Available online at www.sciencedirect.com

ScienceDirect

Computers and Composition 52 (2019) 195–209

Computers and Composition

www.elsevier.com/locate/compcom

The Grind of Multimodal Work in Professional Writing Pedagogies☆

Christa Teston*, Brittany Previte, Yanar Hashlamon

The Ohio State University, United States

Available online 26 February 2019

Abstract

Writing in the face of ongoing environmental, economic, and infrastructural flux is hard work. Doing that work while contending with constraints of various modes and media is even more difficult—especially for student writers. Drawing on results from an assessment project that involved iteratively coding students' writing produced for a nonprofit community partner, we propose a feedback model for responding to students' multimodal work that is sensitive to contextual flux. Rather than a static rubric, content in this feedback model draws attention to changing material-discursive conditions. We hypothesize that centralizing material-discursive conditions in multimodal curricula creates opportunities for conversations about more than just design fundamentals. Complex contextual factors that require nuanced rhetorical attunements *à la* Thomas Rickert) and responsiveness to local contingencies present opportunities for discussing and designing in the midst of uneven distribution of resources, variations in skill, and organizational values. A feedback model that is responsive to changing material-discursive conditions may be helpful for those who practice community-engaged pedagogies.

Keywords: feedback; assessment; contingency; ethics; rhetoric; material-discursive

> Students need these things because they will join us as part of an increasingly challenging and difficult world—one plagued by destructive wars and great ill will, marked by poverty and disease, scarred by racism and ecological degradation.
>
> -Selfe (2009)*Cynthia L. Selfe, 2009, p. 645*

> We seek any and all TPC research and pedagogy that embraces perspectives and knowledges that do not necessarily assume an anticultural, Westernized, heteronormative, and patriarchal positionality.
>
> -Jones et al. (2016)*Natasha N. Jones, Kristen R. Moore, & Rebecca Walton, 2016, p. 223*

The judgments we make when responding to students' work reflect who and what we say we want to be. As Brian Huot (2003) argues: "Assessment is the site where we marshal evidence about what we will value globally as a society" (p. 8). What assessment models do we use to evaluate students' work when the things we value invite, if not require a

☆ The Ohio State University's Affordable Learning Exchange provided us with grant money that helped to support this project (including the purchase of qualitative data analysis software, funding for a graduate research assistant, and compensation for study participants).

* Corresponding author at: Department of English, 506 Denney Hall, The Ohio State University, Columbus, OH 43210, United States.
E-mail address: teston.2@osu.edu (C. Teston).

https://doi.org/10.1016/j.compcom.2019.01.007
8755-4615/

paradigm shift? How hard should we cling to the floating buoy that is "assessment" in environments that are saturated with multiple modes, media, and conflicting messages?

More than a decade ago, Cheryl Ball (2006) made a convincing case that "we need better methods and/or reading heuristics" when we teach students how to engage in multimodal work (p. 393). Drawing a distinction between rubrics or heuristics that emphasize "designerly" criteria (e.g. Kress & van Leeuwen's, 2001 three strata: discourse, design production, distribution; Manovich's, 2002 qualifying criteria for new media) versus those that emphasize "readerly" criteria, Ball attends to how the latter allows for sensitivity to unique rhetorical situation(s). In this essay, we align ourselves with Ball in that we agree that heuristics ought to sensitize readers (and designers) to rhetorically-sound criteria for producing and evaluating multimodal work. We build on this argument by foregrounding in students' multimodal work complexities of meeting the needs and concerns of a community partner while negotiating contextual contingencies.

Specifically, the community partner we work with in one of our professional writing courses has limited access to resources, possesses only certain kinds of skills, and embraces specific values; students cannot *but* attend to the iterative ways in which designerly/readerly-related contingencies make possible (and prevent) certain forms of multimodal work. Here, we echo Jody Shipka's (2005) argument that "questions associated with materiality and the delivery, reception, and circulation of texts, objects, and events are no longer viewed as separate from or incidental to the means and methods of production, but as integral parts of invention and production processes" (p. 301). Things and the words, images, and/or sounds used to describe or illustrate them are mutually constitutive.

As a shorthand referent for the complex, co-constructive nature of words and things, throughout this essay, we employ feminist materialists' construct—"material-discursive" (cf. Barad, 2007; Teston, 2018). Material-discursivity informs how we define rhetoric, as well: as an attunement[1] to the co-constructive, perpetually in flux, intra-actions (Barad) between phenomena that are typically regarded as distinct or unrelated to one another. The construct, "material-discursive," helps us to signal the ways students' multimodal deliverables (e.g. flyers, public service announcements, SnapChat filters) both condition and are conditioned by changing contextual factors.

Throughout this essay, we intentionally choose to employ "multimodal work" as our object of analysis—not multimodal design, composition, or writing. We do so in order to draw attention to the material-discursive conditions out of and through which design, composing, and writing labor emerges. Jeff Bezemer and Gunther Kress (2008) attempt to get at such considerations with their social semiotic approach—

> Design is the practice where modes, media, frames, and sites of display on the one hand, and rhetorical purposes, the designer's interests, and the characteristics of the audience on the other are brought into coherence with each other. . .design is the (intermediary) process of giving shape to the interests, purposes, and intentions of the rhetor in relation to the semiotic resources available for realizing/materialising these purposes as apt material, complex signs, texts for the assumed characteristics of a specific audience. (174)

Social semiotic theories of multimodality have been invaluable to the fields of composition, writing studies, and digital media. We stand on such theorists' shoulders. Here, we seek to attend even more granularly to the "intermediary" nature of design, as well as to draw attention to how "resources available for realizing/materialising these purposes" are almost always fortified and/or undermined by a host of contextual contingencies.

The conclusions this article makes are inspired, in part, by results from an internally-executed assessment project, wherein we attempted to capture students' learning experiences and instructors' pedagogical goals in one of our professional writing courses.[2] Along the way, we stumbled upon important insights about how we might be missing the mark when providing feedback to students about their multimodal work. It's beyond the scope of this article to report results from the entirety of the study (although we occasionally allude to community partner interviews). Rather,

[1] We mobilize Thomas Rickert's notion of "attunement" in this essay because it does different work for our argument than if we had said "pay attention to," or "attend to." For Rickert, attunement is a rhetorical practice or disposition that involves "*being with*" and "*being there*" (Rickert, 9). It grants agency to the power of people, places, and things that, ordinarily, might be regarded (if at all) as peripherally associated with the consequences or effects of specific rhetorical situation. Attunement points to the power of environs that bear up and make possible human being. Attuning rhetorically is precisely the kind of practice that we hope our professional writing students will exercise during the semester. Under the rubric of rhetorical attunement, professional writing is always about more than mere authorial intention; it's about discovering ways to co-create multimodal materials that do work in perpetually in flux worlds.

[2] This research was made possible because of funds provided through an Ohio State University Affordable Learning Exchange Grant.

what we focus on here are results that attend explicitly to doing multimodal work in shifting professional writing contexts. Specifically, this article addresses the following question:

> How can and should we assess students' multimodal work produced in professional writing courses—especially when we know that students are preparing to enter composing environments that are diverse, precarious, politicized, racialized, and in constant flux?

