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Currents in Teaching and Learning is a peer-reviewed, open-access electronic journal that fosters exchanges among teacher-scholars across the disciplines. Published twice a year since 2008, *Currents* seeks to improve teaching and learning in higher education with short reports on classroom practices as well as longer research and theoretical articles related to pedagogy.

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"In Defense of Pedagogical Inefficiency"
—Riley McGuire and Samantha Murphy

> Everything has its cunningly devised implements, its preestablished apparatus; it is not done by hand, but by machinery. Thus we have machines for Education…Instruction, that mysterious communing of Wisdom with Ignorance, is no longer an indefinable tentative process, requiring a study of individual aptitudes, and a perpetual variation of means and methods, to attain the same end; but a secure, universal, straightforward business, to be conducted in the gross, by proper mechanism, with such intellect as comes to hand.
>
> —Thomas Carlyle, "Signs of the Times" (1829)

Dear readers of *Currents in Teaching and Learning*,

Naturally, whenever a new year begins, considerations of time tend to be front of mind. In higher education, we may be mourning the ephemeral nature of so-called "breaks" or to-do lists left to be completed at a nebulous moment in the future. And as we prepare for another semester, we crunch numbers: how many deadlines are looming, how many course sections do we have, how many distinct class preparations, how many syllabi, lectures, or assignments can we reuse? As educators are continually asked to do more with less, it is not uncommon to feel the inadequacy of our daily 24 hours.

There is a long history of technology being offered as a reprieve from this temporal pressure, a tradition abundantly apparent in the present. In a recent piece on how to push back against the growth of Generative A.I. in the educational sphere, Sonja Drimmer and Christopher J. Nygren (2025) write, "As the ceaseless ed-tech boom-and-bust cycle of the last century has repeatedly shown, efficiencies are easy to promise, but difficult to realize in the stubbornly human-centered endeavor of education. And that is because education is, by necessity, inefficient." While this is not the place to litigate the place of Generative A.I. in education, Drimmer and Nygren's point is a striking and important

one. While our desire to "save" time as instructors is understandable, I appreciate the reminder that both strands of education—teaching and learning—are often allergic to being rushed.

A personal experience comes to mind in this regard. When preparing for my candidacy exams in a literature doctoral program, I had many books to read in what felt like not nearly enough time. My process was a plodding one: I read each book with a pencil in hand, carefully annotating them; I then transcribed my scribbles and key quotations into a note-taking software; and, eventually, I synthesized ideas culled from various texts into overarching insights. This approach was decidedly inefficient. Midway through, my sympathetic brother gifted me something that by its very name promised to accelerate my pace: a Rocketbook. It was a notebook you could write in and then scan a QR code that would convert your work into a searchable digital file—it would save me a duplicative step. I tried it out, but found I was analyzing less, retaining less, learning less. It seemed the more plodding my approach was, the more edifying it became.

Relatedly, the colleagues I admire the most are pedagogical tortoises, not hares. They mull, dwell, and experiment; they rethink their syllabus for the ninth time; they let learning be the messy, time-consuming process that it is. This is not to say we shouldn't be protective of our time—time for our scholarship, not to mention our personal lives—but rather that we should resist the siren call of some EdTech proponents to render education a streamlined, dehumanized product. This is by no means a novel idea, as evinced by the Thomas Carlyle epigraph above, but it is one worth perennially emphasizing.

The scholarship of teaching and learning provides a way to balance these two impulses to guard our time and keep our teaching pliant and responsive: we can learn new ways to enhance our instruction without having to devote the resources necessary to establish these

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approaches in isolation. The five articles in issue 17.2 luxuriate in the inefficiency of good teaching—and by now it should be clear I don't mean that in a pejorative way. These authors took time to craft their instructional innovations, much to the benefit of their students, institutions, and now the readers of *Currents*. The articles are sequenced to gradually zoom out in focus: the first two tackle specific assessments, the third focuses on syllabi, the fourth considers an interdisciplinary pedagogical approach, and the final shares strategies for rethinking college-wide curricula.

Beginning with "The Pedagogical Possibilities of Contradictory 'Rules' in an Age of Large Language Models," Thomas Jessen Adams recounts his experience using a writing assignment to address a prevalent contemporary instructional problem: student misuse of Generative A.I. After discussing George Orwell's essay "Politics and the English Language" (1964) with students, Adams tasks them with violating the six "rules" for lucid writing proposed by Orwell in a piece of their own. The challenges of grappling with Rule Six, which requires a subjective judgment about what makes prose awkward or unwieldy, stymie a growing student overreliance on A.I. Adams outlines the particular utility of this assignment for online, asynchronous courses, while also suggesting how the philosophy behind it could inform other forms of assessment that deter students from reaching for shortcuts to avoid the hard work of developing their voices as writers.

Carmen Latterell also discusses her experience altering assessment in response to an instructional challenge she encountered in "My Quest to Change Assessment in a Mathematics Content Course for Preservice Elementary Teachers: 'It's confusing when you explain why. Just show me how to do it.'" Latterell found that her students, preservice elementary teachers, tended to memorize mathematical procedures, but did not understand the reasons they worked on a conceptual level. As a response, she redesigned problem sets and tests in her courses in order to push students to show understanding of the mathematical concepts, trying multiple iterations before finding the approach that worked best. She tasked these future educators with not only correcting erroneous math solutions by fictional students, but with explaining the logic behind the right answer in a way comprehensible to an elementary learner; in short, Latterell's students were

better equipped to teach their own students not only the *how*, but the *why*.

In "Equitizing the Syllabus: Fostering Love and Culturally Sustaining Practices in Higher Education," Jason Michael Leggett outlines his approach to rethinking another key element of college learning: the syllabus. He identifies the syllabus as a natural point of intervention for instructors seeking to craft more inclusive and equitable learning environments, approaching course syllabi as tools to empower students, particularly those inhabiting marginalized subject positions. Leggett constellates a range of resources and scholarship on creating culturally sustaining syllabi; in particular, he discusses the inclusion of an equity statement and the data collected from student annotations of his syllabus to unspool the positive impact of an equity-minded approach to syllabus creation on student success.

Writing across three disciplines, Zivah Perel Katz, Jody Resko, Amy E. Traver, and Leslie Ward evince the benefits of Universal Design for Learning for student engagement and retention in "Universal Design for Learning (UDL) Pedagogies and Their Impacts in the Post-COVID-19 Community-College Context: Case Studies in Sociology, English Composition, and Psychology." In this descriptive and exploratory collective case study, they interweave tenets of UDL pedagogy into their courses through the use of assessments including choice boards and renewable assignments. Katz, Resko, Traver, and Ward found that these instructional practices highlighted the benefits of student agency in learning; demonstrated the need to scaffold non-traditional assessment types; and fostered students' critical thinking skills. They emphasize the transferability of the UDL framework across disciplines and institution types as a crucial strategy to support learning and belonging for students.

Lastly, in "Creating Pathways Toward Intercultural Competence in Agricultural and Natural Resource Sciences," Deb Wingert, Craig Hassel, Matthew Petersen, Marcella Windmuller-Campione, and Anna Capeder share the efforts of three departments within their university to shift their curriculum to better promote and teach intercultural competence. Instructors implemented a spiral approach to curriculum evolution that included learning objectives and activities that

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foster student respect and knowledge of diverse cultural contexts, a topic infrequently addressed in agricultural and natural resource science programs. They discuss the results of their ongoing changes thus far and urge educators across disciplines to prioritize inclusion and equity in their own institutions.

    As usual, I'll conclude with my appreciation for those who make the work of *Currents* possible. A quick though meaningful chat with Nani Durnan led me to the topic of this issue's editorial. The insight and dedication of our peer reviewers, as well as that of the *Currents* Operations Advisory Committee, are essential. My thanks to Drs. Hank Theriault, Noah Dion, and Jamie Remillard for their logistical support, and to Shawn Needham for his graphic design work. Julie Habjan Boisselle is a dauntless advocate not just for this journal, but for all things good in the realm of higher education. Samantha Murphy, our remarkable student intern, had big shoes to fill and did so with brilliance and verve. Her fingerprints are all over this issue, and it's a better one for it.

Happy reading,

Riley McGuire

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ESSAY

The Pedagogical Possibilities of Contradictory 'Rules' in an Age of Large Language Models
—Thomas Jessen Adams

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Abstract

This brief report provides an account of a successful general writing assignment in the online and asynchronous classroom in the context of Large Language Models (LLMs) like ChatGPT. In adapting this assignment for asynchronous teaching, I found that it was particularly effective in rendering LLMs both easily detectable and ineffective for student submissions. The assignment, which uses George Orwell's 1946 essay "Politics and the English Language," encourages students to intentionally produce "bad writing" so as to better learn clear and effective writing and to do so via violating rules. I conclude with a brief speculative account that considers how the example of some of Orwell's contradictory "rules" for clear writing might provide an opportunity for other methods—particularly in the online teaching space—that can function as pedagogical workarounds for the ubiquity of LLMs.

Keywords:

artificial intelligence, large language models, chatbots, ChatGPT, AI and education, asynchronous pedagogy, writing pedagogy, online pedagogy, plagiarism, rules, subjective rules

In the mid-aughts, I began to have my students in a variety of (in-person) classes regularly submit a writing assignment based on George Orwell's essay, "Politics and the English Language" (1946). Orwell's essay, which appeared in the British magazine *Horizon*, argued that there was a clear relationship between unclear, vague, and jargony writing and the horrors of the mid-century, such as the rise of fascism and the regular mass-bombing of civilians. For Orwell, the proliferation of "bad writing" was, amongst other things, a function of trying to defend "the indefensible" (1946, pp. 260–261). To combat these ills, Orwell offered six rules for more lucid writing:

i. Never use a metaphor, simile, or other figure of speech which you are used to seeing in print.

ii. Never use a long word where a short one will do.

iii. If it is possible to cut a word out, always cut it out.

iv. Never use the passive where you can use the active.

v. Never use a foreign phrase, a scientific word, or a jargon word if you can think of an everyday English equivalent.

vi. Break any of these rules sooner than say anything outright barbarous (1946, p. 264).

The original assignment—which I dubbed "Bad Writing"—was often done in class after a discussion of Orwell's essay. I would then ask students to write a brief essay on any subject of their choosing that actively broke all six of Orwell's rules. They would then read their essay out loud and as a class we would work through the various rule violations and collectively rewrite the essays for clarity. I have used various versions of this assignment for more than fifteen years in contexts ranging from elite private universities in the U.S., a public research university

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with a substantial number of ESL students in Australia, and a majority-minority public commuter college in the U.S. In this time, I found that across student cohorts the relatively brief moment of consciously producing "bad writing" had the effect—particularly given the stakes for such writing that Orwell argues for—of teaching students to more effectively self-edit their own writing for clarity and avoid many of the problems that Orwell identified, pitfalls particularly prevalent in scientific, technical, and high-theoretical discourse as well as political argumentation.

In 2023 I took up a position teaching a variety of interdisciplinary liberal arts courses in online, asynchronous formats. The students in these classes at a public, R2 university represent a particularly diverse cross-section of American undergraduates with academic concentrations across the sciences, humanities, business, and the arts. While they are disproportionately mature-age and first-generation college students, the classes also include substantial numbers of "traditional students" as well. This was precisely the moment that Large Language Models (LLMs) became free to the public as ChatGPT was rolled out over the course of that year. In the ensuing years, companies like OpenAI and Google have targeted college students as a key market, offering free advanced subscriptions to undergraduates during finals periods (Hsu, 2025). Their marketing and boosters have suggested they "reproduce skills and capacities central to humanities, social sciences, and art" (Goodlad, 2023). The result of the proliferation of LLMs has been massive disruption and degradation for much traditional educational practice (Giannakos et al., 2024; Hsu, 2025). This effect has been particularly pronounced in classes that have a pedagogical focus on writing itself or as a method of analysis and where teachers—who tend to be amongst the most precarious of university faculty in their disproportionate lack of tenure or tenure-track status—have been tasked with generating new assignments and maintaining honor codes while also being threatened explicitly and implicitly with redundancy (Losh, 2024).

To be sure, university administrations and many faculty have embraced LLMs for reasons ranging from genuine excitement to utilitarianism to resignation (Hsu, 2025). Indeed, most scholarship on LLMs and writing and humanities instruction has taken as its task not the prevention of their use, but their incorporation

(Hallaweh, 2023; Medina, 2025; Wang and Tian, 2025; Kell 2025). Nevertheless, many others—especially in the humanities and interpretivist social sciences—see in LLMs an existential threat to the central building blocks of a critical education and the intergenerational transfer of disciplinary skills. From this perspective, LLMs are not, as one collection arguing for the integration of AI into writing pedagogy suggests, on the same historical order as "printing, word processing, and social media" in their relationship to how humans produce knowledge (Wang and Tian, 2025, p. x). Rather, in this view the technology promises to socially annihilate what John Dewey called the "continuous reconstruction" and scaffolding processes necessary for meaningful knowledge production, thought, and memory in a contingent world (Dewey, 1919, p. 91; Adams, forthcoming). Without adjudicating this conflict or suggesting that there is no place for LLMs in a variety of classroom contexts, even as most scholarship has focused on incorporating LLMs into the classroom, this article is mainly addressed to the many who identify with the latter camp and have sought to develop assignments that make their usage difficult, rather than integrating them into instruction. Faculty in courses in the humanities, humanistic social sciences, and a variety of other cognate traditions have returned to assessment methods such as paper tests, in-class quizzes, and hand-written essays in order to prevent plagiarism and to continue to teach the scaffolding, textual analysis, and critical cognitive tasks that LLM usage degrades and offloads (Hart and Mok, 2023; Hsu, 2025; Anthropic, 2025). An informal survey of more than three hundred philosophy faculty on one of the discipline's leading blogs suggested that nearly half of all faculty have moved to in-person writing assignments already while another thirty-six percent are likely to do so in the future (Leiter Reports, 2024). In this context, assignments such as oral exams, which had largely gone the way of pipe smoking and elbow patches in American higher education, have become an increasingly prevalent and important assessment method applicable to both in-person and online synchronous teaching (Mariano et al., 2024). For those teaching asynchronously though, where in my case we are prohibited to require a student to be on a computer at any specific time, such methods remain either impossible or impractical.

Over the course of 2023 and 2024, as I began to adjust to both the asynchronous format and the world

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of LLMs, it became clear that the one assignment that continued to "work" (in the sense of effectively making LLM usage more difficult) from my previous two decades of traditional classroom teaching was a version of the "Bad Writing" assignment. In the asynchronous version of the assignment—which I have used in courses on critical social thought, interdisciplinary research methods, and sports and society, but I believe could be adapted to virtually any course content that has a goal of clearer writing and analysis—I ask students to first read Orwell's essay. They are then required to write a five-hundred-word "bad essay" that violates each of Orwell's six rules at least once. Their bad essay has two additional requirements: it must be about something eventful they did in the last year and it must use footnotes or endnotes to identify the place in the text where they are breaking each rule. The former requirement provides at least a light check on originality. A student could of course ask an LLM to write them an essay about their trip to the beach or their sister's wedding, but my suspicion is that the more personal the topic is, the less likely it is for students to simply plug a "write me a five-hundred-word essay on X" command into a chatbot, upload it moments later, and be personally satisfied with its generic detail (Sittenfeld, 2024). The latter requirement of course forces them to actively identify the rule violation, a task that is decidedly much more difficult if they had not done the rule violating themselves. It also allows a quick turnaround to a second assignment, where I delete their footnotes and send their essay to a fellow classmate who is asked to identify the rule violations. To be sure, students have tried to use LLMs for this assignment. Rules One through Five are easily reversible to be plugged into a chatbox command, as in: "write me a five-hundred-word essay on my trip to the beach last July that uses dead metaphors, long words, the passive voice, jargony phrases, and the longest possible sentences."

Anecdotally though, it is the inability of students using LLMs to successfully break Rule Six—and thus their inability to complete the assignment in its entirety—that have made it quickly clear which students are using chatbots. The goal here is not to police students or "catch" them using LLMs; I have no doubt that an industrious LLM user could also train a chatbot to successfully break Rule Six given time and effort. Rather, the point is to do what teachers have always done when confronted with the possibility of plagiarism or cheating,

which is not only to argue for its unethicalness, but make it as relatively onerous as possible. For the remainder of this essay, I want to speculate on this inability for a moment and suggest that it provides the outline of a broader possibility to develop assignments—particularly for asynchronous classes that involve writing and cannot utilize live, in-class assessments—that make LLM chatbot usage both difficult and easily identifiable while encouraging the kinds of scaffolding of analysis associated with traditional writing assignments across the disciplines.

Rule Six presents a problem for the simple chatbox command above. It first references rules One through Five and in so doing it suggests that these are not, in fact, *rules* in any normative mathematical, linguistic or analytical philosophical sense. That is, it suggests that the conscious violation of these rules is preferable to their adherence when that adhering would result in the highly subjective outcome of "say[ing] something outright barbarous" (Miller and Sultanescu, 2022). That is, to successfully complete the assignment, the student (or chatbot) needs to actively note a set of general rules, spend most of the essay breaking them, and then include a sentence or grammatical construction that does *not* break one of those rules in a way that can be interpreted as what Orwell called "barbarous," or what we might more contemporarily redub as some combination of awkward, clunky, and cumbersome. Students often successfully break Rule Six by using the active voice when it results in excessive and unneeded verbiage.[1] They also violate it regularly via not using a technical or scientific term that results in a long and largely superfluous (to the essay) description of that term.[2] For students engaged with the assignment, this usually takes a bit more work than violating Rules One through Five, but across the diverse students in these classes, I have found that most are usually able to come up with a decent example.

