peer-evaluation, and the use of flexible deadlines.

Table 5

Student self-reported experience (left panel) and perceived usefulness (right panel) f UDL elements in classes during the pandemic. Note: The numbers indicate the item's rank based on weighted means and the table has been sorted based on the rank in the "use" column for easier comparison.

	Use	Usefulness
Provide opportunities for students to monitor progress (e.g., grades posted on the LMS)	1	5
Allow for some autonomy and/or control in student learning (e.g., options for assignments (topic or format); or choices on tests (choose 1 of 2 essay questions; or pick 5 of the following terms to define)	2.5	17
Provide rubrics for major assignments	2.5	2
Connect course content to real world experiences	5	8.5
Provide clear and specific feedback on assignments	5	6.5
Motivate students to do their best work	5	8.5
Post handouts on the LMS (or make them available digitally)	8	13.5
Provide clear guidelines for major assignments (e.g., example/sample assignment)	8	1
Answer questions about course content or assignments outside of class (e.g., discussion board, email)	8	13.5
Offer interesting and relevant major assignments	10	3
Present the same course content in multiple ways (graphics, video, text, graphic organizers/concept maps, etc.)	12	10.5

	Use	Usefulness
Communicate with students (in class, outside of class, via message board or email)	12	10.5
Make PowerPoint slides available to students	12	6.5
Minimize threats and distractions in the learning environment	14	20
Highlight patterns and relationships in the course content	15	13.5
Provide opportunities for self-assessment/self-evaluation and reflection	16.5	25
Use gender-neutral language and inclusive examples (race/culture, etc.)	16.5	21.5
Guide goal-setting and the development of student learning strategies	18	18
Include group work and collaboration with other students (e.g., discussions)	19	32
Provide sufficient (or unlimited) time for tests	20	13.5
Guide you using increasingly difficult activities or assignments	21	21.5
Make available a glossary of terms (on the LMS, in the textbook, or other)	22	16
Offer an electronic version of the textbook	23	26.5
Capture class lectures and made them available to stream after class (video or podcast)	24	4
Include subtitles on videos (closed captioned)	25	31
Offer alternatives for auditory info (e.g., transcripts of videos) and visual info (e.g., description of images)	26.5	19
Offer ungraded or optional assignments to practice the course content	26.5	30
Use hands-on activities in class	28	28.5
Upload files can be read using text-to-speech software (e.g., Word documents PDFs)	29	26.5
Let students decide which topics are covered in the course	30	33
Flexible due dates on major assignments (e.g., allowed to turn it in late)	31	23.5
Include peer-evaluation as part of the coursework	32	34

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Offer a choice of how students want to receive feedback on assignments (e.g., verbal or written feedback)	33	28.5
Include a field trip	34.5	35
Allow students to re-submit assignments	34.5	23.5

Perceived Benefits of UDL Elements. The student usefulness ranks for all items are in Table 5 (right panel). Students perceived the following items as being particularly useful to their learning: being provided clear guidelines for assignments (rank = 1), receiving rubrics for assignments, being offered interesting and relevant assignments, capturing lectures and making them available after class, and being able to monitor their progress on the LMS. These items centre around assessments and digital access, which is not surprising given the shift that had occurred. Of least perceived value were field trips (rank = 35), peer-evaluation, letting students decide which topics are covered in the course, group work, and closed captioning videos. Overall, students reported that all three principles of UDL contributed to their learning, with 61.16% of students responding "a lot" for the group of items that fall under the principle of representation, 58% for engagement, and 61.04% for expression.

Comparing Student Use and Usefulness. To examine how consistently students perceived the use and usefulness of UDL elements, we performed a Spearman Rho correlation on the ranked data. This analysis showed that their perceived use and usefulness of UDL elements were strongly positively correlated (r_s = 0.78, p < 001). That is, students reported experiencing to a high degree the same elements that they perceived as beneficial for their learning. There were two instances where a great discrepancy existed between students' reported experience of an item and its perceived usefulness. In the case of capturing lecture for later viewing, students did not report this being available to them very much (rank = 24) but expressed that it was quite valuable for their learning (rank = 4). This might reflect a period of time when faculty (and institutions more generally) were still adapting to online technology and learning how to use them. Conversely, students reported being given a lot of autonomy and control in their learning (rank = 2.5), but did not perceive this as particularly useful (rank = 17).

Faculty Responses

UDL Elements Used in Classes. The ranking data for faculty use of UDL elements are in Table 6 (left panel). The top elements that faculty reported using during the pandemic were: providing rubrics, posting electronic handouts on the LMS, offering interesting and relevant assignments, providing sufficient time for tests, and providing students the opportunity to monitor their progress (all five were tied with the highest rank). Faculty rarely offered a choice of how students preferred to receive their feedback (rank = 35), field trips, allowing students to re-submit assignments, or letting them decide the topics covered in the course. It appears that faculty focus on supporting student learning by providing information and transparency in their teaching choices rather than sharing that agency with students.

Table 6.

Faculty's self-reported use (left panel) and perceived usefulness (right panel) of UDL elements in classes during the pandemic. Note: The numbers indicate the item's rank based on weighted means and the table has been sorted based on the rank in the "use" column for easier comparison.

	Use	Usefulness
Post handouts on the LMS (or make them available digitally)	3	6
Offer interesting and relevant major assignments	3	9
Provide sufficient (or unlimited) time for tests	3	19.5
Provide rubrics for major assignments	3	1.5
Provide opportunities for students to monitor progress (e.g., grades posted on the LMS)	3	22.5
Connect course content to real world experiences	7	6
Communicate with students (in class, outside of class, via message board or email)	7	3
Make PowerPoint slides available to students	7	6
Include subtitles on videos (closed captioned)	10	12

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Item		
Answer questions about course content or assignments outside of class (e.g., discussion board, email)	10	6
Motivate students to do their best work	10	19.5
Minimize threats and distractions in the learning environment	12	12
Present the same course content in multiple ways (graphics, video, text, graphic organizers/concept maps, etc.)	14	6
Provide clear guidelines for major assignments (e.g., example/sample assignment)	14	1.5
Provide clear and specific feedback on assignments	14	12
Upload files can be read using text-to-speech software (e.g., Word documents PDFs)	16.5	19.5
Guide you using increasingly difficult activities or assignments	16.5	12
Highlight patterns and relationships in the course content	19	16.5
Allow for some autonomy and/or control in student learning (e.g., options for assignments (topic or format); or choices on tests (choose 1 of 2 essay questions; or pick 5 of the following terms to define)	19	24.5
Include group work and collaboration with other students (e.g., discussions)	19	22.5
Offer ungraded or optional assignments to practice the course content	21	24.5
Use gender-neutral language and inclusive examples (race/culture, etc.)	22	29.5
Provide opportunities for self-assessment/self-evaluation and reflection	23	26.5
Use hands-on activities in class	24	19.5
Offer an electronic version of the textbook	25.5	15
Capture class lectures and made them available to stream after class (video or podcast)	25.5	16.5
Flexible due dates on major assignments (e.g., allowed to turn it in late)	27	32
Guide goal-setting and the development of student learning strategies	28	12
Offer alternatives for auditory info (e.g., transcripts of videos) and visual info (e.g., description of images)	29	26.5
Make available a glossary of terms (on the LMS, in the textbook, or other)	30.5	29.5
Include peer-evaluation as part of the coursework	30.5	33
Let students decide which topics are covered in the course	32	29.5
Allow students to re-submit assignments	33	29.5
Include a field trip	34	34.5
Offer a choice of how students want to receive feedback on assignments (e.g., verbal or written feedback)	35	34.5

Perceived Benefits of UDL Elements. The data are in Table 6 (right panel). Faculty perceived the most useful items to be providing rubrics and clear guidance on assignments (tied for the top rank), and communication with students. Of least value were offering a choice of how students would receive their feedback and including a field trip (both of which were tied for the last position), peer-evaluation, and flexible due dates for assignments. Communication and assessments appear to be driving faculty perceptions of what is valuable to student learning. Faculty reported that they believed that all three principles of UDL contributed to some extent to their students' learning, with 53.54% responding "a lot" for the group of items that fall under the principle of representation, 41.01% for engagement, and 49.21% for action and expression.

Content Analysis. In order to explore whether the reasons reported by faculty for using (or not using) UDL might have changed as a result of COVID, we again examined the themes in the comments they left using a content analysis. The open-ended question they responded to at the end of the survey was "Please share with the researchers the reason(s) you have made the decision to implement (or not implement) UDL principles in your GNED courses. For example, your motivation could be from your own experience with challenges in learning, due to increased awareness of best practices from training or resources available on campus, etc." We report the percentage of different faculty members who included that particular theme in their response, so even if they mentioned it more than

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once, that is not reflected in these data. This is to see how many faculty find the theme relevant and not the extent to which they find it important.

We received 9 responses, totalling 435 words (with an average response of 48.33 words per participant). Two raters rated one randomly-selected response (11.11% of total responses), and the overall percent agreement was 86% which is well above the recommendation of 70-80% (Frey et al., 2000; Watt & van den Burg, 1995). Additionally, the Cohen's Kappa ($k = .70$) *confirmed adequate inter-rater reliability agreement to proceed (Cohen, 1960; Landis & Koch, 1977; McHugh, 2012).*

None of the faculty members reported not using any UDL at all, and even the one respondent who was very critical of the UDL approach reported using some elements of UDL in their classes. The faculty respondent who critiqued UDL as an approach felt that it reduced students' responsibility and did not mirror the eventual realities of the working world (n = 1; 11.11%).

The same three themes were present as with the pre-pandemic data—best practices, student success, and

faculty perceptions—but there was much less depth and richness or responses within each of these themes. For example, faculty are aware that using UDL is a best practice, but none mentioned student feedback as a reason they used it as they did in Study 1; instead, their motivation and knowledge of it being a best practice came from their own experience and professional development. Regarding student success, faculty primarily reported that students benefitted from planning their time and focusing on their strengths. Finally, faculty acknowledge that, although it may not always be appropriate to use, it can benefit faculty in addition to students. A summary of these themes is in Table 7, and an image of the relationships between themes is in Figure 4.

Comparing Faculty Use and Usefulness. To examine whether faculty showed a consistent perception of the use and usefulness of UDL elements, we performed a Spearman Rho correlation on the ranked data. This analysis showed that their perceptions were strongly positively correlated ($r_s = 0.78$, $p < 001$). Faculty reported using elements that they perceived to be beneficial for student learning. However, the difference scores between the rankings showed three obvious deviations from this

Table 7.

Summary of themes/sub-themes and examples from the COVID data. Percentages refer to the proportion of faculty whose responses included that theme.

Theme/sub-theme	%	Example
Best practice	33.33	"While some UDL practices are actually good teaching practices…"
Student success	33.33	"increase their skills and build their confidence"
Student choice/flexibility	33.33	"…to allow students to use their strengths…providing them choice can help do that"
Personal or professional experience	33.33	"…comes from my own experience"
Better learning environment for students	33.33	"student engagement and enjoyment improve after implementing some UDL principles"
Benefits faculty	22.22	"Using UDL makes my life easier"
Professional development	22.22	"…in training available through DC [Durham College] and Fleming [college]"
Not always relevant	11.11	"…it is not good for student success in the real world"

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Figure 4.

Proposed relationship among themes and codes in faculty participants' responses during the pandemic (as analyzed by content analysis).
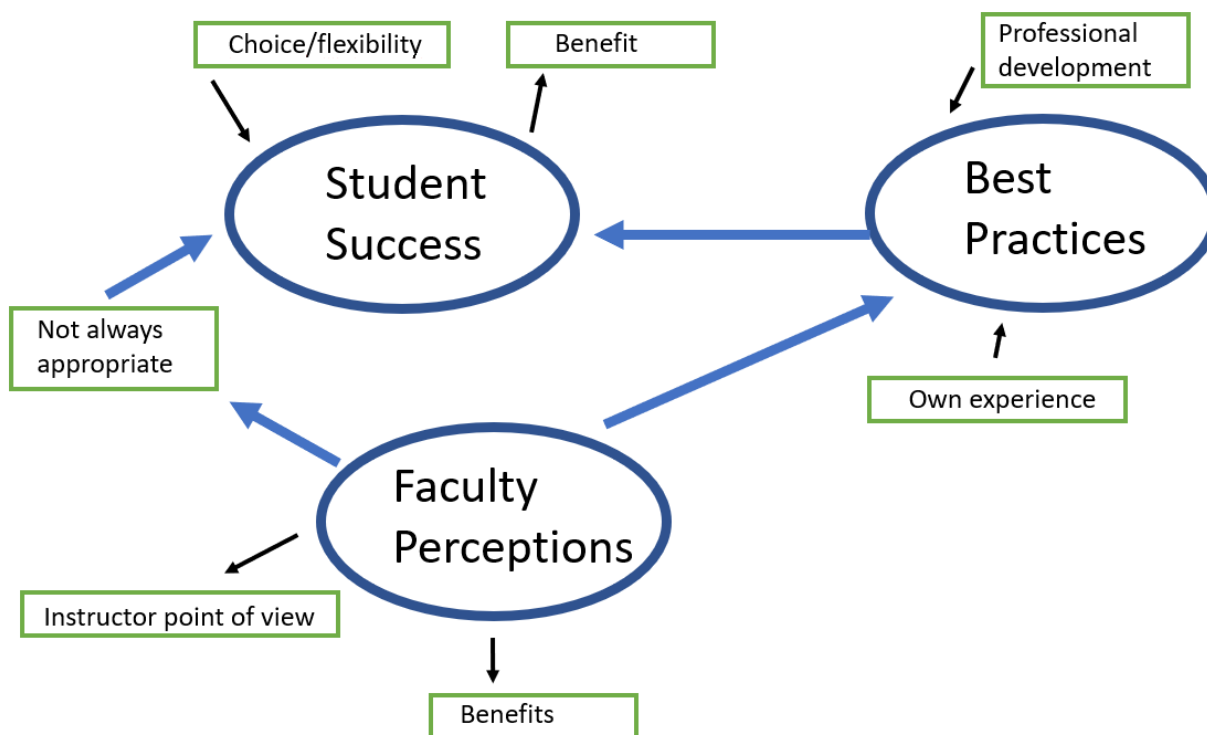
pattern. First, faculty perceived clear guidelines for major assignments as very important for students to learn (rank = 1.5) but reported not providing these opportunities as much (rank = 14). Second, faculty reported providing students with many opportunities to monitor their progress on the LMS (rank 3) but did not rate it as particularly valuable (rank = 19.5). Third, faculty reported providing sufficient time for tests (rank = 3), but did not see it as particularly important for student success (rank = 19.5).

Comparing Student and Faculty Responses during COVID.

To examine the agreement across students and faculty perceptions on the use and usefulness of UDL elements during COVID, we performed Spearman Rho correlations on the ranked data. These analyses showed that the perceived use ($r_s = 0.78$, $p < 001$) and usefulness ($r_s = 0.67$, $p < 001$) across students and faculty groups were significantly positively correlated. Both students and faculty agree on which elements are present in

their courses, and which ones are beneficial to student learning. Again, focussing our attention on the perceived differences between the groups, especially at the upper and lower ends of the ranks, we see that there is a great deal of consistency between students' and faculty's perceived use of UDL elements. This likely reflects the accuracy of the collected data in that it is an accurate representation of reality since both groups agree in their reported frequency of these elements.

Students reported experiencing far more autonomy and/or control in their learning than faculty reported providing them with (student rank 2.5 vs. faculty rank 19). Faculty also typically perceived that they provided sufficient time for tests, but students did not (ranked 3 vs. 20). Similarly, students reported encountering closed captioned videos much more often than faculty reported providing them (though this discrepancy could be explained by students turning on their own captioning on YouTube for example).

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In terms of perceptions of usefulness, there was also a difference between student and faculty perceptions about closed captioning videos in that faculty found it more valuable for student learning than did students (ranked 12 vs. 31). Also, students ranked being able to monitor their progress on the LMS as far more useful for their learning than did faculty (ranked 5 vs. 22.5), though this could be a question misunderstood by students who equated their learning as directly related to their grades rather than grades being an estimation of their learning.

Students and faculty also both reported experiencing similar amounts of items that fall under the principle of representation, engagement, and action and expression, along with similar perceived value. A summary of the frequency of these responses is in Table 8

Comparing Pre-COVID responses with responses during COVID

We were particularly interested in examining whether student and faculty perceptions of use and usefulness were consistent or different during the pandemic compared to prior to it. To this end, we conducted Spearman correlations on the ranks. Specifically, we looked at whether students' experience of UDL elements or their perceived usefulness changed, as well as whether there were any changes in faculty perceptions of their use or perceived usefulness of these elements. The correlations showed that all of these pairwise comparisons were significantly positively correlated indicating that the overall picture appears to be consistent pre-COVID and during the pandemic. Specifically, there were strong positive correlations in students' perceived use ($r_s = 0.85$, $p < 001$), and usefulness ($r_s = 0.71$, $p < 001$) as well as faculty's use ($r_s = 0.80$, $p < 001$) and usefulness ($r_s = 0.71$, $p < 001$) before the pandemic and during the pandemic. This is in line with the more qualitative findings we reported earlier, with many of the elements consistently appearing at a similar rank across conditions. These results seem to indicate that faculty continued to offer UDL elements in their courses even with the shift to online, that students continued to perceived the existence

Table 8.

Comparing student and faculty use and usefulness during COVID. Numbers indicate % of respondents.

		Students				
		Not at all	**A little bit**	**Moderate**	**A lot**	**Unsure**
USE	Representation	14.82	6.82	19.81	44.80	13.75
	Engagement	10.05	8.13	20.65	49.89	11.27
	Expression	6.55	13.69	26.19	45.24	8.33
USEFULNESS	Representation	7.02	7.85	20.66	61.16	3.31
	Engagement	8.82	13.10	18.74	58.00	1.34
	Expression	2.60	10.39	25.32	61.04	0.65
		Faculty				
		Not at all	**A little bit**	**Moderate**	**A lot**	**Unsure**
USE	Representation	14.27	14.39	12.37	54.67	4.29
	Engagement	11.11	15.77	17.73	53.43	1.96
	Expression	1.59	22.22	14.29	61.90	0.00
USEFULNESS	Representation	7.07	8.08	26.26	53.54	5.05
	Engagement	5.23	15.69	32.84	41.01	5.23
	Expression	9.52	14.29	26.98	49.21	0.00

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of these elements, and that both faculty and students' perceived usefulness of the UDL elements remained consistent. In many ways, this is encouraging. It could have negatively affected student success if faculty had decided, in their pivot to online, to strip their courses and teaching practices of these UDL components. Neither student or faculty reports seem to indicate that this occurred, further supporting the content analysis results and highlighting the focus that faculty continue to have on student learning and student success.

Although the correlations were strong, indicating general overall agreement across conditions, a visual inspection of the rankings across conditions identified a few interesting changes which stood out and may have been a direct result of the adaptation to the pandemic. Comparing student use data pre-pandemic and during the pandemic, students during the pandemic identified being assigned less group work and less likely to have sufficient time for tests which likely reflects a shift to online where group work is more challenging (or at least occurs less organically), and the challenges of a new way of taking tests. Additionally, students reported experiencing more encouragement or motivation from faculty, which was not prominent in the pre-pandemic data, and may reflect faculty's increased awareness of the struggles that everyone, including students, were facing during the pandemic and the pivot to remote delivery.

In the usefulness data, students perceived having opportunities for practicing course content as the single most useful factor to their learning pre-pandemic but this dropped to the rank of 30 during the pandemic, possibly reflecting the difficulty of translating hands-on learning to the online environment1, and perhaps students noticed that they were learning nonetheless, thus seriously altering their perceptions overall. Additionally, student data during the pandemic identified capturing lectures and making them available after class as well as providing interesting assignments as far more important than they had been in the pre-pandemic data. This increase in importance during the pandemic makes sense as interesting assignments likely increased student motivation which might have been harder to maintain in the online environment. Also, pre-pandemic students

were far less likely to be exposed to lecture recordings since it is much more complicated to record in-person classes than it is to record an online class, so a change in the perceived value of this also makes intuitive sense. Or at least this appears to be the reality at our institution, as we are not aware of any faculty who were recording their synchronous lectures prior to the pandemic. It might also be the case that students were increasingly trying to juggle the additional (non-academic) burdens placed on them (e.g., childcare for their children or siblings) due to the pandemic and consequently could better appreciate the flexibility that a recorded lecture provided.

Looking at the faculty data, they reported more use of videos with closed captioning, providing enough time for tests, and uploading accessible files compared to their pre-pandemic practices. Their perception of usefulness also changed for some items. Most notably, providing an eBook was perceived as more useful to student learning during the pandemic, as was providing digital handouts. It is likely that both of these increased in perceived usefulness because paper copies of either of these were no longer practical. Finally, faculty perceived that students being able to monitor their progress was less useful during the pandemic than it had been pre-pandemic.

General Discussion

The purpose of these studies was to examine students' and faculty's perceptions of UDL elements in the classroom, both pre-COVID and during the COVID-19 pandemic. In doing so, we found surprising consistency in these perceptions. With a few exceptions, discussed below, student and faculty perceptions of UDL were not greatly impacted by the pandemic. The detailed data provide insight into the frequency that many UDL elements are occurring in college classrooms as well as the perceived value that both students and faculty place on these elements. Even though perceptions may not be an objective measure of behaviors, perceptions do form people's realities, making them valuable, especially for a topic such as this one.

While correlations were consistently high for both groups in terms of use and usefulness, it is worth

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[1] Note: All of the elective courses where students surveyed during the pandemic (Study 2) were fully online, but it is possible that some students were enrolled in certain courses which maintained an on-campus presence due to the nature of their program (e.g., health care programs). Survey instructions asked students to respond only about their general education courses, which would have all been online.

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discussing where the most divergence occurred and the possible reasons for these differences. The weakest correlations occurred in the usefulness data, comparing students' and faculty's perceptions. Before COVID, the weaker correlation shows that students and faculty agree less about which UDL elements are present in the classroom, for example. Specifically, faculty believed interesting assignments were more useful than students did, and students perceived having opportunities to practice course content as more beneficial than faculty did. This tells us that pre-pandemic, students and faculty experienced some disagreement on the elements that were most beneficial to learning.

