

Multimodal Rhetorics in the Disciplines: Available Means of Persuasion in an Undergraduate Architecture Studio

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Abstract: Recent initiatives in WAC/WID and CxC/CAC programs have emphasized the need to support multimodal composing in writing studies and in other academic disciplines. This ethnographic case study examines the academic multimodal composing practices of undergraduate students in the visually-based discipline of architecture. The results of this study reveal how multimodal rhetorics operate in the context of studio culture in ways that are strikingly different from some commonly used multimodal composing strategies in writing studies. Comparing the findings of this study with interdisciplinary research on multimodal literacy, this article demonstrates how discipline-specific values shape the ways that verbal and non-verbal modes are combined to make persuasive multimodal arguments for expert and non-expert audiences.

The gallery exhibit space was crammed: Architectural projects were pinned to the walls and display boards, strewn on the floor, and even hung from the ceiling to make use of every inch of space for the midterm review. While their undergraduate peers and a handful of visitors looked on, 49 first-year architecture students presented their work-in-progress to practicing architects and design studio professors. Each student, in turn, stood alone before a panel of these professional critics, also known as jurors. For four-and-a-half hours, the novice architects battled fatigue and raw nerves as they each struggled to articulate *verbally* the design arguments that their drawings, sketches, diagrams, paintings, photographs, and models attempted to convey. After this brief oral presentation of the project, the critics discussed each student's work and asked pointed questions that required the students to think on their feet. From an outsider's perspective, the critics' responses to the first-year architects' partially completed, semester-long studio projects could be baffling. Why did the critics dismiss one student's meticulously detailed drawing as "busy work," while they praised another's indecipherable diagram as "useful"? Why did an entire panel of critics collectively nod their approval when a student answered a question about his *drawing* by mutely gesturing toward his *model*, which lay several feet away on the floor? Why was another student's detailed narrative explanation of the visual metaphor that guided his design process sharply criticized as "arbitrary"?

Observers unfamiliar with architectural education might find the critics' comments harsh and the students' oral presentations inarticulate. This reaction is understandable. As John Eliason and Thomas Schrand (2010) have argued, the "oral and public" nature of design critique creates a very different "response culture" than the "written and private" feedback that writing instructors typically provide for their students (p. 24). One example of this cross-cultural communication breakdown in academia attracted national attention in *The Chronicle of Higher Education* when Norman Weinstein

Across the Disciplines

A Journal of Language, Learning and Academic Writing

DOI: <https://doi.org/10.37514/ATD-J.2013.10.2.04>

wac.colostate.edu/atd

ISSN 554-8244

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(2008) reflected on his experience as a creative writer observing an ivy-league architecture review. He interpreted the graduate students' half-completed sentences and pointing gestures as evidence of their inability to communicate in the face of "vigorous grilling" from their professors (p. B21). Frustrated by this encounter, Weinstein proposed that architects receive instruction in "artful writing" to animate their "viscerally dead" technical writing, and he advised them to "commit the rationale for their architecture to paper" in lieu of "fumbling" extemporaneous explanations (p. B21). I agree with Weinstein that writing is important in architectural education, especially in the context of the expert-to-client communication that Weinstein emphasized in his remarks. However, as a participant-observer researcher in architecture studio classes, I question Weinstein's interpretation of the studio critique he witnessed and, therefore, his recommended solution. Weinstein's scathing editorial rests on the assumption that "an architect's job is to translate architecture to nonarchitects through the spoken and written word" (p. B21)—clearly a limited notion of the profession. But it is not my purpose here to refute Weinstein's claims about what is missing from architectural education. Rather, I argue that his public expression of bewilderment, which repeats the age-old "students can't write" refrain, exposes a much deeper issue: We do not know enough about the rhetorical functions of multimodal texts and performances in disciplinary contexts.

In this article, I argue that architecture studios are a site of multimodal rhetorical education, despite the fact that neither *multimodality* nor *rhetoric* is a term that the architects themselves use in design studio pedagogy. In the sections that follow, I describe and analyze everyday architecture studio practices in order to make visible the tacit rhetorical knowledge that determines the success or failure of high-stakes design studio critiques. I begin by explaining my research context and the ethnographic nature of my study. To contextualize my study, I review interdisciplinary, international studies of the design critique and describe my own research questions and methods. Departing from the traditional IMRAD (Introduction Methods Results and Discussion) structure of many research-based articles, I then weave empirical observations, the participants' own words, and my analysis of this data with discussions of related literature from a variety of disciplinary perspectives in an ethnographic narrative.