Students and humans more generally, unlike LLMs (at least up until this point), are good at making the subjective judgement call that using the active voice in the first example I noted is both unnecessarily wordy and centers the action of the hair stylist when the sentence should be focused on the student's sister on her wedding day. We (humans) also quickly recognize that the technical "Tommie John surgery" is highly preferrable to

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a verbose description of the surgery and its details when the subject of the essay is about the student's summer injury rehab. Speculatively, the reason for this lies in the nature of LLM chatbots and how our every directive to them relies on rules. According to the computational linguist Emily Bender and her collaborators, these rules then combine with the huge amounts of data LLMs have been trained on to "stitch together sequences of linguistic forms . . . according to probabilistic information" (Bender et al., 2021, p. 617). When we ask an LLM to write a five-hundred-word essay on our trip to the beach, we give it rules that involve not just the length of the essay (five hundred words) but also the parameters (it must involve the beach and it must involve the fact that our being at the beach involves a trip). The more "rules" like this we give it, the more specific it gets, as it combines these rules with its probabilistic training to give us plausible accounts of a trip to the beach (and not the mountains). When we give it rules though and then ask it to occasionally (but only occasionally) violate those rules based on a subjective sense of style or clunkiness, we are asking it to make a judgement call on when to violate all the rules we have given it. We are also asking it to do so via implicit comparison to text it has not generated. That is, most of us recognize that the active construction about the sister's hair style is particularly awkward and clunky and, as writers and communicators more generally, we quickly take pains to find a way to remedy this, even if it involves a passive construction that otherwise violates our rules. LLMs, though, have no idea how to recognize why just one active construction is cumbersome per se and the next one is not. Indeed, this is a feature, not a bug of the technology, as it is based on following rules in the strict sense of their "ruleness" and not in the looser and eminently violable sense in which Orwell names them as such.

Thus, by way of conclusion, I want to suggest that this assignment provides at least the possibility of building others based on this general model. That is, assignments in which the parameters or "rules" tend to contradict each other in some form or another and in which that contradiction can only be resolved via an active and subjective judgement on the part of students. While it is no doubt possible that in the coming years LLMs might easily complete exercises like this successfully, the philosophy behind it—namely of using the strengths of LLMs, like rule following, against them—seems plausibly applicable to whatever iterations of the technology confront us in the future. Such assignments might take many forms but, at least for the many of us intent on discouraging the ever more ubiquitous temptation to use LLMs on the part of our students, developing successful ones is an ever more pressing imperative by the day.

Contradictory 'Rules' in an Age of LLMs *continued*

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Footnotes

[1] One recent successful example from a student: "the hair stylist styled my sister's hair beautifully for her wedding day and my sister wore a gorgeous dress" (active and clunky) versus "on her wedding day my sister's hair was styled beautifully and she wore a gorgeous dress" (passive).

[2] Another recent successful example from a student: "After last baseball season doctors remove a tendon from my hamstring, made a surgical incision in my elbow, drilled holes in my humerus bone and grafted that tendon onto the bone to replace my torn ulnar collateral ligament" versus "after last baseball season I had Tommie John surgery."

ESSAY

My Quest to Change Assessment in a Mathematics Content Course for Preservice Elementary Teachers: 'It's confusing when you explain why. Just show me how to do it.'

—Carmen M. Latterell

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Abstract

Preservice elementary teachers tend to memorize mathematical procedures instead of striving for conceptual understanding. The author attempted to change assessments to convince preservice elementary students that conceptual understanding matters. Timed tests consisting of problems involving a fictional student making errors turned out to be the key.

Keywords:

preservice elementary teachers, assessments, mathematics, conceptual understanding, procedural understanding

I have long struggled to get my preservice elementary teachers to learn the math concepts and not attempt to memorize a procedure for everything. This came to a head one semester when a student wrote on course evaluations, "It's confusing when you explain why. Just show me how to do it." The student's desire to concentrate only on a procedure was quite evident. In fact, preservice elementary teachers often tend to think math is a set of procedures, have stronger procedural understanding than conceptual, and think their role once they are teachers is to teach the procedure (Keazer & Phaiah, 2023; Norman, 2021). Unfortunately, the way I was assessing their knowledge did not motivate them to learn the concepts.

In addition to conceptual understanding, preservice elementary teachers need specialized math content to understand the mathematical thinking of their students. Knowing how to do something does not mean the learner understands the concepts behind it well enough to teach it to another learner (Ball & Forzani, 2010; Cunningham & Cook, 2020). Shulman (1986) coined the term "pedagogical content knowledge" to distinguish between regular content knowledge and what someone needs to teach math:

> Within the category of pedagogical content knowledge I include, for the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations—in a word, the ways of representing and formulating the subject that make it comprehensible to others (p. 9).

My Quest to Change Assessment *continued*

Ball (2008) expanded on this concept by defining Common Content Knowledge (CCK), which is mathematics content not specific to teaching, and Specialized Content Knowledge (SCK), which is mathematics content that is unique to teaching. For example, teachers need mathematics content that allows them to not only solve a problem (CCK), but to also explain to a student what they are doing wrong when solving the problem (SCK). Teachers need to explain why procedures work and identify errors in thinking that students are making. Simply telling a student that something is wrong and telling them the right way to do it is not sufficient for teaching.

In an influential study, Ma (1999) compared elementary teachers in China to elementary teachers in the United States. Despite the American teachers having more education, she found that the Chinese teachers had a more profound understanding of the mathematics. She coined the term Profound Understanding of Fundamental Mathematics (PUFM). While the American teachers could often solve the mathematics problems, they could not as often understand student errors or explain why certain algorithms worked. This continues to be an issue today, as, for example, using the algorithm to divide fractions often resorts to "ours is not to question why; just invert and multiply" (Banting, 2020, p. 29).

Asking preservice mathematics teachers to examine students' mistakes will increase their pedagogical content knowledge (Aksu, 2019) and when preservice teachers are unable to recognize students' mistakes, it is often due to a lack of conceptual understanding of math (Setyaningru & Murdanu, 2018). Phillip (2008) developed a circle of caring model based on the idea that preservice elementary teachers care about children, but not about mathematics for mathematics' sake. Preservice elementary teachers struggle to see the value in learning mathematics that they do not already know, believing that if they do not know something by now, it is not a necessary math concept for elementary students. However, when the preservice elementary teachers examine the mathematical thinking of students, their circle of caring expands from elementary students to the students' mathematical thinking and from there to mathematics itself (Philipp & Thanheiser, 2021).

Assessment

Mathematics tests for preservice teachers tend to be full of procedures (Keazer & Phaiah, 2023; Wellberg, 2024). One reason for this is that procedures are both easier to write and easier to grade (Namakshi et al., 2022). Students value points and they think that if the assessment is mostly procedures, then that is what must be important: "A key challenge is to assess what we value rather than valuing what we assess" (Bakker et al., 2021, p. 11). It is possible that the pandemic exacerbated this situation, as an online test was even more difficult to write (Bakker et al., 2021). Many professors changed from in-person (supervised) testing to online testing without supervision (Ober et al., 2022). Although cheating is certainly possible in-person, it took on a new dimension when tests were online. Should students be told they could use their notes? Should the tests be untimed? Should professors watch students take the tests via Zoom? Many professors increased the number of questions and put a timer on the tests to reduce cheating. However, in the long run, this probably increased the number of procedural questions. Eventually, professors seemed to move toward "more open-ended and analytical questions in contrast to computational and closed questions" (Radmehr & Goodchild, 2022, p. 238).

Now that professors can return to in-person tests, many have not. While the COVID-19 pandemic accelerated a movement towards online learning and assessment, it is unlikely we will return to the prior volume of in-person testing. As Tesar (2020) asks, "Can we put this online genie back into its bottle?" (p. 558). The answer, at least at this point, appears to be no. There are also benefits from online testing, including more immediate feedback and greater flexibility. Offering numerous small online assessments that focus on qualitative questions may be a superior testing method to what was common before the pandemic (Montenegro-Rueda, 2021). I have not yet returned to in-person testing for two main reasons: I can put a longer clock on an online test, and I think online testing reduces test anxiety. Nevertheless, I wanted to change assessment, whether it remained online or not.

Methodology

I decided in Fall 2023 to change how I do assessment. I based this mostly on the idea that I felt students

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learned procedures and did not strive for conceptual understanding. My goal was not so much to conduct a study as it was to improve assessment. However, I also desired to approach the issue in a deliberate and systematic manner. I began an action research project. Action research identifies a problem, forms a plan (often based on research), carries out the plan (gathering data as possible), and reflects on the results (Riel, 2020). This reflection leads to revision in the plan and the process repeats. Action research focuses on practical solutions.

This action research study took three iterations, which I call Attempts 1, 2, and 3, before I found a method that I think works. Between iterations, I collected data, including test scores, qualitative surveys, quantitative surveys, observation, and talking with students. I have taught this course over twenty times and had an idea what overall grades tended to be. It was also easy for me to analyze test responses to see if the depth of response had increased over past responses from previous years. All procedures were conducted in strict accordance with institutional and national ethical guidelines, and the research was exempt from IRB oversight.

Results

Attempt One

In the first attempt, which was in the fall of 2023, I taught a mathematics content course to 70 preservice elementary education teachers. I abandoned tests and opened large online problem sets. I also had 10 smaller sets on which students received immediate feedback on questions. I allowed corrections on the smaller sets, but they had to provide reasoning. I felt this would cut down on cheating, as students had a second chance if they got something wrong. The sets were untimed, and they were open for long periods of times (one week for smaller sets and a month for larger sets).

At the time, I believed the items to be of a conceptual nature. However, upon later examination of the smaller sets, it became clear that they were more procedural. Those sets were automatically graded, and so I did not review students' work. Although automatic grading alone does not necessarily make the items non-conceptual, the way the questions were written primarily assessed procedural ability. The larger sets were more conceptual, but because

they were open for an extended period and untimed, many students likely sought answers from others rather than working through the problems themselves. In addition, students appeared to focus only on the content related to the questions rather than mastering the full range of course material. When students asked for help on these sets, I provided guidance, but at times they seemed to mimic my responses rather than engage in independent reasoning.

In sum, I did not give tests but had open untimed small and large problem sets. Students were told to work independently on the large sets (which probably didn't happen). I felt in the long run that students did not sufficiently learn the material in the course, but rather tried to figure out how to answer the questions. Since time was unlimited, they could ask each other (which they were told not to do) and ask me related questions. I think I ended up being "too helpful" with them when they asked these questions.

Attempt Two

For the next attempt, I returned to timed tests open for a few days (e.g., 50 minutes that could be done at any point through three days). I kept the small, untimed, problem sets to one a week for 10 of the 15 weeks of the semester (skipping test weeks and shorter weeks). I changed the problems to require all work shown, as well as a written description of what the student did to solve the problem and why. This was the same group of students I had taught in the first attempt. The course was part two of a two-semester math content course for elementary education majors.

Overall, I felt that the change was successful, but students preferred the first semester. Students expressed frustration with the tests and felt that they did not have enough time. I wondered if they tried to look too many things up. At least some of the students expressed that they needed time to think, with one adding, "which is good, but also time consuming."
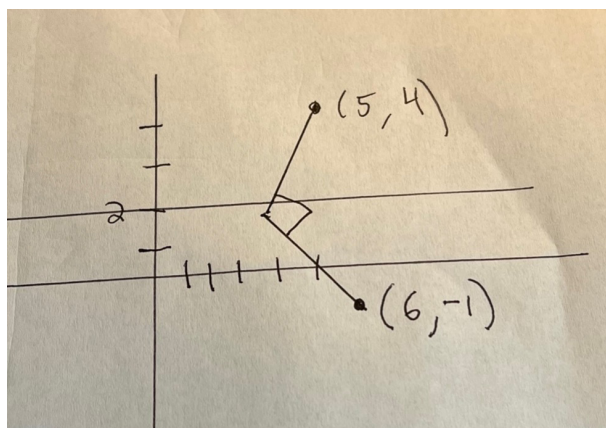
One example of a test question from transformational geometry gave an answer that a fictional elementary student had worked, and I asked the preservice elementary teachers to state whether it was correct or not. If it was incorrect, what concept was the fictional

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elementary student not understanding and how could it be corrected? The test question was: "An elementary student reflected the point (5, 4) across the line y=2, landed at (6, -1), and turned in the picture below to explain their work" (See Figure 1).

Figure 1

Fictional Elementary Student's Work

Out of 60 students, only two addressed the conceptual mistake made by the fictional elementary student. Most students simply noted that the answer was incorrect and provided the correct answer. Their explanations of the correct answer were procedural, often stating things like "we don't need to change the x-value," without discussing *why* the x-value remains unchanged or acknowledging the symmetry or perpendicularity involved in reflections. No one mentioned folding the paper on the line of reflection, or the idea of reflecting across a "mirror line," even though such language could be accessible and appropriate for elementary teaching. This demonstrated a key problem: while students could carry out procedures, they lacked the conceptual foundation to explain errors and, unfortunately, to even fully explain the correct process.

Another issue was that the preservice teachers worked problems in manners that would not be appropriate for elementary students (e.g., used matrices, used calculus, used complicated formulas) when there was a solution path that did not involve advanced mathematics. This too is something that I was not willing to give the

prospective teacher credit for doing. The lesson I learned was to give more time and clearer directions. I also decided that I would spend time in class having students answer similar questions and getting feedback from each other, as well as from me.

Attempt two was much closer to testing what I value, but many of the students were unsuccessful at the problems. Grades were considerably lower than in the first semester and students were much less happy with the class overall, which they expressed to me both in person and on course evaluations. Some of the unhappiness came from students finding it easier to get a higher grade in the first semester than the second. This comparison between the semesters contributed to their resistance to the changes I had made. It is also certainly possible that students will look back at the course and feel that the changes were helpful once they are in their teaching careers.

Attempt Three

In my third attempt, I had brand new students in the first part of the two-course sequence. There were 60 students enrolled in the course. I gave timed online tests with math content questions related to teaching and we worked practice problems together repeatedly in class. Also, on the first day, I discussed PUFM and SCK. I included instructions in the syllabus that assessment answers should not use methods beyond elementary students (e.g., calculus methods) and that assessment questions would often be teaching related (e.g., here is an incorrect student response, how can you respond to the student?) Throughout the semester, we spent class time each meeting session on practicing these types of assessment items.

The assessments were timed and online. This was partially for cheating concerns. It was mainly to ensure that students worked with the material before they took the assessment. In addition, an in-service teacher needs to respond to incorrect work in a timely manner and should not require time to get back to the elementary student. Because assessments were online, I allowed material to be used but warned students that if they had to look up everything, they would run out of time. I was not overly concerned with students working together

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(which I told them not to do) because there was an online time stamp showing time and item. Thus, if the time stamps matched and answers were similar, it would be scored 0 for the involved students (students were warned about this).

I had previously introduced a new type of problem by presenting a fictional student's work with errors. During this third iteration, I had these problems functioning well. The preservice elementary teacher had to identify the thinking that led to the error and offer a new direction (along with giving the correct final answer). Problems of this type had two huge advantages: it reduced the ability of students to type the problem into the web to get a solution, and it promoted conceptual understanding. While it is likely that a preservice teacher could find solutions online, it was unlikely that they could look up corrections to problems that were worked incorrectly. Also, the tests were timed, which would reduce their ability to look things up online. Problems of this type greatly reduced the likelihood of cheating.

My original goal was to test what I valued, which is conceptual understanding. Much of elementary mathematics can be done through a procedure that a person could memorize. Because this would result in full points, my students started to believe that it was just confusing when I pushed for a deeper understanding. With the problems worded this new way, students could not just respond, "No, you aren't following the correct procedure. Here is the correct procedure." Well, they *could* respond that way (and many did at first), but I did not give them credit.

Here is an example of a problem on the test:

"You ask your student for the 100th term of the following sequence:

2, 6, 10, 14, 18, ...

Your student answers: 2+4(100)=600

The student has made mistakes. Explain to the student what the mistakes are, what the correct answer is, and (most importantly), explain why."

Here are examples of acceptable, although perhaps not perfect, answers:

- I see you understand that the numbers in the sequence increase by 4, and we need to add 2 to 4 multiplied by the number of terms we want, but that's not quite right. We actually only need to multiply by 99, not 100, because we don't need to include the first number in the sequence. I noticed that you did not use the correct order of operations to solve the problem your way. Instead of using multiplication first, you added 2+4 first to get 600 instead of 402. So, using the correct order of operations, the correct answer would be 2+4(99)=398.

- You are right that we start with 2 and that we are adding 4 each time. However, we do not add 4 to the first number (2) therefore we only have to add four 99 times to find the 100th term. We also have to pay attention to the order of operations; we multiply before we add. So, in this case our equation is 2+4(99)=398.

- You have the right idea, and most of your numbers are correct. You should've put 99 instead of 100 because you don't need to add the first number, it's already there. You only need to add 99 times to get to the 100th term. Your next mistake is that you didn't follow PEMDAS. Instead of adding 2 and 4 together and multiplying by 99, you should've multiplied 99 and 4, then added 2. Correct answer: 2+4(99)=398.

- You have done a great job understanding that these terms have a common difference of 4. You also were able to identify that this sequence is an arithmetic sequence, so how the equation is set up is correct. That being said, when finding the 100th term, we must remember to follow the (n-1) rule because the leading term does not include the common difference, so instead of multiplying 4 by 100, we would multiply it by (100-1)=99. The only other thing that needs to be addressed is your use of the order of operations; multiplication comes before addition. The correct answer: 2+4(99)=398.

In that last one, you begin to see that the preservice teacher refers to a "n-1" rule, although they do attempt to explain why there is such a rule. I never referred to a

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"n-1" rule in my class. However, I did use "n-1." In class discussion, we generated a pattern by noticing that the first term is 2. The second term is 2+4. The third term is 2+4+4, eventually noticing that if one goes out "n" terms, it is 2+(n-1)4. I did not call this a "n-1" rule, but we did discuss that there is one less 4, because 4 is not added to the first term. One 4 is added to the second term. Two 4s are added to the third term. Three 4s are added to the fourth term. And so on, by the nth term, there are "n-1" 4s added. I would say all the previous responses try to represent this idea.

Here are some examples of much less ideal responses, where we see a concentration on a memorized formula. In the case of the answers below, there is no real explanation for why one should multiply by 99 instead of 100.

- This student should multiply by 99 not 100 to find the 100th term. Answer: 2+4(99)=398.

- I would explain to the student that what they did is add the 2 to the 4 and then multiplied it by 100 and that they need to follow the order of operations and they need to multiply 4 by 99 and then add 2.

- The correct answer is 2+4(99)=389. The student forgot to subtract 1 term from the 100th term. Since the student used 100 to find the 100th term, they actually found the 101th term. The student also added 2+4 before multiplying by 100, which made the answer 600. The student should have followed order of operations and multiplied 4 by 100 and then adding 2.

- The student put 100 instead of 99, it should be 99.

- The student made the mistake by multiplying the 100 by the common difference and adding the first term which is wrong because you have to subtract one from the common difference to get the correct answer.