The epigraphs at the beginning of this essay foreground where we hope to finally land. We offer up a data-based feedback model for helping students respond (via multimodal design) to spaces and places that, because of changing socioeconomic, geographic, environmental, political (and so on) conditions, are constantly evolving (and devolving, for that matter). We argue that multimodal pedagogies that foreground material-discursive conditions require dynamic feedback models that create conversations with students about the contingent nature of "available means." Our flexible feedback model provided at the end of this essay maps intersections where design fundamentals, rhetorical attunements, and a community partner's contingencies collide and co-mingle. Such a feedback model facilitates pedagogical opportunities for challenging "anticultural, Westernized, heteronormative, and patriarchal positionalities" in professional writing classrooms (Jones, Moore, & Walton, p. 223). Challenging dominant discourses are a part of our programmatic values. We want our assessment practices to reflect those values.

Toward that end, in what follows, we first review extant scholarship on assessing multimodal work. In particular, we highlight ways that more work could be done to understand the role of rhetoric when assessing multimodal work that is intended for multiple publics in a changing world. Contemporary theories of rhetoric point to the ecological contingencies in and through which discourse occurs. We don't believe current assessment practices for evaluating multimodal work wholly account for such theories. We then describe the specific and local conditions from which our research hails, including the assessment challenges that arose in our community-partner oriented professional writing curriculum. Because we hope that our investigative approach might be useful to others, we are careful to detail our methodological decision-making in the body of the essay (rather than in an appendix). After describing our results, we share with readers a coding schema that has been modified into a series of "feedback factors." These 13 feedback factors may help instructors as they seek strategies for generating conversations with students about how their multimodal work responds to communities' unique and localized conditions. Each of the 13 feedback factors are generated from a rich, inductive analyses of student work, community partners' feedback, instructors' experiences, and students' course evaluations. The essay concludes by proposing a flexible feedback model that attends to the nuances of doing rhetorically-informed multimodal work intended for multiple (and perhaps, precarious) publics.[3]

Literature review

Existing scholarship on assessing multimodal work is rooted deeply in composition studies, including scholars' uptake and expansion of new media in writing classrooms. In 1996, Pamela Takayoshi made one of the first calls to link assessment to changes in how writing is multimodally produced – to develop "new lenses" that attend to its instruction (247). Subsequent discussions about assessing multimodal work wisely built on pre-existing models by adding to or modifying print-based assessment models (Zoetewey & Staggers, 2003). Since then, scholars have pushed back against an over-reliance on print conventions in our assessment frameworks (Sorapure, 2006; Yancey, 2004). Along the way, "rhetoric" has been variously mobilized.

The following approaches to understanding and assessing multimodal work demonstrate how rhetoric pervades the literature of multimodal assessment, yet seems to lack cohesion, especially since the field has not emerged linearly. In its snaking path of development, multimodal assessment theories reflect not one evolutionary track; rather, over the last decade, two dominant threads have emerged in the form of a readerly/designerly paradigm.

To attend to the designerly, contextual aspects of composition, instructors have, while insisting on the value of students' accompanying reflections, mobilized assessment models that foreground rhetorical theory. Elizabeth A. Murray, Hailey A. Sheets, and Nicole A. Williams (2010) claim "that a rhetorical approach does encompass the context and the affordances of multimodal projects" (n.p.). While characterizing their model as rhetorically informed, they do so without developing new models for attending to novel designerly aspects of multimodal work. Conversely,

[3] Analyses of our program's formal implementation of this feedback model will be the subject of a future publication.

Cheryl Ball (2006, 2012 contends that assessment must engage with the rhetorical purpose behind textual elements. Ball claims rhetorical theory in her readerly approach, and calls for audience and purpose as focal points in effective multimodal work.

Kathleen Yancey's (2004) and Madeline Sorapure's (2006) respective heuristics each clarify that a designerly approach ought to include rhetorical awareness. Yancey bases her assessment on the assumption that "the point of rhetoric is to bring people together" (90). Yancey's heuristic asks four questions in assessing digital texts as compositions: "What arrangements are possible? Who arranges? What is the intent? What is the fit between the intent and the effect?" (96). Building on Yancey's model, Sorapure posits that rhetorical tropes can address "relations between modes," thereby allowing for assessment of how a multimedia text "coheres and creates meaning" (4). Without departing too far from Yancey's self-reflective, context-oriented style of assessment, Sorapure takes up metaphor and metonymy as her two primary contributions. Sorapure's model more explicitly mobilizes rhetorical theory when assessing multimodal work.

Similarly, in both of Ball's (2006, 2012 models for assessing multimodal work, she emphasizes rhetorical purpose when making design decisions; hence, her argument for interpretative, readerly-based design models. Her 2006 call for rhetorically sound evaluative practice has informed recent work, including Chris Charlton's article on an emergent, rather than outcome-based assessment of multimodal composition. Ball's (2012) heuristic in "Assessing Scholarly Multimedia[4] " builds on Kuhn, Johnson, and Lopez's (2010) framework (67). To this framework, Ball adds students' experiences when, during peer review, they attempted to deploy Kuhn et al.'s criteria. What results is a six-part model that includes: creativity, conceptual core, research/credibility, form/content, audience, and timeliness (Ball, 67–68). Here, Ball adds two major criteria to Kuhn et al.'s (2010) framework via her class's ideas – timeliness (her students' simplification of kairos) and audience. What seems to unite each of these rhetorical approaches to judging multimodal work, even across the readerly/designerly paradigm, is attention to contextual factors if said factors stood still.

Clearly, rhetoric (in various iterations) has been brought to bear on multimodal assessment in composition courses; but what of the more specialized and situated sites for assessment found in community-based, or service-learning courses? Jody Shipka (2011) warns that strict multimodal criteria can limit the modes in which students choose to compose; however, in professional writing, modes are often constrained by pragmatism and questions of applicability to workplace environments. Reflection – a tenet of designerly assessment (Yancey, 2004; Sorapure, 2006; Jody Shipka, 2009, 2011) – is particularly troubled by hyper-pragmatist ideologies in service-learning and professional writing courses (Scott, 2004). Within the scholarship, Ball's readerly-oriented models appear to be well suited to the kind of multimodal work students produce in professional writing courses. However, even in their readerly emphasis, Ball's heuristics do not account fully for fluctuating material-discursive factors upon which multimodal work is contingent.

Lisa Dush has helped to fill this gap. In her 2014 piece, "Building the Capacity of Organizations for Rhetorical Action with New Media," she describes how service-learning scholarship thus far coincides with discussions in composition, that is, by taking up rhetorical awareness in client-based and multimodal curricula. Dush identifies the significance of rhetorical theory over time in community writing projects and course design. She tracks this evolution across Linda Flower (2008), Ellen Cushman (2006), and Jeff Grabill's (2007) scholarship. Flower, Cushman, and Grabill contribute the concepts of local publics, new media praxis, and civic rhetoric in their respective projects (Dush, 12). Mobilizing these concepts, Dush offers readers a rich way to wed rhetoric with multimodal work in service-learning contexts. Dush's model asks students to become functionally competent with technologies *while they also* inhabit a critical perspective toward those same technologies. By asking students to "teach community members new media production skills. . . *in the context of organizations that they are affiliated with*" (emphasis in the original, p. 12), Dush reanimates the ecological nature of rhetoric—a specialized attunement to local, material-discursive conditions—when engaging in multimodal work.

