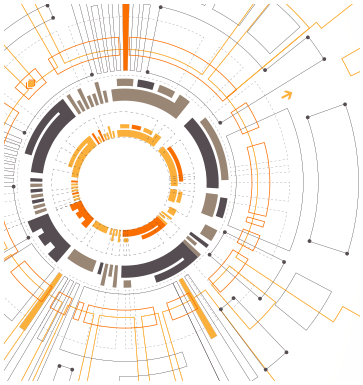
Abstract

Through relying on limited and prescribed modes of expression, summative assessment can both create and exacerbate inequities in higher education. In this article, an instructor of an undergraduate education course and three student co-authors who completed the course discuss how the students' choice to use multimodality in their final portfolios functioned as an innovation for equity in the course's summative assessment. After introducing ourselves and the higher education context in which we have worked together, we describe the portfolio assignment from this course. Then, the three student authors present excerpts from their portfolios, each framed by some contextual information offered by the faculty author and followed by a reflection informed by the perspectives of all four co-authors. These reflections focus on how multimodality can constitute an equitable approach to summative assessment in response to specific student intentions, health needs, and preferred modes of expression.



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Multimodality as an Equitable Approach to Summative Assessment in Higher Education

…The activity was to craft a shape [out of a pipe cleaner] that captures how you see yourself as an educator or educators more generally….I ultimately came up with…a spiral leading to a thought bubble….[T]he spiral represents a continuous flow of knowledge in both directions. We had talked about how education is ongoing, so the thought bubble represents that endless continuation of thinking and learning." – Jess Smith

"My third [portfolio] artifact is artwork that I engaged with while at a particularly difficult point with my concussion and overall health.…Needle felting, as a practice, is inherently slow; it asks the creator to take time in order to make the vision come to light. In the time it took for me to make this and step back into the sensations of the space, I was able to reflect on the connections…developed for me through the [course] texts and relationship building we have engaged with this semester." - Piper Rolfes

"This portfolio contains only the snapshots of some pertinent reflections on my journey seeking joy. It exists as a reaction to my discomfort with the course structure…and to my explicit desire to make and be authentic. It's more of my physical representation of what otherwise is abstract space…I hope you can give this all a complete listen and take time to see all the pieces in this portfolio in the order as presented and when you are finished, assemble it together just as you found it." - Daniela Moreira

These are excerpts from reflections that the three student co-authors of this article Jess Smith, Piper Rolfes, and Daniela Moreira, included in their final portfolios for an undergraduate education course called Community Learning Collaborative: Practicing

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Partnership. The excerpts—and their fuller versions included in a subsequent section of this discussion—offer insights into the learning and growth that can result from engagement in multimodality in summative assessment as well as the movement toward equity and inclusion that an embrace of multimodality enacts.

The legitimation of diversity in forms of expression should be inextricable from affirmation of diversity in who is doing the expressing.

Our discussion of this work includes several parts. In the next section, we draw on scholarship to review trends in practice. Next, we introduce ourselves and the higher education context in which we have worked together and describe the portfolio assignment for Community Learning Collaborative. With this context established, we explain how we selected the excerpts for inclusion, and then Smith, Rolfes, and Moreira each present those excerpts. Framed briefly by some contextual information offered by faculty author, Alison Cook-Sather, these examples are original portions of the student authors' course portfolios, which the student co-authors courageously agreed to share with and collectively analyze for a wider audience. Leaning into the vulnerability of such sharing and analysis, and the continued growth and empowerment to which those contributed, the student authors add their voices to the expanding conversation about multimodality in summative assessment as an innovation for equity in higher education.

Trends in Practice

There is increasing recognition that the proliferation of modes through which information is shared—"gestures, visuals, haptics, auditory productions, text-based information, and multimedia"—both constitutes and warrants an embrace of multimodality (Bouchey et al., 2021, p. 35). Multimodality refers to the use of multiple representations (graphical, textual, auditory, textual, and gestures) in the communication of knowledge (Kress & Leeuwen, 2001). According to Kress (2010), a mode is a "socially shaped and culturally given semiotic resource for making meaning" (p. 79). As a "phenomenon of communication," multimodality focuses on combinations "of different semiotic resources, or modes, in texts and communicative events" (Adami, 2016, p. 454). Jewitt et al. (2016) emphasize that multimodality refers to how "d*ifferent means of making meaning* are not separated but almost *always appear together*: image with writing, speech with gesture, math symbolism with writing" (p. 2, emphasis in the original). The call for multimodality, then, is a call for diversification in forms of expression and for recognition of how multiple modes of expression always inform and are informed by one another.