- The student made the mistake of putting the 100 instead of subtracting one (n-1) to get 99. The formula is n-1. So the answer should be 2+4(99)=398.

- The student forgot to subtract one from the term they were looking for. It should be the first value (2) plus the common difference (4) times (n-1) which is the term you are looking for minus one.

If the test question had read simply "What is the 100th term of this sequence: 2, 6, 10, 14, 18, ...?" nearly all students would have written 2+4(99)=398. And I may have been happy that they understood. However, what I did not realize is that they were following a procedure and they may or may not have much understanding of the concepts behind it.

The new problems allowed me to examine my students' thinking, as well as give them practice at examining their future students' thinking. It shifted the emphasis from procedural to conceptual understanding. Research has previously suggested that asking questions about student mistakes can increase pedagogical content knowledge (Aksu, 2019) and the research of Phillip (2008) suggests that mathematics content knowledge will increase as the circle of caring pushes out from students to students' thinking to mathematics content.

Discussion

Sharing action research helps bridge the gap between theory and practice. While I taught a mathematics content course for preservice elementary teachers, the approach can be adapted to many contexts. The structure of the assessments, their focus on conceptual understanding, can be applied to any mathematics course, regardless of whether students are future teachers. Here I rely on Phillip (2008) to suggest that even when the goal is not pedagogical content knowledge, mathematics content will increase through the methods used in my action research project.

For example, I taught a Finite Mathematics and Calculus course and instead of talking about future students, I wrote questions as if a friend had worked a problem. In one such task, a student was shown a friend's graph of a function. The graph was a downward-opening parabola, and the student was told the derivative of the function was entirely squared. The question asked whether the friend's graph could be the original function, and if not, why.

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The conceptual point is that a squared derivative is always non-negative, which would imply a function that is never decreasing. The parabola opening down cannot be the original function. By shifting the context to a peer instead of future students, the question still required students to reason conceptually, even though the focus was not on pedagogical understanding.

After a while, I dropped the "friend" and just set up the problem. I could just say, can this be the graph of the function? This is not exactly correcting student mistakes, and the goal is not to develop pedagogical content knowledge, but it is testing conceptual understanding, which was the goal.

This approach likely has applications in disciplines beyond mathematics. Any field rooted in concepts could benefit from assessments that ask students to diagnose flawed reasoning or explain why a method works. With the growing influence of Generative AI tools, traditional tests—especially procedural ones—are increasingly less important and vulnerable to cheating. Conceptual assessment tasks may offer a more authentic way to evaluate student understanding.

Finally, I am now preparing for a fourth iteration of this work. Although I initially adopted online tests in response to COVID-19—and continued using them for reasons of flexibility, ease of accommodations, reduced test anxiety, and extended time—I am now considering a return to in-person assessments. My primary goal is to better ensure that students work independently, but I do want to keep the conceptual depth. One possibility is to maintain the same structure but have fewer problems per test and test more frequently during in-person class sessions.

Conclusion

Untimed problem-solving sets in place of tests did not work for me and my students. Students waited to "learn" material until they saw the problems and then sought to answer only those questions by seeking help from me or others. This wasn't the deep learning that I wanted for them. When I switched to timed tests, it was with the same set of students, only their second semester. I attempted to practice with them in class, but they were too used to the old method and never really entered the process. When I started with a fresh group, the timed tests with lots of in-class similar problems worked well. The type of problems that required correction of a fictional student worked especially well.

I began this process convinced that students value what is tested. That may be an overstatement. Perhaps a better statement is that students value points. That is, students want to earn points in a class, whether that is to achieve a high grade or just pass the class. If I put points on conceptual understanding, although they may not then value conceptual understanding, they will attempt to increase their conceptual understanding. And that really was the goal. I value conceptual understanding, and I wanted to increase students' conceptual understanding. Whether I was able to convince students that how I was teaching the class and assessing the class was the right method (not just teaching procedures) or not, I really don't know. However, by putting points on conceptual questions, they did start working to understand things conceptually. I am convinced that I can move them from only memorizing procedures to attempting to understand concepts by the way I test. Although it took me time to create tests that represented what I value, I was eventually able to do so.

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ESSAY

Equitizing the Syllabus: Fostering Love and Culturally Sustaining Practices in Higher Education
—Jason Michael Leggett

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Abstract

This essay explores the potential of a revised syllabus to foster equity and culturally sustaining practices in higher education, particularly for marginalized students. It argues that traditional syllabus structures often perpetuate inequities and proposes a revision process grounded in principles of fairness, care, and transformation. The author draws on the scholarship of teaching and learning and personal experiences to advocate for culturally sustaining practices that empower students and decenter hegemonic knowledge production. Through a critical participatory action research lens, the essay analyzes student annotations on a revised syllabus, revealing insights into student engagement, perceptions of the instructor, and the impact on learning. The findings suggest that an equity-minded syllabus revision can enhance student motivation, promote inclusivity, and contribute to academic success. The author concludes by emphasizing the importance of ongoing reflection and data collection to ensure that teaching and learning practices are truly equitable and culturally sustaining.

Keywords:

culturally sustaining, equity, syllabus, love, marginalized students

Many higher education institutions in the United States sought to strengthen their commitment to equity in the wake of the death of George Floyd and subsequent protests by Black Lives Matter (McKenzie, 2020). At my own institution, we celebrated an "Equity Relaunch" that included a series of reports, focus groups, and dialogue around how equity in the classroom might be approached. This work was supported by Achieving the Dream (ATD)—a professional organization that provides institutional leaders, faculty, and staff with actionable solutions—through a professional development series entitled Race & Equity Leadership Academy (RELA). RELA included a series of workshops, readings, and meetings with ATD coaches, and culminated in a conference. My institution has been a member of ATD since 2013 and was recognized as being a "Leader College of Distinction" (City University of New York, 2019).

Kingsborough Community College is part of the City University of New York and is the only community college in Brooklyn, New York City's most populous borough. The student population mirrors Brooklyn's demographic profile, with a higher percentage of Black students (38%) compared to white students (29%); approximately half of the students were born in another country, 50% identify as first-generation students, and nearly all work over 30 hours per week while attending college full-time (City University of New York, 2023). They are not sure how to navigate the system nor are they aware of what opportunities are available to them.

The process of marginalization is complex and the categorization of this population as marginalized or subaltern is not static, may not be known to the individual, and is often resisted and contested. Jamila Kareem (2014) described marginalization as indicating students who are underserved, mis-served, or un-

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served by the institution due to underrepresentation in one or several social categories. As an educator and a socio-legal scholar, the students I work with talk about being misunderstood, underrepresented, underserved, and vulnerable to structural injustices. They routinely report their feelings of relative powerlessness (Leggett, 2023a). For example, these students are quick to identify injustice in their own lives or communities but share that they believe nothing can be done. For those of us interested in social justice, we typically attempt to work with our students to confront, study, and work toward overcoming these structural injustices (Leggett, 2016). These experiences are not isolated to legal studies but resonate across disciplines such as sociology, psychology, and public health, highlighting the pervasive nature of these issues (Lewis et al., 2024). Thus, addressing powerlessness and injustice is not limited to the socio-legal field, and this exploration will demonstrate how a thoughtfully constructed syllabus can serve as a cross-disciplinary tool for empowering students across various academic landscapes.

Over the last decade, I have gained extensive experience facilitating faculty development groups on diversity, motivation, and culturally responsive teaching, have participated in a variety of focus groups, and have served on a variety of committees about equity and teaching. One such committee had been charged with identifying obstacles to equity in college-wide policies and common practices within the classroom. Through this work, I heard from many faculty across disciplines. The most common challenges to equitable transformation, I discovered, involved confusion about where to begin. While many of the administrative policies were changed, faculty were resistant to the idea that they needed to make any changes to instruction.

In 2020, I was selected by administrators to participate in the RELA, co-sponsored by ATD and the University of Southern California Race and Equity Center (ATD RELA, 2020). I was first introduced to the Center for Urban Education (CUE) Syllabus Tool at this time. According to Roberts (2020), the syllabus is a document that can be effectively redesigned to shape the way students, particularly students of color, can view the course, instructor, and learning materials. As I worked with the syllabus tool the first time, I was struck by the question: "who does my syllabus serve?" Simply put, my

syllabus served the administration. I thought back to an administrative directive received via email a few years after I began teaching:

Please begin to review your syllabi to ensure they include the following:

- College catalog description, number of hours and credits

- Prerequisites/co-requisites

- Attendance policy

- Student learning outcomes

- Required materials (textbooks)

- Course topical outline (week by week)

- Grading (% for assignments, exams)

- Accessibility statement (sample wording is below*)

Eventually, syllabi from each department will be collected and be part of the onsite Resource Room.

While the initial directive outlined a syllabus focused on logistical requirements—catalog descriptions, attendance policies, and grading breakdowns—the persistent perception of the syllabus as an inscrutable contract left me questioning whether a mere revision could truly disrupt the inherent power dynamics and foster culturally sustaining practices. I had tried various methods to make the information from the syllabus more relevant to students, including providing PowerPoint presentations, in-class and online review activities, and quizzes. I even tried to co-construct the syllabus with students over the first few course meetings. No matter what I tried, most students seemed to perceive the syllabus as a set of mysterious terms to which they tacitly accepted. Admittedly, I was skeptical that another revision to the syllabus would really have any effect on marginalized students.

However, as I continued to work with the CUE syllabus tool, and looked ahead to the examples at the

Equitizing the Syllabus *continued*

end, I realized the syllabus could be an introduction to the course processes, as an experience, as much as a list of contents and due dates. I recalled how lost and confused I was as a first-generation student in community college and began to understand how the syllabus could be used as a helpful guide for students who may be new to the college experience. The tool frames relevance to marginalized students using three principles:

1. <u>Fairness as demystifying.</u> Syllabus revision can be seen to demystify the college experience and provide signals to students about what they might need to do on the way through their learning plan or degree map.

2. <u>Care in welcoming, validating, and creating partnerships.</u> Syllabus revision can truly place the student at the center of the process instead of the faculty and content. It can also be a way of checking our "policing" behaviors and to remind students we are there to help, not create obstacles toward their progress.

3. <u>Transformation through deconstruction.</u> Syllabus revision can be useful to identify gaps in equal representation, to acknowledge discriminatory systems, especially in one's field or discipline, and to integrate opportunities for the co-construction of diverse knowledge.

As I set out to revise my syllabus, I wanted to embed these three principles in a way that demonstrated I was committed to sustaining cultural differences and that I was reaching out to marginalized students in an inclusive and respectful manner.

Literature Review: Equity toward (or away from) Culturally Sustaining Practices

The Scholarship of Teaching and Learning (SoTL) literature on syllabi, equity, and culturally sustaining pedagogy has grown over recent years, particularly within individual disciplines. However, many faculty tend toward specific outcomes when revising the syllabus. For example, the Society for the Teaching of Psychology shared an online portal of peer-reviewed syllabi that includes an effort to include accessibility features to foster equity, diversity and inclusion (Fuentes et al., 2021). Catherine Ma (2021), to promote anti-racist consciousness in her Psychology of Immigration course, argued it is "imperative to firmly state in the syllabus that any form of hate speech will not be tolerated, and remind students that these are non-negotiable terms." At New York University, a group of faculty collaborated to construct a sanctuary syllabus in response to Donald Trump's executive order that barred foreign nationals from seven predominantly Muslim countries from entering the United States; this syllabus offered resources and strategies for studying, organizing, and creating sanctuary (Nolan, 2021). Others have drawn upon tools provided by CUE at the University of Southern California to review and revise their syllabus for equity. For example, one helpful tool was created by Maxine Roberts, a scholar who provided a comprehensive appendix that includes empirical and peer-reviewed articles to answer common questions about the syllabus and review process (Center for Urban Education, 2020).

Scholars have also turned their attention to affect and to the effects that syllabus revisions have on student perception and performance. For example, Harnish and Bridges (2011) examined the effect that the tone of the syllabus had on perceptions of the instructor and the course. They found that a syllabus written in a friendly tone had a significant impact on how the instructor was perceived and that students thought the course would be less difficult than a course syllabus with an unfriendly tone (pp. 326–327).

Tokath and Yesim (2009) argued that an efficient syllabus is a tool that sends a message to students regarding the instructor's personality and their own investment in the course and may be the first step in creating a lively learning environment. Finally, Williams et al. (2021) used the syllabus review process to examine a course, Intersectionality and Disability, within a preservice teacher education program. They found that the process led to "revised descriptions and outcomes, new assignments and activities, and a focus on self-reflection and efficacy" as well as "a paradigm shift from awareness of intersectionality to the more application-oriented approach of culturally sustaining pedagogy" (p. 46).

Equitizing the Syllabus *continued*

Each of these approaches can be said to be culturally responsive teaching (CRT) in that those practices decenter the power of two sources of hegemonic knowledge production: the educator as knowledge-holder and the more mysterious knowledge produced by objective, undefined sources held out to be authoritative. These educators have sought to include knowledge sources that are often ignored in the beginning stages of the course. These goals promote equity because they work to ensure that all members of the classroom have consistent and meaningful opportunities to participate in communal life and to play a role in shaping the culture of the class experience.

However, there are also interpretations of diversity, equity and inclusion (DEI) that serve as detours to equitable social change (Gorski, 2019). For one thing, Fuentes et al. (2021, p. 70) note that "limited guidance is provided to faculty on how to design an inclusive syllabus." It is common for faculty, especially those who are newer or part-time, to simply be given a syllabus to teach. In this way, college faculty, staff, and administrators are made to be complicit in inequitable structures that favor the status quo. This mobilization of bias (Bachrach & Baratz, 1975) "prioritizes the comfort and interests of people who have the least interest" in equity goals (Gorski, 2019, p. 57). In this interpretation of DEI, revising a syllabus is seen as unnecessary, time-consuming, or out of the purview of the status quo approach to teaching and learning. In short, educators are often heard to say, "this is not my job" or "didn't we hire someone who does DEI?" Thus, these varied faculty responses and attitudes toward syllabus revision demonstrate how prioritizing comfort and convenience over equity results in the sidelining of DEI work, effectively hindering true progress towards inclusivity and pluralistic participation.

Paris and Alim (2017) argued that CRT does not do enough to explicitly support the goals of cultural maintenance and social critique. Instead, culturally sustaining practices (CSP) must be a part of a shifting culture of power that challenges white middle-class linguistic, literate, and cultural skills and ways of being. Simply put, CSP decenters hegemonic knowledge production, but it also makes room for multiethnic knowledge co-construction. This is a significant transition in power relations that extend well beyond the individual classroom. Higher education professionals tend to focus on actions inside the classroom instead of the cultural environment that forms and shapes those actions, resistances, and interactions.

It is important to acknowledge how many of these status quo processes are benign or unintentional. In times of extremity, such as the Black Lives Matter protests and the pandemic, we were all susceptible to forces beyond our immediate control, and like others, I was willing to try anything that appeared to shift the dialogue or focus on a critical lens. However, others found safety in repackaging old practices into "new" formats. For example, in one recent best-selling book, *The New College Classroom*, Davidson and Katopedis (2022) do not even mention culturally sustaining practices. They go out of their way to contrast an erroneous interpretation of pedagogies of the oppressed to align with their conception of participatory learning that, in typical race-neutral or colorblind fashion, is supposed to be a "pedagogy of lifelong success for everyone" (p. 16). This performative effort coincided with several states that banned critical race theory and populist movements that seek to limit controversial topics about race (Associated Press, 2023).

Davidson and Katopedis (2022) also state they not only teach to "transgress" but to "transform." These critical appraisals of Paulo Freire and bell hooks will be addressed later in this section. I highlight these appropriations here to set up a more granular and thoughtful imagination of what a more "transformative" CSP course could look like, beginning with syllabus review as a guide to thinking through the process of measuring equitable relational change. For now, it is useful to delineate how Davidson and Katopedis (2022) envision syllabus revision to contrast this more typical approach to one rooted in CSP. Their discussion of "the syllabus" (as an object) frames it as a document that can reflect an educator's desire to "prioritize student wellness":

> Sometimes the last page of the syllabus furnishes information about accommodations as well helpful details about where to find tutoring…we cannot be experts in all these things, but we can learn where these officers are located and share that information with students to *help them be* resourceful and gain

Equitizing the Syllabus *continued*

access to what they need. (pp. 44–45)

They do offer a departure from the "typical" syllabus later in the book by contrasting it to a "participatory syllabus" that "invites students to contribute to its making" (p. 59). They provide examples and detail a few approaches to co-creating a syllabus with students. They reference later on the unrealistic expectation of many syllabi they reviewed on the open syllabus project of an abundance of readings rooted in an outdated Carnegie credit model (p. 69), but fail to apply a CSP analysis and instead put forward a liberal constitutionalism project rooted in white, middle-class norms that fails to consider unequal power relations or injustices based in race, ethnicity, gender, sexuality, or class (Leggett, 2023a).

I am not arguing that educators, like Davidson and Katopedis, should not attempt to engage with all learners. There is certainly nothing wrong with instrumental changes, and I applaud the effort to be more reflective in our craft. However, for a truly revolutionary or transformative change to occur there must be liberation for specific students and these practices should be empirically supported.

Equity is not merely equality of opportunity; it requires a change in institutional and ideological conditions as well. This does not occur through instrumental change alone. It must be structured intentionally, with ongoing feedback, and both responsive intervention and enrichment opportunities, as well as empirically informed sustaining practices. This intentional structuring has been transformative across fields such as sociology, education, and law where the power dynamics of syllabus construction have been shown to impact student experience (Better, 2014); still, the colorblind "participatory" approach of Davidson and Katopedis (2022) fails to address the deeply rooted historical and social inequalities that demand a more critical, culturally sustaining framework. One way to move toward more "just methods" across disciplines is to utilize the principles of action research (Fine, 2017).

Orlando Fals-Borda's embrace of investigación-acción (action research) as a direct call for engaged researchers to support *campesino* (peasants) and working classes to better comprehend reality and articulate their struggle was a watershed moment in his intellectual history

(Díaz-Arévalo, 2022). An accurate understanding of participatory learning requires educators to appreciate both the intersectional harms (injustices) within the society in which they teach as well as their own positionality or standpoint of unequal power relations within their educational environments (as a subset of that society) (Smith, 2005). This involves more than re-arranging the chairs on a sinking ship; educators, especially white educators, must revolutionize the structural environment itself. We must construct an environment that encourages a transformative process of relations. Truly effective participatory learning and educational transformation require educators to recognize and actively address systemic inequalities and their own positionality within those systems, rather than merely making superficial changes. It emphasizes the need for a radical shift in the educational environment to support the liberation and empowerment of marginalized groups.