Dush's model demonstrates how professional writing scholars can develop rhetorically sound pedagogies for writing courses that are situated within specialized contexts. Still, more work can be done to draw attention to how fluctuating material-discursive conditions shape community writing projects and, ultimately, affect students' final designs. Such material-discursive contingencies ought to change how we assess their work. Mya Poe argues that our approaches to assessment are entirely too "color-blind" and "homogenizing" (p. 2). Indeed, color-blind, homogenizing approaches to

[4] Subsequently deployed, unmodified, in Santosh Khadka (2018).

assessing multimodal work do a disservice to students who will be tasked with working on behalf of and with diverse audiences under very real political, geographic, socioeconomic, environmental, linguistic, and precarious conditions.

An assessment model that foregrounds material-discursive conditions prepares students for doing difficult rhetorical work in the world. Of course, there are risks associated with steering students too sharply toward the local, material-discursive constraints of one particular community partner or organization. A tendency toward hyper-pragmatism becomes a key concern. J. Blake Scott (2004) warns us about hyper-pragmatism in community-based writing, especially for the ways it positions students as "preprofessionals" (293) who, because they are so focused on becoming a professional writer in the "real world," may not feel permitted (or even inspired) to ask questions about ethical conundrums, workplace cultures, or their role in socially responsible rhetoric and writing practices. Scott's critique warns us of potential pitfalls associated with designerly-oriented reflections, and missing material contexts in readerly-oriented approaches.

Clearly, there is precedence for incorporating rhetoric as a construct upon which multimodal work should be evaluated. There is also a need to regard the boundaries between readerly and designerly approaches as fluid. **How, then, do we craft a rhetorically-sound, generalizable heuristic for teaching and assessing multimodal work if the material-discursive conditions that inform such work are in constant flux?** In what follows, we demonstrate one approach to foregrounding material-discursive conditions in the ways we assess students' multimodal work. The model we finally propose places contemporary theories of rhetoric (cf. Rickert), or an attunement to changing material-discursive conditions, at the center of student feedback see footnote [1]).

Background for study

This article's investigation into assessing students' multimodal work is the result of a broader effort to update professional writing curricula at a large, public, land-grant, research institution.[5] Our self-assessment grew out of not only a desire to complete an internal examination of the curriculum, which, to the best of our knowledge, had not been completed for at least a decade, but also a desire to update the curriculum so that it aligns with contemporary organizations' practices. We hope that updated curricula will better attend to material-discursive conditions that support professional writing, especially in an increasingly precarious and uncertain world.

The following details are important not because we think there is something unique about how we teach multimodal work in our classrooms, but because specific, material-discursive concerns emerged in our pedagogies that may be generalizable to almost all sites of contemporary multimodal work. In the next section, we describe our students' unique and localized learning experiences; out of those experiences emerge several concerns related to the act of producing multimodal work that we feel are important to attend to as a discipline.

Specific, local conditions

A substantial portion of the business and professional writing course we examined is dedicated to a collaborative, community-partner-based project that asks small teams of students to create a tree marketing campaign proposal[6] for "Redacted NonProfit Name" (RNN), a local nonprofit focused on improving environmental health in Redacted City, State. Motivated in part by concerns of environmental justice, RNN is interested in improving tree canopy percentages in economically disadvantaged neighborhoods in and around Redacted City, State. In the past, RNN has had difficulty giving away trees to members of these neighborhoods, despite the fact that they are free.

Students, therefore, investigate what barriers (aside from awareness) RNN has faced in the past (cf. Coogan), and design marketing materials that will enable RNN to promote their free tree campaign. Investigating such barriers has resulted in a series of conversations we don't always get to have with students in professional writing classes. For example, we frequently engage in difficult conversations about race and class—i.e. Why might residents living in "Economically Disadvantaged Neighborhood A" (EDNA) be less likely to request a free tree? Is it because some

[5] Prior to beginning the study, we obtained the necessary approvals required of our Institutional Review Board for performing research with human subjects.

[6] Finalized tree marketing campaign proposals are akin to portfolios in that they represent students' semester-long writing and design efforts, including multiple opportunities to revise in response to peer and instructor feedback.

EDNA residents might not own their home, and therefore might not feel empowered to make decisions about its landscape? Is it because some EDNA landlords aren't as receptive to residents' queries about planting a tree? Is it because some EDNA residents work third shift, therefore making it difficult to even think about picking up and planting a tree during standard business hours? Is it because some EDNA residents rely on public transportation, and picking up a three-foot tree via bus just isn't feasible? Throughout the semester, we consider a number of these barriers, which results in meaningful conversations about intersections between professional writing practices and environmental, socioeconomic, and racialized conditioning factors.

As students catalog and register these macro-level concerns, they simultaneously make decisions about how to craft textual, visual, and sonic materials that enroll community members in RNN's efforts to improve tree canopy statistics in EDNA. Students create flyers, brochures, laptop stickers, public service announcements, radio commercials, social media plans (including mock-ups for sample tweets, Instagram posts, etc.), and many other kinds of multimodal deliverables as part of the tree marketing campaign assignment.

To summarize: By working with RNN on the tree marketing campaign, students have to ensure that decisions about their deliverables' genres and designs are sensitive to race, class, location, and environment. Moreover, the deliverables student teams produce must be executable by RNN, which has very few full-time paid staff, little access to advanced design software, and a lack of confidence in working with social media. What counts as effective multimodal writing in this complex scenario is a moving target.

Let's not forget that students' past experiences and present skills also shape how deliverables emerge throughout the semester. In some sections of the course, students receive explicit instruction in software such as Photoshop and iMovie to prepare them to produce multimodal deliverables, but for the most part students choose the software that they find most useful in order to complete their work.[7] Inevitably, due to past experience and affinities with multimodal design, some teams really excel at and enjoy multimodal work, while others struggle. Instructors help to mitigate this imbalance by incorporating wide ranges of expertise in each student team. To do this, instructors rely on students' self-reports via questionnaire that gauge their past experience with multimodal design techniques and software (see Baepler & Reynolds's discussion about distributing expertise, p. 135). Recognizing that this business and professional writing class is neither a graphic design nor a digital media class,[8] we sought to develop a feedback model for multimodal work that aligns course learning objectives with skills that students need in order to engage in contemporary professional writing practices—practices that are, more often than not, contingent on the local, material conditions of specific organizations and communities.

We hypothesized that such a feedback model would meet not just students' needs, but also our own programmatic needs, given that many of our instructors who teach this class are graduate students who are still familiarizing themselves with this pedagogical terrain, and/or untenured faculty whose expertise is more aligned with creative writing or literature, and/or might not possess the disciplinary terminology for providing feedback on multimodal projects.[9] We also recognize the material conditions under which each of these instructor populations are working; that is, they may not always feel comfortable or institutionally supported when engaging students in complex discussions about representation, inclusivity, socioeconomics, race, and technology in a class that (many assume) is traditionally focused on the formal (and hyper-pragmatist) aspects of memos, letter-writing, and giving presentations. Designing a feedback model that anticipates such material-discursive complexities may help to mitigate some of these localized concerns.