During COVID, the correlation between students' and faculty's perceived usefulness was also weaker (though quite similar to the same comparison in the pre-COVID Study 1). However, during COVID, faculty perceived closed captioning as more useful than students did, and students reported that monitoring their grades on the LMS was more useful than faculty did. Clearly, the items upon which the two groups diverged in terms of usefulness changed from pre-pandemic to during COVID, which could indicate either an increased awareness of or more frequent use of digital technology than before the pandemic. Students clearly gained an appreciation for monitoring grades on the LMS while immersed in online learning during the pandemic and faculty also gained a greater appreciation for the benefits of using closed captioning during this time. Perhaps faculty's perceived usefulness of closed captioning increased due to professional development related to online learning (which often recommend closed-captioning as an easy way to integrate UDL principles and accommodation practices) or gained an appreciation of the benefits of closed captioning by experiencing this in various ways themselves (e.g., live captioning button during video meetings). Previously, Kennette and Wilson (2019) reported that faculty tended to focus their UDL efforts on including those elements which they perceived as most useful rather than elements that they did not perceive to be particularly useful for student learning such as field trips, and capturing lectures to view later. The present study does appear to mirror these results in that there were significant positive correlations between use and usefulness.

One major shift during the COVID pandemic was the number of people who responded to the survey with reductions of at least 30% despite sharing our survey invitation with approximately the same number of people (both faculty and students). Specifically, faculty responses went from 15 to 9, and student numbers reduced from 36 to 24. This could point to potentially lower engagement. The response rate has previously been reported as an indication of engagement (de la Rocha, 2015), so extending it to this context, having fewer respondents could indicate less engagement. For example, one of the often-cited issues with virtual learning is survey fatigue (Porter et al., 2004). This mirrors the response patterns for the faculty content analysis as well, with fewer words per response resulting in a less detailed outcome. Although most faculty had a favorable view of UDL, one respondent during COVID had a very negative view, proposing that providing elements that are aligned with UDL principles promotes student laziness and reduces accountability and therefore gives students an unrealistic expectation for the future as the real world does not accommodate as readily (though they did acknowledge that some aspects of UDL reflect good pedagogy such as closed captioning videos). This aggressive view of UDL was not present in the pre-COVID data.

Overall, when comparing pre-pandemic data to the data collected mid-pandemic, strong correlations were discovered in perceptions of use and usefulness of UDL for both faculty and students. This demonstrates that there was a great deal of consistency reported by these groups, perhaps more than expected, given the jarring shift from learning experiences taking place mostly in class to a learning environment that was entirely online. These results confirm that many faculty were able to adapt their courses into online formats without sacrificing important UDL elements in the process. Given the drastic change of context, it should also be noted that students were still able to identify the use of UDL elements and report their usefulness in the online environment. This may suggest several things. First, it is worth noting that digital literacy has played an important role in education during the last several years. Had this pandemic occurred at an earlier time technologically, perhaps students and faculty would not have been as easily able to convert their classrooms from in-person to online. Most institutions were already using an LMS, and our results perhaps speak to their existing

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usefulness and functionality. Next, the consistently high correlations across the two studies reflect the durability of Universal Design for Learning and the scholarship that supports it. Clearly, UDL principles of multiple means of engagement, representation, and action & expression are enduring characteristics that can survive a radical change of context (at least at our institution). Relatedly, it is clear the faculty surveyed were familiar with UDL, which perhaps speaks to the availability of PD encouraging its use and therefore prioritized its continued presence when shifting online. Finally, some of faculty's familiarity with UDL principles might stem, at least in part, from the fact that Ontario is one of the few provinces with legislation related to accessibility (Accessibility for Ontarians with Disabilities Act (AODA), 2005), requiring those working in the education sector to complete mandatory training on this topic.

In terms of trends, it seems that the pandemic increased the perceived value of technology for both students and faculty, specifically with faculty perceiving electronic textbooks and online handouts as beneficial and students valuing recorded lectures. Additionally, it likely resulted in students seeing greater value in having the flexibility of how and when they received the course content (e.g., recorded lectures) and how they demonstrated their learning, specifically with being assigned interesting assignments. Students and faculty alike could have benefitted from added flexibility in their schedules during the pandemic, which recorded lectures provided, so this appears self-explanatory. Perhaps the relevant assignments are perceived as much more beneficial because they have been shown to increase motivation (Frymier & Shulman, 1995; Pink, 2011), something which students may have been lacking during the pandemic (Boardman et al., 2021). One way that faculty can create more engaging and relevant assignments is by including more "non-disposable" (also called "renewable") assignments that are authentic instead of the traditional term papers or tests (Seraphin et al., 2018). Indeed, there has been a lot of literature supporting the tangible benefits that these types of assignments have for student learning for various reasons, including motivational aspects (Chalofsky & Krishna, 2009; Chen, 2018; Farzan & Kraut, 2013).

Future Directions

In addition to examining these patterns with more extensive and more varied samples (different types of institutions, different countries, etc.), a number of other investigations would be beneficial to understanding the patterns reported here. For example, there may be differences between the perceived usefulness of UDL elements from instructors who are designing their courses with UDL in mind versus those who are creating courses that include UDL elements accidentally (or unintentionally). Presumably, the intention behind these elements could be perceived by students not only with the availability of the UDL elements themselves, but also with the climate of the class or other interactions with the teacher. It may be possible that faculty at this Ontario college were particularly aware of UDL and were consciously engaged in including these elements in their courses. This is because Ontario is one of the few Canadian provinces which has legislation mandating accessibility training (AODA), meaning that all faculty would have had to complete some mandatory training on how to be compliant with this legislation, so they may have been acting intentionally. Specifically, the AODA Education Standards specifically recommend that students have more access to "Accommodations in higher education, through a universal design for learning (UDL) approach" (Accessibility for Ontarians with Disabilities Act, 2021).

Because students report more of these UDL elements as valuable than faculty, perhaps it would be beneficial for faculty to consider including more of the elements that students perceive to be useful for their learning, or as many of the elements as possible (as appropriate for their courses), because even if faculty do not perceive the benefits, students may. However, it may also be important to ensure that these perceptions are based in a quantifiable reality. That is, to experimentally manipulate the elements which students perceive to be beneficial, to see if they actually are beneficial to their learning (in some meaningful way such as grades). Future directions might include investigations of whether faculty use, student preference, or perceived usefulness for UDL elements translate into more tangible benefits such as reduced stress, increased grades, etc. Based on previous work, one would expect to see measurable benefits to using UDL in the classroom. For example, Hattie (2018) found that specific instructional strategies such as teacher clarity, evaluation, and reflection affect student achievement, and these strategies, in particular, align quite well with UDL guidelines. A recent content analysis by Al-Azawei et al. (2016) also showed positive outcomes for students experiencing UDL in their courses, which would also point to a likely correlation between learning outcomes and the self-reported experience of UDL in the classroom.

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Given the unique qualities of students attending 2-year institutions such as those who participated in these studies, compared to the 4-year universities where many previous studies on UDL have taken place (e.g., Basham et al., 2020; Hills et al., 2022; Pearson, 2015; Schelly et al., 2011; Schreffler et al., 2019), these results may reflect the more practical nature of these students and faculty. Canadian colleges in Ontario are post-secondary institutions that focus on preparing students for a certain career path, like nursing, computer programming, dental hygiene, or welding, so they are more similar to American "community colleges." These learners differ from 4-year university students in that there is less focus on traditional academic scholarship and more focus on procedural or skill-based training. As such, our results offer a new angle for examining the use and usefulness of UDL in a more hands-on learning environment, and also raise important questions about the differences in the frequency of use and perceptions of usefulness between students and faculty at colleges versus 4-year universities which will require further investigation. In the same vein, our results were derived from students and faculty in General Education classes, which capture students from all departments across the college making it a representative sample. However, it may be worth considering how our results may have differed by department and thus, how UDL is perceived by students in different fields of study.

Limitations

As with all scientific inquiries, certain limitations need to be acknowledged. First, the between-subjects design was not ideal for some of the questions we posed, but it was not possible to engage in a pre-post design given the sudden and unexpected nature of the pandemic. To try to make our samples at the two timepoints comparable, we sampled the same population, but it is certainly possible that students who elected to attend online during the pandemic could be different in some important ways from the typical college student (which we recruited pre-pandemic in Study 1) and/or from those students who chose to defer entering higher education until after the pandemic was over and classes returned to in-person. We also did not ask students which year of their program they were in, and the college offers, one-, two-, and three-year credentials, so students' experience in higher education could also affect their perceptions of UDL. Future studies might wish to explore this

question. With faculty, although the faculty surveyed taught general education courses, they may not all have been equally comfortable or have equal experience with online delivery across the two timepoints which could have affected their perceptions. As such, these differences could have affected our comparisons between pre-pandemic perceptions (Study 1) and those during the pandemic (Study 2). Future research should examine the same students' and faculty's perceptions longitudinally to answer some of these questions and shed some light on these results.

Another limitation relates to the delivery format of the course. In the pre-pandemic data (Study 1), students were recruited from a mix of fully online, hybrid, and fully in-person general education courses (most of whom were in hybrid courses), while the students who provided the pandemic data were all taking fully online general education courses. Due to the small sample size, we could not examine the online students' responses separately in the pre-pandemic data (Study 1) to be able to better match the sample in terms of delivery mode to the post-pandemic sample. Similarly, the small sample size limits our interpretation and generalization of these data as a small sample's responses may not be representative of the greater population from which it was drawn, so future studies would benefit from replicating these findings with a much larger sample. Although the correlational analyses reported here are based on enough data (the ranking of the survey items) to be able to detect a relationship (Hulley et al., 2007; Lachin, 1981; May & Looney, 2020), it is important to acknowledge that more student and faculty would provide greater confidence in the rankings and thus greater overall generalizability. Finally, the survey developed by Kennette and Wilson (2019) has not been psychometrically validated and is based on an incomplete list of UDL items provided by CAST (2011) in the form of checkpoints. A more comprehensive list of UDL elements could be used to develop (and validate) a more comprehensive survey of UDL elements in the future. However, caution should be used that a comprehensive survey is not too long and consequently be impractical/time prohibitive.

Conclusions

Online learning has unique barriers, and the most frequently reported by students is typically the perception (whether accurate or not) of the lack of

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social interactions (Adnan & Anwar, 2020; Britt, 2006). Nevertheless, perceived barriers decrease as experience with online learning increases, with a considerable drop after taking just one online course (Muilenburg & Berge, 2005; Talbert, 2020). Consequently, students' pandemic experiences with online learning may benefit them in future online courses, regardless of the presence of UDL elements. Researchers and practitioners should continue to monitor the progress made with UDL in academia, with the ultimate goal of providing a completely barrier-free learning environment inclusive of all learners.

In answering one of Hutchings "what is" questions within our college, we continue the iterative tradition of Universal Design for Leaning in order to better understand its operation. Over the past several years, a bounty of "what is" questions have arisen within our individual institutions and within SoTL more generally. While many of these questions are still unanswered (for example, what *long term* impacts will the pandemic have on teaching and learning?), our results hint at a promising level of stability during an otherwise tumultuous time. Perhaps we can thank UDL for providing an anchor to faculty and students during the rough storms of the pandemic. The authors have great faith that the global SoTL community will offer powerful insights into this collective shift, illuminating novelty and innovation that will strengthen pedagogy for the post-pandemic future.

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Appendix A-
Survey Items

PART 1 -

Faculty instructions: For each item, indicate how much you use it in your General Education course(s)

Student instructions: For each item on the list, indicate how much you have experienced this in your General Education course(s). (see items below)

PART 2

Faculty instructions: For each item, indicate how useful you think these things are in helping your students learn in your General Education course(s). Please answer for each item, *even if you do not use it in any of your courses.*

Student instructions: For each item, indicate how useful you think these things would be in helping you learn in your General Education course(s). Please answer for each item, *even if you did not experience it* in any of your courses. (see items below)

ITEMS: *Note that for the parenthetical letters after each question: R refers to the principle of Representation, A refers to Action and Expression, and E to Engagement. These indicators were not included in the survey text presented to participants.*

1. Present the same course content in multiple ways (graphics, video, text, graphic organizers/concept maps, etc.) (R)
2. Offer an electronic version of the textbook (R)
3. Post handouts on DC Connect [LMS] (or make them available digitally) (R)
4. Include subtitles on videos (closed captioned) (R)
5. Upload files can be read using text-to-speech software (e.g., Word documents PDFs) (R)
6. Provide clear guidelines for major assignments (e.g., example/sample assignment) (R)
7. Include a field trip (R)
8. Capture class lectures and made them available to stream after class (video or podcast) (R)
9. Make available a glossary of terms (on DC Connect [LMS], in the textbook, or other) (R)
10. Offer alternatives for auditory info (e.g., transcripts of videos) and visual info (e.g., description of images) (R)
11. Highlight patterns and relationships in the course content (R)
12. Offer interesting and relevant major assignments (E)
13. Allow for some autonomy and/or control in student learning (e.g., options for assignments (topic or format); or choices on tests (choose 1 of 2 essay questions; or pick 5 of the following terms to define) (E)
14. Let students decide which topics are covered in the course (E)
15. Use hands-on activities in class (E)
16. Connect course content to real world experiences (E)
17. Communicate with students (in class, outside of class, via message board or email) (E)
18. Provide clear and specific feedback on assignments (E)
19. Offer a choice of how students want to receive feedback on assignments (e.g., verbal or written feedback) (E)
20. Allow students to re-submit assignments (E)
21. Include peer-evaluation as part of the coursework (E)
22. Make PowerPoint slides available to students (E)
23. Include group work and collaboration with other students (e.g., discussions) (E)
24. Provide opportunities for self-assessment/self-evaluation and reflection (E)
25. Answer questions about course content or assignments outside of class (e.g., discussion board, email) (E)
26. Use gender-neutral language and inclusive examples (race/culture, etc.) (E)
27. Minimize threats and distractions in the learning environment (E)
28. Motivate students to do their best work (E)

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29. Flexible due dates on major assignments (e.g., allowed to turn it in late) (A)
30. Offer ungraded or optional assignments to practice the course content (A)
31. Provide sufficient (or unlimited) time for tests (A)
32. Provide rubrics for major assignments (A)
33. Guide you using increasingly difficult activities or assignments (A)
34. Guide goal-setting and the development of student learning strategies (A)
35. Provide opportunities for students to monitor progress (e.g., grades posted on DC Connect [LMS]) (A)

TEACHING REPORT

Using the Past to Inform the Future: An Interdisciplinary Collaboration to Address Undergraduate Pandemic Concerns
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Abstract

Many university instructors have wrestled with how to address pandemic realities in their classrooms. This paper documents a cross-disciplinary collaboration using Katherine Anne Porter's novella, *Pale Horse, Pale Rider,* which was paired with the social ecological model (SEM), to identify the different levels of student understanding of the COVID-19 pandemic. Thematic coding of students' written responses to two assignment prompts revealed that students were concerned about the accuracy of disease portrayal, mental health, personal outcomes of disease, moving on from the pandemic, and the role of current events (e.g., news media). Findings also showed that while student responses focused on the individual, community, and society/policy levels of the SEM, there were no responses at the interpersonal level. This study suggests that instructors can employ creative approaches and use trauma-informed and culturally responsive pedagogies to help students reflect on sensitive current events.

Keywords

active learning, learner-centered discussions, COVID-19, interdisciplinary collaboration, trauma-informed and culturally responsive pedagogies, social ecological model

Background

Broad Importance of Discussing Historical Events in the Classroom

When COVID-19 suddenly disrupted life in March 2020, most university instructors dealt with an abrupt transition to teaching online. Those with varying levels of online teaching experience were challenged to move classes designed for in-person learning to a virtual format. Additionally, the question arose of how, and how much, to address the pandemic in their classes. Talking too much about COVID-19 could cause stress for students, especially those who had experienced loss or trauma due to the virus, and it could also distract from course objectives. However, ignoring COVID-19 could make instructors seem out of touch with the realities of the pandemic. For some instructors, integrating a few relevant lessons or texts provided an opportunity to address the pandemic without overwhelming students, thus establishing the instructor as being sensitive to the myriad issues facing the public during this crisis.

The strong historical parallels between the 1918 influenza (flu) and COVID-19 pandemics steered the authors of this paper toward encouraging students to reflect on their own experiences about living through a pandemic through studying a historical example. One of the authors (DD), a lecturer in writing and humanities, invited the other author (SG), a faculty member in health sciences, to be a guest lecturer in her humanities

Using the Past to Inform the Future *continued*

class in Summer 2020. The lesson focused on pairing the social ecological model (SEM), a common framework in public health, with *Pale Horse, Pale Rider,* a work of literature by Katherine Anne Porter, as a way for students to understand, articulate, and remember the COVID-19 pandemic. This paper reports on the collaboration across disciplines and identifies key themes that emerged in students' writing assignments to show how fiction and interdisciplinary collaborations can be useful tools for facilitating difficult conversations in the classroom.

Pale Horse, Pale Rider

Katherine Anne Porter's *Pale Horse, Pale Rider* is one of the few American fictional works to feature the 1918 flu pandemic as a central plot point (Bollinger, 2013; Davis, 2011). This novella has been widely regarded by Porter's biographers (for example, Unrue, 1985) as a depiction that closely approximated Porter's own near-death brush with the flu during the 1918 pandemic, which claimed the lives of at least 625,000 people in the United States (Centers for Disease Control and Prevention, 2019). At the end of *Pale Horse, Pale Rider,* the protagonist, Miranda, finally emerges from her flu-induced delusions, remarking to herself that she has "one foot in either world now" (Porter, 1939, p.165). Soon after waking, Miranda also learns that her lover, Adam, has died from the virus. Even though she has managed to survive, Miranda seems to feel marked by death. Porter has remarked in interviews that her own near-death experience with the flu was a singularly life-altering event, one that she was not able to talk or write about for many years (Potter, 2013). Although she did finally manage to produce this important, fictionalized account of the pandemic, it seems many other survivors were unable or unwilling to chronicle the trauma.

Literature scholar Davis, in *Psychoanalysis, culture, and trauma* (2011), asserts that a "distinction between individual trauma and collective trauma leads to an explanation for how and why the [1918] pandemic has virtually disappeared from collective memory" (p. 65). Additionally, trauma theorist Caruth (1991) analyzes catastrophes that have befallen entire populations, such as wars, to conclude that "it is not only the moment of the event, but of the passing out of it that is traumatic; that *survival itself*, in other words, can be a crisis" (p. 9). The lingering feeling of still being in a crisis, even after it has passed, may explain why some shy away from

remembering or chronicling difficult events. However, in a study chronicling the 1918 flu pandemic, Barry (2004) complicates the issue further by noting the abundance of writing that exists about human-made catastrophes (i.e., wars), but relatively scant information about natural disasters, such as pandemics. Davis (2011) considers the possibility that in an era of coexisting catastrophes, namely World War I and a deadly global pandemic, accounts of the war "dwarfed" those of the virus due to political pressures at the time (p. 63).

Regardless of the explanation for why so few accounts exist, there is value in Porter's historical chronicle of her lived experience, particularly because of its fictionalized qualities. Trauma scholars Felman and Laub (1992) note the value of literature for helping readers recall historical events. In analyzing the work of Felman and Laub, Davis (2011) concludes that as a work of literature, *Pale Horse, Pale Rider* "connects the reader to the pandemic" (p. 63) in a way that other artifacts cannot, precisely because it blends events of historical accuracy with creativity and imagination. This information led the authors of this paper to conclude that historical literature about a previous pandemic could help students contextualize the disruptions and tragedies caused by COVID-19.

Collaborative Instructional Approach

Literature about active learning strategies (Bean, 2011; Bonwell & Eison, 1991) notes that inviting guest speakers can enhance student engagement in course material by promoting critical thinking and offering multiple perspectives (Merle & Craig, 2017). Another active learning strategy, writing-to-learn, which Bean (2011) attributes as a fundamental quality of Writing Across the Curriculum (WAC), involves meaningful writing-based activities that prompt students to critically engage with course content, in this case the historical connections between two pandemics: the 1918 flu pandemic and the COVID-19 pandemic. By writing to a specific audience, namely a guest speaker with expertise in infectious diseases, students participate in what is known as learner-centered discussion strategies (Brookfield & Preskill, 2005). Moreover, many scholars have explored the complicated relationship between literary fiction, as well as other types of texts, and the cultivation of empathy among students (Bal & Veltkamp, 2013; Junker & Jacquemin, 2017). Other scholars discuss the connection between texts and empathy as a long-term

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and often delayed process by which readers learn from characters' situations depicted in the text (Koopman & Hakemulder, 2015). Therefore, facing anxiety about safety and myriad other uncertainties (such as when the COVID-19 pandemic would end or how bad it would get), talking about them in the classroom could provide the opportunity to learn lessons offered by historical works of fiction.

Most who taught or took classes during the COVID-19 pandemic's earliest stages in the United States contended with sudden and significant barriers to familiar classroom strategies. These circumstances required nimbleness on the part of instructors to deliver course material, and a flexibility on the part of students to adapt to new methodologies. When the authors met to plan the class meeting detailed in this paper, we had to acknowledge the context and limitations of the moment, including students' anxieties about COVID, as well as the lack of access to on-campus resources. The result was an experimental mix of teaching strategies both familiar and new; for example, both instructors had incorporated active learning strategies in their courses, such as inviting students to use writing as a form of discovery, but neither of us had offered a synchronous session in an otherwise asynchronous class, the latter approach of which admittedly lacks precedent in pedagogy literature. However, offering an optional forum for students to gather and engage live with their instructor and a guest expert seemed important in an otherwise isolating time. In June 2020, we, the authors of this paper, were not yet aware of trauma-informed and culturally responsive pedagogy (Sherwood et al., 2021) and could not claim to be employing it as a teaching strategy. Yet we were keenly aware of the "sudden restrictions from human contact" and "feelings of disconnectedness" (Sherwood et al., 2021, p. 101) that we—and likely the students—were experiencing. The lesson devised here is but one example of a teaching approach that could be adapted to respond to other, future disruptive events that instructors and students might face.