In contrast to a white middle-class norms perspective, Carol D. Lee (2009, p. 265) explains that the "design of culturally sustaining pedagogical practices require a critical examination of the constructs of culture, race, and ethnicity…because their normative and historical conceptions have been either informed by or responsive to what Mills calls the racial contract." In other words, it is not enough to simply invite students in or provide information to hope they become more autonomous agents. It is not enough because of cultural hegemony and unequal power relationships already built into the teacher-student dynamic. With any teaching practice, whether new or typical, we must ask: which students are empowered? Do we have empirical evidence of this empowerment? In other words, we cannot be certain that our practices are actually equitable or culturally sustaining without evidence. We must also engage in critical examination with students over time. This should be based on more recent literature from cognition, human development, and the neurosciences that may be "an ironic twist to the ways that pseudoscience was invoked to justify African enslavement" (Lee, 2009, p. 263). We are enmeshed in an unequal system and deconstructing that system will be messy.

On a practical level, I think that this requires us to first confront how our own disciplines influenced our ideas about these normative and historical conceptions.

Equitizing the Syllabus *continued*

An equity statement may be useful here. For example, I developed, and revised, an equity statement for my syllabus over the last couple of years, as part of the RELA experience. I have provided it here:

Lawyers, Judges, and Law Enforcement Officers have often used legal justifications for the abuse of power, particularly against Black and Indigenous populations throughout the history of the United States. While there are some today in popular culture and politics who would like to ignore or even erase this history, the sources are easy enough to find and read, and include many notable abolitionists, anti-slavery judges, and other allies engaged in a complicated and problematic historical struggle. One principle that has emerged from these efforts of struggle is the concept of law as a double-edged sword—something that cuts as a form of domination but also cuts back as a form of resistance. The argument goes that if politicians, business organizations, and even religious leaders were corrupted, people could still use legal principles to argue for equity, basic fairness, social responsibility, and perhaps even truth. As someone who has been raised in the cultural traditions of white-Anglo-Saxon-Protestant men, I have benefitted a great deal from institutional and ideological biases that encourage folks in positions of authority and privilege to give me the benefit of the doubt and assistance based on these shared norms. Far too often these same benefits have been kept from excluded groups of people. In response, I have spent over 20 years working to uncover my own biases, interrogate and navigate through those within a system that promotes exclusions and superiorities, and to consider what I can do, with others, to reduce the harms caused by such a system. One of those tools is to re-examine traditional learning materials and ensure that facts are presented without white-washing, and to provide representations of resistance and social group success of those who have been excluded from traditional white spaces. The second tool is to encourage you to develop and share your own agency as you learn about the legal structures around you and to encourage full participation in course work. I have also benefited from the courageous work of scholars who have, for decades, engaged in critical, real research into the cause of systemic discrimination and the role the Courts and Legal System play in maintaining

inequality. Many scholars have built upon the foundational work of early critical race theorists and have examined consistent trends of discrimination and exclusion documented over hundreds of years. Some of these are provided through the readings and I welcome you to bring in your own sources and representations as well.

I do not think that this statement is perfect, and I plan to rework it over time. It is also not a panacea. An equity statement is a good first step, but the review process needs to be ongoing. One potential framework is to focus on the syllabus as a tool to measure relational power and transformation. Cheryl Albers (2003) argued that the four functions of the syllabus—contract, communications device, plan, and cognitive map—should be seen as tools that "motivate students and keep both the teacher and the students focused on course objectives" (p. 61). This paper seeks to examine this claim of potential relational transformation empirically. Drawing inspiration from Orlando Fals-Borda's *investigación-acción* and recognizing the equity statement's reflectivity as a CSP that challenges dominant narratives and invites co-creation, this essay will utilize Digital Critical Participatory Action Research (DCPAR) principles, employing social annotation and critical analysis to measure the emotional impact of this change on students and inform ongoing pedagogical practices.

Setting the Context

The course syllabus I revised was for Constitutional Law and was a fully online, asynchronous course. I have been teaching online for many years and have written on the integration of technology and emancipatory education (Leggett et al., 2018). This course is required for criminal justice students who have completed the prerequisites Introduction to Sociology and Introduction to American Government.

I was also a member of a college-wide DEI team that examined common educational practices at our institution. I worked with several colleagues to examine cultural bias in the production of syllabi as well as teaching practices that stem from the syllabus including course materials, assignments, late work policies, and assessment. We wondered how we might shift the language at our college from achievement gaps to opportunity gaps. We believed the syllabus was a logical

Equitizing the Syllabus *continued*

place to start for several reasons. First, we experienced strong reactions against recognizing inequitable outcomes using disaggregated data based on race, gender, and economic class. We wanted to move beyond any effort that "prioritizes the comfort and interests of people who have the least interest" in progress towards remedying the gaps as an equity "detour" (Gorski, 2019, p. 57). To this end, the syllabus could stand in as an artifact that was generally similar across disciplines and that did not directly confront the teaching strategies of the instructor. Second, our college had attempted a standardized syllabus approach ten years ago. We wondered how many faculty had revisited their syllabus since then and what effect a review might produce. Finally, the syllabus was a common document by which we could organize a conversation.

Methods of Data Collection: Social Annotation for Equity

As an educator from a working-class background, and a former first-generation student, I tend to assume students review the syllabus for course assignments, due dates, and grading schemes. However, through my research, I have learned they also review the syllabus to learn about the instructor's "interpersonal style and approachability" which can affect their attitude toward the learning environment (McKeachie, 1986; DiClementi & Hadelsman, 2005; Grunert, 1997). I wondered how I might document these interactions in an online environment.

Hypothesis is a piece of software. Using annotation, it enables sentence-level note taking or critique on top of classroom reading. Students can annotate a reading and comment on each other's annotations. In this way, this software allows for a replication of classroom dialogue around the object of study. It also fosters critical engagement with the reading. Social annotation serves as a powerful tool when coupled with CSP by fundamentally shifting power dynamics in the classroom. By enabling students to collaboratively annotate texts, share diverse perspectives, and engage in dialogue, social annotation decenters the instructor as the sole knowledge authority. When left open to pluralistic participation, it provides a platform for students to voice their interpretations, challenge dominant narratives, and connect course material to their own lived experiences

and cultural backgrounds. This process fosters a more equitable learning environment where students are active participants in knowledge construction, thus challenging traditional hierarchical structures and potentially empowering marginalized voices. The very act of annotating together transforms the syllabus from a unilateral document of power to a shared space for negotiation, understanding, and collective growth.

Similar to a grounded approach in ethnography (Ewick & Silbey, 1998), students were not directly asked about equity elements of the revised syllabus. Instead, I wanted to see whether students noticed the revised approach, and, if so, which students and how that related to course performance. Specifically, I added the equity statement provided above and was curious to see what reactions, if any, that statement provoked. I downloaded these responses and uploaded them into a software program, Atlas.ti, capable of conducting word frequency analysis based on specific parts of speech, identifying common themes, and conducting opinion analysis. I also utilized the newly available AI tool for automatic coding.

Scholarship generally involves what Boyer (1990) describes as "stepping back from one's investigation, looking for connections building bridges between theory and practice and communicating one's knowledge effectively to students" (p. 16). Albers (2003) explained that syllabi provide a vehicle for individuals to document their efforts to approach teaching as a scholarly activity (p. 63). Through reflective investigation and content analysis, I was able to provide a snapshot of what students were feeling and talking about as they worked their way through the syllabus.

Annotations for the spring 2023 course were collected, downloaded, coded and analyzed (IRB: KBCC 2019-0743). As part of a larger study of Knowledge in Pieces (KiP), I designed online assignments that would intentionally collect student opinions about the syllabus, readings, and short assignments throughout the semester (diSessa, 1998). The KiP framework emerged in dialogue with, and in reaction to, the field of misconceptions research (Smith et al., 1994) which theorizes that students enter the classroom with naïve ideas of how the physical world operates based on their everyday experiences and the shared understandings of the world that they share with the people around them (diSessa,

Equitizing the Syllabus *continued*

1996). In contrast to the misconceptions approach which focused instruction on demonstrating to students the ways in which their naïve ideas were wrong and needed to be replaced with the expert knowledge as developed by physicists, the KiP approach sought to understand the architecture of that naïve understanding students initially bring into the classroom.

I have utilized this approach in a study of how marginalized students make sense of threshold concepts in law (Leggett, 2023b) and in making sense of power and legal mobilization (Leggett, 2023a). I wondered whether a similar approach might help me better understand how students read the syllabus, what questions they might have about the course, and what interventions I might be able to design to sustain cultural differences in meaning making. The annotations follow.

Data

Annotations

Out of 24 students, 21 completed the Syllabus Annotation assignment. In total, there were 116 annotations among those 21 students, which also included my responses and student responses to other students. I was trying to elicit their feelings, sentiments, or emotional reactions to the syllabus, so I included the following instructions as formulated by a colleague, Dr. Jennifer Corby, who constructs learning opportunities as an "adventure" (Pai et al., 2023):

How to Annotate: You should make 5 annotations AND comment on another students' annotations for full credit.

To help guide your reading, mark each of your annotations in the following way:

Q - Mark with Q, if you have a question (and write the question).

I - Mark with I, if you find something interesting (and explain why).

C - Mark with C, if you find something confusing (and explain what).

S - Mark with S, if you find something surprising (and explain why).

A - Mark with A, if something makes you angry (and explain why).

R - Mark with R, if you want to add research to a link, an image, a graph, or an article.

L - Mark with L if you loved something about the reading (and explain why).[1]

? - Having a reaction I haven't named? Tell me! I'll add it to the list.

Table 1
Frequency of Annotations by Syllabus Heading

Syllabus Headings	Number of Annotations Per Heading Topic
Welcome Message	0
How to Be Successful in Online Courses	4
About Me	8
How This Course Works	9
My Commitment to You	5

Equitizing the Syllabus *continued*

Syllabus Headings	Number of Annotations Per Heading Topic
My Teaching Philosophy	3
Expectations and Negotiation	10
Equity Statement	9
How to get your Questions Answered	1
Course Description	2
Course Learning Outcomes	0
Required Hardware	4
Required Software	1
Grading	7
Policies	11
What you will do	4
Course Schedule	26

The syllabus was divided into sections and I separated the annotations per section (see Table 1).

I was not surprised that the most annotations were produced in the Course Schedule section because this is also the most popular during in-person sessions. I was surprised that the second most popular section was the Policies because I assumed students would mostly skim this section due to seeing it across courses. I had heard colleagues complain that students did not read or understand this section of the syllabus. I found the opposite to be true; students largely commented on how they appreciated how clear the policies were and compared the policies to other courses. I was also surprised to see how closely related the Equity Statement section was to the How This Course Works section. I was also surprised to see that the sections related to getting answers, technology, and learning outcomes were largely not annotated. This runs counter to the complaints I hear from colleagues about students' failure to follow directions. I had already written an article about the need to support technological interventions (Leggett, 2016) and take care to structure these integrations with student frustrations in mind; however, throughout the course, I found that students were able to use the technology without issue and were clear on what they were expected to learn and do.

Thus, an interesting general finding was useful to narrow in on specific themes. Two myths seemed to have been busted through this data collection: that students do not read the syllabus and they don't follow directions. Challenging the myths that students don't read the syllabus or follow directions provides a valuable opportunity to apply the KiP framework and DCPAR, revealing the nuanced ways students construct meaning and engage with the syllabus as a cultural artifact. By utilizing DCPAR and social annotation, we can gain empirical insights into the diverse student interpretations and emotional responses to the syllabus, which is crucial for informing CSP that effectively center student voices and experiences.

I turn to specific annotated comments from selected sections below to illustrate my conclusions and speculations at the end of this paper. Previously identified themes generated from the syllabus headings represented broad patterns of student engagement, while the codes employed below, generated by the AI tool, provide a more granular, quantifiable breakdown of individual

Equitizing the Syllabus *continued*

annotation responses, with these specific codes serving as evidence and building blocks for interpreting the larger, overarching themes. In essence, the codes are specific observations that, when analyzed in aggregate, contribute to the identification and understanding of the broader thematic trends in student reactions to the syllabus.

Discussion

The AI-automated coding generated by Atlas.ti reported five frequently cited codes:

Academic Skills or Academic Behavior (17),

Appreciation (14),

Self-Improvement (11),

Gratitude (8),

Interest (7).

The codes that students used (self-generated) most frequently were as follows:

L (Love) = 39

Q (Question) = 22

I (Interesting) = 12

S (Surprised) = 9

NA (None Assigned) = 6

C (Confused) = 4

A (Angry) = 3

Before I collected the annotations, I was most interested in the Equity Statement. Nine annotations for this section are not insignificant; however, in comparison to the Course Schedule (26), Policies (11), and the Expectations and Negotiation (10) collectively, which could be fairly categorized as "nuts and bolts," there was obviously more attention paid to those technical details.

How then should we, as educators who care about equity, think about this distinction? I wondered whether looking at the annotations more closely might reveal some answers. I begin with the Questions to provide some context for the types of representative inquiries students made.

Questions

One student asked in the Course Schedule, "We have until Sunday weekly to get all the work done?" Another student, in response to this student, wondered, "How many Annotations will we have to do for the readings?" In further conversation with these individual students, I learned that they were skeptical that I would "live up to" what I had stated in the Course Policies. They had experience with previous instructors who were inconsistent, so they were verifying what they read in the earlier nuts and bolts sections with the course schedule.

Following the Equity Statement, a student asked, "Do you find that it's more productive to practice this philosophy in your teaching so that the students will get a better understanding of the materials?" I worked with this student throughout the semester in ways that showed me they were a deep critical thinker and often needed time to process complex topics. These annotations helped me see where the student was digging deeper which allowed me to design specific feedback throughout the semester. Several students used this kind of conversational annotation throughout the course assignments.

Finally, another representative question type involved a variation of verifying policies: "Hypothetically speaking what happens if you turn in the work a little past midnight on Sunday will that still count or will it be too late?" Students repeatedly emphasized they appreciated flexible due dates and reported a practice I was completely unaware of: my colleagues were opening assignments at one time of day, say 11 A.M., and then closing them at 5 P.M. Students complained they had work and family obligations that made these "odd time portals" very stressful, and in some circumstances, impossible. I turn to annotations in the Surprised code next to further emphasize the impact of culturally sustaining and differentiated, responsive practices.

Surprised

Equitizing the Syllabus *continued*

Many students commented throughout the syllabus that they were relieved and grateful for CSPs, like flexible due dates and revisions. I often state that I always accept student work and that I enjoy their contributions. In response, one student shared, "most online courses i have taken don't allow late work this is very surprising but also a relief, not that i will ever take advantage of this." I retained the grammatical style here to emphasize that the meaning is not lost, showing there is no one true universal grammar (Leggett, 2023c) and to demonstrate how the comfort level of student comments relates to their authentic feedback. Culturally sustaining environments are those that are respectful and foster choice, especially linguistically and socially.

I also want to share annotations from the Equity Statement that used the code Surprised to show something I had not considered: that students were relieved to get a human, honest admission of bias and mistakes. One student wrote, "I think it's hard for an individual to uncover their biases considering somethings are encoded into our mind through mindsets, household biases etc. especially when they're 'too far down into the rabbit hole.'" Another student made me feel wonderful for taking this step, which was very difficult for me based on my Anglo-Saxon upbringing of not discussing race: "I commend you Professor Leggett for your ability to uncover your own biases and disarm them. I believe every person should examine their prejudices and try to dive into why they have those thoughts. Judging a book by its cover is never the right approach." Of course, these comments are not universal, and not all students appreciate the inclusion of race and bias, but it does challenge us to think more deeply about how we structure these conversations, which is something that Beverly Tatum (1992) has written about from her own experience as well. I found similar responses for students who used the code Interesting.

Interesting, Angry, and Confused

A student shared their motivation for being a criminal justice student and their interest in law courses, saying, "I am also interested in how people experience injustice might use it as a way to make others understand them." I was able to explore with them which specific topics in the Course Schedule were most important to them and to develop an independent research project on police brutality and community relations. I had not considered

how the Equity Statement would connect to the Course Schedule at all and certainly not in this manner.

I was also able to get a clearer picture of something I knew happened but had not really examined deeply—that students who take more than one course with me may be doing it because it is a challenging and supportive environment. One student said, "I took your Constitutional Law class last semester and I honestly thought it was one of the hardest classes I took this far, but I passed and was thankful about that." This feedback helped me tremendously as I had students who were familiar with the class structures and grading practices, with a student who shared under the Anger code: "Subjectively, I'm not comfortable with grading my peers' final presentations. At the moment, I'm worried that us as students, will leave the rubric open to interpretation and grade based on our own opinions." This student was one of the most caring and supportive peer graders at the end of the semester and worked outside of class with a student who was struggling because they were both interested in law school. This peer-to-peer dynamic also produced a series of responses when a student used the code to express Confusion: "These discussion board terms are already available to complete in blackboard. Are they due WK 4, 5, and 6 respectively? Can we complete them at our own pace? I've seen some students already submit these db term assignments." Several students used text directly from the syllabus to respond to the confusion and indicated which section they could get more information from. I also decided to create a discussion board forum for questions and answers that we used regularly throughout the course. I want to end this section with what I think ties equity, CSP, and productive online environments together: Love.

Love

Many students expressed appreciation for the connections they saw between the Course Schedule and their motivation for selecting their major: "I like how my major is Criminal Justice and this class help understand the System. I like the way we can learn in our own schedule." This ability to work on their own timeline also generated many annotations using the Love code; one student shared a representative feeling that, "some professors wouldn't accept late work regardless of the situation, appreciate that if we reach out to you to explain if something isn't done on time, the assignments

Equitizing the Syllabus *continued*

could be accepted." The intentional supportive and flexible course environment reinforced the sense that I had taken my time to structure learning opportunities that were not punitive yet still organized: "i do like this format, it's a very clear and easier way to know that if a certain annotation will be something that someone likes, has a question on or confusing. my other professors should do something like this in my opinion."