Methods

Following assessment theorists' recommendation to incorporate assessment methods that involve more than quantifiable data, we,

- analyzed 128 students' discursive evaluations,

[7] Such an approach is very much aligned with Shipka's (2005) "Multimodal Task-Based Framework" that prompts students to "assume responsibility" for the "products; operations, processes, or methodologies. . .resources, materials, and technologies. . .and conditions in, under, or with which the final product will be experienced" (p. 287).

[8] See Purdy 2014 for more on what "design thinking" offers writing studies.

[9] For a persuasive argument about the value of standardized rubrics for assessing multimodal work, see Rebecca E. Burnett et al. (2014).

- surveyed 12 of the 26 instructors who have taught the course over the last six years,
- conducted follow-up interviews/focus groups with eight of the above mentioned instructors, and
- surveyed 13 community partners, four of whom agreed to an interview at the time that we write this.

Coding students' multimodal work was a key step in uncovering the strengths and weaknesses of our curricula.[10]

We employed grounded theory tactics for analyzing each of the above datasets. One of us (Author #2) inductively traced recurring patterns in student work from twelve different teams, produced across two separate sections of the course. After this initial pass at student work, two of us (Authors #1 and #2) deliberated about our initial hunches based on this early inductive phase. Initial hunches focused our analytic gaze on multimodal design elements that, across almost all teams' deliverables, seemed to be missing. Initial hunches also encouraged a focus on meaningful, strategic, and/or successful multimodal design decisions across each team's deliverables. After memoing about our initial hunches, we added a third member to our research team (Author #3) and began open coding, in earnest.

Formal open coding of student teams' multimodal work included an inductive examination of twelve different student teams' marketing proposals from three different sections of the course, separated into two rounds of coding: that is, we each coded six teams' marketing proposals in the first round, and another six teams' marketing proposals in a second round. Our goal was to detect design trends, tentatively characterize students' multimodal decision-making, and review how students' textual descriptions of their target audiences, purpose, and contexts aligned with their actual visual/sonic execution of each deliverable. After independently engaging in a period of open coding, we spent approximately eight hours over the course of two months deliberating about our independently-produced emerging codes and trends.

Unit of analysis

While coding students' multimodal work, what we defined as our unit of analysis varied based on the design element we assessed.[11] In some cases, the unit of analysis was what we titled a "component," or a clearly defined part of a specific multimodal deliverable—such as the heading on a flyer, a paragraph of prose on a brochure, or a colorful shape that constituted a contrasting background for a text-based laptop sticker. In other cases, it made more sense to enact a unit of analysis that referenced the overall, or whole multimodal deliverable. For example, as we coded student work, "Audience Awareness" and "Rhetorical Appeals" signaled our response to a team's awareness of audience and rhetorical appeals in specific *parts* of their multimodal design; whereas codes such as "Genre Conventions" and "Concision" signaled our response to a team's entire, or overall deliverable.

Coding schema refinements

Preliminary findings helped us to refine our coding schema. In particular, we needed to ensure that our coding schema accounted for the following trends.

- Differences between student teams' multimodal work in terms of execution of design (and aesthetics);
- A strong showing of originality in students' ideas, even if they weren't necessarily executed in a visually appealing manner;
- Students' lack of attention to accessibility or universal design;
- Students' seeming lack of consideration of representativeness and inclusivity (in terms of both people *and* place);
- Students' success with attending to audiences' needs and expectations vis-a-vis several kinds of rhetorical appeals[12] ; and
- Students' success with working within the constraints of particular genre conventions.

[10] Coding processes also allowed us to refine how we will eventually assess students' work *after* implementing data-based curricular changes.

[11] See Cheryl Geisler (2018) for an excellent overview of the value of segmentation and determining one's unit of analysis when coding.

[12] Our findings are quite different from Michael J. DePalma and Kara P. Alexander (2015), in which they found that students struggled to imagine and invoke an audience.

Because we initially investigated individual multimodal deliverables as they were positioned within teams' whole tree marketing campaign proposals, we also paid close attention to how students wrote about their design rationales within the body of their proposals. This included attention to how, when introducing their final multimodal deliverables to RNN, students mobilized meta-discursive moves in their accompanying print-linguistic prose (akin to Shipka's [2005] "heads up" statements). In particular, we asked, if students wrote that their deliverable accomplished a particular goal or made a particular audience-specific appeal, do we think their multimodal work actually accomplished that goal? Or did the student team have the best of rhetorical intentions, but struggle to execute those intentions for one reason or another (e.g. software constraints; unappealing design aesthetic, etc.)[13] ?

Several rounds of open coding proceeded, which lead to the incorporation of three additional student teams' tree marketing campaign proposals. In total, fifteen student teams' multimodal deliverables were formally coded. Along the way, we iteratively revised our coding schema to reflect the research team's findings. We also dimensionalized each code using a "more/less" scale, employing rather rudimentary symbols: –, -. +, or ++. For example, regarding the code "audience awareness," we coded students' multimodal work as more (+/++) or less (-/–) attentive to the unique needs and expectations of specific audiences. We did this in order to reveal potential correlations between student teams' attunement to one code (e.g. audience awareness) and another code (e.g. accessibility). If we detected trends in how some teams who were, for example, especially attuned to audience awareness might also be especially *un*attuned to accessibility, we saw that as an opportunity to buttress our pedagogical practices so that disability would become more integral to how we understand and teach audience awareness.

As we developed and refined codes for teams' multimodal deliverables, we realized that while some codes worked to assess both the tree marketing campaign proposals' written prose as well as their accompanying multimodal deliverables, the unique visual and sonic content in students' multimodal deliverables occasionally invited slightly different codes, dimensions, and units of analyses. After distilling those slightly different codes, dimensions, and units of analyses in an addendum to our initial coding schema, we finally settled on a list of 13 codes (defined below) for assessing students' multimodal deliverables. Several rounds of selective coding were performed after refining our coding schema so that it explicitly accounted for multimodal work. We can confidently assert that we have reached theoretical saturation. The following coding schema provides a robust set of criteria for assessing students' multimodal deliverables.

A brief caveat: We want to be clear that during our coding processes, we were careful to remind ourselves that what we were engaging in is what some assessment experts might call instructive evaluation—*not grading*.[14] So while we would support readers' decision to employ the codes described below in their own assessment projects, we caution them against using these codes as a formalized rubric for grading student work. To reiterate: these codes and characteristics should help us to have conversations with students about their multimodal work—not render unidirectional, grade-based value judgments about a student's worth.