Social Ecological Model

The social ecological model (SEM) provides a framework for how various factors are interconnected in our society. SEM is frequently utilized in the field of public health, as it examines how the social determinants of health are interconnected and how they influence health behaviors at multiple levels (Brofenbrenner, 1979), including individual, interpersonal, community, and policy (Dahlberg & Krug, 2022). It helps to contextualize the environmental, social, and individual factors that impact health outcomes (Sallis & Owen, 2015). This model can be useful when coding qualitative data, such as written responses to student prompts, to identify and summarize what levels are of most concern and import across responses.

Existing research reveals how the SEM can be a useful model for identifying perceived risk factors for contracting COVID-19, as well as prevention behaviors among university students. Previous studies have found individual level factors to include personal protection from and concern about contracting the virus (Jang, 2022; Vilme et al., 2022). At the interpersonal level, protecting friends and family members from the virus, as well as information sharing, have been found to be important (Jang, 2022; Vilme et al., 2022). The community level of SEM has been related to how people perceive information and misinformation from the media as well, as community attitudes toward mask wearing and other protective measures (Jang, 2022; Vilme et al., 2022). At the policy level, themes related to COVID-19 include trust of governmental information sources and a lack of enforcement of protective measures (Jang, 2022; Vilme et al., 2022).

The purpose of this paper is to report on an interdisciplinary teaching collaboration that occurred during COVID-19, to identify key themes that emerged in student questions, and to demonstrate how fiction and interdisciplinary collaborations can be effective in the classroom generally and to facilitate conversation about difficult topics. This is important to get a better understanding of student concerns related to current events (i.e., the COVID-19 pandemic) and to identify how a cross-disciplinary collaboration can be useful in situating emerging current events in historical contexts, so that students can see how history might repeat itself, perhaps helping them find stability during a difficult time. As a teaching case study, this paper reports on the framework of an interdisciplinary collaboration to enrich student discussion and reflection on the topic (Yin, 2014). This study was guided by the following research questions:

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1. How do students relate their own experiences during a pandemic when reading a work of historical fiction about life during a previous pandemic?
2. What are students' main concerns about the pandemic at the various levels of the SEM?

Methods

Class Design

DD structured the course based on Wiggins and McTighe's (2005) Understanding by Design model (also called Backwards Design), which situates learning objectives at the center of course design, with all assignments and class activities in service of those objectives. The assignment at the center of this paper sought to address the following two course objectives from the university's Humanities 200 common syllabus:

- Recognize appropriate contexts (such as genres, political perspectives, textual juxtapositions) and understand that readers may interpret literature from a variety of perspectives;

- Articulate a variety of examples of the ways in which literature gives us access to the human experience that reveals what differentiates it from, and connects it to, the other disciplines that make up the arc of human learning (James Madison University, n.d).

The class was scheduled as a 4-week asynchronous online class, a common format for the university's summer general education courses, and it also met the university's classification of "writing-infused," which states.

> Students will write a minimum of 5,000 words (approximately 15 pages double-spaced, standard font) in assignments that may include informal and formal, ungraded and graded forms. The extensive opportunity to produce and receive feedback on various genres of academic writing will help students sharpen their responses to interesting and thought-provoking texts and promote more engaged and sophisticated reading strategies. (James Madison University, n.d)

For this course, the online delivery was unrelated to pandemic conditions and was intentionally planned; however, the students had just concluded a disrupted semester, and pandemic considerations remained front-and-center in daily life at the time. DD, mindful of engaging students in course content, tried to make the assignments as approachable as possible. Including opportunities for students to meet writing requirements through informal, reflective approaches seemed important to the cultural moment.

Planning the Assignment and Preparing for the Class Meeting

Since this Humanities course had a focus on great works of literature, DD selected *Pale Horse, Pale Rider* as a relevant historical text to help students accomplish the learning objectives, specifically related to juxtaposing two human contexts, namely the 1918 flu and COVID-19 pandemics. DD asked a health sciences faculty member, SG, to participate, anticipating that students likely would have concerns that extended beyond literary considerations.

Together, we decided that if students composed questions directly to a guest lecturer in an interview-style format, they would meet a portion of the writing requirement in a low-stakes setting, while also engaging with multiple perspectives, as recommended by the active learning literature (Bean, 2011; Bonwell & Eison, 1991; Merle & Craig, 2017). Prior to the June 24, 2020 class session, during which SG guest-lectured and responded to the students' pre-written questions, DD introduced the concept of literary theory to provide students with discipline-specific terminology for approaching literary analysis. For the assignment in question, students were instructed to focus specifically on formalist theory, which concerns the textual elements such as plot, characterization, language, setting, and theme.

Also prior to the June 24 class, SG introduced DD to the SEM framework so that DD could also provide students with a brief SEM-related reading. This way, students were prepared ahead of time to engage with analytical frameworks in two different disciplines, namely literature and public health, which would encourage them to apply new lenses not only to *Pale Horse, Pale Rider*, but also to their own lived experiences of a pandemic.

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Students were asked to read these materials and complete the writing assignment several days prior to SG's guest lecture, so that we could prepare an interview script containing the students' questions. DD compiled a de-identified list of student responses to all the prompts and shared them with SG. SG then organized the questions into themes to create an interview guide script with student questions and SG's answers. We wanted to use the scheduled time wisely, and to make sure that SG's presentation would address the pandemic-specific questions so that the students could benefit from an infectious disease expert's interpretation of Porter's novella, as a complement to DD's lessons focusing on literary frameworks.

The writing assignment itself instructed students to compose three questions, totaling 750 words, including interpretation, analysis, and their own ideas, and to write directly to SG, their guest lecturer. This paper focuses on two of the three prompts due to their connection between public health and the literature. The full assignment is in the Appendix.

One of the included prompts concerned literary formalism, i.e., the traditional method of close reading of a text. The Literary Analysis prompt instructions stated that responses *"should be about "Pale Horse, Pale Rider" and should include a quotation. Considering that we are asking an expert in infectious diseases to speak about this, I think it would be best to focus questions around the way the flu is depicted in the text".*

The second prompt focused on SEM. This prompt stated that responses: *"should be related to some aspect of the social-ecological model as it might apply to pandemic solutions—e.g., "what cultural norms might have to change to prevent another pandemic from occurring?"* This study was approved through James Madison University's Institutional Review Board, protocol #22-2759.

The Class Meeting

We followed principles of Universal Design to make content available synchronously and asynchronously, as well as in written and video/audio format for students with time constraints. During the live Zoom session, which was recorded, DD introduced SG, who presented a PowerPoint focusing on public health guidance conveyed during the two pandemics, and then answered student questions. After the session, DD posted the Zoom recording, PowerPoint slides, and interview transcript to the course Canvas site for students who were unable to attend the live session and/or who wanted additional access to the materials.

Data Analysis

Through a case study approach, this paper is focused on exploring the utility of fiction and interdisciplinary collaboration to understand student perspectives related to the COVID-19 pandemic using qualitative research methods (Yin, 2014). After the class meeting, DD compiled and sent SG a Word document including all de-identified student responses to the prompts. SG imported this document into NVivo 12 for thematic coding. The specific questions that students asked, including relevant text before or after the question, were coded using an integrative analysis which consisted of deductive codes shaped by the assignment prompt (e.g., level of the SEM), and inductive codes, which emerged during the coding process (e.g., differing health outcomes based on socioeconomic status) based on student questions and observations in their homework responses (Fereday & Muir-Cochrane, 2006). For questions that did not easily fit into a category, both authors met to discuss the coding scheme until they reached consensus.

Results

Out of 18 students in the class, 16 responses were included in the analysis, as one student did not complete the assignment, and another did not enumerate their questions by prompt.

Literary Analysis Prompt

We identified five themes for the literary analysis prompt including portrayal of disease in the text, mental health during a pandemic, personal outcomes of disease, moving on from tragedy, and current events. A table of the codes, definitions, and sample quotation for the Literary Analysis Prompt can be found in Table 1.

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Table 1: Thematic Codes, Definitions, and Sample Quotes for Literary Analysis Prompt.

Code	Definition	Example Student Questions
Portrayal of disease	comparisons of 1918 flu and seasonal flu/1918 flu and COVID-19; how disease is depicted in text; safety precautions during 1918 flu	*....Have there been any instances in more modern days where someone suffering with the flu had similar symptoms to Miranda's?*
Mental health during a pandemic	focused beyond physical health and related to attitude, coping, and/or mental health generally (e.g., maintaining positivity)	*My question is about how infectious diseases deteriorate the mind during infection and if there are any lasting damages to someone's mental state after recovwery?*
Personal outcomes of disease	related to long-term individual outcomes (e.g., death, loss of smell)	*When people have infectious diseases like this or the coronavirus, which can cause a lot of pain and suffering, do they generally see death as a way to stop suffering like Miranda did or do they try to avoid death with whatever it takes?*
Moving on from tragedy	focused on what happens/how people can recover after a tragedy (e.g., pandemic, war) is over	*Could the aftermath of the Coronavirus be to the American population what it was to Miranda following the 1918 pandemic: an "empty" or "dead" and "cold" wasteland of a defeated people? How temporary might his effect be?*
Current events	focused on the role of news and political authorities; role of war in the story	*Since the 1918 flu pandemic was greatly influenced by the war through spreading, would it have still been as impactful a pandemic without the war?*

The most common themes that arose were portrayal of disease (n=5) and mental health during a pandemic (n=4). Questions about the portrayal of disease centered around comparisons between students' understanding of/experiences with seasonal flu and the novella's depiction of pandemic flu, as well as a comparison between the pandemic flu of 1918 and the COVID-19 pandemic. For example, one student wrote about the comparison of symptoms between the pandemic flu of 1918 and the seasonal flu that we know today:

> *Was this an accurate portrayal of symptoms of the 1918 influenza pandemic and how the disease progressed? How did the symptoms of today's flu evolve into more complex symptoms (headache, chills, fever, body aches, lack of delirium* [sic] *(when relating to the short story))?*

While usually mild with symptoms resolving on their own, seasonal flu is also known to have severe outcomes such as hospitalization and death, which the student may not have been aware of prior to the assignment or class meeting. Additionally, the student highlighted a perceived discrepancy between the endemic and relatively reliable nature of a seasonal illness, such as what the flu has become in the United States, and the uncertain outcomes and panic associated with a pandemic (i.e., 1918 flu, COVID-19). Due to the nature of this assignment, the student's question about the history and evolution of the flu and its symptoms were addressed in the guest lecture, which complemented the content of a traditional literature course.

Student questions related to mental health focused on attitudes toward the pandemic, coping with difficult emotions, and the quality of one's own mental health. For example, one student's question stated:

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Just as Miranda struggled to force a positive mentality during a trying time, many people living through the Coronavirus are feeling overwhelmed by its disruption of every aspect of their lives. Would you suggest that there is a healthier way to cope with these emotions, and if so, where does the balance lie between a positive attitude and a confrontation of our fears?

This question helped the student to contextualize the emotions, fears, and coping mechanisms that everyone experienced during June 2020. While the student wrote as a collective "many people, "it seems like the student, while seeking advice for balancing emotions and fears, actually was asking for advice for themselves and others around them during a time of uncertainty. In this assignment, students were able to write about the "collective" rather than only individual concerns, the latter of which might have been a greater focus had the instructors implemented survey questions or other types of direct engagement with students. Therefore, this particular assignment design helped students to reflect on and share their own experiences, and also respond in a way that they felt comfortable, perhaps by framing individual questions as ones that might also pertain to a larger population.

Three students' questions related to personal outcomes of disease that focused on long-term and permanent outcomes such as death. One of these stated:

She [Miranda] *begins to think that maybe death would have been better than having to remember all of the pain. Many veterans experience this. They witness such horrid events that they usually have PTSD. So, where does the fear of death really come from? What is its origin?*

This student considered the stress of surviving a pandemic similar to post-traumatic stress disorder (PTSD), a condition that many veterans of war encounter. The student questions why people are afraid of death when the emotional consequences of even surviving traumatic events can be daunting. Again, this prompt helped students to process their experiences during the pandemic beyond that of what likely would have been possible with a straightforward, individual-focused question.

The themes of moving on from tragedy and current events each had two related student questions. In contrast to the theme of personal outcomes described above, moving on from tragedy focused on how populations, rather than individuals, rebuild and recover from a traumatic event. The student quote below indicates how, on a population level, people can move on from war and illness: *"People are celebrating that the war is over, but there is still so much pain and grieving to be done, so how did people recover from all the loss and loneliness?"* Therefore, by relating this to their own experience of the COVID-19 pandemic, the student described their own concern about rebuilding relationships and overcoming isolation. This was similar to the other student quote in this theme, which focused on how long after the pandemic the effects would still be felt.

Student questions about current events mostly related to the context of each pandemic. One student's question, as described in Table 1, focused on the backdrop of World War I in *Pale Horse, Pale Rider* and the 1918 flu, while another question focused on the spread of misinformation during the COVID-19 pandemic. For the latter, the student expressed concern about how political leaders might underplay or mislead the public about the severity of the disease. This question prompted a conversation during class about the similarities between the pandemics, and how President Wilson prioritized World War I over the pandemic.

Our president [Trump] called the virus a hoax and did not take the virus seriously enough which is why we are in the predicament that we are in. It's various news outlets that support trump [sic] and his gestures that belittle a world wide [sic] pandemic just to protect his image, and this is why I question literatures [sic] attempt to accurately describe some of the various stresses and grieving of the people.

During the class meeting, this student's response allowed us to explain more about the political context during the 1918 flu pandemic. SG explained how mask wearing was contentious and people rebelled against it then, as they were now. Additionally, comparing the political contexts provided some historical context for students and underscored how the human experience is shaped by many different and often conflicting views. By focusing on the comparison between the contexts of the

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two pandemics, the student was then able to make their own determination about the accuracy of the portrayal of the pandemic in the literature.

SEM Prompt

Fifteen student responses were coded for this prompt as one response did not include a question. The three themes that arose in the analysis of this prompt were in line with the levels of the SEM: the policy or society level was the most common code (n=9); followed by community level (n=6) and individual level (n=3). The codes, definition, and example student questions for the SEM prompt can be found in Table 2.

Table 2: Thematic Codes, Definitions, and Sample Quotes for SEM Prompt.

Code	Definition	Example Student Question
Individual level	Focused on what individuals can do to prevent disease	If prevention starts on an individual level, what are the first steps to improve our behaviors and beliefs in a manner that encourages prevention?
Community level	Focused on what communities (e.g., universities) can do to prevent disease including enforcement of rules (e.g., masking, physical distancing), concerns about returning to/being on campus	To add on to my question, how might we enforce the changes to protect our communities and ourselves from another pandemic?
Society/Political level	Focused on how society will change after the pandemic (e.g., stop handshakes) or how messages can be sent/laws enforced to prevent disease	How do you morally and ethically and logically balance economics and public safety during a pandemic?

At the policy level, student questions related to how society might change because of the pandemic, as well as how authorities can enforce mandates related to disease prevention measures (e.g., mask wearing, social distancing). One student asked, *"my question is how will we create a climate that makes the people want to comply with guidelines for the safety of the country while allowing them to have their voices heard and bring the country together?"* Another question focused on societal practices, indicating how greetings such as handshakes have stopped during the pandemic. Here, the student wondered how such societal norms may change in the future. *"With the pandemic going on, we have halted our handshakes. Do you think we will go back to opening a conversation with them, or will we simply nod our heads as a greeting?"* This student was concerned about how greetings and social norms could permanently change due to concern about infectious disease and contagion. As so many aspects of "normal" life were upended at this point in time, and there was so much uncertainty about disease transmission and when activities could return to "normal," there was speculation (and concern) about the permanency of the ways in which students' lives had been changed to date.

Concerns about the safety and well-being of marginalized populations arose at the policy/society level. As many marginalized groups were – and continue to be – disproportionately impacted by the pandemic, this was an important question: *"What steps can we take in looking after marginalized groups of people, low-income families, and the homeless population in a global pandemic? How can this be implemented into smaller cities, towns, and areas globally?"* During the height of the pandemic, marginalized people and people experiencing homelessness were disproportionately impacted by the pandemic and had a higher risk of contracting the disease. Many essential employees in hourly positions were required to report to work and interact with the public, which put them at increased risk for COVID-19. Individuals experiencing homelessness were also at increased risk of COVID-19 due to the social nature of shelters. Therefore, we were able to include a brief discussion about how and why some populations experience greater burdens of disease than others during the class meeting.

At the community level, questions focused on keeping goods (e.g., toilet paper) in stock, as well as enforcing mask wearing and other preventative measures on campus and in communities. As data collection took place in June 2020, questions in response to this prompt

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were reflective of that time, as concerns about supply chain shortages were just starting, and students were uncertain about what the fall 2020 semester would look like. For example, a common question that arose in this theme related to how universities would respond to the pandemic in the fall semester. One student commented, *"[D]o you think all students will actually be wearing masks and to what point do you think the schools are going to enforce social distancing?"*

Student questions at the individual level focused on how individuals could prevent infectious diseases such as the flu and COVID-19. In the example below, the student was questioning how people could take responsibility to prevent disease to curb the spread of COVID-19: *"So, a follow up question would be how might we inspire people to take responsibility and adhere to social distancing guidelines, mask wearing, and any other policies that may arise?"* While this question includes information about policies and their enforcement, its focus is more about how individuals could be compelled to engage in preventative measures, such as mask wearing.

While most student questions (n=12) addressed distinct levels of SEM, the layers of SEM often interact with each other. Three student responses made connections between different levels of the SEM: one included questions at both the individual and community levels, one at the individual and policy levels, and one at the community and policy levels. No students addressed the interpersonal level of the SEM.

Discussion

The purpose of this study was to identify how an interdisciplinary collaboration can utilize a work of fiction to highlight student concerns related COVID-19 so that they can be addressed in the classroom. Historical fiction, such as *Pale Horse, Pale Rider,* can help students access and articulate their thoughts about current events, in this case, the COVID-19 pandemic. The assignment described in this paper revealed that students had a range of concerns including mental health, personal health-related outcomes, and how to move on from the pandemic. While students are expected to engage with a literary text in a humanities course, preparing questions based on personal reflection for an expert in the field serves as an additional tool to help students

better understand their own experiences and the course material. This was evidenced as students asked questions related to their own experiences (e.g., how students would be protected from COVID-19 in the fall semester) rather than just the text itself. Additionally, integrating current events and a historical text allowed students to critically reflect on the themes present in the text that also were relevant to their current circumstances (e.g., students noticed that the characters in the novella took almost no precautions to avoid contracting the flu, an observation that may have echoed students' concerns – at the time of the class meeting – about protecting themselves and their loved ones from COVID-19).

Due to the fluid and ongoing nature of the COVID-19 pandemic, it seems logical that these concerns and interests will change over time. However, the literary text lends some stability to such conversations, in contrast to the constant and oftentimes confusing flux presented by news stories, commentaries, and public health guidance. In particular, *Pale Horse, Pale Rider* provides a window into aspects of the human experience, such as living through a pandemic, that will seem remarkably familiar to contemporary readers, while at the same time allowing students to analyze a fictional text, which offers a welcomed remove from some of the most contentious politicized discourse of the moment. Future research might explore how student reactions to *Pale Horse, Pale Rider*, as well as how concerns at the various levels of SEM, change over the duration of the COVID-19 pandemic. For example, during a period when masking is optional in most public settings in the United States, perhaps there would be a difference in student perceptions of the novella, or perhaps the tendency might be to focus on different aspects of SEM than were prominent in June 2020 student responses. Comparing and contrasting student responses at two points in the pandemic could provide insight into how instructors might handle future disruptive events. Additional research also could be conducted to assess students' engagement with the SEM in disciplines other than public health, literature, and the humanities. For example, a political science lesson might pair SEM with a current or historical text about reproductive rights in the United States, prompting students to analyze factors that contribute to attitudes toward this issue, as well as to reflect on potential outcomes of new legislation or policies.

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Using a work of historical fiction also was helpful in mitigating potentially divisive topics, such as mask-wearing and other public health measures that had become politicized at the time. Although no disagreements arose during the class meeting, such disputes had the potential to occur due to the proximity of a contentious election in the United States, as well as rhetoric that contributed to misinformation about public health measures. Students' own observations and reflections served as a way to consider the political context of the current pandemic and what narratives might become memorialized in a work of fiction related to COVID-19. By comparing the rhetoric of leaders during the 1918 flu pandemic with those in office during COVID-19, students also learned that the contemporary political strife they were experiencing was not unprecedented, but that it was analogous to situations from a century ago. Using a text of historical fiction in the classroom as a lens for an interdisciplinary collaboration can help address any number of difficult topics that persist in United States' society and could be useful for defusing tension but also fostering meaningful discussion. For example, public health and communications faculty could collaborate to discuss the portrayal of monkey pox in the news, or a collaboration between law and biology faculty could focus on the implications of providing genetic data to companies such as 23andme.

A student concern that arose from the assignment was how the pandemic has disproportionately impacted marginalized populations. For example, wage employees were required to be physically present at work during the height of the pandemic and were not compensated for sick time, even if they were infected during their shift. In addition to increased health risks they faced, they also lost income if they became ill and could not work. Employees, such as those in hospitality and service industries, were hit particularly hard by the economic impacts of COVID-19 (Gould & Kassa, 2021). Marginalized populations, in general, also have more trouble accessing the health care system and paying for bills. While the student question focused on how, on a societal level, we can help marginalized populations, this is also something that should be considered in classrooms. During the 2020-2021 academic year, which was predominately online for our university, many students who were living in rural areas encountered challenges to internet access, as well as having a reliable device to take exams and complete assignments.

There were no student questions that addressed the interpersonal level of the SEM, which could have been related to protecting family and friends from COVID-19 or talking with them about the virus of SEM. However, most of *Pale Horse, Pale Rider* is focused on interpersonal communication, namely that between Miranda and her lover, Adam, as well as other exchanges between the characters. There were several possible interpretations for this result, one of which concerns logistics: the class was online and asynchronous, scheduled during the summer 2020, following a partially remote spring term. As such, students may have still been in "lockdown" mode, with few current or recent interpersonal experiences on their minds. A class held in the fall of 2020 or later might have revealed more student questions at the interpersonal level related to pressures of mask-wearing, concerns about seeing family members or friends with differing ideas of pandemic safety, worries about being physically present in the classroom, as well as conflicting perceptions of vaccination. In June 2020, it is possible that students' inner circles of friends and family consisted of mostly like-minded people, which offers another explanation for why this group expressed few ideas about interpersonal behaviors. Using SEM allows instructors to help students think through challenging topics and prompts students to examine problems through a variety of different perspectives.