Finally, within the Equity Statement section of the syllabus, Love and Anger served as poles that revealed the range of emotions marginalized students feel about the gap between law as an ideal and their lived experience: "I agree with this statement. Some people will definitely try to water down things that have happened to African Americans an Indigenous people. There's a lot of history we are not taught due to things like this. It's been going on for years and I don't think it will ever truly stop. I love that you were able to undo your own bias that you probably didn't realize you had." On the Love side, two students were grateful that I shared the statement. On the Anger side, students were disappointed that injustice persists and were eager to apply their knowledge to reform and transform social advocacy. In the final section, I speculate how my conclusions might impact student performance and enhance learning.

Conclusion: Speculations about Inclusivity, Validating Language, and Course Success

I am often asked whether these changes have any measurable effect on student acquisition of core concepts and/or performance, including grades, assignment completion, and retention. While the observed correlations between syllabus revisions, social annotation, and student grades offer intriguing insights, they should be interpreted with caution. Subjectively, I believe that an equity-minded approach may have a positive impact, particularly for students near the 2.0 GPA range because they are otherwise not feeling included in college policies and practices. For example, 10 out of 12 students with a GPA above 3.0 finished the course with a B or higher. Two students finished the course with a final grade below their GPA. Eight out of nine students with a GPA between 2.0 and 3.0 finished the course with a grade equal or better than their average. Three students with a GPA below 2.0 earned a higher grade than their average. Out of 24 students, 20 finished with a grade equal to

or greater than their GPA. Of the four who finished with a worse grade, two were above 3.0 and two were below. I conclude that equity and CSPs had the greatest impact on students who hovered around the 2.0 mark, but did not have a deleterious effect on high-achieving students. I argue that a supportive environment for the most marginalized of students in turn helps all students.

However, for those interested in this type of equity-based research, one should also consider including control groups and longitudinal studies to isolate the effects of the syllabus revision and social annotation from other potential variables. It would also be useful to look at equity statement social annotations across courses of a college to compare to GPA in a more course-representative manner. Further, social desirability bias (Lavidas & Gialamas, 2019) may be a factor in student responses, even when taught in an online-asynchronous format; however, I did not find that a compelling limitation as most students tended to be more open and communicative in the online setting, often in opposition to what might be expected of them.

In any case, these limitations are not a sufficient reason to avoid interpretive analysis outright (McCann, 1996). For example, the observation of two common myths about students and the syllabus was crucial in challenging my own preconceived notions and for highlighting the necessity of further exploration into how these findings relate to the application of KiP and DCPAR for CSP, revealing that more rigorous methods should be applied to further understand how specific changes in the syllabus truly impact student success. Despite these limitations in drawing definitive causal claims, the richness of the qualitative data, particularly when analyzed through interpretive methods that acknowledge social desirability bias and build upon the quantitative trends, offers compelling insights into student experiences and provides a crucial foundation for further research and practice change toward more equitable social relations and CSP.

The iterative process of revising the syllabus and collecting data through social annotation allowed me to better understand and verify the effectiveness of my own practices. This process also brings students into the knowledge production process, aligning with the principles of CSP. For example, the high frequency of

Equitizing the Syllabus *continued*

the Love code in student annotations indicated that creating a supportive, inclusive, and respectful classroom environment with values of respect and mutuality is obviously crucial for student motivation and a sense of belonging. A learning environment that seeks to de-center power imbalances and challenge policing behaviors seemed to foster intrinsic motivation and had a positive impact on student performance generally.

More generally, the iterative process of reviewing and revising a syllabus, over multiple semesters, is likely to encourage educators to look more closely at the efficacy of practices they believe to be culturally sustaining but can now verify with empirical data (Leggett, 2019). Collecting data through social annotation provides a clearer picture of how students experience the revisions and any interventions designed to improve the experience. A key principle of CSPs is to bring students into the knowledge production process (Leggett, 2023c). How can this be more explicit using both the syllabus revision tool and the social annotation tool? I think the answer lies in a code I would never have thought to generate myself: love.

bell hooks (2001) provided a framework for love in the context of resisting domination in unequal power structures: "The will to power...stands in the way of love" (p. 40). This highlights how power imbalances can hinder the development of loving relationships. In higher education, power dynamics between faculty and students or among faculty members can create barriers to trust, respect, and collaboration. A loving structure, on the other hand, reduces these barriers, and in many instances, eliminates them.

Another important theme evidenced in the annotations is that "love and abuse cannot coexist" (hooks, 2001, p. 9). This assertion emphasizes the incompatibility of love with any form of injustice or oppression. Applying this principle to higher education necessitates addressing issues such as discrimination, harassment, and exploitation within academic institutions, but it also involves our erroneous efforts to police students, correcting behaviors and practices that don't mimic white-middle class values, and the failure to let go of control. This transformative practice demonstrates fairness as demystifying by revealing to students the clear structure and expectations of the course through the revised syllabus, providing

them with a roadmap for success. Care in welcoming, validating, and creating partnerships is evident in the equitable syllabus's intentional focus on fostering a supportive environment, addressing power imbalances, and emphasizing respect and mutuality, validated by student comments coded as Love. Finally, transformation through deconstruction challenges traditional notions of classroom dynamics and suggests that inclusive practices, driven by a culture where love can flourish, can lead to a positive shift in student motivation and performance, suggesting future paths for equitable social change by challenging traditional power dynamics over time and across courses.

I have found that values of respect and mutuality are incredibly important to marginalized learners in ways that often contrast with the white, middle-class notions of individualism and merit. A more pluralistic and CSP definition of love underscores the importance of mutual regard and consideration in the value creation process. In higher education, fostering a love ethic would require promoting respectful dialogue, valuing diverse perspectives, and ensuring that all members of the academic community feel seen and heard. This calls for a radical transformation of truly "new" college classrooms to intentionally prioritize love, CSP, and a mutually beneficial challenging of inequitable power structures. In the context of higher education, this would involve actively working towards creating a more inclusive and equitable environment where everyone feels a sense of belonging and support. The syllabus is certainly a sensible place to start.

Equitizing the Syllabus *continued*

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Footnotes

[1] L was an adoption based on the previous semester—a student offered Love as an addition.

ESSAY

Universal Design for Learning (UDL) Pedagogies and Their Impacts in the Post-COVID-19 Community-College Context: Case Studies in Sociology, English Composition, and Psychology

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Abstract

Given pandemic-related retention concerns at American community colleges, faculty must employ pedagogies designed to engage students and increase student success. In this descriptive and exploratory collective case study, we argue that Universal Design for Learning (UDL), with its focus on reducing educational barriers for students with disabilities, provides multiple access points for all students to more meaningfully engage with their coursework. Using evidence-based insights from cases in sociology, English composition, and psychology at Queensborough Community College of the City University of New York, we demonstrate the possibilities of increasing student success when the principles of UDL are incorporated into course structure and assignments.

Keywords:

community college, retention, student engagement, student success, open pedagogy, Universal Design for Learning (UDL)

Student retention at America's community colleges has long been an issue of concern, with significant differences in rates of course and degree completion marking students' experiences at two- and four-year colleges (Monaghan & Sommers, 2022). Research indicates that the COVID-19 pandemic compounded this discrepancy: since spring 2020, of all institutions of higher education in the United States, community colleges have experienced the sharpest decline in student retention (Elfman, 2024). Notably, both before *and* after the acute pandemic period, first-generation, low-income, and minoritized community-college students are most likely to drop out of their courses and degree programs (Brock & Diwa, 2021; Lackner, 2023; Mann Levesque, 2018).

While Sullivan et al. (2023) reveal that community-college students often leave college for reasons outside their institution's control, other researchers point to the ways in which a college—by facilitating institutional attachment (see, for example, Crede & Niehorster, 2012), growing students' feelings of belonging (see, for example, Xu & Webber, 2016), and intervening early in students' college trajectories (see, for example, Pruett & Absher, 2015)—can encourage student retention. Studies also indicate that faculty members' instructional choices, and students' associated learning-based growth, can mediate retention at the course and college levels (see, for example, Crosling et al., 2009).

UDL Pedagogies and Their Impacts *continued*

In this article, we focus on the aforesaid teaching-learning dimension of retention mediation in the community-college context. More specifically, we present a descriptive and exploratory collective case study of our use of a particular instructional framework—Universal Design for Learning (UDL)—in post-pandemic introductory courses in three different disciplines at Queensborough Community College (QCC) of the City University of New York (CUNY). In the process, we outline the motivations that shaped our embrace of UDL, detail our UDL pedagogies, and use diverse course-level data to evidence how UDL pedagogies impacted aspects of students' development most often associated with college retention and success (i.e., engagement, self-perception, and self-efficacy [Crede & Niehorster, 2012]).

We begin with a brief introduction to UDL and case-study research. We then describe, and offer evidence-based insights on students' experiences with, our implementation of unique UDL pedagogies in sociology, English composition, and psychology courses. We conclude by synthesizing the findings from our multi-case analysis and connecting them back to the literature on student retention in post-COVID-19 community-college contexts.

Universal Design for Learning (UDL)

UDL was developed in 1984 as a framework to guide the design of inclusive learning environments (CAST, 2024a). Aimed at reducing barriers to learning for students with disabilities, UDL frames accessibility in a way that is different from the medical model of disability, which tends to ground accommodations in individual need (Kumar & Wideman, 2014). Shifting the responsibility for accessibility from students to the classroom, UDL asks faculty to create accessible assignments and courses (Kumar & Wideman, 2014). In doing so, it helps faculty foster a better academic experience for *all* students, so much so that the United States Congress has recognized it as a "scientifically valid framework for guiding educational practice" (Gawronski et al., 2016, p. 332).

In centering inclusivity, UDL-informed courses vary how students receive course content, engage with it, and evidence understanding (Gawronski et al., 2016;

Hills et al., 2022; Kumar & Wideman, 2014). Boothe et al. (2018) reveal that this variation appeals to post-secondary students and faculty alike, as it makes room for different learning needs, abilities, and backgrounds in increasingly diverse and traditionally undifferentiated classrooms. Inherent in UDL is flexibility—in course and assignment design by faculty *and* in assignment completion by students (Kumar & Wideman, 2014). Yet, while studies reveal that UDL pedagogies are both popular and effective at the college level (see, for example, Gawronski et al., 2016; Kumar & Wideman, 2014), faculty report needing more education in and support for their implementation (Kilpatrick et al., 2021; Hills et al., 2022).

One potential source for this support is CAST, the education nonprofit credited with developing UDL (CAST, 2024a). CAST (2024b) offers a dynamic 3x3 grid that faculty can consult when redesigning courses and pedagogies that promote multiple means of engagement (i.e., respective of students' unique identities, interests, efforts, and emotions), representation (i.e., relating to differences in students' perceptions and communication and learning styles), and action/expression (i.e., recognizing variation in how students interact and strategize to complete work). According to CAST (2024b), the ultimate objective of this grid-based tool is to help faculty create "expert learners" who are "purposeful & reflective," "resourceful & authentic," and "strategic & action-oriented."

Beyond the goal of developing inclusive learning environments, UDL aspires to create a pathway for faculty to foster students' identities and agency *as learners*. Thus, at the post-secondary level, UDL might also serve as a strategy for addressing broader and more widely shared course and college-related concerns, like issues of first-year persistence and students' retention to graduation. Nance (2022) suggests that UDL interventions positively impact community-college students' grades, as well as their engagement and feelings of belonging. Likewise, while research on the retention-related effects of UDL pedagogies in higher education is limited (Roberts et al., 2011), studies point to their potential impacts on students' completion of online courses (see, for example, Kumar & Wideman, 2014; Rogers-Shaw et al., 2018; Tobin, 2014).

UDL Pedagogies and Their Impacts *continued*

The COVID-19 pandemic revealed how the accessibility and flexibility inherent in UDL are acutely important during moments of uncertainty and change, when all students are at-risk. While UDL frameworks positively impacted students' online learning during the pandemic (Kilpatrick et al., 2021), technology, more broadly, helps facilitate students' post-pandemic learning through multiple means of representation (e.g., electronic textbooks, learning management systems [LMS], digital handouts, and recorded lectures) (Kennette et al., 2023). Additionally, Kilpatrick et al. (2021) show how faculty became more sensitive to accessibility concerns during the pandemic, which prompted many to redesign their courses. In turn, Kennette et al. (2023) reveal how these accessible redesigns impacted students, who reported increased connections to course material and a stronger sense of faculty support after pandemic-related drops in both.

Case Study Methodology

Yin (2014, p. 16) describes case-study research as "an empirical inquiry that investigates a contemporary phenomenon (the 'case') in depth and within its real-world context." Often used in educational research, it is frequently directed at transforming particular and contextualized insights into more general claims. Yin (2014) differentiates between types of case studies: *descriptive case studies*, which aim to describe a phenomenon and its context; *exploratory case studies*, which serve to explore phenomena with unspecified outcomes; and *explanatory case studies*, which presume causal conditions and answer how/why questions. Stake (1995) distinguishes additional case-study types, noting researchers' use of: *intrinsic case studies*, which engage and study a unique phenomenon; *instrumental case studies*, wherein a specific case is used to improve understanding; and/or *collective case studies*, which involve analysis of multiple cases.

Each of the discipline-specific cases in this descriptive and exploratory collective case study unfolded between the fall 2021 and spring 2024 semesters at QCC, an open-enrollment CUNY community college and one of the nation's most diverse institutions of higher education (QCC Office of Institutional Research and Assessment, 2024). The most recent statistics from the QCC Office of Institutional Research and Assessment (2024) evidence that diversity and reveal the new demographic realities of America's college-aged youth (Frey, 2024). A total of 10,252 ethnically and racially diverse students were enrolled in a variety of degree and non-degree programs at QCC in the fall of 2023: approximately 30 percent of those students were Asian or Pacific Islander; 28 percent were Black; 26 percent were Hispanic; and 15 percent were White. In that semester, around 51 percent of all degree-seeking students at QCC were female, about 60 percent were enrolled full-time, and more than two-thirds were enrolled in a transfer degree program (with QCC's Health Sciences program being the most popular). Significantly, about 52 percent of incoming first-year students in the fall 2023 semester needed remediation in English, math, or both, and 86 percent of all full-time first years received some amount of financial aid. The majority of QCC's fall 2023 students lived in Queens, a New York City borough heavily impacted by the COVID-19 pandemic.

Insights, By Case

In this section, we describe how we used UDL pedagogies in our individual course-based cases, and we explore what course-level data indicate about the impacts of those pedagogies on aspects of students' development often associated with college retention. While the four of us have long been in dialogue about student success at QCC, we only became aware of our shared interest in UDL through receipt of institutional support for, and/or our publication and presentations on, that work (see, for example, Dennihy & Katz, 2024; Resko & Ward, 2022; Traver, 2024).

Introduction to Sociology (Amy E. Traver)

In the spring of 2023, QCC administrators convened an interdisciplinary cohort of nine gateway-course instructors, giving each a customized Key Performance Indicator (KPI) dashboard to help them identify historical gaps in students' performance in their courses. As a cohort member, I utilized the dashboard data to uncover three persistent gaps in student performance across eight semesters of my Introduction to Sociology (SOCY-101) course; these gaps were evidenced in/by the divergent performance of newly enrolled students, male students of color, and students from distinct programs

UDL Pedagogies and Their Impacts *continued*

and/or majors (notably, these disparities are relatively consistent across the disciplines at QCC [Lackner, 2023]).

To address these gaps, I drew on sociological and educational research to craft three pedagogical interventions for implementation in my SOCY-101 course sections during the 2023-24 academic year. To address the needs of newly enrolled students, I connected students' development of foundational skills to their study of sociology's methods, paradigms, and perspective (see Perin, 2011 on the contextualization of developmental education). Given differences in student performance by race and gender, I constructed assignments wherein students applied newly learned sociological concepts to case studies of personal interest (see Ladson-Billings, 1995 on Culturally Relevant Pedagogy). Because program or major designations mediated student success, I created UDL Choice Boards from which students chose how to best represent their understanding of units of sociological analysis (see Smith, 2012 on UDL's multiple means of representation, expression, and engagement in higher education; see also CAST, 2024b; Reber et al., 2018).

Research reveals that college students have a strong sense of what is (and isn't) working in the classroom, and what they need (and don't need) to be successful (Flaherty, 2023). Consequently, alongside these three interventions, I implemented a QCC-CUNY IRB-approved research study (approval #2021-2169) to gauge students' perceptions of the interventions' relative impacts. Study participants included students in my in-person SOCY-101 course sections during the fall 2023 and spring 2024 semesters (n=47). For this analysis, study data was collected via a survey administered anonymously, in the 14th week of each study semester, using Google Forms. The survey instrument included five Likert-scale and five open-ended questions regarding students' experiences with the interventions, and two questions that asked students to rank the interventions on measures of preference and efficacy.

At the end of the 2023-24 academic year, after the spring 2024 students' final course grades had been submitted to the college registrar, I analyzed the cross-semester study data in two ways. First, I conducted frequency distributions of students' responses to the Likert-scale and ranking questions. Then, I conducted a content analysis, which Babbie (2001, pp. 305, 309) describes as "the study of recorded human communications" through "a coding operation" that "(transforms) raw data into a standardized form," of students' responses to the open-ended questions. This analysis began with a process of open coding, followed by a second analysis using the emergent codes. The emergent codes were constructed to be broad and inclusive enough to allow for multiple associations within and across students' responses.

Given the focus of this paper, this section will attend to students' perceptions of the UDL Choice Boards, which were integrated into the last three modules (on social identity, social groups, and social networks) of SOCY-101. In all three of these modules, students chose to represent their learning using one of six assessment options displayed on a graphic organizer. While informed by CAST (2024b) insights and specific to each module's contents, these options always connected students' learning to: a pop-culture artifact, works of art, a socio-political event, incidents from students' own lives, existing sociological data, or exam design. As an example, please see Table 1 for the Choice Board used in the social networks module.

Firstly, and perhaps most significantly, study data revealed that students experienced the UDL Choice Board in a manner consistent with the intervention's framing literature and my goals. For example, when asked to describe their reactions to the Choice Board, students expressed appreciation for how it drew on their interests/strengths and grew their overall engagement. In the words of one student:

> I feel like choice in what we study and how we are assessed is crucial because different people have different skills [and] therefore should be assessed independently. Being given a choice…helps me be more involved and interested in the actual assignment.