Inductively-Derived Feedback Factors

As we sought to inductively code teams' multimodal deliverables, we found ourselves making comments about students' designs that were rooted more in intuition than any kind of formalized multimodal assessment rubric. We asked questions similar to those posed by Lee Odell and Susan M. Katz (2009): "How do [we] articulate the basis for [our] intuitions. . .how do [we] assess students' use of visuals. . .how do [we] manage to integrate this sort of assessment with [our] assessment of written work" (198)? We also found ourselves wondering, if we could turn back time, how might we advise the student teams whose work we were now reviewing? Furthermore, how do we answer these questions all the while knowing that students' deliverables exist within a larger ecology of promotional and environmental materials, to say nothing of the wide range of multiple, perhaps conflicting publics who will ultimately engage with such materials[15] ?

Ultimately, we landed at a place where 13 stable codes, or what we henceforth call "feedback factors," accounted for things we mutually agreed that we would comment on when responding to students' multimodal work (Table 1).

[13] Embedded in these questions is an implicit adherence to Bezemer and Kress's (2008) social semiotic approach to examining multimodal composing that draws "attention to the potentials and constraints of the 'stuff' that is being used, to the agency of sign makers and to the significance of all actions in the process of sign making" (171).

[14] See Kenneth Silseth and Øystein Gilje (2017) for more on summative versus formative assessment of multimodal work.

[15] See Nathaniel A. Rivers and Ryan P. Weber (2011) for more on public writing.

Table 1
Feedback Factors, Conversation Generators, and Examples.

Feedback Factors	Conversation Generator	Examples
1. Source Citation Does the multimodal work properly cite or credit its (re)sources?	*"How can we revise this so that the person(s) who created one or more of your images or sounds receives credit?"*	A student team designs a public service announcement about RNN's tree marketing campaign, but they do not include the name of the song or band whose music they used (with permission) in the background.
2. Correctness Is the multimodal work's syntax, grammar, spelling, punctuation, etc. correct?	*"How can we revise this so that audiences don't question your ethos because of this or that error?"*	A student team has at least one or more type(s) of consistent spelling or grammatical errors on their deliverables.
3. Cohesion Does the multimodal work maintain consistency (e.g. slogans, sounds, branding, fonts, color scheme)?	*"I notice how different this part of your design is from that part of your design. Can you tell me more about why that is?"*	A student team designs mockups for RNN's social media campaign, but their hashtags employ variations of the NPO's slogan, #gowiththeRNN #GoWithTheRNN #GoRNN! #LetsGoWithTheRNN
4. Concision Does the multimodal work communicate its message in a way that is concise but also thorough?	*"Tell me more about your experience with trying to strike a balance between being concise but also conveying enough of what you want in order to accomplish your rhetorical goal?"*	A student team designs a flyer on behalf of RNN that describes succinctly and in an attractive, minimalistic way the tree giveaway event; however, they fail to include the address for tree pick-ups.
5. Accessibility Does the multimodal work demonstrate a sensitivity toward universal design principles?	*"How can we revise this so that deaf, hard-of-hearing, blind, and/or audiences whose first language isn't English can access it?"*	A student team designs a powerful public service announcement about RNN's tree marketing campaign, but does not include captions for the voiceover.
6. Audience awareness Does the multimodal work demonstrate designers' awareness of, and intentionally address one or more audiences?	*"Can you help me understand who you had in mind when you made the decision to. . .?"*	A student team designs a flyer about RNN's tree marketing campaign, but the logics informing their design seem to favor neighborhoods whose tree canopy percentages are already quite high, rather than the ones RNN is targeting.
7. Genre conventions Does the multimodal work meet or successfully push back against the design expectations associated with a particular genre?	*"When your audience encounters this [genre], what kinds of things do you think they expect to see, based on their earlier encounters with [genres]?"*	A student team designs a public service announcement modeled after a "Tasty" recipe video, but they don't mobilize enough of the genre's conventions in order to make that detectable.
8. Rhetorical appeals Does the multimodal work demonstrate an understanding of the limits and affordances of certain rhetorical appeals? (e.g. ethos, pathos, logos, figures, metaphors, etc.)	*"Can you help me understand what you hoped to effect or cause when you made the decision to mobilize [example] rhetorical appeal?"* *"I see here that by drawing attention to this statistic, you are employing logos as a rhetorical appeal; how can you leverage logos more persuasively by communicating to the reader the reliability of your source?"*	A student team designs a flyer about RNN's tree marketing campaign, but they rely on an overused seed metaphor to make their case.
9. Aesthetics Design: Is the multimodal work's overall appeal attractive? Assets: Are each of the isolated assets incorporated in the design attractive?	*"Tell me more about your experience with trying to strike a balance between making this look good and making it do the kind of rhetorical work you want it to do."*	A student team teaches themselves Adobe Photoshop in order to create a flyer, but the final product is unattractive. -and/or- The overall design could be attractive, if one or more of the design's assets (sound, image) were of better quality.
10. Representation/Inclusivity Does the multimodal work represent a range of positionalities with regard to people, place, etc.?	*"How can we revise this so that audiences from a particular background or geographic region will feel like you're addressing them, as well?"*	A student team designs an informative flyer about RNN's tree marketing campaign, but all of the people featured in the deliverable are white and from an affluent suburb.

Table 1 (*Continued*)

Feedback Factors	Conversation Generator	Examples
11. Effort Does the multimodal work display a noticeable lack (or abundance) of intellectual and/or design labor?	*"How can we revise this so that your message isn't obscured by what some might interpret as a lack of design effort?"*	A student team tries their hand at Adobe Photoshop for the first time, but produces a flyer about RNN's tree marketing campaign whose appearance does not at all reflect the amount of time they spent on it.
12. Originality Is the multimodal work unique?	*"How can we revise your layout or design so that your message doesn't get ignored because of the design's predictability?"*	A student team designs a flyer about RNN's tree marketing campaign, but it is clear they relied heavily on an oft used template from Microsoft Word.
13. Software skill Does the multimodal work demonstrate facility with features and affordances of a software system?	*"How can I help you with leveraging the affordances of [software system] in order to achieve your goals?"* *"What challenges did you experience when working with [software system]? Was there something you tried to do, but could not?"*	A student team designs a public service announcement about RNN's tree marketing campaign, but they mobilize attention-grabbing features available to them in iMovie at inappropriate times.

Definitions for each feedback factor in the far left hand column appear as if they are simple, yes/no questions; but to facilitate conversation about the rationale students might have about each of these factors, we add a conversation-generating column in the middle of the table. We add this column because of how apparent it became over the course of our analysis that students' multimodal work was affected by fluctuating material-discursive conditions. That is, it wasn't enough simply to critique a team's multimodal work because they failed to include captions for their PSAs. We needed to inquire about why they made the decision not to include such components, which alerted us, for example, to problems in our computer classrooms with the MovieCaptioning software we typically used. In the far right-hand column, we provide examples of the kinds of student work that motivated the development of each of our 13 feedback factors.

Perhaps unsurprising to our readers, feedback factors include comments on: source citations; correctness; cohesion; concision; accessibility; audience awareness; genre conventions; rhetorical appeals; aesthetics; representativeness/inclusivity; effort; originality; software skill. As one of our anonymous reviewers has pointed out, these factors have appeared in previously published lists about how to assess multimodal work. And they might make for a useful rubric. However, grounded theory approaches instruct researchers that analysis does not stop simply because coding is complete. Grounded theorists engage in higher-order conceptualization by devising a unifying, local theory that cuts across and accounts for each of these codes. Rather than this particular list of 13 feedback factors, the unifying theory that our analyses produced is what (we hope) may be a unique contribution to this conversation.