Understanding student concerns through a writing-infused assignment such as this can help instructors identify barriers that students encounter so they can be addressed in the classroom. By allowing students to reflect on their own experiences in the context of historical fiction, students were able to achieve course objectives and have a richer understanding of their current context related to understanding a broader and more nuanced political context, understanding how and why different populations are disproportionately impacted. From an instructors' perspective, students' immediate concerns and preoccupations were more evident, which helped us to better understand how students were navigating the pandemic.

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Limitations

While our study highlights how the use of fiction and writing-infused assignments can help students reflect on their own experience of current events (e.g., COVID-19 pandemic), there were some limitations to this study. First, this assignment was conducted during June 2020, a time when most universities were fully online, and the public generally agreed that it was important to take safety precautions to limit the spread of disease. With attitudes about virus mitigations such as mask-wearing and vaccination becoming more polarized and politicized later in 2020, students may have responded differently to the assignment prompts had the assignment been given in fall 2020 or later. Perhaps future research could replicate this assignment to see how the responses have changed over time, especially now that students have returned to in-person classes and masking and other preventative measures are not required in most places. This study also included a small sample size, and as qualitative research, cannot be generalized to a larger population of students. Students in this class were self-selected into an online course, the content of which focused on racial justice and disability awareness among other topics, so these students may have been more aware of the pandemic's consequences to vulnerable populations, and/or more risk averse themselves, than other students might have been. Future studies could focus on students in other classes or majors, who may be less interested in mask-wearing and vaccination. A final limitation was that due to the intensive nature of the 3-credit course over a 4-week period, students had only four days to read the novella and submit their interview questions; in a semester-long course, students would have been given more time to read and complete the written assignment.

Conclusion

It is common knowledge that eliciting feedback from students can be useful to understand not only how coursework is progressing, but also the predominant student concerns. With particularly sensitive issues, such as a pandemic, that are potentially traumatic to those living through them it, using fiction to highlight the historical context of characters may help students access their own experiences while also connecting them to the arc of human history. Other methods, such as direct survey questions, do not accomplish the same humanistic connections, as they lack context. Depending on course content, learning objectives, and instructor preferences, there may not be an opportunity to address such difficult topics in every class, but when a relevant opportunity to do so presents itself, integrating content-based activities that encourage reflection on lived experiences can offer insights into student perceptions and experiences. Future research could explore ways that this type of activity could be implemented in other classes and disciplines. Ultimately, this can also be useful for helping instructors inspire students to move on and continue to be motivated, even if their college experience may not be what they expected or what is considered normal. As information about COVID-19 continues to shift in real time, a work of fiction that provides an enduring snapshot of life during a pandemic serves as a way for students and instructors to engage with their own uncertain daily realities. We anticipate that *Pale Horse, Pale Rider* can continue to have instructional value in the months and even years to come in helping students in many disciplines to make sense of the long-lasting impact of the COVID-19 pandemic by placing it in a historical context.

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Appendix: Assignment Instructions for Students

You are writing a total of three developed questions, totaling 750 words. Each question ought to be framed with some interpretation/analysis/ideas of your own. You will earn +5 on this assignment if you submit your questions by 5 pm M 6/22 (so that I can give them to RC ahead of time).

Prompt 1 [literary analysis prompt] should be about "*Pale Horse, Pale Rider*" and should include a quotation. [Note: I want to keep this as flexible as possible, but you could find it helpful to refer to the documents in Week 1 that give you language for discussing texts from a formalist perspective--i.e., theme, POV, characterization, etc]. Considering that we are asking an expert in infectious diseases to speak about this, I think it would be best to focus questions around the way the flu is depicted in the text.

Prompt 2 [not included in analysis] should be related to the 1918 flu pandemic and/or the coronavirus pandemic--not necessarily related to "Pale Horse," but more pertaining to the CDC documents.

Prompt 3 [SEM prompt] should be related to some aspect of the social-ecological model as it might apply to pandemic solutions—e.g., "what cultural norms might have to change to prevent another pandemic from occurring?"

TEACHING REPORT

Hands On Workshops for Real World Experience: Scaffolded Assignments and Archival Objects in the Historian's Craft
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Abstract

Abigail P. Dowling redesigned an Ancient Mediterranean History course to feature active, scaffolded assignments that gave students the experience of working as a historian. These assignments featured lectures from other faculty, hands-on workshops, creative expression, and physical recreations. Dowling, and collaborating researchers Bailey, Griggs, and Wright, used three IRB-approved surveys to test students' self-assessed comprehension of the class subject, how their self-assessed comprehension changed through the course, tested, and assessed their understanding of key definitions from the course's learning objectives, and surveyed which activities the students found most valuable for their learning. For results regarding student learning, the researchers found an improvement in students' understanding in the value of objects to historical research and their comprehension of the breadth of historians' job duties. Students' responses on which activities increased learning emphasized the usefulness of hands-on object workshops for undergraduate students.

Keywords

experiential learning, history education, material history, general education requirements, archival objects, collaborative teaching, active learning, hands-on workshops

Material history, a subset of historical analysis, borrows many principles from archaeology and historical archaeology to study places or objects contextualized with historical narratives from texts or oral sources (Knapp, 1992). Overwhelmingly, surviving pre-modern historical records favor the urban elite, such as high-ranking political or church members. Scholars acknowledge that ancient texts also favored men (Richlin, 2014). While oral history can bridge some of those gaps for more recent case studies, object analysis helps scholars study those who leave little to no textual record, such as the working classes, the enslaved, and even women and children (Van Oyen & Pitts, 2017). Scholars regularly acknowledge the usefulness of manipulating objects and "reading" them as primary sources in historical pedagogy (Balachandran, 2017). Object-based learning studies have also described successful student experiences with hands-on learning using historical objects from the faculty and librarian perspective (Makarowski & Boehme, 2019). Yet, it is rarely studied from the student perspective. We want to know, "what do students think they get out of object-based learning?"

Our study assessed student engagement and self-assessed learning of course objectives of a hands-on series of workshops and object-based learning assignments associated with a collection of ancient historical

Real World Experience *continued*

objects recently donated to our institution as a learning collection (all before 500 CE). In fall terms 2017 and 2019, History faculty Abigail P. Dowling taught a lower-division general education course, the Ancient Mediterranean, ca. 5000-400 BCE, that introduced students to material history and asked them to work with ancient objects from a unique collection, the Holmes Holy Land Ancient Artifact Collection, housed at Mercer University's Macon campus Tarver Library. In this publication, we assessed student engagement and perceptions of the artifact workshops and assignments from the Fall 2019 course. We published our initial, positive faculty findings from the Fall 2017 course in a descriptive article of our collaboration in Summer 2018 (Dowling et al., 2018). Here we present a systematic study of student perceptions of the hands-on workshops and assignments.

The Collection

Serendipitously, Mercer alumnus Y. Lynn Holmes donated his objects as a teaching collection in summer 2017 as Dowling revised a course inherited from her predecessor. The Holmes Collection boasts 1,000 artifacts and is the only collection of its kind available to the public in Macon, GA. The collection consists of coins, figurines, knives, beads, mirrors, fertility idols, and other daily items made from ceramic, metal, glass, and stone from roughly 4,000 BCE to the late Roman Empire (ca. 400 CE). The less fragile pieces--typically those consisting of stone, metal, or ceramic--may be handled safely by undergraduate students in a supervised classroom setting. The authors recognized the value of the collection as an engaging tool to introduce general education and lower-level History and Classics students to the principles of object analysis and library information literacy.

Literature Review

Especially at the lower levels, general history surveys rely overwhelmingly on textual or perhaps epigraphic analysis (in the case of Greece and Rome), even for eras where much of what we know about the society has been derived from archaeological study (Davis & Brice, 2020). That means that what students learn, and thus envision, about ancient societies and cultures is the result of millennia-old biases against the average laborer and other subaltern groups instilled in textual sources, a

point that Amy Richlin, among ancient scholars studying women, has made repeatedly. Roman women are almost exclusively depicted negatively in Roman texts, especially satire (Richlin, 2014). The only favorable depictions of women are those who act as perfect exempla of Roman pietas to state, father, husband, and children, for example Livy's Lucretia and Virginia. Histories of the enslaved and poor laborers grapple with this same problem (Harper, 2011; Moss, 2021). While these topics can be researched without objects, historical archaeology, which is the archaeological study of literate societies in combination with historical textual analysis, is common (Joshel & Petersen, 2014). We wanted to expose our students to both types of evidence.

Drawing on the work of Michel Foucault and Jacques Derrida, historical scholars (historians, art historians, archaeologists, anthropologists, etc.) and archivists, especially those who study colonialism, have discussed the bias inherent in the wider archive for years (Allen, 1986; Trouillot, 1995; Carter, 2006; Thomas, et al., 2017), which is another reason to introduce students to archaeological analysis (Smith, 2010). While faculty have successfully integrated the close analysis of images and images of objects alongside primary sources into classes for decades with great success, that focus was aimed at diversifying sources and increasing student engagement. More recent efforts have been directed at naming and subverting the silences of the archive although they are not as common as the first mode of teaching with historical images and objects (Carter, 2006; Anderson & Fleming, 2019).

For the most part, faculty introduce undergraduate students to what Giorgio Riello calls "History from Things." With "History from Things," "historians relate to material culture [...] by concentrating on its material form and treating it the same way in which they treat a manuscript, diary, an inventory, or an image: objects as primary sources" (Riello, 2009, p. 24). Like the other members of her department, Dowling commonly uses this form of analysis in her foundational history survey, where logistics and curricular expectations make it impossible to spend time with objects in the archives. It is the most common form of primary source analysis taught at our university.

Real World Experience *continued*

Riello also names two other types of material history analysis: "History of Things" and "History and Things." History of Things is "the historical analysis of the relationship between objects, people, and their representations" (Riello, 2009, p.24). In this case, the object is, itself, as an object, the subject of the study; this form of study allows us to think about the way categories of objects, such as ancient oil lamps, are used both individually and societally, and what they say about larger narratives, such as trade or increasing differentiation of labor. The third category Riello discusses is "History and Things." Methodologically, this approach decontextualizes the object from its past and thinks about how they are displayed and interpreted, now, such as display in a digital database or catalog. This is an important way to interact with objects for public-facing historical study.

Recently, more historians have attempted to grapple with how to introduce "History of Things" and "History and Things" into undergraduate courses and help students work with non-textual sources.[1] Riello's article is one example. Other scholars have documented introducing physical and image-based numismatic analysis into their courses to help students overcome the inherent elite bias of documents as well as the ways in which ancient rulers used coins as part of what we consider a media image campaign (McIntyre, Dunn, & Richardson, 2020; Melville-Jones, 2020; Brice & Kopestonsky, 2020).[2] To date, most studies on object analysis pedagogy in history focus on coins.[3] Only a few feature library instruction (Aurand, 2011).

As access to digital archives has increased, a small, but growing number of archivists have sought to understand how faculty and students use archives, the training they receive, and what instruction to offer. Initial research suggests that object-based learning, which revolves around student interactions with objects, yields positive results (Rockenbach, 2011). As Barbara Rockenbach noted in her article about undergraduate use of the Yale Archives and collaboration between instructors and archives in the manuscript department,

studies around object-based learning are primarily found within museum studies. Within museum studies, the benefits of object-based learning are well-attested, especially for comprehension and idea recall, and have been for some time (Hooper-Greenhill, 1994). As with other studies, Rockenach's focused on the two faculty members' assessment of student learning. Wendy M. Duff and Joan M. Cherry's study on the impact of archival sessions on undergraduate learning, also at Yale, asked for student feedback on the archive orientation sessions. In Duff and Cherry's article, they assessed student confidence levels in using the archives and use of archival sources to assess effectiveness (Duff & Cherry, 2008). The study authors found that while confidence increased four-fold the use of sources remained relatively unchanged. As Duff and Cherry noted, it is difficult to isolate and study the impact of learning practices. As an exploratory study, they called for other universities to perform similar studies. We see our study as occupying a similar space and asking similar questions as the Duffy and Cherry study; however, instead of focusing on the impact of the library and archival instruction, we wanted to assess the impact of the workshops and object-based projects on student confidence around general historical skills and wider course content in an introductory-level history course. Although our library and archive have substantial collections of historic texts, many dating to the nineteenth century and some even earlier, and which our History majors use to write their capstone research papers, the age and breadth of the Holmes Collection is unique. We wanted to first focus on the student perception of hands-on assignments with objects, not texts or texts-as-objects, but also on the student impact of working with ancient objects.

A Brief Introduction to the Workshops and Assignments

Mercer's collection does have coins, but because it contains other ubiquitous objects, such as oil lamps, beads, blades, etc. from all over the Middle East and spanning several thousand years, it allows students a unique experience to study the lives and cultures of everyday people who lived millennia ago. The first

[1] See, for example, the edited volume, *History and Material Culture: A Student's Guide to Approaching Alternative Sources*, ed. Karen Harvey. 2nd ed. (Routledge, 2009).

[2] *The entirety of volume 30 of the Journal of the Numismatic Association of Australia contains important descriptive studies on numismatic pedagogy.*

[3] *A notable exception is Robin Fleming's 2013 course at Boston College, Making History Public: History Down the Toilet," which paired with the City of Boston's Archaeology Lab and used trash for analysis.* https://bcm.bc.edu/index.html%3Fp=6223.html

Real World Experience *continued*

iteration of this course was taught in Fall 2017 with the help of instructional librarian Bailey and collection archivist Wright. For the Fall 2019 course, Dowling made minor course changes and the authors decided to develop a schema to investigate student responses and self-assessed learning using the Holmes Collection on student engagement and learning. Dowling, Wright, Bailey, and additional Mercer librarian, Griggs, with experience in survey design, met several times in summer of 2019 to develop the study. We developed three surveys (pre-, mid-, and post-test) to be given throughout the semester. While our Fall 2017 course seemed successful from the faculty perspective—that is, students appeared engaged and successfully met assignment and course objectives—we lacked the students' perspective on the utility of hands-on activities for skill building and historical comprehension.

Dowling assigned two connected assignments that required the students to use the Collection, and we hosted two interactive workshops focused on supporting these assignments. Student interactions with the Holmes Collection can be divided into two types: first, physically interacting with the collection by handling the objects themselves; second, by using the objects' entries in Mercer's institutional digital repository, University Research, Scholarship, and Archives (URSA). Both workshops encouraged hands-on interaction and manipulation of the objects, and the second assignment required the use of the repository. The first assignment asked the students to generate reports based on their physical study of each object. Then students were challenged to use an anonymized, student-generated report and the basic information in the repository's database to complete their second assignment: historical research on the society that created the object, as well as the object's importance to that society. The goal of the workshops and assignments was to push students to engage with these objects in the manner of the "History of Things," that is thinking about the objects as a category rather than as an individual object with an individual history to be "read."

As a general education course, an important goal is to introduce students to historical professions and their processes. Our accrediting institution, the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) requires at least one class in the Humanities/Fine Arts. Our institution requires six credits, one in Humanities and one in Creative Expression, which can only be fulfilled by a select number of Art History courses. It is very likely for students who took this for Humanities general education credit, that this will be the only historically-oriented course they take in college. Therefore, it is crucial to introduce the students to the norms of our discipline, not just to meet the curricular and assessment student learning objectives, but to cultivate archival and library research skills and engagement in historical study as a whole (Weiner, et al., 2015). Others have shown that student interaction with archives increases student interest, although these studies mostly concern textual items in archives (Matyn, 2000; Johnson, 2006).

The workshops and project are designed to make student interaction with the objects mimic the experience of historians. While some historians accompany field archaeologists, most do not. As a result, historians work from notes, images, and published reports of objects. Even for field archaeologists, careful notes, photographs, and small samples are frequently the only objects that can be taken home from the field site. Objects of the type stored in the collection are usually accessible only as part of a formal private, archive, or museum collection and cannot be consulted freely or regularly, whereas repositories and textual reports are more freely available. Research shows that even historical graduate students and faculty have little to no formal training in archival techniques and research (Weiner, et al., 2015). We wanted students to experience both modes of object interaction.

Workshops

The first workshop aimed to train students in object handling and study. Dowling and Wright selected four objects of varying materials and types from the Collection. Wright developed handling protocols for the students, in consultation with archivists from Emory University. Objects were placed in closed cell foam-lined baskets. Students wore nitrile gloves and were regularly reminded to use two hands to handle the objects. The first workshop emphasized object-handling protocols as well as library instruction on the URSA website. To model appropriate archival convention, students' bags were locked in a separate location before they entered the classroom. Objects allowed in the archival room were

Real World Experience *continued*

limited to pencil, paper, student ID card, and phone or camera. We invited the students, broken into groups, to carefully examine a series of objects chosen for group discussion, including a fake object, with nitrile gloves, scales, and rulers. The workshop ran roughly 75 minutes (the class period) as students rotated to each chosen object to discuss with each other, us, and take notes.

The second workshop occurred two weeks later. Before class, we selected enough objects for each student in the class. We choose a mix of object types, periods, geographical locations, and conditions. Our goal was to select engaging objects with secure identification in the repository records for ease of student use in the second assignment. We invited students to choose an object and sit in front of it. Students used their own cameras (usually on cell phones) to take photographs. Other students sketched their objects. Students took an average of 40 minutes with the objects, but several students chose to use the full class time (75 minutes). Many students asked questions and casually chatted with each other about their objects throughout the assignment, often remarking on and comparing elements of their objects.

Written Assignments

A week before the first workshop, students were given the first assignment. The assignment read,

> On 9/3/2019 and 9/17/2019, we will visit the library. One of the librarians, Kristen Bailey, and an archivist, Kathryn Wright, will introduce you to our ancient Mediterranean objects collection. In the process, you will learn how to touch and interact safely with ancient objects (many of them are over 2,000 years old). In the first meeting, we will practice describing objects. The goal is to describe in immense detail with no analysis or interpretation the object so that another scholar may use it to make interpretations. The second library day, you will select an object from those set out on the tables and study it. You are encouraged to bring your cameras and take photos for later consultation as you work. You will have two weeks to revise and edit a thick description before submitting it. Keep in mind, your description will be used anonymously by another student to complete the second, historical analysis portion of the assignment.

Students were required to submit a 250–350-word description. These descriptions model artifact catalog entries, with the notable exception that students cannot confirm origin or material because they lack technical expertise and equipment. Students executed one round of peer review before final submission. After instructor feedback based on a pre-distributed assignment rubric, the students revised and resubmitted final versions of their reports. Griggs anonymized the reports. Because the public-facing digital catalog of the repository is still in development and the search function not very user-friendly,[4] we added repository numbers to ease student search and distributed the reports to different students for additional research.

For the second assignment, students were asked to use their peer's report along with the basic information provided in the repository entry (approximate date, origin, material, as well as provenance and purchase date, if available) to 'analyze the object in historical context.' The prompt read,

> Using the description, any photos provided in the description, and the URSA record, your task is to analyze the object in historical context. Your analysis should address the following: What was the object for? What does the object mean? What does it tell us about the society that created it? Why is it important? How does it help you understand the culture we've been learning about better? You may use any texts or lectures from class, but you are also required to research and find **at least one credible academic source (book or article)** to help you analyze your object. You should use the databases compiled by Ms. Bailey to locate an academic source.

Bailey offered additional in-class library instruction after the second assignment prompt was distributed on how to use library resources to find secondary research and was available for research consultations.

Survey Methodology

Foremost, we want to move beyond descriptive faculty observations to assess student perceptions of assignment effectiveness, a growing trend in history pedagogy, library instruction, and archival studies (Horowitz, 201). To

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[4] *Dowling is working separately with history and computer science students in independent study courses to optimize the repository database for student and public use.*

Real World Experience *continued*

assess student learning on project-based assignments, and specifically the impact of hands-on use of archival objects in the classroom setting, we administered a series of three surveys, a pre-, mid-, and post-test, using the Qualtrics platform (Appendix A). The surveys and evaluation methods were designed in collaboration between the classroom instructor, archivist, instructional librarian, and assessment librarian. We designed the surveys to measure changes in student responses to material history, ancient history, the historical profession, and the workshop experiences and assignments from beginning of the semester to the end. We were most interested in tracking the students' perceptions and experiences with special emphasis on their training and use of archival objects. The proposal for this project and the surveys were submitted to the Mercer's Institutional Review Board and were approved in 2019.

Participation in the surveys was voluntary and anonymous. Special care was taken to limit the course instructor's influence on the students and the instructional faculty had no contact with the results until after the course was completed. Each survey involved a mix of question types: 7-point Likert scales, short answer, percentage, and ranking questions. Additionally, multiple questions were repeated throughout the surveys to measure changes that occurred over the course of the semester. All repeated questions were coded beforehand to track how the students' responses evolved throughout the semester. Bailey administered all surveys.

All the questions from the pre-test were repeated in the post-test, which was administered in the final class of the semester. The third survey also contained additional questions relevant to student perceptions about the assignments and learning from the entire semester. The second survey, the "mid-test," was administered after the students had completed the first object analysis assignment. This survey collected data on the students' response to library and archival instruction and how well it prepared them to complete their assignment.[5]

Student Demographics, Stated Interested, and Prior Knowledge

We asked the students a few demographic questions: why they were taking the course, how many college-level history courses they had taken, and how interested in ancient history they were (see Appendix A for the pre-test survey questions). Over half of the students[6] were History majors (30.4%) or minors (26%) and an additional student was a Classics major (4.3%). The remaining students took the course either as a general education requirement (13%) or for 'other' reasons (26%). In the free-response field provided for 'other,' the students expressed interest in the topic and/or the instructor. The students in the course were predisposed to interest in ancient history. Entering interest in the topic translates to better engagement from the beginning and means this group of students was favorably predisposed to the material, which likely increased their confidence and scores in other areas. We would like to do this survey again in Fall 2023 to compare the results of different student groups.