The legitimation of diversity in forms of expression should be inextricable from affirmation of diversity in who is doing the expressing. In higher education in general and in summative assessment in particular, the person doing the expressing is the learner. Thinking about learning through focusing on "meaning making as a process of design" and "choice of representation… gives a renewed focus on the role of the learner" (Jewitt, 2008, p. 263, p. 258). By centering "design, diversity, and multiplicity" in students' meaning-making practices and interpretative work (Jewitt, 2008, p. 258), we can not only better meet the demands of the increasingly complex world, but also meet the needs and aspirations of an increasingly diverse group of learners in higher education (Bouchey et al., 2021). Among efforts to move toward greater equity and inclusion in higher education, as well as capacity to interpret and communicate in the rapidly changing world, multimodality

> approaches communication as a process in which students (as they are socially situated and constrained) make meanings by selecting from, adapting, and remaking the range of representational and communicational resources (including physical, cognitive, and social resources) available to them in the classroom. (Jewitt, 2008, p. 263).

Fiorella and Mayer (2015) describe generative learning as a process-driven motivation. Motivation requires goal-driven behavior; without it, students would be unable to begin composing and generating. Similarly, Bouchey et al. (2021) argue that multimodal learning "requires a high level of agency (self-discipline) by learners, who must have the metacognition necessary to understand how they learn and also when to challenge themselves to learn in ways that lie outside their preferred modes" (p. 36). These arguments for motivation, agency, and choice should, we suggest, be informed by an understanding of necessity, such as when students live with long-term or temporary disabilities that affect their capacity to engage with

the still-dominant medium of most higher-education contexts: printed (or digital) text. The portfolio assignment we discuss in this article acknowledges and affirms students' situatedness and the range of resources through which they can demonstrate their understanding as they make choices guided by intention, necessity, and preference. As the portfolio selections we discuss here illustrate, multimodality recognizes learners' choices in how they represent understanding as forms of self-empowerment and self-authoring (Baxter Magolda, 2007), models for and educates others about diversity in expression, and contributes to a movement toward equity and inclusion in higher education.

Nowhere is this movement more important than in the realm of assessment. Inequities in assessment are an enduring concern, with most approaches "assessing students in the same way without paying attention to their differences" (Montenegro & Jankowski, 2017, p. 16). For instance, Ross at al. (2020) argue that assessment of student learning in higher education is typically through "written compositions and oral presentations, often in high-stakes exam environments" (p. 292). In contrast, equitable assessment practices for social justice and epistemic justice are linked to a radical rethinking of what is meant by the now-common term 'authentic assessment' (McArthur, 2024) and afford all learners "an equal and unbiased opportunity" to demonstrate their knowledge and achievements in different ways (Montenegro & Jankowski, 2020, p. 10). To this end, educators must "design learning opportunities that allow students to cultivate core creative dispositions, exercise agency, engage in creative processes and produce innovative artefacts, including through multimodal assessments" (Ross et al., 2020, p. 301). In doing so, they provide a "nurturing environment to kindle the creative spark, an environment where students feel rewarded, are active learners, have a sense of ownership, and can freely discuss their problems" (Ferrari et al, 2009 as cited in Ross et al, 2020, p. 22). As important, Moreira notes, is providing scaffolding—moments of storyboarding, opportunities to iterate, and occasions to get feedback from an authentic audience (say, peers in a class). (See Reyna et al., 2017, and Reyna et al., 2021, for taxonomies of <digital> multimodality and ways to promote more sophisticated multimodes through iterative assessment and feedback.)

Who We Are as Co-authors and Our Context

The first author of this article, Alison Cook-Sather, is a white, middle-aged, able-bodied, cis-gendered woman and a full professor in the Education Department in the bi-college consortium of Bryn Mawr and Haverford Colleges. Since 1994, she has taught numerous undergraduate courses, including Community Learning Collaborative (CLC), the course from which we draw portfolio excerpts for this discussion.

Second author, Daniela Moreira, is a Latina, first-generation American and college student, able-bodied, cis-gendered woman who graduated from Haverford College in 2023 with a double major in chemistry and physics. She subsequently completed an MA in Education at Wake Forest University as well as secondary science teaching certification, and her action research was in multimodal science communication. Moreira enrolled in CLC in the fall semester of 2020, when, on Bryn Mawr's and Haverford's campuses, COVID-19 and student-led strikes for racial justice inspired by the Black Lives Matter movement prompted a shift to online teaching and learning and a recasting of course assignments to be responsive to these larger contextual realities.

Third author, Piper Rolfes, is a white, queer, and able-bodied person hailing from Twin Cities, MN. They completed a double major—an independent major in dance and disability studies and a major in Education Studies—at Bryn Mawr College in 2024. Rolfes enrolled in CLC in the fall semester of 2023. Fourth author, Jess Smith, enrolled in the same section of CLC as Rolfes, in the fall semester of 2023. She is a Black, able-bodied, queer, cis-gendered woman from the Central Valley in California. She is completing her final year as an undergraduate at Bryn Mawr College as a sociology major.