To familiarize readers with studio culture, I first define the design critique as a multimodal rhetorical performance in order to demonstrate commonly held values and fundamental differences between architecture and other academic disciplines. With these cross-disciplinary relationships in mind, I briefly trace the development of academic multimodality in writing studies^[4] and sketch the shift from multimodal literacies to multimodal rhetorics in the academy. I then return to the world of the architecture studio to present a more detailed ethnographic case study that illuminates the discipline-specific multimodal rhetorics embedded in design studio pedagogy. To discuss the implications of supporting academic multimodal composing practices that are governed by distinctly different rhetorical values, such as those that architects embody, I review recent efforts by WAC/WID (Writing Across the Curriculum/Writing in the Disciplines) and CxC/CAC (Communication Across the Curriculum) programs to engage with multimodal composing in higher education. I conclude by considering how ethnographic inquiry into the rhetorical practices of diverse disciplinary cultures can help us to build on what we have learned from the WAC/WID movement, translating what we know about print-based academic writing to address the challenges of developing students' academic multimodal composing.

By investigating the multimodal practices of strikingly different disciplines with an ethnographic and a rhetorical lens, I argue that we can all become more conscious of our own assumptions about multimodal composing. Deepening our understanding of how disciplinary cultures govern rhetorical choices in academic discourse will enrich our interdisciplinary conversations. As Susan Orr, Margo Blythman, and Joan Mullin warned the readers of this journal in the 2005 special issue on Visual WAC,

"We need to remember that many of us are strongly word-based in our own approaches. ... Even those of us doing work in visuality and writing may be actually reinforcing static ways of thinking about texts and their production" (Applications section). In Aristotle's terms, architects, for example, have developed their own "available means of persuasion" (*Rhetoric*, trans. 1924, 1.2.1)—preferred ways of inventing, arranging, and delivering multimodal arguments that may seem strange to those of us who come from verbally-based disciplinary cultures. In this ethnographic case study, I tell a cautionary tale that challenges the unexamined assumption that the model of multimodal composing for a public audience, which is often invoked in writing studies, will translate to some generalized academic audience. I argue that a more nuanced understanding of multimodal rhetorics in the disciplines can inform our interpretations of unfamiliar communication strategies and clarify our approaches to teaching and supporting academic multimodal composing.

Research Context

I chose ethnography as my research methodology not only because my discipline, writing studies, has a well-established tradition of ethnographic inquiry into literacy practices, but also because architects describe themselves as inhabiting a "different world" than the rest of the university. Like other performance-based disciplines such as art, music, and dance, architecture's studio classrooms are functional workspaces that only disciplinary insiders inhabit. Student architects spend most of their waking hours (and often their precious few sleeping hours) in their studios, interacting with other architects at various stages of development.^[2] Ethnographic inquiry values an in-depth look at the everyday practices and multiple perspectives of participants situated in a particular community, rather than a statistically representative sample or a controlled experiment with generalizable results. Writing studies ethnographer Beverly Moss (1992) defined the goal of ethnography as constructing a "comprehensive view" of a community's culture that synthesizes both the researcher's and the participants' perspectives "so that an outsider sees it as a native would and so that the community studied can be compared to other communities. Only through such careful comparisons can researchers start to develop a global picture of cultural groups" (p. 155). My purpose, therefore, is to offer what ethnographers call a "thick description" (Moss, 1992, p. 157) of a community of practice in order to make the cultural values and routine patterns of both insiders and outsiders more apparent.

As a result of my ethnographic research in undergraduate architecture studios, I have learned to read architects' student-professional exchanges through the disciplinary lens of studio culture. Student architects are treated as contributing members of a larger professional community. Their emerging professional identities are shaped by the studio culture of a specific educational community. Studio culture—the climate created by design studio pedagogy and critique practices—is an important concept in architectural education. A written policy defining an architecture program's studio culture has been a condition for accreditation by the National Architectural Accrediting Board [NAAB] in the United States for nearly a decade (see American Institute of Architecture Students [AIAS], 2008; Koch, Schewenksen, Dutton, & Smith, 2002). The design critique has long been the topic of international scholarly inquiry in such disciplines as linguistics, technical communication, and architecture itself. Many of these studies have focused on discourse analysis, treating the critique as a primarily oral communication genre (Anthony, 1987, 2012; Medway, 2002; Melles, 2008; Swales, Barks, Ostermann, & Simpson, 2001). Other researchers have analyzed both discursive and non-discursive aspects of architectural critiques as ritual displays of power (Webster, 2006) and of socialization into professional practice (Morton, 2012). Keith Murphy, Jonas Ivarsson, and Gustave Lymer (2012) analyzed critics' multimodal discourse as both a socialization tool and a pedagogical strategy; however, they located students' arguments in verbal language: "Initial [oral] presentations usually