Many of the students were familiar with college-level history courses. Everyone had taken at least one course previously, although 40% of the students had taken only one. Four students each (18%) had taken two and three courses. Some had taken four or more courses (5 students; 22.7%). These demographics also suggest that the course would have higher student engagement levels, regardless of the activity's effectiveness at engaging students. Over half the students had taken more than one college-level history course. Although we cannot be certain this means they were exposed to rigors of historical and textual analysis, as well as some of the expectations of the profession, before taking this course. In future surveys, we plan to ask students about their prior experience with libraries, archives, and library instruction to parse out the impact of library instruction on the success of this series of student experiences.

Results & Discussion

The first set of historical questions asked students to assess the utility of objects in historical study. The students assessed these specific statements: 'Objects

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[5] *We also asked several qualitative questions to assess student learning of major concepts, such as empire and imperialism, but found that our data collection failed; students did not write more than one to two sentences. All responses were insufficient to assess the responses. In the future, we will change our data collection protocol.*

[6] *n=23 on the first survey; one student added after the first day so the second and third surveys n=24*

Real World Experience *continued*

are useful historical sources.' 'Objects are as important as texts in historical study,' 'Texts are useful historical sources,' 'Texts are important as objects in historical study,' and 'Texts are historical objects' using the 7-point Likert scale discussed in the methodology section.

Across the board, students came into the class with some understanding that objects were historical sources. No one disagreed with the statement that 'Objects are useful historical sources' on the first day; however, the post-test demonstrates that after the course, more students strongly agree that 'Objects are useful historical sources' and 'Objects are as important as texts in historical study.' When we favored texts in the same structure of statement ('Texts are as important as objects in historical study'), students were more likely to agree, emphasizing the students' familiarity with texts as historical sources (Fig. 1).

It is unsurprising that students agreed with the statement that texts are useful historical sources and as useful as objects coming into the class. The historical

discipline, as well as the focus of the History and related departments (e.g., Religion and Classics) at Mercer, emphasizes the value and use of texts as the main form of historical evidence. Remember, every student had taken at least one college-level History course. Mercer is a traditional undergraduate institution, and many students had taken classes from Mercer History faculty, and our main mode of primary source instruction and analysis is textual. Notably, students over the period of the course increasingly acknowledged the value of objects to historical study, which is an important shift for thinking about how historical narratives, then and now, have been constructed. It is possible that increased student awareness of objects could be achieved through more traditional primary source methods that were employed in other class lectures throughout the semester (Press & Meiman, 2021) Thus to target the impact of the workshops and assignments on student learning, we asked more specific questions.

It is well-established that students' engagement, which is measurable, affects their motivation and is associated

Note. S1 means their response to Survey 1, S3 is for their follow-up response on Survey 3.

Figure 1

Student responses to a series of 7-point agree-disagree Likert scale questions on historical objects importance to the study of history.
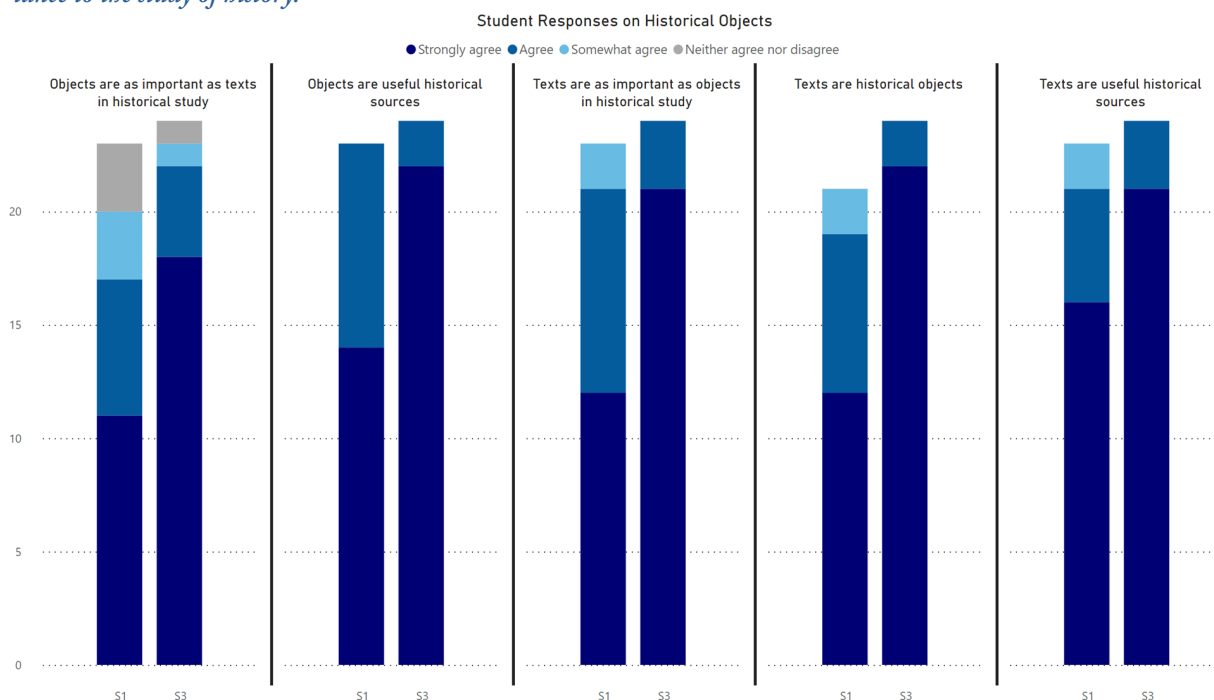
Real World Experience *continued*

with grade increases and academic resilience (Kuh et al., 2007). Thus, the next set of questions, which was administered at the mid-test and at the post-test, addressed the students' perceived value of working with the collection to their learning and course experience. We asked the students, again on a 7-point Likert scale, to agree or disagree with the following statements: 'The Ancient Object Analysis Assignments (workshops included): '...increased my ability to analyze the motive, agenda, and cultural impact of ancient societies using objects,' '...increased my understanding of the motive(s), agenda(s), and/or cultural impact(s) of the ancient societies we have studied in class, '...increased my understanding of the discipline of history and the historical profession' (Fig. 2). The results were more varied than the last data set.

On the mid-test, most students felt that the workshops "'increased my ability to analyze…' By the post-test, when they had finished the second assignment analyzing the object in context, they all did. Half strongly agreed and 46% agreed. The number of students who strongly agreed with the statement that their ability to analyze the

'motive, agenda, and cultural impact of ancient societies using objects' doubled (Fig. 2). These students believed the hands-on workshops combined with the assignments helped them learn how to analyze objects historically; they believed that the hands-on experiential learning improved learning overall.

On the mid-test for the question 'understanding motives, agendas, and cultural impacts of ancient societies,' only 23% strongly agreed and half agreed. On the third survey, no students disagreed or were neutral. The number who strongly agreed nearly tripled (63%) and only one somewhat agreed (4.2%). The remainder agreed (23%) (Fig. 2).

For these 24 students, working hands-on with ancient objects for no more than three hours and for some time with the digital catalog to complete short assignments enabled them to understand the complexity of not only material history analysis but also to understand the societies we studied in class better. This is especially relevant for us. Our university, like many universities,

Note. S2 means their response to Survey 2, S3 is for their follow-up response on Survey 3.

Figure 2

Student responses (in a 7-point agree-disagree Likert scale) on the impact of the Ancient Objects assignment on their perceived learning.
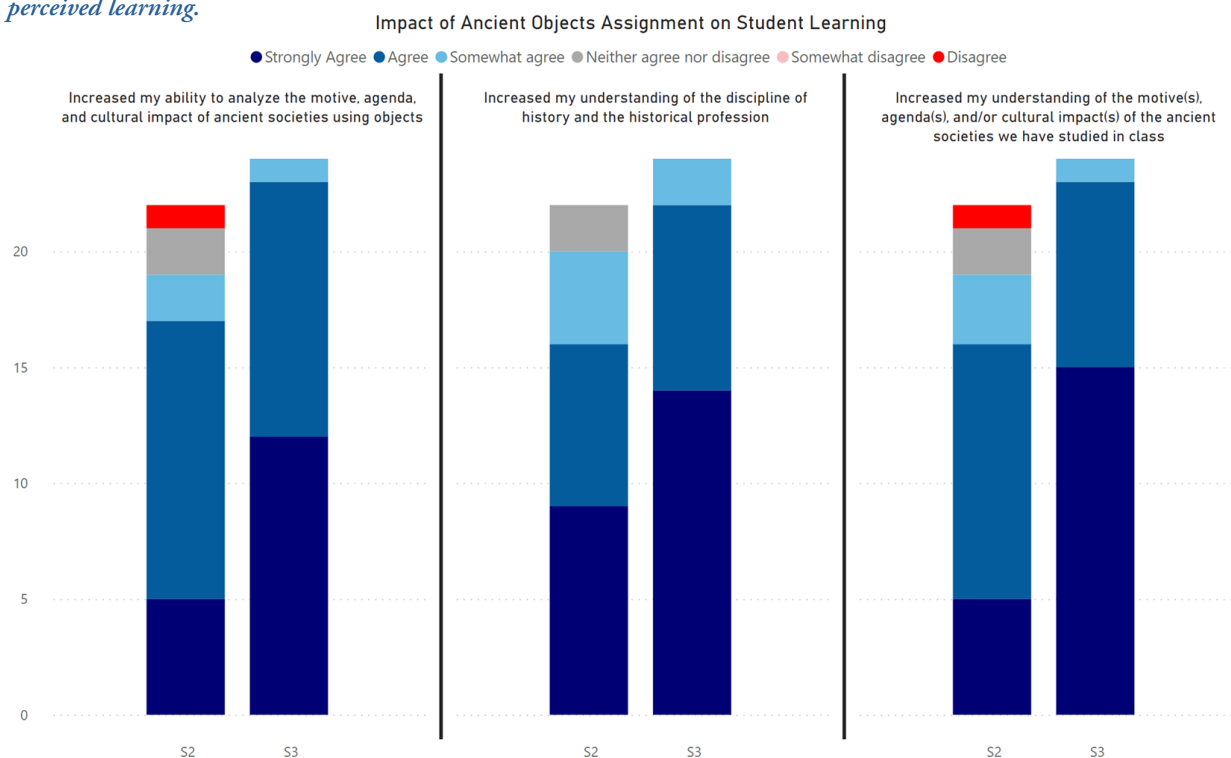
Real World Experience *continued*

has pushed various forms of experiential learning and other high-impact learning practices, especially service learning. The literature has repeatedly demonstrated that high-impact practices increase student engagement, but they also require a substantial time investment and are labor intensive for the instructor(s) (Kong, 2021). An important take away from our study is that even when students only engage in one experiential practice, they perceive benefits beyond the desired learning outcomes of the assignment.

We asked students to self-assess their comfort and confidence level in analyzing an image of an object to assess if the course material and working with objects positively improved their self-confidence in historical object analysis. The students were asked to respond on a 7-point Likert scale with two sets of statements. They were first asked how they defined material history and its importance to history study, and then their confidence in the correctness of both responses. The second set of confidence questions asked about historical analysis more explicitly. Students were asked to rate their agreement with the statement, 'I know how to analyze an object to understand the motive(s), agenda(s), and/or cultural impact(s) of the society that created the object,' and 'If you were given an image from an ancient society, for example, the 20th century BC Egyptian statue below, how comfortable would you feel using it to offer an interpretation of Egyptian motive(s), agenda(s), and cultural impact(s)?' All questions were administered on the pre- and post-tests (Fig. 3).

Student responses to both sets of questions were similar. Students were moderately certain or unsure if they had the definition correct at the pre-test; no student strongly agreed that they defined it correctly and several disagreed. By the post-test, students self-assessed as more confident, with no students answering below agree. Combined with the data on the student-assessed value of the workshops, which used the same statement, we see a clear pattern: students believed that they were more capable of historical object analysis after taking the course and being exposed to the object workshops. We know that self-confidence, along with engagement, are important predictors of student success (Tavani & Losh, 2003).

Student comfort level with historical object analysis

also increased over the duration of the course. On the first day, five students (22%) stated that they were uncomfortable analyzing a 20th-century BC Egyptian statue. Five students were neutral, that is 'neither comfortable nor uncomfortable' (22%). Six students were either 'moderately' or 'extremely comfortable' (26%). By the end of the course, 21 out of 24 students (87.5%) were 'moderately' or 'extremely' comfortable with using an image of an Egyptian object "to interpret Egyptian motive(s), agenda(s), and cultural impact(s)." That is a nearly four-fold increase (Fig. 3).
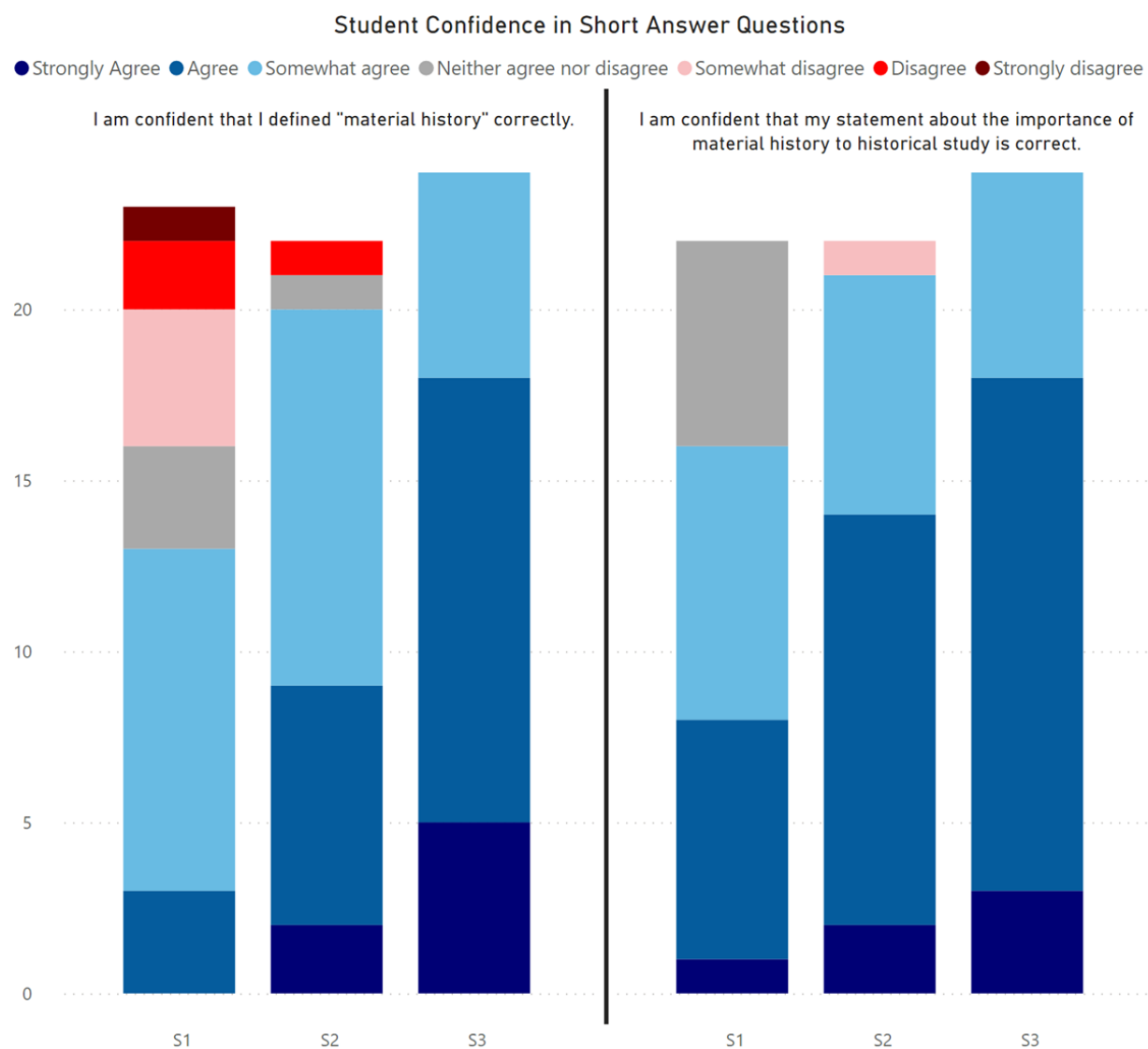
Students overwhelmingly assessed themselves as more confident about material history and more comfortable with historical object analysis after taking the course. It is not possible to isolate the impact of only the workshops and assignments on student confidence in defining material history or analyzing historical objects as the course employed object analysis as primary sources throughout. It is likely that other elements of the course, such as in-class group analysis of images of art and objects also contributed to their understanding and confidence as student learning communities have a demonstrably positive impact on student learning (Vescio, et al., 2008); nevertheless, the results of the student surveys emphasize that the short time with the objects in the collection improved student understanding of historical object analysis and self-assessed confidence in their historical interpretive skills. While integrating hands-on activities into history and other humanities and social sciences courses is not a new practice, and faculty descriptions of similar workshops and assignments elsewhere have reported success (Rockenbach, 2011), the results of our study show that the perceived benefits for students go beyond meeting assignment and course learning objectives. In particular, students noted a substantial increase in their confidence and comfort, both crucial to improved learning outcomes.

Although two of the investigators have since moved into different positions, Dowling intends to reframe the study instructions for the knowledge demonstration survey questions and run this study in Fall 2023 when the course is offered again. This would allow us to assess student performance on learning objectives alongside more targeted student perceptions of the library instruction, workshops, and object assignments as well as ask students additional, pointed questions about

Real World Experience *continued*

Figure 3

Student responses through the three surveys to measure their confidence in their answers to the two survey questions on the definition and importance of material history.

Student Confidence in Short Answer Questions

● Strongly Agree ● Agree ● Somewhat agree ● Neither agree nor disagree ● Somewhat disagree ● Disagree ● Strongly disagree

I am confident that I defined "material history" correctly.

I am confident that my statement about the importance of material history to historical study is correct.

Note. S1 means their response to Survey 1, S2 and S3 is for their follow-up responses on later surveys.

engagement and about their future goals and enrollment plans in historical courses. We also intend to ask more directed questions about other student interaction with objects, such as in-class group-analysis of images of objects to assess the impact of the workshops and related assignments separately more clearly from other forms of object interaction and analysis instruction.

Conclusions

While we compiled responses from only a small number of students (n=24) and cannot draw sweeping

Real World Experience *continued*

conclusions, the data emphasizes that students believed the object activities increased their learning, engagement, and confidence in the course material. Further, the results strongly suggest that the hands-on workshops and assignments increased student understanding of and self-confidence in historical object analysis and historical interpretation. Students overwhelmingly assessed the workshops as positive experiences and rated their confidence in historical analysis skills higher after the workshops, interacting with the objects, and completing the assignments. Further, the additional answers we collected and analyzed emphasized that from the student perspective working with the objects directly increased their engagement, which is associated with student success, and interest in the course and historical field (Lester, 2013). The results of this small study are encouraging for humanities faculty who want to increase engagement and perhaps course enrollment. Anecdotally, we heard that students enrolled in the Fall 2019 course *because students from the Fall 2016 course spoke so positively of the object workshops.*

Collaborative, iterative, and hands-on projects are recognized as a high-impact practice (HIP), as is undergraduate research (AAC&U). We all know that high impact practices are very effective for making sure all students learn, but they also come with "high-impact fatigue," as Jane S. Halonen and Dana S. Dunn termed it (2018). Intensive course and assignment preparation for HIPs, as well as labor intensive monitoring of student research, is a barrier in a general education course open to non-majors and specialists simultaneously. Further, increasing university expectations for student learning experiences across curricula makes employing the HIPs that we know work difficult in general education courses. What our study suggests is that even very brief workshops working with inexpensive, everyday items (e.g., single beads, knife blades, oil lamps) produced noticeable and promising results from the students in terms of measurable engagement, which we know leads to improved outcomes (Kong, 2021).

At the time it was created, our course met the 2012 version of the "Western Heritage" general education curriculum block for our unit, the College of Liberal Arts & Sciences. That curricular block was revised (but never assessed) in 2019 and implemented in 2020, and overhauled again in 2022, to be implemented in 2023. Although only 13% of students enrolled in the course did so to meet the general education requirement, the course

was required to meet the series of general education student learning objectives required by both the unit and the university. The college-level objectives emphasized awareness of major developments in the "Western tradition" as well as reflecting on how those traditions have shaped the perspectives, purposes, character, or motives of the historical actors. In addition, it meets the university-level competency for Critical Thinking, which requires that the students demonstrate the ability to draft and support an argument using diverse sources. With these university- and college-level requirements, the course was already overburdened even before Dowling added course-specific outcomes. As instructors, we were thrilled that with limited time and labor investment into the hands-on workshops and collaborative project, we saw demonstrably positive impacts on students' self-assessed confidence and learning. We believe that this kind of iterative object-based workshop series could be employed with similar success in other lower-level and general education courses in the Humanities, employing different topic foci.

We are also cognizant of faculty workload problems. The students surveyed in this study submitted two very short assignments that required only minimal marking from the instructor. The number of students in the course was 24. Especially paired with other course assessments, substantial preparation and grading from workshops and associated assignments could lead to faculty overwork; however, the assignments required no additional marking than other short written assessments. To combat faculty burnout from HIPs, Halonen and Dunn (2018) recommended both limiting scope of HIPs and associated assignments and the intensity of marking to keep faculty workload reasonable. We believe the workshop plus assignments series achieves those recommendations and is suitable for mid-size classes. The combo workshop and assignment series required only minimal advance set up and employs student-led review and revision of the assignments before faculty marking, which minimizes the need for extensive marking, but also involves the students in the process. We hope the results of this study encourage Humanities and library faculty to consider ways in which they could collaborate to combine material analysis and increase student informational literacy outside the purview of traditional library instruction.

We recognize that many institutions, especially smaller ones, may not have access to substantial, or indeed any,

Real World Experience *continued*

object collections. Our institution had only a small manuscript archive before the Collection's donation, and there would have been extremely limited on-campus options for this kind of activity before 2017. Even when an institution does not have a collection, due to the small time investment in the workshops, it may be possible to host one or two sessions with modest collections off-campus, which are more commonly held by smaller institutions or in local, state, regional, and federal repositories. For example, our city has several historical museums and sites of interest with collections that could

be consulted by classes. This opens up the possibility for faculty to collaborate with local museums, libraries, and archives for the object manipulation portion of the project. While we focused on classical objects, because that was the bulk of the collection's holdings and the emphasis of the course; there is no reason that analogous collections of everyday objects, or even 19th or early 20th century books, could not be used to introduce students to material analysis in any Humanities courses.