Multimodality recognizes learners' choices in how they represent understanding as forms of self-empowerment and self-authoring.

CLC was developed by a group of educators in different positions in school and community contexts with the goal of supporting students in engaging in and working towards educational justice by deepening knowledge, skills, and inquiries into the practice of relationships, facilitation, and change in in-school and out-of-school educational contexts. One of four entry-point courses for the major and minor in Education Studies at Bryn Mawr College,

which is open to both Bryn Mawr and Haverford College students, this course does not strive to equip students quickly with answers that resolve big challenges and questions. Rather, it aims to strengthen students' capacity to inquire, to hold tension, to build relationships and community in order to work creatively in uncertainty, and to facilitate their own and others' learning and changing with difference as a resource. The course typically enrolls 22 students; enrollment is limited because all students work with practicing educators in field-based educational settings.

The course is organized into three phases: (1) reflection on self and past educational experiences, (2) engagement with teaching and learning theory and practice; and (3) articulation of practices learned and commitments to move forward. The portfolio assignment comes at the end of the third phase and is submitted in lieu of a final paper or exam.

The Portfolio as Summative Assessment

For the portfolio, students are asked to select a thread (key theme, word, or metaphor) that weaves throughout their learning, reading, and experiences in the course that helps answer the question: What is my work/practice as an educator? The portfolio consists of a table of contents, an introduction that directly addresses the question above, 4-6 artifact-reflection pairs that document students' development of their understanding of their work as an educator, and several other components. The portfolio is not graded as a separate assignment. Rather, the final component of the portfolio is a self-assessment that describes students' labor and growth across the entirety of the course as well as the grade they believe they have earned, and why. Criteria for summative assessment listed on the course syllabus include the following, and students are also invited to specify their own criteria to add to this list:

- you are present for embodied contribution
- your work is done on time (or with explicit extension)
- your work shows power to connect (past and current) experience with a range of frameworks to generate insights and questions
- your work shows clarity and depth in unlearning and recommitting to standards—imposed and self-authorized—for education
- your work shows a deepening degree of specificity and creativity (going beyond description and narrative to analyze and integrate those with new thinking through engaging with a range of discourses, readings, and encounters)
- your work demonstrates imaginative engagement with course goals, themes, and processes
- your work contributes to others' learning (in class and in partnership with field-based educators)
- you take initiative to communicate your needs, questions, and goals in order to make the course meaningful and effective for you and in order to share responsibility in this process

The final component of the portfolio is a self-assessment that describes students' labor and growth across the entirety of the course as well as the grade they believe they have earned, and why.

Students have opportunities to build toward their culminating portfolio and final self-assessment—through drafting portfolio components as journal entries, meeting with one another in small groups and with the co-educators with whom we collaborate for the course, and meeting with the course instructors, if they wish. The journal entries are assigned in the final weeks of the semester; meetings in small groups and with co-educators take place during regularly scheduled class sessions; and meetings with course instructors are optional, based on student-initiated requests. It is in the context of these scaffolded opportunities to make choices about modality that many, but not all, students decide to engage in multimodality for this summative assessment.

As also explained on the syllabus, the artifacts that students include in their portfolios can be in any medium or mediums, and the written reflections that accompany each one are approximately 400 words focused on highlighting the shifts in student understanding—where students unlearned, rethought, chose different emphases or language. The portfolio

assignment itself, then, invites combinations "of different semiotic resources" (Adami, 2016, p. 454) in which different means of making meaning appear together (Jewitt et al., 2016). Rather than being assessed "in the same way" without "attention to their differences" (Montenegro & Jankowski, 2017, p. 16), students exercise "choice of representation" (Jewitt, 2008, p. 258) "through multimodal assessments" (Ross et al., 2020, p. 301) that aim to offer them "an equal and unbiased opportunity" to demonstrate their knowledge and achievements in different ways (Montenegro & Jankowski, 2020, p. 10). The process-driven motivation students experience (Fiorella & Mayer, 2015) and the high level of agency and metacognition students exercise (Bouchey et al., 2021) affirm their diversity and deepen their learning.

Our Approach

Cook-Sather invited Moreira, Rolfes, and Smith to co-author this discussion because of the explicit way that all of them analyzed (rather than only used) multimodality in their portfolios and because they illustrated three different reasons for choosing a multimodal approach. These reasons include specific intention (to present a nuanced analysis not possible with words alone), necessity (because of a concussion), and preference (as the most effective mode of expression based on previous experience and self-knowledge).