In this project, that unifying theory is: multimodal work is constantly contingent on a wide range of material-discursive conditions. In other words, answers to each of the questions in Table 1 are influenced by extant material-discursive conditions. Material-discursive conditions impinge upon and/or enable students' multimodal labor when writing for community partners. In the next section, we turn our attention more explicitly to those conditions and what this theory means for pedagogical practice.

Moving from Feedback Factors to Contingencies

People, places, and things do not stand still. As many rhetorical theorists have demonstrated, writing is distributed, embodied, enacted, and emergent (Syverson, 1999). The spaces in which we work are in constant flux.[16] As technologies evolve and devolve, so too do organizations grow and shrink, populations move, priorities shift, and environments change. The material-discursive conditions in and through which we work are hardly stable. Shipka (2009) says it best: we "are always already collaborating with things. . .and, so, always working with or against the agency of things" (p. 357). It's just not feasible, then, to provide students with a stabilized list of criteria for doing and critiquing multimodal

[16] See Ellery Sills's (2016) notion of "disruptive ambiguity."

work. If our goal in the classroom is to facilitate opportunities for students to practice rhetorical attunement in response to changing material-discursive conditions, a dynamic feedback model is necessary.

A dynamic feedback model for responding to students' multimodal work should sensitize its users to material-discursive conditions. These may include unexpected events, unreliable infrastructural supports, and, quite simply, change over time. To illustrate, several seemingly unrelated events occured over the course of this study (described in greater detail below). These events ultimately acted as a prism through which each of the above feedback factors in Table 1 could be viewed. In other words, acknowledging as central (rather than peripheral) unanticipated events, material-discursive conditions, and change over time subtly began to shape how we imagined our feedback to students' multimodal work. To understand their effects on our potential feedback, we gave these events and changes an official category: **contingencies.**

Three contingencies, in particular, consistently affected how we imagined providing feedback to the multimodal work students produced for RNN. These included variations in: resources, skills, and values. For example, some student teams designed attractive flyers by teaching themselves Photoshop. However, we learned that RNN was unable to use these flyers because they possess neither the software nor the skills necessary to customize the multimodal work students handed over at the end of the semester (e.g. adding in the specific dates for the tree marketing campaign, the necessary phone number for the volunteer who is willing to drop the trees off, etc.). RNN preferred what we saw as a less aesthetically appealing flyer because it suited their organizational needs without requiring them to purchase and learn a new software system. This example illustrates one way that **resources and skills** condition how multimodal work was both designed and read.

Another example: Several student teams crafted well-organized and perfectly-researched social media content calendars, including quite skillfully designed mockups of tweets, Facebook posts, etc. to use leading up to and after RNN's tree marketing campaign. However, at the time, RNN had only one full time staff member who was not at all confident with using social media and, more than that, had very little time to execute students' robust social media plans. All of this was revealed around the same time that Mark Zuckerberg testified in front of Congress about Facebook's mishandling of data. RNN's unfamiliarity with the complexities of social media, combined with the predatory nature of some social media platforms illustrates one way that variations in **skills and values** condition how multimodal work is both designed and read.

A final example: In one of our interviews, we learned about how one of our community partners struggled with trying to design multimodal materials in ways that convey a sense of openness and inclusivity without over-correcting in anticipation of what might be perceived as discrimination, thereby creating what he described as a "new disparity that did not exist prior to the over-correction." After concluding our interview with this community partner, we reflected on how, while performing audience analyses, students in our professional writing class similarly struggled with designing materials that were representative and inclusive of the communities they hoped to target. Specifically, students grappled with making assumptions about residents living in EDNA—i.e., since a resident may be worried about their own economic instability, they are less like to care about the environment. We spent a good deal of time discussing the relationship between socioeconomic status and environmental effects. Taken together, these related instances illustrate how **resources and values** shape how multimodal work is both designed and read.

Each of the above examples illustrate the important role that contingencies play in multimodal work's design and reading. Contingencies force us to question the fixity of the 13 feedback factors in Table 1. That is, even as the feedback factors in Table 1 highlight how material-discursive conditions shape multimodal work—resources, skills, and values add another complex dimension to each of those conditions. Contingencies ought to affect how we provide feedback to students. Contingencies are not criteria you can plug into a rubric, handout, or linear list. It may be tempting to ignore contingencies and instead proceed with the already difficult job of teaching multimodal work in professional writing contexts. Nevertheless, we hope that our feedback model in the next section supports instructors who are interested in prioritizing contingencies when providing feedback to students' multimodal work.

The Grind of Multimodal Work

What we are proposing is that feedback to students' multimodal work ought to reflect the ways writing in the world is conditioned by material-discursive factors in constant flux. To help facilitate the difficulty of hosting a feedback-rich

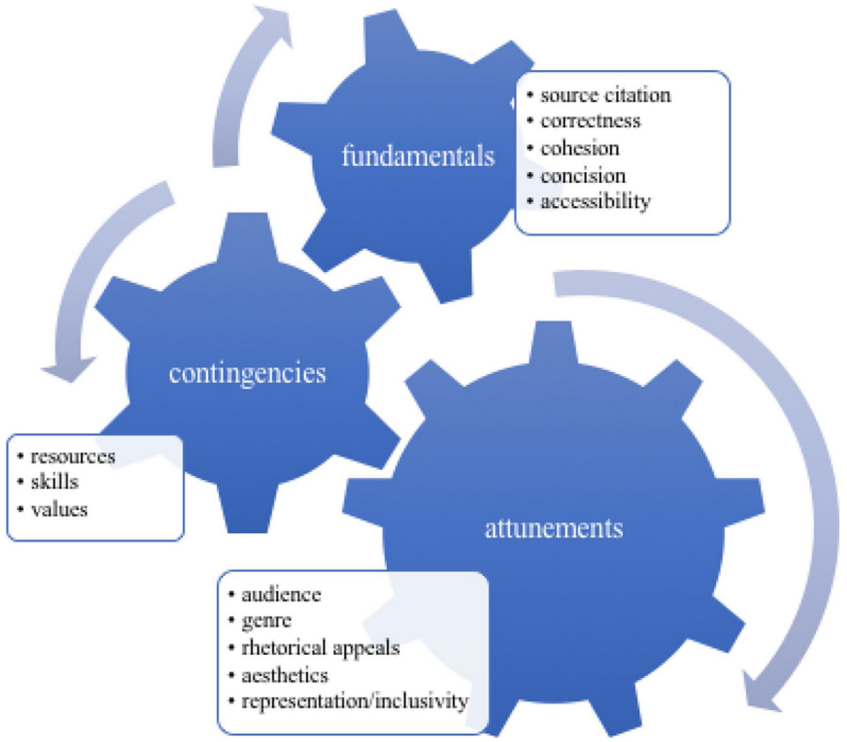

Fig. 1. The grind of practicing multimodal work in professional writing contexts.

classroom environment that is flexible enough to incorporate such contingencies, we have organized a feedback model (see Fig. 1) arranged according to three categories: fundamentals, attunements, and contingencies.