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Real World Experience *continued*

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Real World Experience *continued*

Appendix A
Historical Artifact Analysis Surveys

Survey appearance notation 1: S1 means that the question appeared on survey 1, S2 for survey 2, & S3 for survey 3.

Survey appearance notation 2: A large number of the questions rely on a 7-point Likert scale (agree-disagree, interested-not interested, comfortable-uncomfortable). For those questions, You will find a note that says '7-point Likert scale (term)'

IC2 - ELECTRONIC CONSENT [S1, S2, S3]

By clicking on the "I agree to participate" button, you are indicating that:

- You have read the above information;

- You are at least 18 years of age;

- You are agreeing to participate voluntarily;

- You understand that responses are anonymous and confidential and will not affect your grade.

  - "I agree to participate"

  - "I do not want to participate"

E1 - Why did you enroll in this course? [S1, S3]

- History Major

- History Minor

- Classics Major

- General Education requirement

- Other: _____

E2 - How many college-level history courses (at Mercer or another institution of higher education) have you taken? [S1, S3]

- 1

- 2

- 3

- 4 or more

E3 - What do you hope to gain from this course? (select the option that best meet your goals) [S1, S3]

- Better historical understanding of Ancient Mediterranean societies

- Training for historical and/or classical study

- A good grade

- Other: _____

E4 - How interested are you in Ancient History? [S1, S3]

- 7-point Likert scale (interested)

HP0 - Answer the following questions about historical study to the best of your ability. [S1]

HP1 - What is the primary purpose of studying history? [S1, S3]

Creating a narrative

Interpreting past events

Understanding historical people

Avoiding past mistakes

Other: _____

HP2 - Select any activities that you think professional historians participate in as part of their historical work. [S1, S3]

- Teaching

- Researching

- Traveling

- Presenting

- Translating

- Transcribing

Real World Experience *continued*

- Engaging in archaeological fieldwork

- Engaging in archival research

- Experimenting

- Other: _____

P1 - What percentage of their professional time do professor-historians spend doing each of the following activities in their work time? [S1, S3]

(Total must add up to 100)

Teaching (preparing lectures, grading, office hours, etc.) :

_____

Library research/working with printed secondary source materials :

_____

Archival research/working with original materials :

_____

Archaeological research/working with original materials and sites :

_____

Presenting conclusions at professional organizations/conferences :

_____

Writing articles/books to publish in academic venues (journals/books) :

_____

Other:

_____

Total :

_____

OH0 - Respond to the following questions about historical sources to the best of your ability [S1, S3]

OH1 - Objects are useful historical sources. [S1, S3]

7-point Likert scale (agree)

OH2 - Objects are as important as texts in historical study. [S1, S3]

7-point Likert scale (agree)

OH2 - Objects are as important as texts in historical study. [S1, S3]

7-point Likert scale (agree)

OH4 - Texts are as important as objects in historical study. [S1, S3]

7-point Likert scale (agree)

OH5 - Texts are historical objects. [S1, S3]

7-point Likert scale (agree)

OA1 - I know how to analyze an object to understand the motive(s), agenda(s), and/or cultural impact(s) of the society that created the object. [S1, S3]

7-point Likert scale (agree)

OA2 - If I were given an image from an ancient society, for example, the 20th century BC Egyptian statue below, how comfortable would you feel using it to offer an interpretation of Egyptian motive(s), agenda(s), and cultural impact(s)? [S1, S3]

7-point Likert scale (comfortable)

Real World Experience *continued*

(Image from the Metropolitan Museum of Art, used under the Creative Commons 0 license)

M1 - In your own words, define "material history." [S1, S2, S3]

_____

_____

_____

M2 - I am confident that I defined "material history" correctly. [S1, S2, S3]

7-point Likert scale (agree)

M3 - Why do you think "material history" is important to historical study? [S1, S2, S3]

_____

_____

_____

M4 - I am confident that my statement about the importance of material history to historical study is correct. [S1, S2, S3]

7-point Likert scale (agree)

M5 - I feel more confident about my knowledge of ancient material history than I did before I participated in the Ancient Object Analysis Assignments. [S2, S3]

7-point Likert scale (agree)

Emp1 - To the best of your ability, define the concept "empire." [S1, S3]

_____

_____

_____

Emp2 - I am confident that my definition of "empire" is correct. [S1, S3]

7-point Likert scale (agree)

Emp3 - According to your own definition, which of the following historical civilizations would you consider an empire? [S1, S3]

- Egyptian New Kingdom, ca. 1200 BC
- Athens, ca. 450 BC
- Han Dynasty China, ca. 200 BC
- Mongols, ca. 1300 AD
- Inca, ca. 1400 AD
- Spain, ca. 1492 AD
- British Empire, ca. 1700 AD

Emp4 - Of the possible choices for empires offered in the previous question, which have you studied previously in a history class (high school or college)? [S1, S3]

- Egyptian New Kingdom, ca. 1200 BC
- Athens, ca. 450 BC
- Han Dynasty China, ca. 200 BC
- Mongols, ca. 1300 AD
- Inca, ca. 1400 AD
- Spain, ca. 1492 AD
- British Empire, ca. 1700 AD

Real World Experience *continued*

A1 - Did you attend and participate in the introductory workshop on how to handle and interpret ancient objects historically? [S2]

   Yes

   No

A2 - Did you attend and participate in the hands-on workshop in which you were assigned an individual object to work with for the entire class period? [S2]

   Yes

   No

HO1 - I enjoyed my hands-on experiences with the ancient objects. [S2]

   7-point Likert scale (agree)

HO2 - Hands-on interaction with ancient objects positively enriched my classroom experience. [S2]

   7-point Likert scale (agree)

HO3 - Hands-on interaction with ancient objects increased my engagement in the class as a whole. [S2]

   7-point Likert scale (agree)

HO4 - The first hands-on instructional workshop prepared me to work with ancient objects. [S2]

   7-point Likert scale (agree)

HO5 - The hands-on interaction with the ancient objects benefited my understanding of the discipline of history and the historical profession. [S2]

   7-point Likert scale (agree)

L1 - I was comfortable touching and working with the ancient objects during the second workshop (when you worked individually with a single object). [S2]

   7-point Likert scale (agree)

L2 - The research component of the Ancient Object Analysis Assignments familiarized me with Mercer's library resources. [S2]

   7-point Likert scale (agree)

L3 - The library instruction prepared me to research the society that created my object. [S2]

   7-point Likert scale (agree)

AOA1 - The Ancient Object Analysis Assignments helped me improve my historical writing. [S2, S3]

   7-point Likert scale (agree)

AOA2 - The Ancient Object Analysis Assignments (workshops included) increased my ability to analyze the the motive, agenda, and cultural impact of ancient societies using objects. [S2. S3]

   7-point Likert scale (agree)

AOA3 - The Ancient Object Analysis Assignments (workshops included) increased my understanding of the motive(s), agenda(s), and/or cultural impact(s) of the ancient societies we have studied in class. [S2, S3]

   7-point Likert scale (agree)

AOA4 - The Ancient Object Analysis Assignments (workshops included) increased my understanding of the discipline of history and the historical profession. [S2, S3]

   7-point Likert scale (agree)

AOA5 - The Ancient Object Analysis Assignments positively enriched my overall classroom experience. [S3]

   7-point Likert scale (agree)

AOA6 - The Ancient Object Analysis Assignments increased my engagement in the class as a whole. [S3]

   7-point Likert scale (agree)

SR1 - I enjoyed my hands-on experience with the phalanx shield and roleplay. [S3]

   7-point Likert scale (agree)

SR2 - The shield and role-play activities enriched my classroom experience. [S3]

   7-point Likert scale (agree)

Real World Experience *continued*

SR3 - The shield and role-play activities increased my engagement in the class as a whole. [S3]

    7-point Likert scale (agree)

SR4 - The lecture by the sculpture professor helped prepare me to craft a shield. [S3]

    7-point Likert scale (agree)

SR5 - The shield and role-play activities benefited my understanding of the discipline of history and the historical profession. [S3]

    7-point Likert scale (agree)

SR6 - The shield and role-play activities increased my ability to analyze the the motive, agenda, and cultural impact of ancient societies using objects. [S3]

    7-point Likert scale (agree)

SR7 - The shield and role-play activities increased my understanding of the motive(s), agenda(s), and/or cultural impact(s) of the ancient societies we have studied in class. [S3]

    7-point Likert scale (agree)

R1 - Please order the following activities according to which you believe contributed the most (1) to the least (8) in your overall learning in the course: [S3]

    _____ Ancient Object Analysis Assignments

    _____ Hands-On Workshops

    _____ Dr. Dowling's Lectures

    _____ Assigned Readings

    _____ Class Discussion

    _____ Phalanx Assignment

    _____ Quizzes

    _____ Guest Lectures (Ms. Wright and Professor Blackburn)

Real World Experience *continued*

Appendix B
Rubric for Thick Description of Holmes Collection Object

Content	Excellent	Admirable	Acceptable	Needs Improvement	Unacceptable
Accuracy (20 points)	Factually describes all elements of the object with no inference.	Factually describes near all of the object's elements with very little inference.	Describes the majority of the object's elements with some inferences. May make some minor description errors.	Describes some of the object's elements with a lot of personal inference and interpretation. May make major description errors.	Does not adequately describe the object or relies too heavily on personal interpretation to be useful.
Organization (20 points)	Description accounts for the needs of the reader first. Organizes information organically and logically.	Description accounts aims to satisfy the needs of the reader but may fall a little short. Organizes information organically but may have minor logical breaks.	Description accounts aims to satisfy the needs of the reader but may fall short. Organizes information but may not strictly follow internal organization.	Description privileges the author not the reader. Information is somewhat organized but has no clear internal structure.	Description privileges the author not the reader. No organization apparent.
Usability (20 points)	Description easily used by reader to draw conclusions about the object and its historical context.	Description can be used draw conclusions about the object and its historical context but may miss minor information or be a little difficult to use.	Description can be used draw conclusions with some difficulty. May be lacking major information or be difficult to use.	Description cannot effectively be used by a researcher to draw conclusions due to a number of issues (information, factuality, organization, clarity, etc.)	Description cannot be used by a researcher to draw conclusions due to a number of issues (information, factuality, organization, clarity, etc.)
Style					
Clarity (20 points)	Words are chosen for their precise meaning. Correctly uses the shared vocabulary of historians and archaeologists learned in class. Concepts are fully explained.	Most words are chosen for their precise meaning. Primarily uses the shared vocabulary of historians and archaeologists. Most concepts are clearly explained.	Some words are ill-chosen. The shared vocabulary is not used or not used correctly. Some concepts are ill-defined or poorly explained.	Many words seem ill-chosen. Shared vocabulary not present. Key concepts left unexplained.	Difficult to understand with no representation of shared vocabulary. No concepts introduced or explained.
Expression (10 points)	Vivid and effortless. Intentionally uses stylistic elements to shape the reader's experience. Even though it's an object report, some phrases and surprises have aesthetic value.	Clear and engaging. Competent. Some intentional stylistic elements may not work.	Competent. Pedestrian phrases. No effort to control style for the audience's benefit.	Attempts to express ideas and concepts but has very little control over stylistic elements.	Uncontrolled or inarticulate.
Mechanics (10 points)	All sentences are complete and grammatical. Paragraphs are coherent and have topic sentences. Concepts flow. No slang or colloquial language. Virtually error free (no more than a typo/page).	Most sentences are complete and grammatical. Paragraphs have topic sentences and represent distinct units but transitions may be rocky. Concepts flow. Some slang or colloquial language. Virtually error free but may be more than typos (2-3/pg).	Sentences are generally grammatical. Paragraphs may lack cohesion and topic sentences. Flow between paragraphs intended but not achieved. Disruptive errors.	Disruptive errors in grammar, sentence structure, or paragraphing that interfere with the reader's engagement and/or comprehension. Slang is pervasive.	Constant or severe errors that make reading nearly impossible. Spelling errors and typos are rampant.

___Paper requirements followed (length, typed, etc.)

___Proper citation of text(s) used

___Pages acknowledged

Real World Experience *continued*

Appendix C
Rubric for Historical Analysis of Holmes Collection Object

Content	Excellent	Admirable	Acceptable	Needs Improvement	Unacceptable
Thesis/ Argument (20 points)	Perceptive, interesting, relevant, clear & controversial or surprising. Uses independent historical research.	Significant, interesting, relevant and clear but not ground-breaking. Still controversial enough for argument. Demonstrates historical research.	Tangential, prosaic, or uncontroversial. May be borderline descriptive. Some historical research.	Irrelevant or descriptive. Insufficient historical context.	No discernible position taken. No clear research or historical background.
Reasoning/ Logical Development of Argument (20 points)	Each reason/premise supporting the thesis is made in a separate statement. Utilizes sub-arguments to support the main thesis. All arguments support initial thesis.	The premises are generally clear but sometimes conflated/confused. May have overlap between which premises are assumed and which are proved. Usually supported by sub-arguments.	Some confusion between proved premises and presumed premises. Support for premises is often lacking. May not contain sub-arguments.	Frequent confusion between premises taken and given. Little to no sub-arguments or logical support for thesis or arguments don't address/ support thesis.	No premises/ reasons or restates thesis repeatedly. There is no support for claims just statements.
Evidence (including counter-argument) (20 points)	The premises clearly support the thesis. The original argument and sub-arguments are valid and demonstrated with textual or visual evidence from credible, scholarly sources. The paper considers obvious and unobvious counter-examples and connects them to the evidence.	The premises appear to support the thesis. The arguments appear valid and are developed and supported by credible, scholarly evidence. Visual and textual evidence are used with original reasoning to support claims. Uses obvious counter-examples.	The premises appear to support the thesis but the arguments aren't developed. The textual evidence and independent reasoning is undeveloped or lacking. May not use sufficient evidence. Uses minimal counter-examples.	The premises do not clearly support the thesis and the arguments aren't developed. Little to no textual evidence is used and independent reasoning is lacking. May use questionable evidence. No clear counter-examples.	The premises do not support the thesis, and there is no discernible argument. No evidence is used, or it is non-scholarly or non-credible. No counter-examples.

Style					
Clarity (20 points)	Words are chosen for their precise meaning. Correctly uses the shared vocabulary of historians and archaeologists learned in class. Concepts are fully explained.	Most words are chosen for their precise meaning. Primarily uses the shared vocabulary of historians and archaeologists. Most concepts are clearly explained.	Some words are ill-chosen. The shared vocabulary is not used or not used correctly. Some concepts are ill-defined or poorly explained.	Many words seem ill-chosen. Shared vocabulary not present. Key concepts left unexplained.	Difficult to understand with no representation of shared vocabulary. No concepts introduced or explained.
Expression (10 points)	Vivid and effortless. Intentionally uses stylistic elements to shape the reader's experience. Even though it's an object report, some phrases and surprises have aesthetic value.	Clear and engaging. Competent. Some intentional stylistic elements may not work.	Competent. Pedestrian phrases. No effort to control style for the audience's benefit.	Attempts to express ideas and concepts but has very little control over stylistic elements.	Uncontrolled or inarticulate.
Mechanics (10 points)	All sentences are complete and grammatical. Paragraphs are coherent and have topic sentences. Concepts flow. No slang or colloquial language. Virtually error free (no more than a typo/page).	Most sentences are complete and grammatical. Paragraphs have topic sentences and represent distinct units but transitions may be rocky. Concepts flow. Some slang or colloquial language. Virtually error free but may be more than typos (2-3/pg).	Sentences are generally grammatical. Paragraphs may lack cohesion and topic sentences. Flow between paragraphs intended but not achieved. Disruptive errors.	Disruptive errors in grammar, sentence structure, or paragraphing that interfere with the reader's engagement and/or comprehension. Slang pervasive.	Constant or severe errors that make reading nearly impossible. Spelling errors and typos rampant.

____Paper requirements followed (length, formatting, etc) ____proper citation of text(s) ____pages acknowledged

TEACHING REPORT

Instructor Perspectives on Failure and Its Role in Learning in Higher Education

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Abstract

Reflecting on failure is a critically important component of the learning process. However, relatively little scholarship to date has examined instructor perspectives of failure, including how failure informs their approaches to teaching and learning. This case study explores instructor perspectives on failure using data collected from a series of semi-structured interviews conducted across disciplinary departments at the University of Toronto Mississauga. When contemplating how and/or whether to incorporate failure pedagogy, instructors considered how interlocking systems of power shaped both their own and their students' positionalities and willingness to engage with failure. Three interlocking themes emerged, with instructors describing (1) failure as privilege, (2) failure as simultaneously a valuable pedagogical tool and an institutional risk, and (3) a disconnect between instructor desires to facilitate generative failure and the limitations of institutional policy in supporting such endeavors. The study finally explored how instructors, in light of existing power structures, suggested navigating institutional politics, incorporating new pedagogical techniques, and constructing support systems that could aid students in embracing, learning from, and bouncing back from failure.

Keywords

productive failure, generative failure, instructor perspectives of failure, higher education

Perspectives on Failure *continued*

In recent years, discourses of "embracing risk" and "failing forward" have permeated institutions of higher education. This rhetoric frames failure as an opportunity for learning, improvement, and growth. Scholarly research (e.g., Kapur, 2008; Kapur & Kinzer, 2009; Bjork & Bjork, 2011; Steuer & Dresel, 2015; Kapur, 2015; Eyler, 2018; Bjork & Bjork, 2020) has confirmed the pedagogical value of failure and encourages instructors to incorporate failure pedagogies such as "desirable difficulties" (Bjork & Bjork, 2011), "constructive error climate" (Steuer & Dresel, 2015), and "productive failure" (Kapur, 2015) into their classrooms. Much of this literature assumes that instructors and students engage with institutional teaching and learning environments that evenly distribute material resources (such as money, technology, and adequate staffing) and intangible assets (including time, support, and opportunities to experiment). However, pervasive inequalities structure how instructors and students conceive of, approach, engage, and learn from failure (Kundu, 2014; Hallmark, 2018; Feigenbaum, 2021). Interlocking systems of power across race, gender, socioeconomic status, access, university hierarchy, and first-generation and international student status dramatically shape who can afford to embrace risk in teaching and learning, as well as who has the resources and support to fail and try again.

The present case study pauses to take a broad view of failure as it relates to power, privilege, and learning in higher education. Focusing on instructor perspectives of failure, this study asks two questions in particular: With what mental frameworks are instructors approaching the topic of failure both as it relates to their own research and teaching, and as it relates to their students' learning and willingness to take chances? How do instructors acknowledge and navigate the structures of power shaping both their and their students' opportunities to take risks, learn from failure, and try again? In pursuit of these questions, an interdisciplinary team of researchers sought to examine faculty perspectives of failure more deeply. The current article reports the findings from a series of semi-structured interviews collecting perspectives on failure from tenured, pre-tenure, contingent faculty and postdoctoral fellows at the University of Toronto, a multi-campus Research-1 institution located across the Greater Toronto Area.

This case study begins the work of uncovering the role intersectional power structures play in shaping how—and whether—instructors are able to incorporate failure into their teaching. Moreover, the study indicates the thought processes instructors engage in when determining under what conditions they feel students can take risks, engage with failure, and learn from it. Three interrelated themes emerged in discussion. Instructors identified (1) failure as privilege, (2) failure as simultaneously a valuable pedagogical tool as well as an institutional risk, and (3) a disconnect between instructor desires to facilitate generative failure and the limitations of institutional policy in supporting such endeavors. Citing the high stakes and lasting implications of failure, participants consistently reflected on the ability to fail—and particularly the ability to fail without long-term consequences—as a privilege unevenly distributed and experienced by individuals across the institutional hierarchy. Many interviewees recognized the pedagogical value of failure as a learning opportunity but hesitated to implement structured experiences of failure into their own classrooms for precisely these inequalities. The interviewees not only referred to their own precarity as pre-tenured or pre-continuing faculty but also expressed concern for the emotional and material burdens classroom failure would place on their students, particularly financially precarious, racialized, first-generation, and/or international students. Institutional metrics such as course grade, GPA, and student evaluations deterred instructors from experimenting with failure in their teaching. The hesitancy expressed by this study's participants demonstrates a disconnect between what we know of failure's pedagogical potential and the institutional policies implemented to structure and track students' progress through higher education.

Perspectives on Failure *continued*

Critical Context

In the following subsections, we describe the areas of educational research both informing the present study and with which we place this work in conversation.

The Potentialities of Failure

Scholarly research acknowledges the pedagogical value of failure (e.g., Kapur, 2008; Bjork & Bjork, 2011; Kapur, 2015; Anderson et al., 2018; Eyler, 2018; Bjork & Bjork, 2020). In recent years, two approaches—desirable difficulties and productive failure—have come to the forefront. Bjork & Bjork (2011) acknowledge the learning potential of difficulty. "Desirable difficulties," they write, "trigger encoding and retrieval processes that support learning, comprehension, and remembering" (p. 58). By creating challenges that utilize students' existing knowledge to analyze and solve problems, instructors engender in their students "more durable and flexible learning" (Bjork & Bjork, 2011, p. 59). Similarly, Kapur's (2015) concept of productive failure develops student learning by engaging them in tasks they cannot fully solve initially. This model of learning requires students to draw upon prior knowledge in an attempt to develop solutions, even if the solutions they put forward are incomplete, sub-optimal, or incorrect. These exercises in productive failure are designed to assist students in identifying their own knowledge gaps and prime them for asking follow-up questions (Kapur, 2008; Loibl & Rummel, 2014; Glogger-Frey et al., 2015; Lai et al., 2016; Likourezos & Kalyuga, 2017; Anderson et al., 2018). Scholars such as these informed our understanding of the potential pedagogical benefits of failure. With this research in mind, we sought to examine how instructors at our own institution of higher education conceptualized and implemented failure in their research and teaching.

Instructor Perspectives of Failure

Relatively little research to date has focused on instructors' perspectives of failure and how these perspectives inform their approaches to teaching and learning. Jungic and colleagues (2020) reported a narrative inquiry of ten professors' perspectives on failure with the aim of demonstrating how failure serves as an important learning opportunity for students, instructors, and institutions. Their analysis underscores a great diversity of experience and perception toward failure. Nevertheless, themes of individualized failure and isolation appeared in nearly all the narratives.