The excerpts below reference different moments in the semester during which Smith, Rolfes, and Moreira participated in CLC. They offer insight into modes of expression these students selected and the meaning these moments have for the students and their development as educators—in their self-authoring journeys (Baxter Magolda, 2007). We offer these examples to afford these three students an opportunity to model what embrace and analysis of multimodality can look like.

Students exercise "choice of representation" through multimodal assessments that aim to offer them "an equal and unbiased opportunity" to demonstrate their knowledge and achievements in different ways.

Limitations of this selection include that it is a very small sample and illustrative of only these three students' experiences, not a wide range of students' experiences. Our goal is not to provide fully representative examples or an exhaustive set of possible equity outcomes of embracing multimodality but rather, through offering in-depth examples, to offer insights and raise questions that can be explored across contexts.

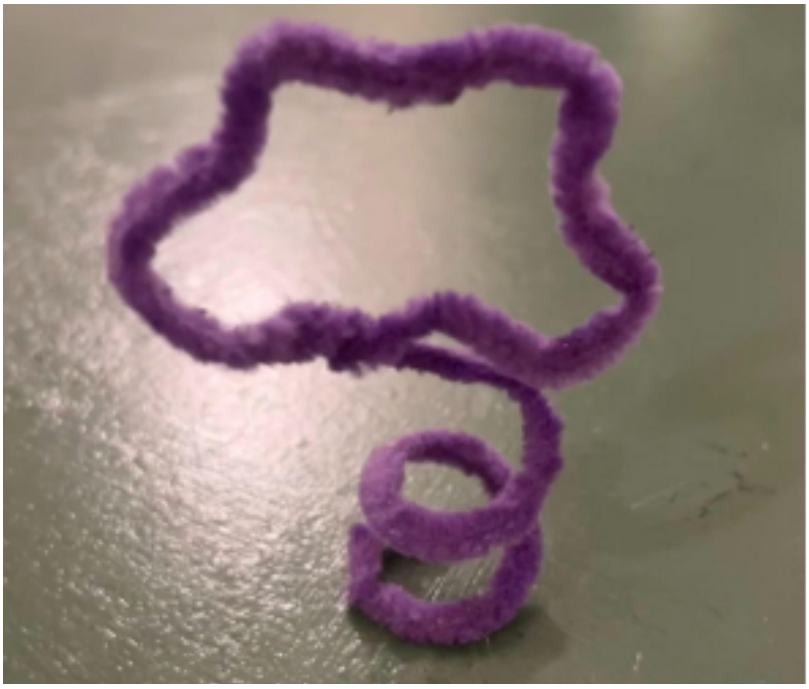
Example 1: Smith on Making Sense of and through an Unusual In-class Activity

Cook-Sather: It's 8:30 on a Monday evening in early September, and 24 enrolled students and I are halfway through the first session of CLC. We have introduced ourselves to one another and shared one true thing about ourselves or something we want others in the course to know about us. We have also discussed a text that sets the tone for the course (Mia Mingus' [2019] "Dreaming Accountability") and provides a structure for student engagement (Cook-Sather, 2023). At this point, I walk around the room holding a bag of brightly colored pipe cleaners and ask each student to select one. I then ask the students to take that single pipe cleaner and make from it a shape that captures how they see themself as an educator or educators more generally. That is all the guidance they get. Some eyes get large and glance around, and some people ask clarifying questions, but quickly the room settles into a mix of quiet chatter and focused concentration as students lean into bending and shaping the bright and flexible little wires. Fast forward 14 weeks, and I am reading Smith's portfolio. She has chosen the theme of pivoting, a term that is meaningful to her in multiple arenas of her life, including basketball as well as education. After reading Smith's explanation of this theme in her introduction to her portfolio, I come upon the following artifact-reflection pair:

This is my pipe cleaner from our very first class session on September 11th. The activity was to craft a shape that captures how you see yourself as an educator or educators more generally. My pipe cleaner has been sitting on my desk for the whole semester. I found myself glancing at it at times and reminding myself of the moment in time that I created it. For the most part, however, it sat on my desk, going unnoticed, yet I, for some reason, never got rid of it when I did my routine cleaning.

I remember when we were first explained the activity and tasked to craft a shape, I was confused about what the purpose of it was and how it would relate to what we were learning. It took me some time before I could even think of how to begin shaping my pipe cleaner. I

Figure 1
Pipe Cleaner



The pipe cleaner activity taps into unconscious and creative processes that are always unfolding within students and invites the students to make those explicit.

ultimately came up with the shape pictured: it is a spiral leading to a thought bubble. In the process of making it, I remember not really having a clue what I was creating or what I was trying to have it represent. It wasn't until I saw and heard what others in the class had to say about their pipe cleaners that I was able to solidify what my thinking behind that shape was. I came to the conclusion that the spiral represents a continuous flow of knowledge in both directions. We had talked about how education is ongoing, so the thought bubble represents that endless continuation of thinking and learning.