Fundamentals

Fundamentals include feedback factors #1-5 in Table 1: properly citing your sources; proofreading and/or editing mistakes; cohesiveness and/or concision; and ensuring that the deliverable is accessible. Generally speaking, an instructor might provide feedback on fundamentals in the form of asking questions about why such things (e.g. captions; correct spelling; citations) either are or are not present.

Attunements

Attunements include feedback factors #6-10 in Table 1. This feedback category addresses how rhetorically attuned multimodal work is to: audience(s') needs and expectations; genre conventions; (in)effectiveness of specific rhetorical appeals; aesthetics; and representation/inclusivity. Generally speaking, an instructor might provide feedback on attunements by asking questions about why they paid more or less attention to one or more of these feedback factors.

Contingencies

The contingency category includes less static judgments that depend on readers' and designers' skills, resources, and values. Generally speaking, an instructor might provide feedback on the ways contingencies intersect with fundamentals and attunements, and subsequently end up re-shaping multimodal work in ways students might not have anticipated. Feedback factors #11-13 (effort, originality, and software skill) are entirely too contingent on other contextual factors to be able to assert *a priori* how an instructor might provide feedback on such things.

Fig. 1 illustrates how contingencies associated with doing multimodal work—that is, the local resources, skills, and values that make such work possible—inflect how fundamentals and attunements are finally designed and read.

We argue that instructors should foreground material-discursive conditions by drawing students' attention to (if not making it *the very center of our pedagogy*) the intra-action between fundamentals, attunements, and contingencies. So, in practice, the model in Fig. 1 might help instructors provide written or verbal feedback during conferences, class discussion, and/or peer review activities. Answers to questions about students' varying attunements to audience, for example, might rely on how they conceived of their primary or secondary audiences' values.

As we described at the outset of this essay, after conducting a thorough analysis of primary and secondary target audiences living in EDNA, one student team discovered that many residents (a) do not own their homes, and (b) rely on public transportation. Here, attuning to audience(s) grinds against or creates friction with contingencies—specifically, resources. In-class conversations that emerged in response to such friction resulted in a redesigned grocery cart advertisement that emphasized two things: (1) a three-step process for starting a conversation with a landlord about the tree giveaway, and (2) that RNN had partnered with a service-oriented sorority that would conduct free tree drop-offs on Earth Day. These revisions ultimately required additional conversations about fundamentals—in particular, concision—since a 7.5 × 11.5 inch shopping cart sign can only contain so much information; and yet, the student team needed to achieve two distinct communicative goals in order to navigate the contingencies associated with this unique rhetorical situation.

Attention to how contingencies such as resources, skills, and values shape multimodal work provides instructors with an opportunity to engage students in the kind of conversations Scott (2004) asks us to engage in regarding "ethical critique and civic engagement" (289). For example, the **resources** contingency described in the previous section could facilitate conversations with students about EDNA's gentrification, proprietary and/or open-source software, and coding as a form of economic capital. The **skills** contingency in the previous section could enable conversations about ethics and privacy issues associated with social media platforms. The **values** contingency in the previous section presents students with an opportunity to get honest about how their multimodal work makes more or less visible the complex experiences of minority populations and communities. By drawing attention to the ways that criteria for doing multimodal work are conditioned by contingencies such as resources, skills, and values, we can simultaneously engage in ethical critique, civic engagement, *and* preparation for extra-curricular experiences that shape professional writing practices. In other words, we don't have to sacrifice cultural and ethical critique at the altar of career preparation. Foregrounding rhetoric, or material-discursive conditions, when teaching and assessing multimodal work can, in fact, foster rich curricular experiences.

We hypothesize that learning happens in the grind. Learning happens in the in-between spaces that press against one another in ways that make movement possible, but also in ways that can cause friction (if not inertia). The value of rhetoric when producing multimodal work is located in the interstices, or the powdery residue that results when moving objects collide, co-mingle, or coerce. Intra-actions between fundamentals, attunements, and contingencies force us to reconcile the irreconcilable. Rhetoric puts in motion what are otherwise discrete, static, evaluative criteria.

A feedback model that foregrounds contingencies captures student learning as it happens in the grind; as they weigh risks associated with attuning in a particular way based on their understanding of specific communities' skills, resources, and/or values. The grind of multimodal work in professional writing contexts forces us to have frank, if not difficult conversations about how technologies, genre conventions, cultures, and location-specific concerns impinge on (or bolster, as the case may be) one another. Here, ethical considerations about access, race, and linguistic diversity, for example, are placed at the forefront of community-engaged, professional writing pedagogies. This is a markedly different approach to discussing ethics in professional writing. Such considerations cannot be parsed into free-standing units or modules tacked onto a syllabus. Foregrounding material-discursive conditions organically integrates into our classrooms the very real consequences and concerns experienced and had by actual human communities.

While inductively derived from our own local data points, the dynamic feedback model we propose in Fig. 1 builds on Kelli Cargile Cook's (2002) assertion about the importance of honing "layered literacies." Specifically, she argues that "workplace writers need a repertoire of complex and interrelated skills to be successful" (p. 7); these include "rhetorical, social, technological, ethical, and critical skills" (Turnley, 2007, p. 104). Thus far, our sense is, based on interviews with community partners, that Cook is correct: writers will, in fact, be expected to possess a repertoire of "layered literacies." We hope that our model demonstrates the ways Cook's "layered literacies" proposition is made all the more robust by including contextual contingencies.

As Poe argues, "contextualization is the hallmark of contemporary writing assessment," and when we don't execute assessments "within contextualized frameworks. . .we are likely to perpetuate social inequalities" (p. 15). Jones et al. (2016) similarly argue for attention to contexts in community-based professional writing curricula: "when students

expand their audiences to include local communities, learning opportunities regarding ethics and diversity are also expanded" (p. 217). We join Jones et al.'s call to recalibrate our pedagogies so that they account for the grind—the grind of doing and assessing multimodal work, especially for the ways markers of living together in human communities condition such work.

Acknowledgments

We are grateful to Alexis Duffy for her weekly check-ins and helpful feedback throughout this project.

Christa Teston is Associate Professor of English at The Ohio State University. She studies how humans navigate uncertainty in technoscientific, biomedical, and media-rich domains. Her first book—*Bodies in Flux: Scientific Methods for Negotiating Medical Uncertainty* (University of Chicago Press)—was awarded 2019's "Best Book in Technical or Scientific Communication" by the National Council of Teachers of English's Technical and Scientific Communication Committee. Christa coedits the "New Directions in Rhetoric and Materiality" book series (The Ohio State University Press). Her work has also appeared in *Rhetoric Society Quarterly, Journal of Medical Humanities, Technical Communication Quarterly, and Written Communication*.