Like Jungic et al. (2020), the present case study was interested in determining instructor perceptions of failure, broadly defined. However, the present work diverges from that of Jungic and colleagues in its attention to the relationships between learning, failure, and power in academe. Our study is concerned with failure in both teaching and learning, and as it impacts on both students and instructors. Within each of these groups, who feels empowered to take risks, who can fail without detrimental repercussions, and who is able to recover and try again?

Emphasis on Power and Privilege in Failure and Learning

The work of scholars such as Kundu (2014), Hallmark (2018), and Feigenbaum (2021) undergird our examination of the roles of power and privilege in instructor perspectives of failure and student learning. Critical of the growing emphasis on grit and student resilience, Kundu (2014) argues that such approaches to student learning "oversimplif[y] the problems facing education and what it takes for students to achieve" (p. 80). Specifically, "focusing on grit" causes us to "los[e] sight of structural obstacles in the path of student success" (p. 80). Kundu suggests instead that educators and administrators focus on "building capacity" through the cultivation of individual, collective, and systemic agency (p. 80). Meanwhile, Hallmark (2018) acknowledges that privilege shapes how equity groups experience failure. Referring specifically to low-income and first-generation students, Hallmark contends that an important step must involve recognizing not only "the privilege that comes with saying 'Failure is OK" but also how these enjoinders "dismiss...some students' struggles" and "can actually be harmful to their success" (p. A44). Feigenbaum (2021) examines the role of neoliberal social and economic ideologies in generating fear of failure under the framework of "precarious meritocracy" (p. 13). For Feigenbaum socioeconomic precarity and hyper-competitiveness stigmatize failure and foreclose student learning. He advocates for "generative failure," which prioritizes feedback and improvement over clear metrics for assessment (p. 13).

Perspectives on Failure *continued*

In addition to the field of educational research, we draw from cultural theory to round out our understanding of power and privilege. Specifically, we utilize Crenshaw's (1991) concept of intersectionality as a lens through which to explore the complexity of power and privilege. Developed from the field of critical race theory, this framework accounts for how varied systems of power intersect and combine to create complex and multi-layered experiences of privilege and oppression. Together, these scholars offered multiple ways of understanding how different manifestations of power and privilege combine and act upon instructors and students in myriad ways within institutions of higher education.

Guided by the scholarly work of Crenshaw (1991), Kundu (2014), Hallmark (2018), and Feigenbaum (2021), the present study delves into instructor observations on how structural inequalities (including race, gender, socioeconomic status, and first-generation or international student status) influence instructors' descriptions of failure, their willingness to take pedagogical risks, and their understanding of the impacts of power and privilege on student failure and learning in higher education. Specifically, we seek insight into how instructors grapple with systems of power in their pedagogical decision-making. Where do instructors see power working, if at all? How do they themselves navigate unequal power structures in their research and teaching, and how do they help their students navigate those structures? What role does institutional power play in instructors' pedagogical decisions? After describing the methods applied to this qualitative study, we explore in detail the emerging themes of privilege, institutional risk, and restrictive educational policies. Following the presentation of results, we place our findings in relation to existing literature before concluding with instructor insights from disciplines already incorporating failure pedagogy.

Methodology

Case Study Approach and Institutional Context

This project undertook an empirical enquiry via a case study approach. The case study focused on instructors at the University of Toronto Mississauga, which is located in the diverse urban city of Mississauga, is part of the University of Toronto tri-campus system, and is a Research-1 institution. The University of Toronto hosts just under 75,000 undergraduate students with slightly over 15,000 of these students at the Mississauga campus (University of Toronto, 2021a). In 2021, 23.8% of faculty at the Mississauga campus self-identified as racialized or persons of color, while 44.4% of faculty self-identified as women (University of Toronto, 2021b).

Little research (with the notable exception of Jungic et al., 2020) has systematically explored instructor perspectives toward failure. By utilizing a case study approach, we were able to conduct an in-depth analysis of instructor perspectives on learning through failure within one university's specific context. The latter is an important point. Focusing on one institution allowed us to delve deeply into instructor comments about intersecting cultural and institutional power structures as they manifested at the University of Toronto Mississauga. We were, for instance, able to evaluate instructor insights within the context of the university's specific policies, practices, and institutional mindsets. Pairing instructor insights with particular policies and practices began the work of uncovering the oft unacknowledged role power and privilege play in pedagogical decision-making. The case study not only revealed how instructors at our particular institution responded to the role of power and privilege in teaching and learning. It also raised further questions about how power and privilege influence pedagogical decisions at or across other institutional, local, and national levels. Given the contextual nature of the case study approach, we want to be careful not to generalize broadly. However, the cross-sectional (i.e., instructors of varying status and power within the university hierarchy) and cross-disciplinary aspect to the current study design lends itself to potentially meaningful contributions to the field, especially given the lack of current research on this topic. This case study, along with the work of Jungic et al. (2020), serves to equip future researchers with preliminary knowledge and future directions for broader, cross-institutional enquiries into the intersections of failure, learning, and power in higher education.

Respondents and Interview Process

Instructors (n=12) from a range of faculty and non-faculty positions were invited via email to participate in semi-structured interviews. The institutional categorization of the instructors was as follows: professors with tenure (n=1), pre-tenure instructors

Perspectives on Failure *continued*

(n=6), continuing non-tenure track instructors (n=3), and postdoctoral fellows (n=2). All participants taught and conducted research in a humanities capacity, though some (such as those in digital humanities, communication, information, or technology units) also engaged with computer science- and technology-related fields. Seven participants identified as women and five as men. When using pronouns in the discussion below, we utilize they/them in order to preserve the interviewees' anonymity.

Of note, the study eschewed a set definition of failure in an effort to capture the nuance with which participants thought about failure in their research, teaching, and understanding of student perceptions. The research team was interested in examining how instructors conceptualized the intersections between failure and learning. Yet, we recognized that fears and experiences of failure beyond the classroom or institution would inform their perceptions of failure, as well as their decision-making, willingness to take risks, and comfort in implementing failure pedagogy in the classroom. Therefore, the study approached failure from a broader and more generalist view to investigate how instructors were describing failure, how those descriptions changed over time or were applied differently to different contexts or groups, and what forces or combination of forces (i.e., social, economic, institutional) they saw as most influential to their perception of and approach toward failure at any given time.

Data Analysis

Interview data were processed according to Creswell's qualitative coding protocol (Creswell, 2002). Two members of the research team coded each response according to theme and subtheme. During this process, a detailed coding ledger was developed in order to track the themes and subthemes and to standardize the language used in each description. Coding was done both by participant, in order to capture the nuances of their individual thoughts and experiences, as well as by question, in order to compare perspectives and track the range of attitudes and opinions specific to a given question. The coding was then repeated wholescale to record any additional themes and subthemes not initially documented, as per Miles et al. (2020).

Ethics

This research protocol was approved by the University of Toronto Mississauga Delegated Ethics Review Committee in October 2020.

Results

Descriptions of Failure

As mentioned previously, the study deliberately did not offer definitions of failure to the interviewees. We were interested in how faculty understood the concept as it applied to their own research and teaching, as well as how those conceptualizations changed over time, how or if they shifted in response to major life changes (such as full-time employment or tenure), and how perceptions of failure differed in discussion of their roles as researchers and instructors versus discussion of student perceptions of failure. This decision yielded nuanced data. Participants revealed complex and multifaceted perceptions of failure that were highly contingent on positionality, circumstance, and expectation, among other factors. Table 1 records the myriad ways interviewees conceptualized failure, including failing an assignment or course; failure to complete graduate training, to produce research, or to find stable employment; and failure to earn a reputation or become respected in one's field. Instructor descriptions of failure proved fluid and malleable, with participant perspectives toward failure shifting between institutional contexts (e.g., graduate school and tenure-track employment) and between subject groups (instructors and students).

Identification of Core Themes and Subthemes

Beyond their shifting perceptions of failure, participants discussed a number of core themes and subthemes, which have been documented in ranked order in Table 2. Of particular interest are three interrelated themes woven throughout the interviews: (1) failure as privilege, (2) failure as both a pedagogical tool and institutional risk, and (3) the disconnect between generative failure and institutional policy. The following subsections describe each topic in turn. A subsequent discussion of these findings in relation to higher education scholarship will then occur.

Perspectives on Failure *continued*

Theme 1: Failure as Privilege

Participants framed failure as a privilege in relation to their own graduate educations, their past and current positions within the university hierarchy, and their students' abilities to safely engage with and learn from failure. Specifically, interviewees indicated that their positions in academia, their individual subjectivities, and their degree of socioeconomic security influenced how they defined and engaged with failure. Of the twelve interviews, two-thirds reflected on the ways their position within the university hierarchy shifted their ideas of and willingness to engage with failure. Of those eight, five specifically referred to failure as a privilege, with four describing privilege as the ability to fail without detrimental financial consequences. Two cited identity politics by acknowledging how subjectivity and positionality influence students' experiences of failure and their ability to try again. One described the privilege of time to "play with ideas" and seek feedback. Finally, one participant recounted an instance in which a graduate professor wielded the threat of academic failure over students in order to sustain his own institutional and racial privileges.

Non-tenure track interviewees repeatedly correlated failure with economic distress. In the words of a postdoctoral fellow in digital humanities, failure is "very different for someone who's comfortable in a position versus someone who's still in the process." Speaking of their graduate school experience, the fellow asserted that the ability to produce research was "tied to economic stability." Failing to fulfill time-to-degree expectations or to produce chapter drafts or publications could result in loss of funding. The threat of financial insecurity led the fellow to ask, "If my research isn't good enough, or people don't think it is, will I be living in my car next year?" This fear of economic distress only increased as they entered their fellowship, where "the stakes are just so much higher." A limited-term assistant professor of women and gender studies concurred. Their fears of financial insecurity "intensified in [their] time on the job market" because "there's just more PhDs [than there are] jobs." For them, the limited availability of employment means that "many of us will fail, and there's nothing we can do about it."

Those participants who had secured tenure or tenure-track positions by the time of the interview tended to express a more positive outlook toward failure. An assistant professor of writing studies indicated feeling "more comfortable with it," while an associate professor in English and drama expressed how their ideas of failure changed for the better only as they moved further along in their career. At the time of the interview, the associate professor of English and drama defined failure as an "inability to be influential" but noted that if they had been asked about failure before they obtained their tenured position, they would "have had a very different definition." Both participants attributed their relative comfort to the security afforded to them by their positions, and both reflected on their altered perception of failure as a privilege. The assistant professor of writing studies explained that their shift in perspective "has a lot to do with the privilege of my position. …I'm very comfortable with it now because of that security that I have." Similarly, the tenured professor characterized their relationship to failure as privileged because unlike others in academia, failure would not result in them "not being able to pay the bills or not being able to get a job." Having secured tenure, they are now able to look beyond the socioeconomic impacts of failure.

While participants primarily referred to failure as a privilege in terms of socioeconomic status, two reflected on the role of race and first-generation status. Specifically, these two participants indicated that failure was not a privilege afforded to them during their graduate education. As a first-generation university student, anxieties of failure loomed for the now limited-term assistant professor of women and gender studies mentioned previously. "I'm the first person in my family to get an undergrad degree, let alone a PhD," they explained. For this participant, failing the defense would mean "failing everyone" in their family. Meanwhile, an assistant professor of American and African American literature described a situation in which a tenured professor wielded the threat of academic failure against non-white, women students in order to perform academic gatekeeping. As a graduate student, the interviewee internalized these "power play[s]" as a "damnation of my capacities as a thinker and writer." The experience "stifled any desire to take intellectual risks" to the extent that the interviewee was "convinced I should drop out of my program."

Perspectives on Failure *continued*

Participants extended the discussion of failure as privilege to their students. Almost half of the interviewees recognized the ability to fail (and particularly the ability to fail without lasting consequences) as a privilege unevenly distributed among and experienced by the student population. A postdoctoral researcher in management innovation described the pressure experienced by their multi-language students as they struggled to accept the failures attendant with learning how to write in university. Similarly, a sessional lecturer in visual studies who works regularly with international students recognized how subjectivity changes student engagement with and response to failure. For them, instructors should always "consider the multiple identities that students hold" since each one affects how students define success.

Theme 2: Failure as Pedagogical Tool and Institutional Risk

In addition to exploring failure as a privilege related to academic rank, job security, and positionality, instructors correlated their willingness to incorporate failure as a pedagogical tool with their institutional status. Though their terminology differed, all the interviewees described the pedagogical value of failure.[1] "I think failure would enable more exploration [and] deeper learning," mused the assistant professor of women and gender studies. The assistant professor of writing studies concurred. "It's a lovely teaching moment. …It's through that [messiness] that you're going to grow and you're going to build" knowledge and skills.

However, participants expressed varied willingness to pursue failure as a pedagogical tool. Postdoctoral fellows, contingent, and pre-tenure/pre-continuing faculty particularly hesitated to incorporate alternative pedagogies and grading metrics into their classrooms either before entering supportive departments/units or securing tenure. One assistant professor of digital technologies hoped one day to be able to incorporate failure-based learning opportunities and alternative assessment metrics into their classroom. The interviewee both acknowledged the pedagogical benefits of failure and was open to the idea of incorporating "carefully" structured learning moments. Nevertheless, they have put teaching innovation on "the back burner" while their job security is at stake. "I'm pre-tenure," they explained.

"So, I'm nervous about it." Fearful of poor evaluations, the participant decided to continue using conventional teaching strategies "until I get to tenured status, until I have that sort of safety where student evaluations or student feedback…doesn't mean as much."

One third of participants reported a lack of departmental or institutional support for either themselves or their students. "I don't feel at all supported in my teaching," asserted the associate professor of English and drama. The interviewee expressed a desire to know that, should they "try something out" pedagogically that the department will back them, even if the experiment returns lower evaluations on the first try. The assistant professor of digital technologies felt support was offered conditionally. "At this stage in my career…I need to create a record that demonstrates my competence and eventually expertise in pedagogy. …So long as I can demonstrate that there is progress being made, I feel like I will be supported." Two different respondents indicated a lack of support for students in their departments as well. Specifically, they maintained that their departments viewed student failure as an inevitable outcome and attributed the causes of that failure to the student alone. The assistant professor of American and African literature explained that their department held the view that "students who are good students are good students and students who are bad students are bad students." Their department expects a select few to succeed without examining the institutional expectations, pedagogical strategies, or sociocultural power structures that scaffold student endeavors. An assistant professor of visual studies expands on this point, alluding to neoliberal ideologies that individualize failure and responsibility: "My impression is that the department thinks that some students in every class will always fail and that's on them. …I don't think they think of it as a learning process."

The interviewees were particularly concerned as to how failure would affect their students, especially students of marginalized or minority status. Nine out of twelve participants expressed concerns over student fear, anxiety, and stress. "I think students are afraid to take chances or to explore too much because they're deeply, deeply afraid of failing," asserts the assistant professor of women and gender studies. As the postdoctoral

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[1] *Terms referring to the connection between failure and learning include the following: exploration, play, mistakes, trial-and-error, confusion, unclarity, revision, iteration, and debugging.*

Perspectives on Failure *continued*

researcher in management innovation explains, this fear impacts student learning and risk-taking. In their words, "fear of failure as in a bad grade, or even a slightly lower grade, might affect the student's willingness to really think about [difficult] questions and engage with them."

Of the nine participants, five specifically worried about the effects of stress and anxiety on their students' physical and mental wellbeing. The postdoctoral fellow in digital humanities recognized the destructive potential of high-stakes failure. As they explained, pressure and expectations "come at [students] from all sides. You can see the strain as the semester goes on. It gets really bad toward the end of the semester." The assistant professor of women and gender studies concurred. "The stress of not being able to fail and experiment… is just overwhelming." Cognizant of student stress, the sessional lecturer in visual studies expressed an impulse "to try and take that edge off of the fear of taking risks." Their strategy for doing so depended on establishing a rapport with students and "requires a lot of community building" within the classroom. However, course size and workload limit instructors' abilities to connect with students and to create supportive learning environments.

When asked about incorporating failure into their classrooms, instructors diverged in their opinions. Some, such as the assistant professor of American and African American literature hesitated, worrying that the inclusion of structured failure would only multiply the number of stressors students face. "I don't want to be perceived as punitive in ways that can make the incorporation of failure into classes feel risker to the wellbeing of my students," she explained. The assistant professor of women and gender studies considered the notion differently. So long as opportunities for failure were incorporated through low-stakes grading and revision, this instructor was "in favor of doing anything that would help alleviate a little bit of that anxiety to fail, to take chances, to explore."

Those who expressed interest in the pedagogical value of failure agreed on one point: the experience of failure would have to be carefully framed and structured. First, instructors would have to clarify what they meant by failure. The assistant professor of writing maintained, "The word failure in itself is a barrier to learning for some students. …Failure can seem absolute to a lot of

my students." Instructors therefore asserted the need to separate classroom failures in the form of mistakes, errors, or unsuccessful experimentation from recorded failures such as lower grades or GPA. Disconnecting the failures experienced during the learning process from long-term penalties thereby creates "space" for students to assimilate information and practice skills in a generative and encouraging manner. For the instructors interviewed in this study, tactics for fostering such a space include clear expectations and learning objectives, low-stakes or scaffolded assignments, built-in revision opportunities, grading rubrics, dropping the lowest grade, and either more available instructors and teaching assistants or smaller classes. Table 3 compiles the various pedagogical tools interviewees indicated they have already incorporated or would like to see included in the teaching and administration of higher education.

Theme 3: Failure and Institutional Policy

Given their understanding of failure as a privilege, risk, and pedagogical tool, participants expressed frustration at what they viewed as an incompatibility between experimenting with generative failure and the demands of institutional policy. One quarter of participants identified grades and GPA as policies that hindered students' engagement with failure. The postdoctoral researcher in management innovation expressed frustration with the degree to which contemporary grading conventions obfuscate real learning. Grades are "this one output. You can have a whole class that you can learn or do all these things in [and at] the end of the day, it narrows down to a grade on your transcript." The associate professor of English and drama conveyed a similar distaste for grades. "We need to stop being tough about grading. …Students really fixate on things like grades and deadlines, as opposed to what we actually want to communicate to them." For the assistant professor of women and gender studies, "get[ting] rid of grades, maybe completely reimagin[ing] how we do it" offers one method of addressing performance-driven fear among students.

In addition to describing grades and GPA as practices that discourage student learning and risk-taking, instructors also reported how institutional measures limited their own abilities to engage with failure in the service of student education. For instance, the institution attempted to intervene in at least two instructor's course

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grading schemas because, it claimed, student grades were "too high." One instructor explained, "I've been explicitly told that my grades can't be too high." A second instructor reported after the initial interview that their department reached out with similar concerns. The department suggested the instructor review the course marks and adjust them downward. In the words of the first instructor, the institution hinders educators' abilities to incorporate failure pedagogy, such as revise and resubmit assignments, with "this constant threat that if my grades are too high someone is going to come and talk to me." A third participant agrees. Rigid institutional expectations regarding the distribution of grading curves "throws the autonomy of instructors into somewhat of a crisis if you've constructed your class such that students can improve over time."

Along with strict grading protocol, participants identified the institutional allocation of time and resources as a limitation to their ability to engage students in failure pedagogy. "All the right things are being said," stated the postdoctoral fellow in digital humanities, "and we know what the right things are to help students learn. But carving out the time for instructors to actually do that in a way that is sustainable and equitable, I don't think the institution knows how to do that." For this instructor, neither the tenure system nor the recent turn to precarious adjunct labor offers "equitable and just" divisions of labor, livable wages, or departmental resources. The assistant professor of visual studies offers a specific example by describing the amount of time necessary for providing students with written comments and substantive feedback on their assignments. In this participant's courses, students engage in a series of revise-and-resubmit assignments designed to emulate peer review and scholarly communication. However, the instructor consistently feels the strain of returning comments in the short amount of time stipulated by the university. As they explained, "In order to normalize failure and getting feedback, students need to do smaller, lower stakes assignments more frequently. To balance that against a 12-week semester means that there's a constant back and forth" between the students and the instructor. "The workload ends up being very, very intense all semester for those of us involved in marking and grading." Smaller courses could offer one solution to the pressures involved in returning student feedback, but

institutions would need to find and allocate resources for hiring more faculty/teaching assistants and, as the postdoctoral fellow in digital humanities remines us, needs to do so equitably by offering livable incomes and job security.

Discussion

Despite the acknowledged pedagogical value of failure (e.g., Bjork & Bjork, 2011; Kapur, 2015; Eyler, 2018; Bjork & Bjork, 2020), systemic inequalities influence who has the ability to productively engage with failure and who can try again after an unsuccessful experience. The present study reveals an intricate web of power structures shaping how—and whether—instructors are able incorporate failure into their teaching, as well as instructors' thought processes involved in determining how—and whether—their students feel they can take risks, engage with failure, and learn from it in their coursework. Three overarching, though contextually specific, themes emerged from the interviews. Whether speaking of undergraduate students, their own experiences in graduate school, or their present teaching and research, a significant portion of the participants recognized the ability to fail safely and productively as a privilege associated with whiteness, masculinity, and tenure/tenure-track institutional status. Women, instructors of color, and pre-tenure/continuing status instructors or postdoctoral fellows felt limited in their ability to take pedagogical risks. At the same time, the interviewees recognized how students unevenly experience the academic, as well as material, mental, and social impacts of failure. Though instructors recognized the learning opportunities presented by moments of error or failure, they felt compelled to weigh the potential pedagogical gains against not only the institutional, social, and financial risks for themselves, but the academic, emotional, and psychological wellbeing of their students. The following section positions instructor insights regarding the privilege of incorporating and learning from failure pedagogy in relation to relevant educational research. Afterward, we detail instructor suggestions for creating supportive classroom and institutional environments capable of fostering not only students' willingness to embrace and learn from failure, but the instructors' willingness to experiment in their own research and teaching as well.