Thinking back to that moment in our first class, I think the reason I couldn't think of how to shape the pipe cleaner or what I wanted to depict was due to the fact that I did not yet see myself as an educator. Because of that, I was trying to think of educators more generally, but I didn't find any personal connection to that, which made it harder. Also, looking around and seeing everyone else start shaping their pipe cleaner almost immediately gave me almost a sense of imposter syndrome. I felt like I didn't resonate with the activity as much as others did. However, now that I have completed the course and looked at how that changed from week to week following our class sessions, I have become more and more aware of how I fit the role of being an educator. I realized that one doesn't have to be in a formal teaching role to be an educator. Everyone is always an educator and a student. I don't remember exactly when the shift or pivot happened to when I came to that realization, but I am proud of how far I have come in just a few months. It's funny how much can be said and learned from just a simple purple pipe cleaner.

Reflections

The pipe cleaner activity taps into unconscious and creative processes that are always unfolding within students and invites the students to make those explicit, through reflection on their own and through dialogue with others. It was in part through listening to other students' explanations of their pipe-cleaner shapes that Smith clarified the meaning and significance of her own. Linked to Ferrari et al.'s (2009) assertion regarding the importance of a "nurturing environment" in which students "can freely discuss their problems" (p. 22), Smith felt able to mention challenges or struggles—finding herself less engaged with the activity than other students, experiencing imposter syndrome. This feeling, Smith notes, was mostly due to the safe learning environment that was co-created in our class by both the

students and the professor. She felt that she was allowed to admit to struggles or confusion because the environment we co-created was one where she felt unjudged and one where we all worked to help each other learn.

The final sentences of Smith's portfolio entry, and particularly words such as "proud," reflect another of Ferrari et al.'s (2009) points: "the creative spark" in an environment "where students feel rewarded, are active learners, [and] have a sense of ownership" (p. 22) as she came to see and value herself as an educator. Smith appreciated having a tangible reflection of her learning and growth that she could take away from the course and at which she could continue to look back. She illustrates in her reflection the very spiral she represented in her pipe cleaner shape: the "endless continuation of thinking and learning" and the confidence to engage in those processes, as she comes to define herself as an educator.

The multimodal activity—physically bending a pipe cleaner, talking with others about the significance of the shapes created, writing about the significance of both—allowed Smith to find her own entry-point and connection to it, especially since the instructions left room for everyone's own interpretation. This activity and the ways Smith and other students engaged with it reflect the remaking of a learning environment and the collaborative experience that is learning—fostered and deepened by the multimodality that was offered and taken up. Smith's inclusion of an image of the pipe cleaner shape and her reflection on it as part of her self-assessment through the final portfolio capture the sense of ownership (Ferrari et al., 2009) Smith experienced of her own learning process and her representation of in this form of summative assessment.

Example 2: Rolfes on Finding Ways to Complete Course Work with a Concussion

Cook-Sather: We are about ¾ of the way through the semester. Rolfes has let me know that they have suffered a concussion that precludes their spending too much time staring at a computer screen. They have been striving to find ways of engaging in the course other than only reading and writing texts. The journal entries assigned during the last several weeks in CLC invite drafts of portfolio components to give students a chance to circle back through their work and try out ways of representing their growth, as Smith's pipe-cleaner shape and reflection above describe. Rolfes has sent me an email explaining that they have made an art piece to go along with slides they have been working on that contain the bulk of their reflective and culminating work for the portfolio. In that email, they write: "I was wondering if we may be able to meet to discuss creative ways for me to still meet the assignment with integrity but also feels approachable given my current health." We have that meeting and decide on a combination of visual, written, and audio-recorded components to the portfolio, which will include reflection on Rolfes' semester-long engagement with Common Space, a local non-profit that provides "a shared space where people of all ages, races, abilities, ethnicities, and economic backgrounds make connections and cross boundaries" (https://www.commonspaceardmore.org). This non-profit organizes classes, workshops, and discussion groups, as well as provides a community space that offers fair-wage jobs for community members with many talents and abilities who are seeking part-time/flexible employment and appreciate a place to belong (https://www.commonspaceardmore.org). Several weeks later, I am reading through Rolfes' portfolio, learning from their explanation of the themes of time, structure, and slowing down that they have chosen. The third artifact-reflection pair is the art piece Rolfes had mentioned and their reflection on it:

The multimodal activity—physically bending a pipe cleaner, talking with others about the significance of the shapes created, writing about the significance of both—allowed Smith to find her own entry-point and connection to it.