Brittany Previte is a higher education professional interested in helping students connect their interests to rewarding careers through her experience in writing, technology, and program administration. She earned her Master of Arts in English at The Ohio State University, where she taught first-year composition courses, piloting a curriculum integrated with iPads. Her research has focused on multimodality and digital pedagogies in writing centers and the classroom.

Yanar Hashlamon is currently an MA/PhD student at The Ohio State University. He researches professional and technical writing through the lenses of curriculum and disability studies, examining the neoliberal market logics inculcated in ableist pedagogies to articulate critical anti-capitalist alternatives. Yanar also researches the evidence-based practices of writing center work. He is currently a graduate co-editor of *The Peer Review*, and has published work in *Praxis: A Writing Center Journal*.

References

Baepler, Paul, & Reynolds, Thomas. (2014). The digital manifesto: Engaging student writers with digital video assignments. *Computers and Composition*, *34*, 122–136.

Ball, Cheryl E. (2006). Designerly ≠ readerly: Re-assessing multimodal and new media rubrics for use in writing studies. *Convergence*, *12*(4), 393–412.

Ball, Cheryl. (2012). Assessing scholarly multimedia: A rhetorical genre studies approach. *Technical Communication Quarterly*, *21*(1), 61–77.

Barad, Karen. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Duke University Press.

Bezemer, Jeff, & Kress, Gunther. (2008). Writing in multimodal texts: A social semiotic account of designs for learning. *Written Communication*, *25*(2), 166–195.

Burnett, Rebecca E., Andy, Frazee, Kathleen, Hanggi, & Amanda, Madden. (2014). A programmatic ecology of assessment: Using a common rubric to evaluate multimodal processes and artifacts. *Computers and Composition*, *31*, 53–66.

Charlton, Colin. (2014). The weight of curious space: Rhetorical events, hackerspace, and emergent multimodal assessment. *Computers and Composition*, *31*, 29–42.

Coogan, David. (2006). Service learning and social change: The case for materialist rhetoric. *College Composition and Communication*, *57*(4), 667–693.

Cook, Kelli C. (2002). Layered literacies: A theoretical frame for technical communication pedagogy. *Technical Communication Quarterly*, *11*(1), 5–29.

Cushman, Ellen. (2006). Toward a praxis of new media: The Allotment Period in Cherokee history. *Reflections*, *5*(1–2), 111–132.

DePalma, Michael J., & Alexander, Kara P. (2015). A bag full of snakes: Negotiating the challenges of multimodal composition. *Computers and Composition*, *37*, 182–200.

Dush, Lisa. (2014). Building the capacity of organizations for rhetorical action with new media: An approach to service learning. *Computers and Composition*, *34*, 11–22.

Flower, Linda. (2008). *Community literacy and the rhetoric of public engagement*. Carbondale, IL: Southern Illinois University Press.

Geisler, Cheryl. (2018). Coding for language complexity: The interplay among methodological commitments, tools, and workflow in writing research. *Written Communication*, *35*(2), 215–249.

Grabill Jeffrey, T. (2007). *Writing community change: Designing technologies for citizen action*. Cresskill, NJ: Hampton Press.

Huot, Brian. (2003). *Rearticulating writing assessment for teaching and learning*. University Press of Colorado.

Jones, Natasha N., Moore, Kristen R., & Walton, Rebecca. (2016). Disrupting the past to disrupt the future: An antenarrative of technical communication. *Technical Communication Quarterly*, *25*(4), 211–229.

Khadka, Santosh. (2018). A broad-based multiliteracies theory and praxis for a diverse writing classroom. *Computers and Composition*, *47*, 93–110.

Kress, Gunther R., & Van Leeuwen, Theo. (2001). *Multimodal discourse: The modes and media of contemporary communication*. London: Arnold.

Kuhn, Virginia, Johnson, D. J., & Lopez, David. (2010). Speaking with students: Profiles in digital pedagogy. *Kairos: A Journal of Rhetoric, Technology and Pedagogy*, *14.2*.

Manovich, Lev. (2002). *The language of new media*. Cambridge, Mass: MIT Press.

Murray, Elizabeth A., Sheets, Hailey A., & Williams, Nicole A. (2010). The new work of assessment: Evaluating multimodal compositions. *Computers and Composition Online*, 67–110. Available at. http://www2.bgsu.edu/departments/english/cconline/murray_etal/index.html

Odell, Lee, & Katz, Susan M. (2009). Ÿes, a T-Shirt!¨ Assessing visual composition in the Ẅriting Class.¨ *College Composition and Communication*, *61*(1), W197.

Poe, Mya. (2013). Making digital writing assessment fair for diverse writers. In D. DeVoss, & H. McKee (Eds.), *Digital writing assessment and evaluation*. Logan, UT: Utah State UP (Computers and Composition Digital Press). Available at. http://www.digitalwriting.org/dwae/01_poe.html

Rickert, Thomas. (2013). *Ambient rhetoric: The attunements of rhetorical being*. Pittsburgh, PA: University of Pittsburgh Press.

Rivers, Nathaniel A., & Weber, Ryan P. (2011). Ecological, pedagogical, public rhetoric. *College Composition and Communication*, *63*(2), 187–218.

Scott, J. Blake. (2004). Rearticulating civic engagement through cultural studies and service-learning. *Technical Communication Quarterly*, *13*(3), 289–306.

Selfe, Cynthia L. (2009). The movement of air, the breath of meaning: Aurality and multimodal composing. *College Composition and Communication*, *60*(4), 616–663.

Shipka, Jody. (2005). A multimodal task-based framework for composing. *College Composition and Communication*, *57*(2), 277–306.

Shipka, Jody. (2009). Negotiating rhetorical, material, methodological, and technological difference: Evaluating multimodal designs. *College Composition and Communication*, *6*(1), W343–366.

Shipka, Jody. (2011). *Toward a composition made whole*. Pittsburgh, PA: University of Pittsburgh Press.

Sills, Ellery. (2016). Multimodal assessment as disciplinary sense making: Beyond rubrics to framework. *The Journal of Writing Assessment*, *9*(2), n.p.

Silseth, Kenneth, & Gilje, Øystein. (2017). Multimodal composition and assessment: A sociocultural perspective. *Assessment in Education: Principles, Policy & Practice*, 1–17.

Sorapure, Madeleine. (2006). Between modes: Assessing student new media compositions. *Kairos*, *10*(2).

Syverson, Margaret A. (1999). *The wealth of reality: An ecology of composition*. SIU Press.

Takayoshi, Pamela. (1996). The shape of electronic writing: Evaluating and assessing computer- assisted writing processes and products. *Computers and Composition*, *13*(2), 245–257.

Teston, Christa. (2018). *Bodies in flux*. Chicago, IL: University of Chicago Press.

Turnley, Melinda. (2007). Integrating critical approaches to technology and service-learning projects. *Technical Communication Quarterly*, *16*(1), 103–123.

Yancey, Kathleen B. (2004). Looking for sources of coherence in a fragmented world: Notes toward a new assessment design. *Computers and Composition*, *21*(1), 89–102.

Zoetewey, Meredith W., & Staggers, Julie. (2003). Beyond "current–traditional" design: Assessing rhetoric in new media. *Issues in Writing*, *13*(2), 133–157.