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The Privilege of Failure: Race, Socioeconomic Status and Learning

A significant portion of the faculty interviewed in this study understood failure as a complex experience informed by intersecting subjectivities, institutional policies, and systemic inequalities. However, major publications in higher education research have espoused the benefits of failure without sufficient attention to the intricate identities and backgrounds represented in each student (notable exceptions include Kundu, 2014; Hallmark, 2018; and Feigenbaum, 2021). Particularly troubling are the neoliberal discourses of grit (Duckworth, 2016) and resilience (e.g., Brown, 2015; Fuller et al., 2016; Ayala & Manzano, 2018) that have permeated higher education in recent years. While it is important to encourage and empower students with ideas like perseverance, passion, and resilience, it is crucial to also de-individualize failure and recognize how damaging ideologies have been operationalized within social, cultural, political, and economic institutions, including higher education. We concur with Feigenbaum (2021) when he argues that "widespread proclamations about the benefits of failure do not reflect the lived experiences of students, especially those from socioeconomically, culturally, and politically marginalized backgrounds" (p. 16). In centering the individual as the primary site for developing grit and resilience, these discourses obfuscate how both instructors and students navigate structural inequalities and systems of power that shape radically different experiences of failure and determine how—or even if—they can recover and try again.

Conditions of social and material precarity impinge on not only students' abilities to learn and on the educational opportunities in which students feel they can partake, but also on the pedagogical risks instructors are willing to take when considering how to best leverage failure for enhanced student learning. Nearly half of the instructors interviewed in this study worry that an uncritical approach to failure will alienate their students, cause them undue stress and anxiety, or undermine their willingness to try new things and learn from real or perceived failures. Uncritical attempts to normalize failure, and particularly neoliberal exhortations to fail fast, hard, and often "ignore the fact that failure affects people differently. Privilege plays an important role in

who is allowed to fail—and who isn't" (Hallmark, 2018, p. A44). Therefore, argues the sessional instructor of visual studies interviewed for this project, "we need to think about students within their larger context and constellations."

Instructors in this study identified socioeconomic stability as a leading concern in determining whether they would experiment with failure pedagogies. They also expressed unease over how academic failure might impact their students' funding and career opportunities. These anxieties reflect broader currents of apprehension related to what Feigenbaum (2021) describes as a "precarious meritocracy" (p. 13). Though the specific circumstances differ between students and instructors, each group encounters "a pervasive feeling of socioeconomic anxiety with an ethos of hypercompetitive individualism" heightened by the knowledge that an eroding social safety net very likely will not sustain them should their worst fears—failing college, rejection from graduate or medical schools, or unemployment—come to pass (Feigenbaum, 2021, p. 17). For instructors in this study, fear of poor teaching evaluations, the denial of tenure, and subsequent socioeconomic instability led them to avoid pedagogical experimentation until they felt secure enough in the university hierarchy to risk failure.

Participants recognized a similar fear of failure among their students, with several remarking on student tendencies to "play it safe" by pursuing those research topics and courses of study that will give them the best chance to succeed, rather than the most opportunity to learn. As Bledsoe & Baskin (2014) explain, "the classroom often represents to many students a competitive environment to achieve high grades rather than the locus of their personal quest for knowledge and skills mastery" (p. 34). Moreover, Feigenbaum (2021) argues that some students view the ability to experiment, explore, and potentially fail as "indulgences of the affluent" (p. 20). Given the financial costs of academic failure, the ability to fail, particularly in terms of the time, space, and resources to try again, are seen as privileges afforded to a limited (white, middle/upper class) demographic of pupil. For others of limited monetary means, failure in the pursuit of learning feels not only financially but perhaps even intellectually out of

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reach. As Verschelden (2017) explains, "persistent worry about money, including lack of regular access to adequate food, health care, safety, and so on, takes up parts of the brain that are then not available for thinking, learning, and making good choices" (qtd. in Feigenbaum, 2021, 19). For many of the instructors in our study, concern over students' financial burdens, the attendant pressures to maintain GPAs for funding and scholarships, and the cognitive costs of those stressors, gave them pause when considering the feasibility of incorporating failure pedagogy in the classroom.

In addition to socioeconomic security, instructors described failure and recoverability as a privilege related to race and ethnicity. Both instructors and students of color encounter unique precarities and cognitive loads their white counterparts do not experience, including the cognitive costs of navigating structural racisms and white supremacy as they have been embedded within institutions of higher education (Patton, 2016; Verschelden, 2017; Feigenbaum, 2021). In this study, discussion of racialized precarity centered on institutional surveillance and gatekeeping. While a number of instructors revealed a discomfort with departmental and institutional surveillance of their teaching strategies, research has documented how this surveillance falls unevenly on instructors of color. In a qualitative study of Black and minority ethnic instructors in England and Australia, Lander & Santoro (2016) documented how instructors of color "felt surveilled, under scrutiny, and... hypervisible" to both colleagues and students (p. 1013). For instance, in their study one Southeast Asian instructor grappled with negative comments on student evaluations because of her accent, while a Black instructor endured students Googling her to ascertain her credentials (Lander & Santoro, 2016). With increased scrutiny from both colleagues and students, instructors of color weigh carefully the pedagogical benefits of failure with the need to continually demonstrate teaching excellence to counter racializing ideologies. As the assistant professor of American and African American literature in our own study explains, "fears about being perceived as a failure as a pedagogue intersect with the risks I'm willing to take." Furthermore, having experienced racial gatekeeping as a graduate student, this instructor is acutely aware how structural racism works against the students of color they now teach. "I don't want to...make the incorporation of failure into classes feel riskier to the wellbeing of my students," they maintain. "I know there are forces that are using failure against them."

Compassion and the Fear of Failure

Informed by their own deep anxieties regarding failure, multiple participants sought ways to demonstrate compassion for their students and mitigate fears of failure. Previous scholarship (e.g., Neff et al., 2005; Hjeltnes et al., 2015) prioritized affective interventions into student fears of failure. Like resilience discourse, interventions into student affect focus on "adapting the individual to cope with outside pressures in order to negate their effects, rather than seeking to eradicate these pressures in the first place" (Webster & Rivers, 2019, p. 526). For the participants in our study, an affective approach was not sufficient to assuage student concerns because it did not address the underlying sources of student fears. Instructors attributed fear of failure to structural, rather than affective origins. Instructors identified institutional policies such as program and graduation requirements, lack of support for students' mental and physical wellbeing, and grading policies as structural elements stoking student fears of failure.

Throughout their interviews, instructors expressed the desire to see more capacious departmental and institutional attitudes toward failure. It is "necessary" to afford students the room to experience "different intermediate states of confusion or unclarity or error" without those intermediate states leading to failure or penalty, argues the associate professor of English and drama. The postdoctoral researcher in management innovation suggests "providing a safer space" for students to practice or to engage with their confusions." That is, there needs to be "more room for [the] failure process," insists the assistant professor of visual studies. "You don't actually learn from [failure] unless you have the chance to reflect and dwell in [it] and really work with those ambiguities and those struggles."

Some participants envisioned what a more gracious approach to failure would look like in practice. The assistant professor of writing studies argues that "we need...to have built-in pedagogical activities that allow [students] to experiment and play with voice and style before it ever gets to an assignment." For the postdoctoral researcher in management innovation, such pedagogical activities would include "scaffold[ed] or iterative kinds of assignments." The sessional lecturer in visual studies similarly envisions more opportunities for students to engage with their work in progress, perhaps even stipulating that "the amount of improvement is more

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important to [the] mark" than the final product. A full quarter of the participants indicated that they would like to "rethink our relationship to grading."

The ability to offer smaller courses depends on institutional, as well as broader socio-cultural adjustments in priorities and attitudes toward failure. "If we were going to change an education model that went from fear of failure to something else, I think it would have to really pinpoint what drives students intrinsically instead of the extrinsic reward system for good grades," muses the postdoctoral fellow in digital humanities. For this instructor, the North American emphasis on wealth shifts student priorities from learning and exploration to the pursuit of careers with high capital gains. An assistant professor in visual studies contends that current ideologies of meritocracy cause harm to students by equating them with their academic performance. They argue that both instructors and their institutions need to exhibit "more compassion for students." Students "get dismissed as people" when educators or departments correlate their academic performance and productivity to their personhood.

Acknowledging Limitations, Learning from Failure

We would be remiss if we did not acknowledge some of the limitations facing initiatives to incorporate critical failure interventions. At the level of the classroom and the institution, an individual instructor's endeavors to create space for socially informed pedagogical failure may not work given the systemic nature of bias, intractable policies, or unfavorable departmental or institutional culture. Even if one classroom serves as an oasis for exploration, play, and revision, students may still be unable to fully engage with the opportunity because larger social and institutional forces continue to weigh upon them. As the assistant professor in writing studies explains, students

> might embrace [failure] in my class because they do have space to write some of their assignments and play with ideas and get instant feedback. But the larger stresses that they're under from their programs in general and some of the factors that are affecting them as they come to my classroom make it very hard for them to even engage on that level with things some days.

More broadly, initiatives to incorporate critical approaches to failure pedagogy may very well be stymied by elements of systemic racism, neoliberal capitalism, and negative sociocultural perceptions of failure. For instance, incorporating lower-stakes assessments or opportunities for revision do not by themselves "challenge the ideology of hypercompetitive individualism," writes Feigenbaum (2021). He continues, "Furthermore...interventions that do not address the systemic roots of stigmatization can themselves be incorporated into the logics of precarious meritocracy" (p. 22). It will take a larger ground swelling to change the broader social, cultural, political, and economic stigmatization, stakes, and consequences of failure.

When considering how to incorporate a pedagogy of failure responsive to the dynamics of power, positionality, and institutional policy, individual instructors and institutional administrators may find it helpful to identify those academic units or centers where failure is already accepted and normalized. What can be learned from those locations where failure—in the form of confusion, error, exploration, or calibration—forms a key component of the learning process? Instructors from this study identified three such locations: theatre and the performing arts, writing studies, and digital programming/coding. Each one emphasizes a particular aspect of failure pedagogy, including exploration, revision, and modeling, respectively.

For the associate professor of English and drama, theatre courses require students to engage in iterative rounds of experimentation with voice and movement as they learn about performance techniques. Of the dramatic arts the instructor asserted, failure "is just so accepted, so part of the discipline." As they explained, failure in theatre often takes the form of being unable to connect to the audience. In order to deliver a successful performance, students learn to experiment with different acting styles and modes of presentation. They must "calibrate" their performances based on audience responses, thereby engaging in a continuous cycle of revision. In this way, theatre teaches them to "naturalize" failure as "a necessary precondition" for determining the appropriate mix of theatrical strategies.

Like the performing arts, interviewees from the field of writing studies also emphasized explorations in

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voice and the importance of revision. Whether in the humanities or STEM fields, student writers work to develop their scholarly voice through reflection and revision throughout their college careers. "You want that process [of] iteration to be part of the learning/discovery/pedagogical process," argues the assistant professor in writing studies. The assistant professor of visual studies concurs. "Allow[ing] students to potentially fail at an early iteration and course correct…is a key thing." For the assistant professor in American and African American literature, this is because revision involves "repeating a skill set…to understand it better." In terms of student learning, opportunities for revision not only ease some of the fears of failure (and the cognitive load it consumes) but also reinforce the knowledge and skill sets students strive to develop.

Finally, instructors can turn to the digital humanities, media studies, and computer science for particularly robust examples of modeling failure. In programming, failure is "absolutely essential," asserts the assistant professor in communication and technology. "Failure, trial, and error [are] an inevitable part of programming. …Embracing failure is key" to learning how to design, code, and debug digital material. This instructor, therefore, has incorporated failure into their course pedagogy, as well as dedicated time for modeling what failure looks like and how to recover from it. For instance, when teaching Python coding, the instructor devotes class time to having students type commands into the Python shell to see what happens. They then learn to read error messages to determine what might have gone wrong. Later, when teaching students how to write a Python program, the instructor engages in live-coding, a style of teaching in which the instructor writes out the code in front of students, who in turn type the code on their own device. During live-coding sessions, instructors can and do make mistakes, which are then transformed into learning opportunities for students to collectively engage in locating and solving the portion of code leading to errors. The process of live-coding makes failure visible while also demystifying the act of problem-solving. These strategies aim to eliminate the fear of failure, develop students' analytical skills, and encourage them to move forward despite their mistakes. As the communications instructor explains, "There's this philosophy that you will fail, you should expect to fail, and you need to do it as quickly as you can with the simplest version of your idea so that you can make progress."

Conclusion

When incorporating failure pedagogy into our classrooms and institutions, it is essential to think critically about the oft unacknowledged power dynamics and privileges determining who gets to fail, and who gets to try again. We agree with Eyler (2018) that "failure can be one of our biggest allies in learning if we utilize it appropriately" (p. 196). However, this case study demonstrates the importance of a critical approach to failure that acknowledges and seeks to remedy the uneven distribution of anxiety, stress, and negative academic, social, and health-related consequences on students and instructors in marginalized, minority, or precarious positions. Understanding the intersecting oppressions and stigmas many instructors and students face will help educators to design more socially conscious and meaningful interventions into the isolating, stigmatizing, and demoralizing aspects of failure. By deliberately creating space where instructors and students can safely and equitably implement and learn from failure pedagogies, we not only facilitate better learning, but cultivate deeper and more positive understandings of failing and trying again.

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Table 1.

Themes of instructor usage of the term "failure," ranked from most frequent to least frequent.

Theme	Description of Theme	Example Quote
Learning Process	The role of failure in developing one's knowledge and skill sets	Learning through the process of. consecutive successful attempts is just lucky isn't it? It's unrealistic. So to learn how to achieve success through failure, I think, is key. It's extremely important to have to learn to sit with that and be comfortable with that in order to continue to struggle and move forward and then achieve that success.
Career Path/ Professional Life	Both the nebulous fear of failure and material markers of failure (e.g. failing graduate school, unemployment, grant/publication rejection) relating to academic training and careers	As an academic, failure completely structures everything we do for our whole entire careers. This fear of failing out and then having to completely do something else with your life.
Academic Failure	Failures and fears of failure associated with academic performance and fulfillment of program and degree requirements	Fear of failure as in a bad grade, or even a slightly lower grade, might affect the students' willingness to really think about [course] questions and engage with them.
Personal	Equating error or failure with personal deficiency	Defending my dissertation was the most nerve wracking…I'm the first person in my family to, like, get an undergrad degree, let alone a PhD and so that would be my column failing everyone.
Institutional	How institutions fail students, staff, and instructors (i.e., inequitable employment practices, lack of resources, lack of support)	My impression is that the department thinks that some students in every class always fail and that's on them and that's just how it is.
Interpersonal	Failures and fears of failure associated with the relationships between individuals	A lot of [fear of failure] had to do with getting the approval of people that I cared about—colleagues, my advisors, people that I respected.
Health/Wellbeing	Effects of failure on physical and mental health and wellbeing.	If students could fail assignments or portions of assignments without it so negatively impacting them, I think, just in terms of mental health, just in terms of personal happiness, satisfaction, wellness, they'd be much better off.

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Research/Scholarly Work	The role of failure in research development and writing (excludes publication)	If I can't find something or an answer doesn't come to me quickly or I get confused by how things are fitting together in my research, I don't see that as a failure. That's an opportunity. That's where it gets exciting.
Worldview	Socio-cultural and disciplinary differences in the perceptions of failure	Are you teaching [scientific theories as] unequivocally right and correct versus a concept and way of looking at the world that is historically contingent?
Risk	Ways in which failure and fear of failure can be associated to exploration, challenge, and risk	Students are afraid to take chances or to explore too much because they're deeply, deeply afraid of failing.
Moral	Moral shortcomings with damaging effects to others	My cohort of graduate students. experienced a lot of personal attacks that stifled any desire to take intellectual risks. The person responsible for that removed from the world that enabled that but…I can name two people out of a cohort of 11 who dropped out in specific relation to one person's abusive behaviors.
Social/Cultural	Relationship between failure and social/cultural values.	If we were going to change an education model that went from fear of failure to something else, I think it would have to really pinpoint what drives students intrinsically instead of the extrinsic reward system for good grades and finding a good career and making money.
Unimportant/Insignificant	Failure is not a major experience or is not a significant experience for students	From a student perspective, it's quite hard to fail. You don't often fail. Like you've written a paper, a paper probably you're going to pass. You might not do very well, but the threshold of mediocre seems pretty broad and the instances of outright failing an assignment or doing exceptionally well on an assignment are both very narrow.

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Table 2.

Most-often coded themes and subthemes in faculty perspectives of failure in research, teaching, and learning ranked from most frequent to least frequent.

Main Theme (in ranked order)	Subthemes (in ranked order)
Attitude toward Failure	1. Causes Anxiety: Failure and fear of failure cause anxiety and stress. 2. Process: Failure is part of the process of learning and growing. 3. Form of Knowledge Production: Failure can lead to new avenues of inquiry or understanding. 4. Fear of Failing: Failure is an experience to be feared and avoided. 5. Risk: Exploring, experimenting, and challenging oneself are risky, though potentially beneficial, endeavors that may lead to failure. 6. Creativity/Trial-and-Error: Individuals learn from small-scale, low-stakes encounters with failure that encourage play and experimentation. 7. Opportunity/Serendipity: Failure can lead to surprising or fortuitous discoveries or opportunities. 8. Generative: Failure can provoke new ideas, questions, methods, and findings. 9. Judgment/Stigma: Failure is shameful, looked down upon, and discredits one's character and abilities. 10. Adaptability/Flexibility: Navigating failure requires adaptation and flexibility.
Expectations	1. Institutional Expectations: Standards, requirements, qualifications, and conditions expected of students and instructors by the institution. 2. Student Expectations: Assumptions, hopes, desires, and requirements of students. 3. Disciplinary Expectations: Standards, conventions, and requirements of a specific discipline. 4. Instructor/Advisor Expectation: Assumptions, hopes, desires, and requirements of instructors or advisors. 5. Personal Expectations: Standards and requirements one holds toward oneself. 6. Career Expectations: Standards, qualifications, and requirements demanded by an academic career. 7. Social Expectations. Standards, assumptions, and conventions held by society at large.
Type of Failure	1. Writing/Communication: Ability to write/communicate clearly and coherently for an audience. 2. Career Path: Ability to fulfill career and employment goals and benchmarks. 3. Publishing: Ability to produce studies/articles and fulfill disciplinary research requirements; refers specifically to faculty. 4. Assignment/Course/Program Requirement(s): Ability to pass assignments/courses and fulfill program/graduation requirements; refers specifically to students. 5. Ability to Relate to Others: Ability to understand and be understood by peer groups or society more broadly.
Learning Process	1. Revision/Iteration: Students should have or have been offered opportunities for revision. 2. Needs to be/already incorporated into classroom: Failure pedagogy should be or has already been included in faculty classrooms. 3. Second Chances/Improvement: Students should be offered second chances and opportunities to demonstrate improvement. 4. Learn From Mistakes: Students can learn from mistakes and should be offered opportunities to try. 5. Teachable Moment/Learning Opportunity: Failure is a key learning opportunity and teachable moment.

Perspectives on Failure *continued*

Role of Instructor	1. Help Students Navigate Feedback: Help students to understand feedback and strategies for improvement. 2. Offer Feedback/Identify Improvements: Provide robust feedback and identify areas for improvement. 3. Mitigate Anxiety: Be mindful of and address student fears to assuage anxiety. 4. One-on-One Attention: Provide students with individualized attention. 5. Modeling: Model what failure looks like, problem-solving strategies, and how to recover from failure.
Scales/Stakes of Failure	1. Job/Program: Effects of failure on future academic and career options. 2. Low-Stakes Grading: Offer low-stakes assessments to normalize failure and help students learn. 3. Evaluations: Effects of student evaluations on instructor standing in the department or institution.
Power/Privilege	1. Who Gets to Fail: Uneven distribution of the ability to safely fail, opportunities/resources to try again, and negative effects of failure. 2. Economic/Job Security: Role of career and financial stability on who can take chances, fail, and try again. 3. Labor: Departmental and institutional labor practices, including adequate number of instructors/TAs, equitable hiring practices, and distribution of workload. 4. Failure Harmful to Others: Individual or institutional failings that produce negative effects for another individual or group. 5. Status/Rank: Standing in the institutional hierarchy and its effects on one's ability to take risks, fail, and try again.
Resources/Support	1. Time: Is there enough time to fail and try again? 2. Money: Is there enough money and economic security to fail and try again? 3. Lack of Support: Gaps in or absence of individual and/or institutional support, including support networks, encouragement, departmental/institutional backing, etc. 4. Lack of Resources: Gaps in or absence of individual and/or institutional resources, including mental health resources, advising, etc.
Shift in Worldview Shift in the understanding of or perceptions toward failure	[No subthemes identified]
Fear of Future	[No subthemes identified]
Competition	[No subthemes identified]

Perspectives on Failure *continued*

Table 3.

"Wish list" of pedagogical techniques, institutional policies, and socio-cultural changes instructors already use or would like to see included in higher education (unordered).

Pedagogical Techniques	Clear learning objectives
	Rubrics
	Lower stakes and more frequent assessments, including • Credit for effort and participation (pass/fail) to allow for exploration and play • Scaffolded or iterative assignments • Repeated assignments with lowest grade dropped • Opportunity for revision • Work-in-progress and/or revision included in grade
	Peer feedback/anonymous peer review
	Model failure and recovery
	Co-knowledge creation between instructor and students
	Clarify course definitions of failure Instructor collaborations to create shared vocabulary around failure to highlight similarities across disciplines
Institutional Policies	Re-center learning and improvement over metrics reporting and institutional rankings Support for innovative teaching and pedagogical experimentation Instructor autonomy Instructor collaborations to spread student workload more evenly through semester More time to give detailed feedback and/or return grades Reconceptualization of grades and GPA, including dispensing with grades altogether Reconceptualization of teaching evaluations Increased support for student physical and mental health/wellbeing Smaller classes, or more instructors/teaching assistants for large classes Equitable hiring practices
Socio-cultural Factors	Decouple failure from stigma Decouple failure of a task from personal identity Reconceptualization of priorities, i.e. fame and wealth

Information

About Us

Currents in Teaching and Learning is a peer-reviewed electronic journal that fosters exchanges among teacher-scholars across the disciplines. Published twice a year (typically one issue in fall, one in spring), Currents seeks to improve teaching and learning in higher education with short reports on classroom practices as well as longer research, or theoretical articles related to teaching and learning

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For further information and submissions guidelines see our website: www.worcester.edu/currents
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