My third artifact is artwork that I engaged with while at a particularly difficult point with my concussion and overall health. I wanted to still be able to reflect and spend time with the course and my partnership [with Common Space] and decided to use needle felting as a means of reflection. I decided to make a felted rendition of the garden plot behind the Haverford College which [another student] and I frequented in our partnership. I allowed myself to create the garden by my memory and recollections of the space—memories that I have been able to enhance through our mindfulness, consistent visits, and dedication. Needle felting, as a practice, is inherently slow; it asks the creator to take time in order to make the vision come to light. In the time it took for me to make this and step back into the sensations of the space, I was able to reflect on the connections this partnership has developed for me

Figure 2
Felt Garden Plot

through the CLC texts and relationship building we have engaged with this semester. The time in the Common Space garden has furthered my appreciation for varying fields of knowledge outside of the "traditional" scope. As discussed in bell hook's (1994) *Teaching to Transgress*, I was considering the connections of this work to the concept of progressive pedagogy, and the role of the student in the learning environment. Seeing as the garden requires an embodied and hands-on interaction of the student/learner with the plants and earth, there is an agreement that develops and invites the student/learner to be present in a new capacity. This particular set of knowledge and skill being steeped in the natural world also drew me to connections between the Alaska Standards for Culturally Responsive Schools. Many of these standards implore classrooms to connect the students with an understanding of the natural world and the stewardship of it, particularly, in a culturally responsive and attentive lens. One example of this is "Students who meet this cultural standard are able to: recognize and build upon the inter-relationships that exist among the spiritual, natural and human realms in the world around them, as reflected in their own cultural traditions and beliefs as well as those of others." I have found being present to this experiential and nature-based education to ground me in the value of cultivating relationships with nature and people can and should occur in tandem.

As with many reconceptualizations prompted by particular needs and challenges, this kind of reconceptualization can benefit everyone.

Reflections

The necessity for Rolfes to slow down because of their concussion combined with their work in disability studies evoke the notion of "temporal re-imagining," which Levy and Young (2020) describe as "the slowing down and stretching of time—of being in the moment—as a method to enter the world of people with PMLD [profound and multiple learning disabilities]" (p. 68). As with many reconceptualizations prompted by particular needs and challenges, this kind of reconceptualization can benefit everyone. If we "re-think how we conceive of time in terms of different lives" (Levy & Young, 2020, p. 70), we can affirm and extend the ways in which all students experience and make the most of time.

Rolfes' portfolio reflection echoes Jewitt's (2008) argument for "meaning making as a process of design" (p. 263) and "choice of representation" that "gives a renewed focus on the role of the learner" (p. 258). Part of the meaning Rolfes makes is drawn from the practices learned through their internship at Common Space, such as mindfulness and presence. Rolfes also weaves into their reflection key ideas from course texts (bell hook's *Teaching to Transgress*, the Alaska Standards for Culturally Responsive Schools), demonstrating an integrated understanding in both theory and practice. Evident in Rolfes' self-assessment through their portfolio is at once process-driven motivation (Fiorella & Mayer, 2015), "a high level of agency,"

and the metacognition not only to challenge themself but also to respond to the necessity of finding "ways that lie outside their preferred modes" (Bouchey et al., 2021, p. 36).

Looking back on that time, Rolfes notes that not all of their professors were accommodating of their needs; some were less inclined to work with Rolfes to develop other modes of showing their cumulative knowledge. Rolfes felt in those circumstances that some professors were very attached to the way they ask students to share their learning and were not willing to push beyond that. The matter of fairness also seemed to be something of consideration. These professors seemed to feel that Rolfes' necessity to approach an assignment in a different modality or modalities from other students was unfair to those peers. In contrast, we suggest that multimodality broadens 'fairness' or equity. Instead of "assessing students in the same way without paying attention to their differences" (Montenegro & Jankowski, 2017, p. 16), an embrace of multimodality, in Rolfes' case out of necessity, afforded them "an equal and unbiased opportunity" to demonstrate their knowledge and achievements in different ways (Montenegro & Jankowski, 2020, p. 10). In addition, the possibility of multimodality and the development of project ideas, given Rolfes' situation, invited collaboration. This kind of collaboration was not just beneficial in the moment but also helped build skills in sharing knowledge in a multitude of modalities as a practice in centering accessibility and UDL in one's own learning. This development of capacity carries into future jobs, teaching/learning, relationships, partnerships, and more.