involve persuasive and rhetorical components in which the students attempt to convince the audience that their design proposal is an ideal solution by reasoning through the choices they have made and highlighting the project's strongest points" (p. 532). In contrast, my ethnographic study of undergraduate architectural education frames the design critique as a multimodal performance and foregrounds the importance of studio culture in determining the effectiveness of the rhetorical strategies used.

The specific architectural community that I studied was a five-year undergraduate Bachelor of Architecture program at a mid-Atlantic research university. My research design was approved by an Institutional Review Board, and the informed consent process specified that I use pseudonyms to protect the identities of the participants. During one semester of participant-observation in studio classes, I collected qualitative data in the form of written fieldnotes, digital audio recordings, original photographs, multimodal artifacts, and participant interviews. My interactions with the studio professors and students included participating in "desk crits" (analogous to teacher-student conferences), "pin-ups" (analogous to whole-class peer reviews), and "crits" (also called design critiques, juries, or formal reviews). This article focuses primarily on the first-year studio cohort: 48 participating students,^[3] their 4 studio professors, and the 21 participating professional critics who evaluated their first-year studio work throughout their second semester of study. In addition to analyzing the exchanges among students, faculty, and critics during the design critiques, I discuss the studio class activities that were explicitly designed to prepare novice architecture students for their "crits" and the perspectives on the critique process that participants shared in class and during interviews.

The scenarios that Eliason and Schrand (2010) described in their study of design critiques closely resemble the critiques that I observed. In architectural education, crits can take a variety of forms ranging from silent juries, where no one except the invited critics may speak, to open reviews that invite participation from anyone who is present. Typically, though, the structure of the crit involves the display of visual artifacts (such as drawings, diagrams, and models), an oral presentation by the student architect, an oral evaluation of the project by the critics seated in the first row, and a question and answer period where the critics ask the student to elaborate on specific aspects of the project. The studio professor may then ask the members of the studio class sitting or standing behind the critics to contribute to the discussion of the student's work. Visitors, including students from other studios, friends, and family members, do not usually participate in the critique unless they are explicitly invited to do so. Studio professors are intimately acquainted with the development of the students' work throughout the semester. However, the professional critics have varying degrees of familiarity with the studio context, the requirements and constraints of the semester-long design assignment, or the students themselves. In the institutional context of my study, the invited critics included faculty members teaching other courses in the university's architecture department, design faculty from other institutions, and practicing architects not affiliated with the university who had expertise in specific areas related to the students' projects.

Initially, my research questions were broad: What literacy practices are expected and taught in studio courses, as opposed to the more familiar architecture history and theory courses that emphasize reading and writing traditional print texts? What is the relationship between verbal and visual literacies in the disciplinary culture of architecture versus in writing studies? Rhetoric quickly emerged as a focus when I observed architecture students and faculty referring to their work as "design arguments" and discussing their "studio ethos," the term they used to describe the attitudes and behaviors essential to an architect's professional identity. As I considered the relationship between multimodality and rhetoric in architecture studios, new questions emerged: What counts as a mode in architecture? How, when, and why do architects use multiple modes? How do architects

learn to deploy multiple literacies to make effective multimodal arguments for the rhetorical situations they encounter in their professional practices?

The Crit as a Multimodal Rhetorical Performance

In the context of a studio course, architects' multimodal texts and performances must be interpreted as rhetorically effective (or not) based on values and expectations that do not necessarily correspond to those found in the typical college writing classroom. For example, although architecture reviews are high-stakes performances that affect summative evaluations, the critics' feedback and the students' review experiences are always viewed as formative. The professional critiques the first-year students received in the mid-semester review (which I described in the opening paragraph of this article) were intended, in the architects' words, to "provoke" the students to "advance the projects" through six more weeks of intensive, iterative development before they faced another jury for the final review of the first-year studio course. Conferring among themselves after the mid-review, Will, Perry, Ted, and Aman, the four studio professors who team-taught the first-year studio, noted that the students' architectural drawings were the weakest link in the students' presentations. As such, they received little attention from the critics. Perry commented, "With the drawings it was 'That just doesn't work.' There was not much else to say."