Secondly, when asked to rank the three interventions in order of preference, the majority of students (59%) rated the UDL Choice Board as their *most preferred* intervention in SOCY-101. In explaining their rankings,

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Table 1
Choice Board for Social Networks Module of SOCY-101

Using the "Sociology of Social Networks" to Understand the "Oracle of Bacon" Run the "Oracle of Bacon" algorithm 5 times using different actors each time. Then, using Word, record your findings in a one-page essay that also connects the overall lesson of "Oracle" to concepts or theories of social networks reviewed in class. Save the essay as a PDF and upload it to Blackboard by the end of class.	Summary Essay on "The Sociology of Social Networks" In a one-page essay constructed in Word, answer the following question: "According to today's lecture, what do sociologists pay attention to in studies of social networks?" Save the essay as a PDF and upload it to Blackboard by the end of class.
Connecting Al Capone to "The Sociology of Social Networks" Read Bess Connolly's brief article "'Trust thy crooked neighbor,'" which uses social-network analysis to understand the work of infamous crime boss Al Capone. Then, in Word, write a one-page essay connecting that article to concepts or theories of social networks reviewed in class. Save the essay as a PDF and upload to Blackboard by the end of class.	Must-See Social Media Reflecting "The Sociology of Social Networks" Choose five pieces of social-media content (e.g., a tweet, a meme, a viral TikTok post, etc.) relevant to the "sociology of social networks" and drop links to each in a Word file. Then write a short paragraph for each, connecting that content to a concept or theory of social networks reviewed in class. Save the file as a PDF and upload it to Blackboard by the end of class.
Applying "The Sociology of Social Networks" to Data from Your Own Life Consider your own life. Select three experiences that illustrate three distinct sociological concepts or theories of social networks reviewed in class. Then, in a Word file, describe each experience and identify what concepts or theories of social networks are relevant and why. Save the file as a PDF and upload it to Blackboard by the end of class.	Create/Answer Short-Answer Questions on "The Sociology of Social Networks" In a Word file, create four short-answer questions covering the concepts or theories of social networks reviewed in class. Then answer them yourself. Save the file as a PDF and upload it to Blackboard by the end of class.

students referenced the Choice Board's applicability and relevance, as well as the range of options it provided for their success. As one student noted, "[The UDL Choice Board] allows me to choose the assessment I am better at." Students also framed the Choice Board as an opportunity for agentic and individual expression; another student explained, "Choosing my own assessment allowed me the freedom to be creative and share my personal experiences through my work." Notably, many students took pleasure in their Choice-Board based learning. Reflecting on the variety of assessment options available, a student stated: "Not only were they fun, but they were flexible in terms of skill level."

Thirdly, when asked to rank the three interventions in order of their impact on learning, the largest percentage of students (38%) rated the UDL Choice Board as the *most impactful* intervention in SOCY-101. For many students, this impact stemmed from their personal connection to the selections made. In the words of one student, "I felt like by choosing some [way] I want to study I learn more since I am actually interested in that topic." For other students, choice encouraged focus on the assessed *content*—not the assessment *form*, which allowed for deeper learning. A student clarified: "Being able to choose what I wanted without being told what to do helped me demonstrate my knowledge better and in a comfortable way." Additionally, many students reported feeling more committed to, or likely to persist in, their work because it was of their choosing. Another student stated, "[The UDL Choice Board] made it feel like even though the assignment may be difficult, it is of my own choice."

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Fourthly, when explaining their rankings, students frequently referenced the metacognitive benefits of the UDL Choice Board. As one student noted, "[From the UDL Choice Board], I learned that I'm a visual learner and I like to see what I am learning." Admittedly, such insights could limit students' growth, as one student indicated: "I very much appreciate having a choice, because then I am able to do what I feel comfortable with and what is within my reach."

Yet, students' ranking rationales also revealed how assessment choice encouraged small but profound risk-taking in and across the modules of SOCY-101. Another student recounted:

> I decided to demonstrate my knowledge by creating questions and answers via the content we [learned] in class. That experience was sort of challenging for me because I am not really a good test taker, but being in the position to create the questions, I realized how well I actually do learn and [a] point of enlightenment was that I just need to manage my time better and study more effectively and I can do better at taking tests.

Finally, when explaining their rankings, many students framed choice as a measure of student-centeredness and inclusivity in SOCY-101. A student explained: "I enjoyed the fact that we had the ability to choose our own assignments. This gave us an opportunity to critically think regarding topics *we're* passionate about." Perhaps most profoundly, students seemed to view choice as a means by which to express and grow their own commitment to the course. One student's words in this regard will draw my section to a close: "I learned that I learn better with a choice. Knowing that I have an option really allows me to be more engaged in the topic we are learning about."

English Composition (Zivah Perel Katz)

QCC requires a two-part English Composition sequence, including a second course titled "Writing About Literature" (ENGL-102). Two of the challenges of teaching this second course are overcoming students' anxiety about writing and encouraging meaningful student engagement with challenging course texts, as many students do not see themselves as readers or writers. As I planned my UDL interventions, I was hopeful that I

could target these two challenges specifically.

To begin incorporating UDL into my class, I designed an assignment that offered students multiple ways of engaging with one of our course texts while meeting my two goals. I typically divide the course into three units, each focused on a different genre of literature, and for the UDL intervention, I designed the Choice Board assignment for the second unit on short stories. The Choice Board offered students an opportunity to complete four out of six short writing prompts (one to two pages each) focused on *Drown*, a collection of short stories by Junot Diaz (1996); the prompts included a variety of options, ranging from creative responses to the book to engagement with scholarly articles. As an example, please see Table 2 for the Choice Board assignment I used as a UDL-inspired intervention.

To better understand students' perspectives on and the impacts of the Choice Board, I conducted a grant-funded and QCC-CUNY IRB-approved study (approval #2021-2169) in six sections of English 102 spanning three different semesters (fall 2022, spring 2023, and fall 2023): the study included three surveys distributed at different points during the semester. The surveys included questions with Likert scales, as well as opportunities to offer qualitative responses. I used the surveys to gather students' thoughts on: the Choice Board assignment on its own and in contrast to the other course assignments; their confidence demonstrating their knowledge of our course material; and their confidence in their ability to excel in the course as a whole. I collected all the surveys anonymously through Google Forms, and students were not required to participate in the surveys. Although the study spanned three semesters, the sample sizes for the surveys varied from survey one (n=90) to surveys two (n=38) and three (n=27); the small sample sizes reflect both the optional nature of the surveys and course attrition. I analyzed the data from the Likert scales for statistically significant changes in students' views on their writing from the beginning to the end of the semester and differences in students' experiences of the Choice Board compared to the control assignments; I analyzed the qualitative data thematically.

The numerical data and themes in the qualitative student responses made two things about the Choice Board assignment clear: the ability to choose how to demonstrate mastery of course material allows students

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Table 2
Choice Board for ENGL-102: Writing about Literature

1. Read the article "The Silence: The Legacy of Childhood Trauma." Write two paragraphs in response to what you learn about Diaz and his own experience with trauma and what insights it might offer to your reading of *Drown*. Please incorporate at least one quotation from the article in your response, using a quotation sandwich and MLA format and a works cited entry for the article.	2. Create a five-song playlist to accompany *Drown* (please link to the music in your submission). Write a short paragraph for each song explaining why you chose it and what those songs illuminate about Yunior and/or individual stories in the book. Use quotation sandwiches for any quotations you use and include a works cited entry for the book.	3. Read the article "Trauma in Junot Diaz's *Drown*." In this article, Miller claims that Ysrael is the heart of the book, yet most of the book is about Yunior. Write two paragraphs in response to what Miller is saying about Ysrael and how you see that connecting to Yunior (using a specific example from the book). Please incorporate at least one quotation from the article in your response, using a quotation sandwich and MLA format and a works cited entry for the article and the book.
4. Write two paragraphs close reading a section of *Drown*. How does it use the literary devices we thought about when we were reading poetry to make its point? What is particularly powerful about this section and why did you choose it? What do you think Diaz is saying in this section? Include a works cited entry for the book and make sure to use quotation sandwiches.	5. Write a character analysis of Yunior. What are three words you would use to describe him? For each word, write a paragraph explaining why you chose it and use a specific example from the book to support your argument. Use quotation sandwiches and include a works cited entry for the book.	6. Create some kind of creative work to accompany *Drown* (an image, poem, song, story, anything!). Write a one-paragraph explanation of the work and its relationship to the book.

a chance to highlight their own voices and interests, and it individualizes assignments while still meeting the objectives of the course. Choice also teaches students how to make informed and thoughtful decisions about how to complete their assignments, which are some of the higher-order critical-thinking skills cherished in college-level courses. At the same time, choice can be overwhelming for students, especially those who are underserved or early on in their college careers. Because of this, proper support and scaffolding are crucial when integrating assignments involving choice into courses.

Offering students multiple ways to engage in course material allows them individual access points to the material. At the start of the semester, I asked students if they value choice in their assignments: they valued choice at an average of 4.2 out of five (five being most valued). In their qualitative responses, many students referred to being more excited to complete work that they are interested in rather than just a particular task

a professor assigns. One student wrote: "I value choice in how I complete my work in my courses because it allows me to create better work based on topics I'm actually interested in." Another student sounded like an educator-in-training: "Not everyone learns the same way, having choice allows us to do the assignment and still get something out of it." These sentiments were echoed in many student responses to the survey questions. Sadly, one student noted: "I am not use[d] to choice." Responses demonstrate that students want the opportunity to decide how they can personalize their assignments.

While offering choice may increase engagement with course assignments, students also need proper support in completing nontraditional assignments. A later survey asked students to rate their work on a Close Reading Essay (a fairly traditional essay that served as a control for the Choice Board assignment), as well as their work on the Choice Board assignment. On a scale

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of one to five (one being very negative and five being very positive), students ranked their experience at an average of 4.1 on the control assignment and 3.9 on the Choice Board assignment (not a statistically significant difference). I had hoped that students would have a stronger preference for the Choice Board assignment; however, the qualitative comments students offered provide insight into their experiences of each. The responses about the Choice Board ranged, but two threads emerged. Some students remarked that having to coordinate multiple writing assignments, even if they were shorter in length, was challenging. The planning required was more intense than for other assignments, and that presented difficulties for students. However, many students also responded that the Choice Board allowed them the opportunity to choose options that were easier for them and thus less stressful. Students also appreciated the more creative format and division of the workload across shorter assignments. One piece of student feedback captured these sentiments well: "The choice board assignment is fun yet challenging. There are so many creative methods to show our understanding of the reading we have completed. It does take a lot of planning and organization skills." The student feedback makes clear that along with the benefits that choice provides, students also need scaffolding and support, perhaps more than we think, to complete complex assignments.

The similar student ratings of their experience of the control assignment and the Choice Board also speaks to students' reticence to take the kinds of academic and intellectual risks the Choice Board supports. Many of our students are still finding their way academically when we meet them in our courses. The discomfort students articulated about the Choice Board in the survey may speak not only to the assignment itself, but also to their insecurities as writers. Many of the students who expressed confidence in their writing skills in the survey cited prior compliments and assurances about their skills as opposed to an internal sense of mastery; they may feel comfortable sticking with the type of assignment in which they have already excelled. That sense could be compounded for students who are less secure in their skills, where taking on an untraditional assignment undercuts their confidence even more. The Choice Board assignment then becomes an opportunity to teach students how to take risks as writers, have

confidence in their authorial choices, and take ownership of their ideas. Building in course time for work on the project, responding to drafts of it, and mastery-oriented feedback (another element of UDL) at various stages in the process of the assignment may all help teach students how to become confident and effective writers and also help firm up their footing as students and thinkers.

Introduction to Psychology (Jody Resko and Leslie Ward)

UDL and Open Pedagogy have recently come to the forefront of teaching and learning in higher education. Both UDL and Open Pedagogy are promoted as ways to engage students with the content they are learning, and to help them develop life-long skills such as collaboration and self-motivation. Student engagement has been studied in UDL and Open Pedagogy, though independent of each other (see, for example, Gilpin et al., 2023; Hilton et al., 2019; Smith, 2012). To fill this gap in the literature, we—Jody, an Assistant Professor of Education and Psychology, and Leslie, an emerging technologies librarian—partnered to study this shared goal of student engagement by using UDL-inspired renewable assignments.

In a review of the literature, Zhang et al. (2024) suggest an overlap between UDL's third pillar addressing "multiple means of engagement" and Open Pedagogy's use of renewable assignments, as both encourage student autonomy, motivation, and meaningful ways for students to connect with their work. More specifically, UDL emphasizes that "learners differ markedly in the ways in which they can be engaged or motivated to learn" and that a way to grow students' interest is to "optimize individual choice and autonomy" in course and assignment design (CAST, 2024b). With this in mind, instructors must "consider the learning area and offer multiple opportunities for students to see relevance and value" in the learning material (Smith, 2012, p. 4).

Similarly, Open Pedagogy "creates a foundation for our students to begin to invest more deeply, think more critically, work more collaboratively, and communicate more accessibly" (Jhangiani, 2017, p. 5). One aspect of Open Pedagogy is renewable assignments, which are student-created artifacts that have value outside of courses (Clinton-Lisell & Gwozdz, 2023; see also Jhangiani, 2017; Seraphin et al., 2019; Wiley, 2013; Wiley et

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al., 2017). Going one step further and encouraging students to make these artifacts open educational resources (OER) also helps to expand available course materials, diversifying authorship and "reducing stigma while sharing viewpoints that have historically been marginalised" (Zhang et al., 2020, p. 3).

In spring 2021, we obtained funding from CUNY to design an educational intervention integrating UDL, Open Pedagogy, and OER in Jody's Introduction to Psychology (PSYC-101) course at QCC—and to conduct a QCC-CUNY IRB-approved control-group design study (approval #2021-0464) of that intervention. In fall 2021, one course section (n=35) was used as the Control Group (CG) for the study. In spring 2022, the second PSYC-101 course section (n=35) served as the study's Experimental Group (EG), integrating the intervention.

Given that the fall 2021 semester was our first semester back on campus after the COVID-19 pandemic, we used this time to develop the UDL-inspired renewable assignments to be administered in spring 2022. We also began data collection and analysis in fall 2021 and continued through spring 2022 as outlined below. We hypothesized that by implementing renewable assignments, the students in the EG would report high levels of engagement as measured by the Utrecht Work Engagement Scale for Students (UWES-9S)—the student version of the most widely used instrument to assess work engagement (Schaufeli & Bakker, 2004)—and that the UWES-9S scores for the EG would be higher than the scores for the CG.

During the second week of the fall 2021 semester, a short demographic survey, which gathered data on students' age, gender, race, academic major, and semester at QCC, was administered to the CG students via Google Forms. The CG students then completed three "disposable" assignments that were similar to those used in previous semesters of PSYC-101. Jhangiani (2017, p. 1) defines disposable assignments as "those that are typically only seen by the instructor" and in which "students often see little point." While good examples of disposable assignments include multiple-choice tests, quizzes, and short papers, the CG students completed multiple-choice tests only. After each test, the CG students also completed a modified UWES-9S, which was administered online using an IRB-approved Google

Forms version of the survey. The three subscales of the UWES-9S—vigor, dedication, and absorption—refer to feelings and behaviors experienced by the student while completing an academic task. For example, after completing each multiple-choice test, the CG students were asked to rank their engagement on a Likert scale from one to five on statements such as, "Time flies when I'm studying" and "I am immersed in my studies."

During the second week of the spring 2022 semester, EG students completed the same demographic questionnaire as the CG students. The EG students then completed three assignments that reflected both the UDL framework (offering multiple opportunities for students to see relevance and value) and Open Pedagogy (i.e., were renewable). For consistency, the three renewable assignments covered the same topics addressed in the multiple-choice tests (i.e., disposable assignments) during the CG semester. For each renewable assignment, EG students received an outline and grading rubric to help them understand what was expected of them and the best way to obtain their desired grade.

The assignment outline included instructions for students as follows: 1) Choose a topic that we covered within this module; 2) Once you have chosen your topic, pick three key points about this topic you want to highlight or tell people about; 3) Choose the type of original material that you would like to create to help another student learn about the topic you chose; and 4) Assign a license to your work using the instructions provided in the copyright module. As Jhangiani (2017, p.1) notes, "renewable assignments are those in which students' energy and efforts are repurposed by having them generate materials and resources for the 'commons.'" Finally, after the completion of each renewable assignment, EG students completed the same modified UWES-9S as the CG students.

The demographic data and UWES-9S responses were downloaded from Google Forms into an Excel spreadsheet. This spreadsheet was imported into SPSS v25 for analysis. Our analyses included descriptive statistics and independent samples t-tests. A descriptive analysis of the demographic questionnaire was conducted to describe our sample, while an independent samples t-test was used to compare EG and CG students on the UWES-9S. Items on the UWES-9S were added

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to compute a total engagement score, and mean total scores were then calculated for both groups. Overall mean UWES-9S scores were lower for the CG (x = 37.37) when compared to the EG (x = 42.79). To test for significant differences among the means, an independent samples t-test was conducted to compare UWES-9S scores from the CG with scores from the EG. Results showed a significant difference in total UWES-9S scores between the two groups (t=-2.511, p=.014). Independent samples t-tests were also performed for each of the subscales (dedication, absorption, vigor) to test for differences. Results showed significant differences in all three subscales: dedication (t=-2.423, p=.017); absorption (t=-3.179, p=.002); and vigor (t=-2.091, p=.039). Overall, students who completed the renewable assignments reported higher levels of engagement than students who completed the disposable assignments (i.e., multiple-choice exams). These findings suggest that renewable assignments are an effective tool for increasing student engagement, as they address each section of UDL's engagement components—recruiting interest, sustaining effort and persistence, and helping students develop a sense of self-regulation—by providing options and flexibility in how students access learning materials, engage with content, and demonstrate their understanding. This approach supports diverse learning needs and preferences, making learning more relevant, meaningful, and motivating for all students. As Sheu (2019) found, students who are involved in the decision-making process related to assignment type are more motivated and engaged in their work.

Discussion & Conclusion

In this article, we present a descriptive and exploratory collective case study of our use of the UDL framework across the disciplines at QCC, CUNY. Conceiving of our work as an instructional response to the long-standing issue of student retention in community colleges—an issue that has become more pronounced in the years defined by and following the COVID-19 pandemic, particularly for first-generation, low-income, and minoritized students—we draw on diverse course-level data to demonstrate how UDL pedagogies impact aspects of student development often associated with college retention and success. More specifically, we outline how the framework's emphasis on diversifying (and thereby individualizing or personalizing) the means by which

students engage with and demonstrate their learning encourages student motivation, interest, excitement, and commitment. We also reveal how the framework's inclusivity is aligned with meta-cognitive gains and positive academic risk-taking, facilitating students' recognition of existing strengths while also encouraging their development of new skills/abilities. Additionally, we evidence the framework's impact on students' higher-order and critical-thinking processes, particularly their capacity to thoughtfully and confidently make decisions in and for their own learning.