Example 3: Moreira on Her Tortured Journey toward Joy

Cook-Sather: From the first days of her participation in CLC until nearly the end, Moreira resented, resisted, and railed against the course. She is not the first to struggle with what the course invites and asks of students—to engage in new and long-standing forms of organizing (of movements and knowledge), community-creating, trauma-informed relating, and decolonization. It was not that she didn't do the work of the assignments—indeed, her weekly journal entries far exceeded the suggested word limit and included a wide range of relevant insights. Furthermore, she already had deep understanding of the premises and commitments of the course—if anything, she was too familiar with them. It was that, in her own words, she did not allow herself to accept how the course offered and asked her to engage, including through her own joy. As she explains in retrospect, at the challenging intersection of the pandemic and the Black Lives Matter movement, she was asserting autonomy, pushing against external influence, experiencing emotions of anger, frustration, resentment, engaging in active resistance, and arguing or disagreeing with the professor in the classroom. It was only in her final portfolio, for which she chose artistic modes of woodcuts and poetically structured reflections, that Moreira let the meaning she made through the course and of her own development as an educator be affirming and joyful. Indeed, education as joy was the theme Moreira chose for her portfolio. Below are two of the woodcuts from her portfolio and selections from her introduction:

These are the ideas I struggled with over the course of the semester. I feared enlightening myself to my position in this world as a learner, and reciprocally, as an educator. Because it's obvious to me. What tears me up, what riles revolutions: the need for joy for joy for joy. The search to find joy in education—the nuances of intersectionality, privilege, and spaces where academic institutions inflict violence—is rather complicated.

My time in CLC was an uncomfortable semester in reimagining and reevaluating my joy. It was not the place I had anticipated to feel joy but instead theorize my joy. Which, I must add, inherently sounds unjoyful.

I first needed to understand where I was as a learner. Embedded in my reflection amidst the dense, stream-of-consciousness, write-down-before-you-forget journal entries, I was stuck in a mental vortex of writing to validate instead of to learn. I wrote extensively on how I see joy in my education, the complexity to my joy, but never how joy heals me. I came to realize I am a terrible listener, that I barely listen to myself. This became a problem.

We suggest that multimodality broadens 'fairness' or equity.

I did not see reflection as a way of knowing. I squirmed and toiled. I loudly complained. I pointed fingers at moments and places in this course where I could not feel joy. I had not felt inspired or pressured to create the change I saw revolution as. I wanted to read, yet I did not

Figure 3
Woodblock Portfolio

consider the magnitude of impact of what I read. I hungered for knowledge, yet I refused to let it nourish me….

This portfolio contains only the snapshots of some pertinent reflections on my journey seeking joy. It exists as a reaction to my discomfort with the course structure, to bell hooks, and to my explicit desire to make and be authentic. It's more of my physical representation of what otherwise is abstract space…This portfolio excludes all the things that I really enjoyed about this course…

In the act of making, Moreira reflects, she slowed down to tell a story, making an interrelated set of representations of joy and what that meant for her.

And with that being said, I hope you can give this all a complete listen and take time to see all the pieces in this portfolio in the order as presented and when you are finished, assemble it together just as you found it.

Reflections

As illustrated in the woodcuts and her reflection, Moreira exercised "choice of representation" (Jewitt, 2008, p. 258), process-driven motivation (Fiorella & Mayer, 2015), and a high level of agency and metacognition (Bouchey et al., 2021), and she also moved through her frustration and resistance to create and embrace joy. (See Tolman et al., 2017, for a helpful discussion of understanding student resistance.) While she is a creative person and advocates using multiple modes to learn and convey understanding, Moreira had never used woodcuts before, and therefore challenged herself with a new mode. Although she had not originally planned to make her portfolio into a book of woodblocks, she tried (and ultimately did not succeed) to accomplish this goal. Reflecting subsequently, she noted that the effectiveness of creating was a moment to pause and practice/learn something new even though she had a "clear"-but-impossible-to-execute vision at the beginning. And while the printing project did not succeed, it catalyzed a process of finding peace (healing, one of the sections represented in the woodcut above was titled). In the act of making, Moreira reflects, she slowed down to tell a story, making an interrelated set of representations of joy and what that meant for her. Through this and other processes in which she engaged in her final work for the course, Moreira notes, "joy was being alone and realizing everything [she] touched required [her] to consider how [she] touches and how it feels to be touched by [her]."

The courage and candor Moreira demonstrated in creating the portfolio she did might have been fostered by the "nurturing environment…where students feel rewarded, are active learners, have a sense of ownership, and can freely discuss their problems" (Ferrari et al., 2009, p. 22), might have been driven entirely by her own squirming and toiling and independence, or some combination—but regardless, the multimodality affirmed a commitment to inclusion. Moreira's desire for authenticity, to ground what would otherwise have remained abstract, centers "design, diversity, and multiplicity" in her meaning-making practices and interpretative work (Jewitt, 2008, p. 258), thereby recognizing her choices as a form of self-empowerment, of modeling for and educating others about diversity in expression and representation of understanding, and of contribution to a movement toward equity and inclusion in higher education.