By employing diverse methodologies and comparing/confirming students' affective, cognitive, and agentic development across community-college assignments, course sections, and disciplinary cases, we aim to highlight both the transferable nature of our findings *and* the fact that pedagogical insights—like the need to scaffold UDL Choice Board use and the benefits of synthesizing UDL and Open Pedagogy—are often developed in dialogue. We also hope that, in underscoring different aspects of UDL, we have revealed that, as adaptable as the pedagogy is to students, it is equally flexible to implement for faculty. Thus, just as student engagement grows through UDL, faculty too may find that by adapting UDL in ways that match their student learning outcomes, they deepen their own engagement with the work as well.

Notably, these insights need not be contained to our own humanities and social-science disciplines—or to community-college contexts. King-Sears et al. (2023, p. 10), in a meta-analysis of UDL's impacts, state that "UDL is a design framework applicable across all content areas, regardless of complexity." In fact, in a study complementary to our own, Kirsch et al. (2024) reveal how UDL implementation in college-level science courses—including chemistry, physics, environmental science, and biology courses in two and four-year contexts—*also* increases student interest and engagement. Further evidence for this transferability and adaptability can be found in Higbee and Goff's (2008) 38-chapter edited volume reviewing the University of Minnesota's successful UDL training program ("the PASS IT project") for administrators, faculty, and staff from community colleges and baccalaureate-granting colleges and universities across the country. Their nine-chapter section on UDL in academic support and student development programs and services is worthy of

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specific reflection in this regard.

Nor should this article imply that Choice Boards and Open Pedagogy are the only ways to implement UDL. Kennette et al. (2023) explore the ways, knowingly and not, faculty employ UDL in their courses; they list many examples, ranging from the technological (e.g., closed captioning in course videos; availability of digital versions of course texts; the recording and posting of classroom lectures) to the logistical (e.g., rubrics for grading assignments; ungraded or optional assignments that serve as practice; inclusive language) to the pedagogical (e.g., opportunities for collaboration and group work; connecting course material to real world examples; opportunities for student reflection and self-assessment). Incorporating UDL pedagogy into courses can also include varying the ways and modalities in which students participate in class discussions, the scaffolding of assignments, and the implementation of a regular course schedule. While Dennihy and Katz (2024) focus specifically on post-pandemic pedagogy, many of the chapters in their volume explore pedagogical strategies that fall under the umbrella of UDL. Of note is Arns' (2024) chapter about reconceiving attendance and participation to create a truly flexible classroom, wherein students are asked to attend at least 15 out of 45 in-person course meetings (with the option of attending them all should students feel that the traditional in-person model works for them) and to complete a combination of assignments and activities in-person or through the LMS. Though not labeled explicitly as UDL in their chapter, Dahlke and Schmergel (2024) describe their efforts to practice care-based pedagogy, building in moments for students' emotional check-ins and fostering community and connection with faculty. Their interventions reflect CAST's (2024b) guideline nine, "Design Options for Emotional Capacity," which encourages faculty efforts to support students' identification and regulation of emotions, development of empathy, and individual and group-based reflections.

With all of that said, we recognize that integrating new pedagogies is always labor intensive. While faculty may understand the positive impacts of pedagogical change on students, the nuts and bolts of implementation can be a challenge, especially for community-college faculty who are stretched thin with heavy course loads. Saha-Gupta et al. (2019) remind us of what we already know too well: resources on college campuses are tight and

to implement the principles of pedagogies like UDL takes a commitment from colleges that often struggle with funding. Unfortunately, efforts like the University of Minnesota's PASS IT project, or the UDL training program outlined in Hromalik et al. (2024), are few and far between. Thus, we are grateful for the various initiatives at QCC and CUNY that supported our UDL teaching and research and, while this article—or CAST's (2024b) extensive online resources—cannot replace robust professional development, we hope that our collective case study offers concrete suggestions and evidentiary support for similar faculty efforts across disciplines, institutions, and educational sectors.

Beyond the availability of teaching and research funds, additional realities might complicate others' replication of our interventions and findings. Like Kirsch et al. (2024), our research team included a college librarian (Leslie), and such support might not be available at all institutions. Methodological limitations also exist: we relied on self-report instruments for data collection, and our sample sizes are small at the course/case level. Additionally, as our data was anonymous, we are unable to gauge how students' self-reports align with their grades and course/college retention. Future research, including planned analyses by Jody and Leslie, should correlate students' demographic data with their responses to UDL pedagogies. Longitudinal studies will also further our insights. Deliberate replication in other higher-education contexts—like, for example, rural and/or baccalaureate-granting colleges and universities—stand to be of benefit, as well.

We will conclude, however, with a special appeal to our colleagues at community colleges. Community-college students are often underserved, and they regularly show up in our classrooms with a variety of needs. They, like all students, deserve an academic space where they can claim ownership of course material and realize the power of their own ideas. This is particularly true for students who may not see themselves reflected in the institution itself. At the same time, many community-college students also need supports in place to help them navigate the demands of higher education. In our experience, UDL pedagogies allow students to succeed on their own terms, while also helping faculty meet important course and college outcomes.

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ESSAY

Creating Pathways Toward Intercultural Competence in Agricultural and Natural Resource Sciences

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Abstract

The need for students to understand and demonstrate intercultural competencies to work effectively across differences, especially in this anti-DEI climate, matters now more than ever. Although higher education institutions have historically prepared students with the competencies to live responsibly and productively as adults, they are currently examining if and how their curricula support intercultural competence and world readiness to work effectively within and across societies. As an 1862 Land-Grant, Research I University, the University of Minnesota College of Food, Agricultural and Natural Resource Sciences (CFANS) is simultaneously situated within a context of cultural diversity, yet many underrepresented students have experienced education, health, and wealth inequalities across racialized demographics. This essay describes the student Intercultural Development Curriculum (IDC) that builds on and deepens intercultural concepts, competencies, and content across disciplines. We describe collaborative lessons learned, challenges to date, and next steps that support student success and intercultural competence.

Keywords:

intercultural competence, intercultural development, spiral curriculum, world readiness

Boyer's Equity-Excellence Imperative highlights the importance of preparing students to work on solutions to real global problems (Undergraduate Education at Research Universities [UERU], 2022). Boyer contends that students tend to succeed when empirically based pedagogical strategies are used in inclusive learning environments. In the current anti-DEI climate, the need for students to understand and demonstrate intercultural competencies to work effectively across differences matters now more than ever. Although higher education institutions have historically prepared students for competencies to live responsibly and constructively as adults, these institutions are now examining if and how their curriculum supports student intercultural competence and overall readiness to work on real-world issues.

In full alignment with Boyer, the University of Minnesota's MPACT 2025 Strategic Plan calls for the University to foster a culture that values an inclusive community, increases intercultural competency, reduces inequities among underrepresented groups, and promotes UMN's student development outcomes and student learning outcomes for undergraduates. The student development outcomes highlight the importance of building student competencies regarding the appreciation of differences, working effectively with others across differences, seeking out others with different backgrounds and/or perspectives to improve decision making, understanding and respecting the values and

Pathways Toward Intercultural Competence *continued*

beliefs of others, and appreciating the importance of diversity and conveying this value to others. The student learning outcomes highlight the importance of "understanding diverse philosophies and cultures within and across societies."

As we began our deep dive into student intercultural development, we aligned with the American Association of Colleges and Universities' literature-based definition of Intercultural Knowledge and Competence: "a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts," as coined by Bennett (2008). (See Table 1 for a full definition as well as other terms potentially comparable to intercultural competence).

The University of Minnesota College of Food, Agricultural and Natural Resource Sciences (CFANS) is situated amidst a breadth of cultural diversity surrounding its Twin-Cities campus. With over 150 different primary home languages spoken, its metropolitan setting includes the largest urban Hmong population, the largest urban Somali population, and the second largest urban Indigenous population in the U.S. (MN Department Demographic Center, 2024). Yet Minnesota is also home to some of the most profound and persistent racial inequities and education inequities in the nation (Minnesota Department of Health, 2014; Wilder Research, 2012; Blue Cross and Blue Shield of Minnesota Foundation, 2010). In 2020, the murder of George Floyd directed the world's attention to Minneapolis in a stark reminder of the ongoing harmful impacts that come with an unresolved, conflicted, and polarized history of those who attribute racial bias to a person or group; such racial biases might include unfair policing, voter suppression, or unfair lending practices. CFANS examined its role, responsibilities, and obligations as a flagship college in the institutional mission of a major Land-Grant, Research I University. Our institution receives federal monies through the Morrill Acts of 1862 and 1890, which provide land to establish learning institutions focused on agriculture (Lee & Ahtone, 2020; Baptiste et al., 2020; Gravlee, 2020).

Working Across Differences Initiative (WADI) and Teaching Across Differences (TAD)

As a result, the CFANS Office of Diversity and Inclusion was formed in 2006 to create a more welcoming and inclusive environment around working across differences among groups, values, beliefs, cultures, roles, practices, and more. Soon thereafter, CFANS' Office of Diversity and Inclusion launched the Working Across Differences Initiative (WADI) to enhance student multicultural and global competencies. Although the initiative was initially aimed at study-abroad courses, WADI proved effective for campus-based courses as well. Students in WADI courses worked on assignments and activities involving empirically based teaching strategies such as integrated case studies, simulations, and reflective writings that incorporated multiple cultural perspectives. The activities were designed to develop student competencies to work effectively across differences to solve complex global issues. These interventions led to significant positive shifts in student intercultural development (White & Lorenz, 2016).

From requests by instructors for more WADI-related resources and workshops for teaching, a Teaching Across Differences (TAD) task force convened within WADI. This faculty cohort provided instructors with a wealth of resources and professional development opportunities to design or revise current courses that actively integrate intercultural competencies using evidence-based pedagogy within and across disciplines.

Both WADI and TAD served as the general basis to begin building an intercultural curriculum across disciplines, now termed the Intercultural Development Curriculum (IDC). The path progression from WADI to IDC is outlined in Table 2. Also, a CFANS team, comprised of 3-5 CFANS faculty, leaders, and a Center for Education Innovation education specialist formed to move this effort forward. In 2020, this team drafted a plan to provide instructors with resources to help students achieve intercultural competency in their courses.

Pathways Toward Intercultural Competence *continued*

Table 1
Conceptual Terminology

Term	Definition	Source
Multicultural	The coexistence of different cultures, recognizing cultural differences (food, dress, beliefs, etc.), although sometimes remaining in isolation from each other. Deeper differences may not be addressed or communicated or resolved.	Reynolds, C. R., & Fletcher-Janzen, E. (Eds.). (2008). Pluralism, cultural. In *Encyclopedia of special education* (pp. 1591–1592). Wiley. https://doi.org/10.1002/9780470373699.speced1627
Cross-cultural	Comparison and analysis of two or more different cultures or cultural areas. Intercultural competence focuses on six domains of deepening ways to work effectively across difference among cultures in any venue or discipline. Cross-cultural may compare and analyze difference in awareness of cultural differences, communication skills, and negotiation skills, although this may not result in individual or collective transformation.	Merriam-Webster Dictionary
Global readiness	To participate, collaborate, and work in a globally interconnected society.	Kerkhoff, S. N. (2017). Teaching for global readiness: A model for locally situated and globally connected literacy instruction. In *Addressing diversity in literacy instruction (Literacy Research, Practice and Evaluation*, Vol. 8, pp. 193–205). Emerald Publishing Limited. https://doi.org/10.1108/S2048-045820170000008009
Intercultural competence	A set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts. AAC&U VALUE Rubric delineates the following six cognitive, affective and behavioral competency domains: 1. **Knowledge: Cultural self-awareness** (Articulates insights into own cultural rules and biases)	AAC&U VALUE Rubric based on: Bennett, J. M. (2008). Transformative training: Designing programs for culture learning. In M. A. Moodian (Ed.), *Contemporary leadership and intercultural competence: Understanding and utilizing cultural diversity to build successful organizations* (pp. 95–110). Sage Publications.

Pathways Toward Intercultural Competence *continued*

Term	Definition	Source
Intercultural competence	2. **Knowledge: Knowledge of cultural worldview frameworks** (Demonstrates sophisticated understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices) 3. **Skills: Empathy** (Interprets intercultural experience from the perspectives of own and more than one worldview and demonstrates ability to act in a supportive manner that recognizes the feelings of another cultural group) 4. **Skills: Verbal and nonverbal communication** (Articulates a complex understanding of cultural differences in verbal and nonverbal communication and is able to skillfully negotiate a shared understanding based on those differences) 5. **Attitudes: Curiosity** (Asks complex questions about other cultures, seeks out and articulates answers to these questions that reflect multiple cultural perspectives) 6. **Attitudes: Openness** (Initiates and develops interactions with culturally different others. Suspends judgment in valuing her/his interactions with culturally different others)	AAC&U VALUE Rubric based on: Bennett, J. M. (2008). Transformative training: Designing programs for culture learning. In M. A. Moodian (Ed.), *Contemporary leadership and intercultural competence: Understanding and utilizing cultural diversity to build successful organizations* (pp. 95–110). Sage Publications.

Intercultural Competency Development: Challenges

Each department within CFANS was invited to integrate intercultural competencies into their courses. Workshops, webinars, and showcases were offered to faculty and instructors to support incorporating intercultural competency outcomes into their existing courses. The CFANS Undergraduate Policy and Review Committee approved the process for a course designation of DE (diversity-enriched), now Intercultural Development (ID), on undergraduate courses that incorporate or had already incorporated course outcomes relating to intercultural competence. Over the next two years, at least 13 courses were approved for course designator status by incorporating intercultural competencies for students to work effectively across differences.

Pathways Toward Intercultural Competence *continued*

Table 2
The Path Progression from WADI to IDC

Program	When	Why	How
Working Across Difference Initiative (WADI)	2013	CFANS developed the Working Across Difference Initiative to increase student intercultural competence while studying abroad. This was so successful that leaders sought ways to obtain similar results via on-campus classes.	Intercultural developmental activities were designed for students studying abroad. Activities included case studies (approaching issues from multiple perspectives), reflective writing, and service-learning experiences.
Teaching Across Difference (TAD)	2015	A task force of faculty and instructors formed within the Working Across Difference Initiative to increase student intercultural competence throughout on-campus classes by integrating intercultural objectives with a student-centered approach and relevant, evidence-based strategies/activities.	Intercultural developmental activities were designed for students on campus in classes of their discipline. Activities were developed relating to their discipline included case studies (approaching issues from multiple perspectives), reflective writing, and service-learning experiences.
IDC (Intercultural Development Curriculum) formerly DEC and DESC: • Diversity Enriched Curriculum (DEC): 2016 to incorporate intercultural competencies into courses • Diversity Enriched Spiral Curriculum (DESC): 2022 to incorporate a systematic, spiraling approach for student mastery of intercultural competencies	2024	A group of college leaders, faculty, and instructional staff interested in developing intercultural competencies in their classes and throughout their unit's program.	A developmental spiral approach was developed to incorporate intercultural competencies into on-campus courses of all disciplines. Throughout the students' 4+ years of academic experience, they would gain designated intercultural competencies each year. Unit leaders work together to identify and integrate intercultural objectives and competencies without redundancy.

A challenge, expressed by Salvador (2024), contended that—as an 1862 Land Grant University—our history is deeply entrenched within the larger historical pattern of the colonization of the Americas, history that remains highly pervasive, conflicted, and unresolved. Salvador maintained that these continuing dynamics operate within and play out on multiple levels: personal, professional, institutional, and societal. Diversity-enriched work at public universities appears embroiled within today's rapidly escalating political polarization, potentially owing in part to our unresolved history writ large.

Also, faculty found that teaching intercultural student competencies may feel different from more conventional content for faculty in agricultural, environmental, and natural resource sciences. These highly complex, interwoven, subjective, and oftentimes challenging dimensions of preparing students for intercultural competency may require long-term, human developmental work that may often feel at odds with more conventional content-focused approaches to agricultural and natural resource science disciplines.

Given these complexities, not all faculty feel prepared to face potential challenges posed in engaging

Pathwaytoward Intercultural Competence *continued*

intercultural competence work. Such work might be viewed as a tangential "add on" to core academic work of research and teaching. Those involved in this effort learned from the outset that intercultural competence work in agricultural, environmental, and natural resource sciences cannot be regarded as just another task to be checked off on a to-do list or achieved solely by top-down mandates. Rather, the team saw opportunities for faculty who expressed an interest to contribute to this developmental process. Frequent gatherings for a sense of collegial support and community became very important in sustaining a trajectory of momentum toward student development of intercultural competence to work effectively across differences in global learning environments.

Expansion from ID Courses to a Spiral ID Curriculum Approach to Student Intercultural Competency

The team and multiple faculty members realized that several courses incorporating intercultural competencies often duplicated intercultural competencies unintentionally, which resulted in student work repetition and redundancy. This realization broadened our focus toward an inclusively enriched curriculum throughout participating departments that systematically integrated deepening competencies without repetition.

Ultimately, both the team and many faculty concluded that changes may not be sufficient at a course level and change at a unit level would better meet student success with intercultural competencies. Because frameworks or templates for this type of programmatic implementation, especially within the disciplines of CFANS, could not be found when the groups started working on their individual courses, this expanding process was identified as needing at least two or three academic years to develop and implement spiral curricular changes.

In 2022, the CFANS team, now referred to as the Intercultural Development Curriculum (IDC) team, took another step toward a progressive layering of intercultural competencies throughout the curricular learning experiences of students. The IDC team disseminated a request for proposals, inviting academic units within CFANS to incorporate progressively deepening layers of ID competencies tailored to their current unit courses.

Recipients received limited funding to focus on ID spiral curriculum development within their departments. This broadening outcome from single courses to an ID spiral curriculum would support the developmental competencies needed for students to graduate prepared for the twenty-first-century intercultural challenges they may face in their lives and careers (Boyer, 2022; White & Lorenz, 2016).

The spiral curriculum approach represents an attempt to offer intercultural, global competencies that increasingly deepen over the span of the student's education. Each time the content is re-visited, the student gains increasingly thorough knowledge and application of both the discipline and deepening intercultural competency.

Initially coined by theorist Bruner (1960), a spiral curriculum approach benefits students by reinforcing information over time and using prior knowledge to inform future learning (Bruner, 1960; Howard, 2007; Lohani et al., 2005). Bruner described the following three key principles of a spiral curriculum:

1. Cyclical: Students return to the same topic several times via various disciplines throughout their school career.

2. Increasing Depth: Each time a student returns to the topic at a deeper level and explores more complexity.

3. Prior Knowledge: A student's prior knowledge is used to build from their foundations rather than starting anew.

The Framework for Building Student Intercultural Competency

The literature-based AAC&U Intercultural Knowledge and Competence VALUE Rubric both defines and articulates "fundamental criteria for each learning outcome, with performance descriptors demonstrating progressively more sophisticated levels of attainment" (AAC&U, 2025). Likewise, the AAC&U Intercultural Knowledge and Competence VALUE Rubric is entirely relevant and intended for all disciplines throughout all colleges and universities throughout the United States.

Pathways Toward Intercultural Competence *continued*

CFANS developed an Intercultural Competency Rubric (in process), entirely based on and closely aligned with the AAC&U Intercultural Knowledge and Competence Value Rubric. As shown in Table 3, both rubrics consist of three domains (Knowledge, Skills, and Attitudes) that comprise the following six components:

1. Knowledge: Cultural self-awareness

2. Knowledge: Knowledge of cultural worldview frameworks

3. Skills: Empathy

4. Skills: Verbal and nonverbal communications

5. Attitudes: Curiosity

6. Attitudes: Openness

Likewise, Table 3 depicts the 18 AAC&U Intercultural and Knowledge VALUE Competencies used and adapted by the CFANS Intercultural Development Competencies.

Both rubrics depict progressively advanced levels of intercultural competencies in each of the six areas described above. The CFANS Rubric categorizes three competency levels as Developing, Accomplished, and Proficient which aligns with, furthers, and deepens the overall intercultural development curriculum of 18 competencies comprising both rubrics.

And CFANS went one significant step further: for each of the three deepening levels within the six domains, clear and measurable objectives were developed, which align with both empirically based strategies, and potential assessments for the 18 competencies that can be applied in any discipline. This gives each instructor the agency to choose and modify (if they prefer) any of the given 18 competencies to their discipline. In addition, each of the 18 competencies have a menu of several evidence-based strategies that can be used to master a given competency, so students will not be replicating activities during their 4+ years of academic experience. Table 3 depicts the 18 AAC&U Intercultural and Knowledge VALUE Competencies used and adapted to the CFANS

Intercultural Development Competencies.

Each of the 18 competencies represented in the CFANS IDC Rubric includes several samples of clear objectives that fully align with potential strategies/activities and assessments for each instructor to consider, tweak, and/or apply to their specific discipline. For example, at the "Developing" Knowledge level of Cultural self-awareness, we designed the following Sample Case Study Activity for faculty/instructors to consider and tailor to their specific discipline:

-   **Sample Objective:** Given a case study (of a current/real life issue/problem) from their own discipline, the students will identify (1, 2, or 3+) of their own potential cultural rules and cultural biases.

-   **Sample Activity:** Present discipline-related case studies or scenarios that involve cultural differences. Require students to analyze the cases and identify (1, 2, or 3+) of their own cultural biases that might influence their perceptions and decisions.

-   **Sample Assessment:** Students master this competency when they identify (1, 2, or 3+) of their own cultural biases that might influence their perceptions and decisions. This assessment is embedded directly in the activity.

Then, as students master this given competency described above, instructors deepen and further student mastery to the next level. They review, tweak, and/or apply sample objectives, strategies and assessments in the spiral curriculum at the capstone or accomplished level of Knowledge: Cultural self-awareness, one of the intercultural competencies described in Table 3. Below is a sample portfolio project at the capstone level of Knowledge: Cultural self-awareness:

-   **Objective:** Given directions, each student will create their portfolio that includes written reflections, assignments, and projects demonstrating their growth, progress and mastery in this competency.

Pathways Toward Intercultural Competence *continued*

Table 3

AAC&U Intercultural and Knowledge Competencies adapted to the CFANS Intercultural Development Competencies

AAC&U: Domains of Competency	AAC&U: Milestones 2 (IDC: Exploring)	AAC&U: Milestones 3 (IDC: Developing)	AAC&U: Capstone (IDC: Skillful)
Knowledge: Cultural Self-Awareness	Identifies own cultural rules and biases (e.g. with a strong preference for those rules shared with own cultural group and seeks the same in others).	Recognizes new perspectives about own cultural rules and biases (e.g. not looking for sameness. Comfortable with the complexities that new perspectives offer).	Articulates insights into own cultural rules and biases (e.g. seeking complexity; aware of how her/his experiences have shaped these rules, and how to recognize and respond to cultural biases, resulting in a shift in self-description).
Knowledge: Knowledge of cultural worldview frameworks	Demonstrates partial understanding of the complexity of elements important to members of another culture in relation to its history, values, politics communication styles, economy, or beliefs and practices.	Demonstrates adequate understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices.	Demonstrates sophisticated understanding of the complexity of elements important to members of another culture in relation to its history, values, politics, communication styles, economy, or beliefs and practices.
Skills: Empathy	Identifies components of other cultural perspectives but responds in all situations with own worldview.	Recognizes intellectual and emotional dimensions of more than one worldview and sometimes uses more than one worldview in interactions.	Interprets intercultural experience from the perspectives of own and more than one worldview and demonstrates ability to act in a supportive manner that recognizes the feelings of another cultural group.
Skills: Verbal and nonverbal communication	Identifies some cultural differences in verbal and nonverbal communication and is aware that misunderstandings can occur based on those differences but is still unable to negotiate a shared understanding.	Recognizes and participates in cultural differences in verbal and nonverbal communication and begins to negotiate a shared understanding based on those differences.	Articulates a complex understanding of cultural differences in verbal and nonverbal communication (e.g., demonstrates understanding of the degree to which people use physical contact while communicating in different cultures or use direct/indirect and explicit/implicit meanings) and can skillfully negotiate a shared understanding based on those differences.

Pathways Toward Intercultural Competence *continued*

AAC&U: Domains of Competency	AAC&U: Milestones 2 (IDC: Exploring)	AAC&U: Milestones 3 (IDC: Developing)	AAC&U: Capstone (IDC: Skillful)
Attitudes: Curiosity	Asks simple or surface questions about other cultures.	Asks deeper questions about other cultures and seeks out answers to these questions.	Asks complex questions about other cultures, seeks out and articulates answers to these questions that reflect multiple cultural perspectives.
Attitudes: Openness	Expresses openness to most, if not all, interactions with culturally different others. Has difficulty suspending any judgment in her/his interactions with culturally different others and is aware of own judgment and expresses a willingness to change.	Begins to initiate and develop interactions with culturally different others. Begins to suspend judgment in valuing her/his interactions with culturally different others.	Initiates and develops interactions with culturally different others. Suspends judgment in valuing her/his interactions with culturally different others.

*Adapted from [Intercultural Knowledge and Competence Value Rubric](#) by Association of American Colleges and Universities (AAC&U).

- **Activity:** Instruct students to create a portfolio showcasing their assignments, their journey in understanding, recognizing, and constructively responding to their own cultural rules and biases. A sample rubric will be provided.

- **Assessment:** Each student shares/presents their portfolio to the instructor. Using the assignments collected in the portfolio, the students highlight their ability to recognize and constructively respond to (1, 2, or 3+) of their own potential cultural rules and cultural biases.

Instructors can choose to tweak and/or apply from a wide range of evidence-based, inclusive, equitable/anti-racist sample activities included in each of the 18 spiraling competencies. Within each of the 18 competencies, sample activities are provided in empirically based, diverse formats including T-charts, jigsaw activities, discussions, concept maps, polling, gallery walks, writings, interviews, surveys, and portfolio activities. Each of these comprehensive samples are based on clear objectives that align with each of the sample strategies and assessments. Incorporating a wide range of empirically based engaging strategies throughout the

IDC curriculum both limit activity redundancy and continually engage students in progressively deepening discipline-specific activities toward mastering the given global competencies.

Three Paths to Student Intercultural Development Competency

Currently, three academic units are reviewing their overall curriculum, their identified ID courses, and potentially additional courses, content, and strategies seen as amenable to building a cohesive path for student mastery of critical intercultural competencies. These spiral principles in themselves are nothing new to most faculty as many agricultural and natural resource disciplines and professions offer curricula with a structure that employs a spiral of deepening knowledge process as undergraduate students advance from their freshman through senior academic experience.

Each of the three units chose very different paths to reach a similar outcome of increased student intercultural competencies. Environmental Sciences, Policy and Management (ESPM) chose programmatic changes to incorporate intercultural development competencies

Pathboards Toward Intercultural Competence *continued*

at each level of the student academic experience. This is the ultimate outcome for all units. Food Science and Nutrition (FScN) chose to begin with professional development to prepare faculty and instructional staff to create courses with intercultural objectives, activities, and assessments to increase intercultural development competencies at each level of the student academic experience. Forest and Natural Resource Management (FNRM) chose to build their student-centered strategies to revise existing courses that will now integrate strategies to increase student intercultural development competencies.

Even though these three departments remain early in the development phase of their IDC, we share our initial actions to date. The following sections depicts the differing pathways and processes each department has taken to develop an IDC in a spiral manner for students to master intercultural competencies throughout their academic experience. Each description includes both their goals and some of the challenges and opportunities they faced up to this point in their academic unit's intercultural development process.

Environmental Sciences, Policy and Management (ESPM)

The ESPM major is an interdisciplinary, environmental program that integrates faculty from multiple departments within CFANS. This interdepartmental major prepares graduates to solve environmental problems from an integrated knowledge base while seeking to improve students' basis for environmental decision-making by integrating physical, biological, and social sciences with policy analysis and management. The major is highly adaptable to student interest and built around five integrated core courses and four program tracks: Conservation and Resource Management; Environmental Education and Communication; Environmental Science; and Policy, Planning, Law, and Society. Intercultural competence is critical to this mission, as professionals working in program track three must be able to identify the distribution of environmental benefits and detriments across society.

Our IDC approach in ESPM was to first ask which outcomes would most benefit enrolled students, and how could a spiral curriculum empower them in their future careers. Surveys were first conducted to examine how

intercultural concepts were being presented by faculty, and how these concepts were being received by students. It was determined that while these concepts were integrated into several courses, they were not delivered in a spiral format and students reported redundancies and repetition in how content was delivered. Most commonly, IDC concepts were delivered through instruction on environmental justice (EJ). As EJ seeks the fair treatment and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (Mohai et al., 2009), a plan was developed to integrate intercultural concepts around an EJ curriculum.

First, we conducted an external review of existing EJ educational programs and held faculty workshops before settling on a set of four EJ competencies for students completing the ESPM major. These competencies focused on student capacity to:

1. Recognize and describe their personal relationship with the environment,

2. Utilize intercultural competence when approaching environmental questions,

3. Assess the allocation of environmental burdens and benefits among human populations, and

4. To ultimately justify environmental actions and/or policy positions.

The second competency emphasized the primary goal of this intercultural development curriculum process, namely enhancing students' capacity surrounding cultural awareness, non-judgmental examination, and critical thinking. Each competency will be integrated into the major's core courses. By revising content from each competency across the core courses, we will reinforce topics that will allow students to address complex scenarios through an intercultural and inclusion lens.

With the establishment of these competencies, our emphasis is now focused on curriculum construction. A new core course, ESPM 3004: Environmental Justice in Natural Resource Management, was created. This course requires students to examine the theories and principles of EJ and critically analyze the underlying

causes of injustices. This course was designed to actively engage students in critical thinking, discussion, debate, and reflection. Here, students work directly with core IDC content by building from material presented in introductory courses and provide them with skills needed to apply IDC concepts in capstone courses.

Currently, we are working with faculty of core courses to identify and develop IDC content that will align and deepen with each year of the student academic experience. Then we plan to identify assessments that will give us insight into student mastery of intercultural competencies and overall program effectiveness.

Food Science and Nutrition (FScN)

FScN carries two undergraduate major programs: Food Science and Nutrition. The two programs are both highly ranked and attract students nationally and internationally for work within food and health-care systems. Food science undergraduates are often interested in private sector food product development opportunities while nutrition undergraduates have interest in healthcare and public sector employment. The department recognizes that many cultures, communities, and individuals offer knowledge and experience of food and health relationships that advance health and well-being and strives to bring broader cultural perspectives to research-based food and nutrition sciences.

Accordingly, within their IDC initiative, FScN brought together faculty teaching undergraduates at introductory, third- and fourth-year courses to share intercultural objectives and activities to achieve those objectives. Content areas and skills that emerged as important included the following: critical thinking, reflection and cultural self-awareness, history and mission of land-grant universities, understanding of "hidden subjectivities" that form cultural foundations of "Western Science," community-engaged experience, cross-cultural engagement experience, understanding the dynamics of a racialized society from intercultural perspectives, and participatory forms of scholarship emerging within nutrition and food science disciplines. Examples of two student activities are summarized below:

1. Choose a non-European American cultural group in the U.S. and then have a conversation with a person from that culture. Ask them their views about their interaction and experience with mainstream Euro-American culture, its food and biomedical system, both positive and negative. Ask them to comment on any/all the aspects listed below from a personal and/or societal perspective:

   - Social determinants of health

   - Health disparities

   - Food processing, fabrication, and the products currently available in our mainstream food system

   - Cultural views of health and wellness

2. Case study

   - You (students) will be given a case that presents an intercultural dilemma or paradox. You will frame the central question or issue from different, often opposing, cultural standpoints and make the strongest case possible from within each cultural perspective. You will do your best to empathetically bring forward the strengths and limitations within each perspective and then use your own best judgement to propose a way forward toward resolution or compromise.

As mentioned earlier in this essay, a challenge in creating a pathway for student intercultural competence remains that not all faculty feel equipped to teach IDC content areas, although they agreed that IDC should be taught and revisited through at least one iteration in both undergraduate majors. Participant faculty have little or no formal training themselves within these IDC content areas. Given this, a majority of faculty expressed a subjective sense of risk in introducing first-person reflective assignments and activities within the context of well-established science-based curricula. Yet they were unanimous in agreeing that it is important for students to develop these intercultural capacities. The group indicated that faculty should hold themselves accountable for developing these capacities but differed

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with respect to whether such professional development ought to be mandated. FScN has taken the approach to offer development opportunities for all faculty, but a commitment to actively engaging in the IDC process should be left to individual faculty choice.

Forest and Natural Resource Management (FNRM)

The FNRM major is one of the oldest degree programs within the University of Minnesota and celebrated its 120th year in 2023. As one of the longest continually accredited forestry programs by the Society of American Foresters (SAF) in the United States, the FNRM major has a long history of educating and training the next generation of forestry and natural resource professionals. While FNRM's long educational history provides our students many strengths, it also requires reflection on the competencies that foresters and natural resource professionals need in the future to be stewards of forest ecosystems and work towards equity and inclusion within these spaces.

After graduation, many FNRM students commit to professional work in the public sector such as the National Park Service, Forest Service, and the state Division of Natural Resources to manage and steward public lands. This work requires application of many intercultural competencies, which include understanding and working effectively with multiple perspectives, differing needs, diverse experiences, and developing overall management plans to meet diverse goals of the public sector.

Understanding the history of forestry is critical for effective stewardship and management of forest ecosystems. Forestry's history, also deeply tied to the history of the United States, indicates that past practices by federal and state governments influence the current forest ownership and distribution. For example, the Morrill Act in 1862, which established Land Grant Universities, took land from Indigenous Nations (Lee & Ahtone, 2020). The Forest Service of the United States government is now legally responsible to protect tribal treaty rights, such as the right to hunt and fish on ancestral lands, some of which include public lands managed by the Forest Service (Seminole Nation v. United States, 1942).

Also, Black families, particularly in the South after the Civil War, encountered historical barriers and little access to legal support or government assistance programs. This resulted in land loss to family heirs. Still another example is the disproportionate impacts of climate change on marginalized communities across urban and rural environments (Environmental Protection Agency, 2021). These examples highlight the need for student mastery and application of intercultural competencies essential for effective forest ecosystem management.

To ensure that FNRM students are prepared to meet the needs of both the forest and communities that depend on these ecosystems, FNRM reviewed their curriculum from both the instructor and student perspective. Opportunities related to student intercultural development were brought to light, informing FNRM's next IDC steps to address the challenges facing future forestry professionals. Based on student and faculty input, FNRM is now identifying and revising curriculum to ensure the incorporation of intercultural competencies into the current use of empirically based, student-centered teaching and learning strategies such as case studies, simulations, reflections, jigsaws, small team-based projects, and more. Revisions currently underway also include integration of readings, resources, and guest speakers representing non-dominant perspectives.

Finally, moving forward in developing the IDC spiral curriculum, FNRM identified a series of current courses to serve as a pathway toward student intercultural competence. Curriculum revision within this pathway of FNRM courses help to ensure student mastery of IDC competencies at deepening levels that prepare them to serve as effective stewards of forest ecosystems and management.

Next Steps and Recommendations

CFANS continues to develop the overall IDC. We encourage faculty and instructors throughout CFANS, the (university) community, and beyond to incorporate student intercultural development competencies throughout their courses, programs, and overall curricula. The learning management platform, Canvas, is used to provide faculty with an IDC Handbook (in progress), which describes and guides faculty through the IDC process, both those instructors already involved and those considering potential involvement,

Pathways Toward Intercultural Competence *continued*

Currently, instructors are working together in the ESPM, FScN, and FNRM departments within CFANS to select which of the 18 competencies they will focus on throughout their respective courses and course levels (years one, two, three and four) to ensure that students graduate with mastery of the intercultural competencies. Next steps include both pilot testing and expanding the IDC processes throughout all disciplines represented in CFANS.

As we continue to navigate the current anti-DEI climate, creating pathways toward intercultural competence is essential. Students become the next generation's leaders to take on global challenges. No matter where one stands in this politically charged climate, everyone can start with working effectively across differences. Our ultimate outcome remains constant: students, our future leaders, who demonstrate genuine intercultural competencies to work inclusively and equitably across differences to solve problems across our environment and planet.

Pathwarys Toward Intercultural Competence *continued*

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