Moreira approached this multimodal assignment with a lot of previous experiences; she had worked in makerspaces for years teaching students how to make multimodal inventions, stories, creations, and she had a background in theater, video production, and animation. Her interest in multimodality emerged due to her identity as a bilingual English-Spanish speaker. In her educational experiences, multimodal projects served as a medium to communicate ideas with her Spanish-dominant speaking mother in ways the written English Language could not always capture. For Moreira, then, multimodality was not new, and she was a willing and eager participant. She notes that she will never reread an essay she wrote, but she will never forget when a class gave her an opportunity to create something. Moreira embraces multimodality whenever possible and notes that multimodality in science communication was her action research project Wake Forest University. Multimodal works in education are valuable because there is an audience beyond the instructor and the student (or an ephemeral class presentation); the audience is whomever you wish to share your art with, it escapes the course, it makes assignments in the academy acts of reaching out into the world.

Similar to how the collaboration necessary for Rolfes' multimodal engagement informs capacities that will be useful beyond their time in college, Moreira's master's thesis at Wake Forest University, through which she studied how her students react to creating digital multimodal science explanations as a culminating assignment, focused in part on inspiring students to share what they make ultimately with their families, their friends, their loved ones—deepening connections beyond school. Thus, the multimodality of the portfolio as summative assessment in CLC was a form of authentic assessment.

Conclusion and Call for Further Research

The invitation to embrace multimodality in the portfolio as a form of summative assessment supported Smith, Rolfes, and Moreira in forging or clarifying definitions of themselves as educators—an identity that each person has to come to in their own way, in their own time, and on their own terms as a process of self-authorship (Baxter Magolda, 2007). Since that is the goal of CLC, it is essential that every student, whether out of choice or necessity, feels empowered to create ways of sharing their knowledge and growth. Some students choose text (printed or digital) as their preferred mode of expression in their final portfolios, and others choose different modes than the ones we have highlighted here, such as images they find (rather than create) and audio or audiovisual recordings (rather than text-based analyses).

The multimodality affirmed a commitment to inclusion.

Multimodality is inherent in the activities and their processing as well as in the forms portfolios as summative assessment took. This work is at once individual and relational. For instance, Smith noted that it was not until she saw and heard what others in the class had to say about their pipe cleaners that she was able to solidify what her thinking behind her own shape was. Rolfes also highlights the individual and relational nature of their work through being present to the experiential and nature-based education in their internship, which grounded them in "the value of cultivating relationships with nature and people." And Moreira invited active engagement with what had been a very personal and individual process of creating her portfolio, linking the individual with the relational. This relationality carries over to future students: as Moreira notes, she experienced portfolio assessments in the Education Department at Bryn Mawr and Haverford Colleges as a way to shift toward equity that made her a better teacher after graduation.

With Bouchey et al. (2021), we advocate an embrace of multimodality, and we see the portfolio as a form of summative assessment that responds to the call for diversification in forms of expression and for recognition of how multiple modes of expression always inform and are informed by one another. The "renewed focus on the role of the learner" (Jewitt, 2008, p. 263) that multimodality affords allows us to move away from "assessing students in the same way without paying attention to their differences" (Montenegro & Jankowski, 2017, p. 16) and toward providing all learners "an equal and unbiased opportunity" to demonstrate their knowledge and achievements in different ways (Montenegro & Jankowski, 2020, p. 10). The ways that enrolled students like Smith, Rolfes, and Moreira have taken up the portfolio assignment demonstrate how they have cultivated creative dispositions and agency and engaged in creative processes (Ross et al., 2020) as well as "a high level of agency (self-discipline)" and a heightened awareness of when and how "to challenge themselves to learn in ways that lie outside their preferred modes" (Bouchey et al., 2021, p. 36).

We encourage others both to embrace multimodality and to pursue systematic research into those approaches and their outcomes. Instructors could start with introducing multimodal options into formative assessment or into moments of assessment prior to the end of the term, such as for oral presentations or other course projects. This strategy would afford all involved opportunities to experience this new-to-many approach at lower-stakes moments. To scale such approaches for summative assessment in larger courses and across whole departments, instructors might consider offering multimodal options for portions (not necessarily the entirety) of final exams or papers and inviting students to self-assess for what they learned from the experience.

Finally, because we share only three examples, more research is needed to understand the diversity of ways students experience multimodality. The experiences students offer here suggest possible areas of focus for such research, including: ways that multimodality can respond to long-term or temporary disabilities, build on student capacities otherwise not recognized in traditional approaches to assessment, and, encompassing both of those, move toward more equitable approaches to assessment.

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