Typically, the critics would simply point out the deficiency of a drawing and move on to discuss another aspect of the project that showed greater potential. Often, the discussion centered on what was *not* presented. Even though critic Phil praised Mickey's drawings as "seductive" and "satisfying" compared to those of his first-year student peers, Phil told him, "The *real* drawing we want to see is a *section*"—that is, a slice or cross-section, like the view of a dollhouse with a wall removed. In conventional architectural drawings, sections are used to investigate and express the relationships among spaces, including how materials join or interact. Phil's brief comment gave Mickey a clear goal for developing his project: "It's the relationship between these two surfaces, the tension between those two ... [that] is incredibly fascinating." In their concluding comments, critic after critic expressed disappointment with the students' drawings. The critics seemed to be impervious to the time and effort the students had expended to create drawings in time for the midterm review. But as Will explained to the students, "The crit was not supposed to be a frivolous, fluffy bunny moment. If you were ripped apart, first of all, it wasn't *you*, it was your *project*, and secondly, good for you." Ted agreed: "They were not attacking you personally. All the projects had good and bad points. That's why we have crits. You have a chance to change the trajectory of your project now."

For architects, steering a project to develop an argument involves intense engagement with a combination of visual modes (such as diagrams, drawings, and models) and verbal modes (such as written descriptions and oral discussions). The design argument is refined through a series of multimodal presentations. As Will explained to the first-years, critics are not expected to agree, and students must "stand by [their] ideas" (literally and figuratively) without becoming "defensive." To perform well enough to remain in the five-year professional program, first-year architecture students must develop discipline-specific rhetorical strategies quickly—by painful trial and error and by reflective imitation. To succeed as architects, they need to embrace and practice the available means for making multimodal arguments within their own disciplinary culture. In other words, a mode or strategy that is not aligned with studio culture or with disciplinary values—such as the wrong kind of drawing or a verbal explanation that should not have been necessary—is disregarded by the audience of critics and becomes unavailable as a persuasive tool for making the design argument.

These students are unlikely to find their first-year writing courses adequate preparation for such a complex rhetorical task. In fact, in their architecture classes, they may find it counterproductive to deploy the multimodal communication strategies they are taught elsewhere in the university. For example, in a first-year writing class, a student may be rewarded for raising a counterargument and then vigorously refuting it by juxtaposing strong words with startling images. (See, for example, the case study in Duffelmeyer & Ellertson, 2005.) In the context of a design critique performance, however, this behavior would be seen as a weakness in the student's argument, not as a strength. First-year writing courses are built on the assumption that what students learn about the rhetorical nature of the writing process will prepare them to be successful in other disciplinary contexts. As Jason Palmeri (2012) has recently argued, "By organizing our [writing] courses around concerns of rhetoric and process that can potentially apply across modalities, we may be able to help students develop transferable composing skills" (p. 49). Indeed, the very notion of writing instruction as a WAC/WID project seeks to maintain a delicate balance between distinct disciplinary differences in writing practices and the act of writing as a unifying concept that makes the transfer of knowledge possible.

Writing studies scholarship has long wrestled with the pedagogical goal of transfer of knowledge about writing from composition classes to new contexts, often promoting a metacognitive approach that foregrounds rhetorical strategies.¹⁴ David Russell and Arturo Yañez (2003) explored the tension between writing instruction in general education courses and discipline-specific expectations about "genres and genre rules [that are] central to [one's] professional ethos and identity" (p. 349). To be successful in adapting to new contexts both within and outside of the academy, Russell and Yañez argued, students "must not only learn new ways of writing but also learn to ignore what they have learned about writing elsewhere" (p. 358). When we expand the definition of writing to include multimodal composition, this problem is magnified by the competing values that disciplinary cultures ascribe to various modes. In his study of oral arguments in design critiques, Peter Medway (2000) found that "the main rhetoric in which architecture students are involved is the [visual] rhetoric of the architecture itself. The verbal rhetoric and argumentation of crits is a means of becoming more conscious of that primary rhetorical process" (Medway, 2000, p. 28). Similarly, my research demonstrates that the rhetorical contexts of verbally-based and visually-based disciplines can be radically different. Disciplinary contexts can be so different that, even if metacognitive, transfer-based pedagogy were successful, the unintended consequences for academic multimodal composition could be *negative* transfer: the misapplication of prior knowledge to a disciplinary context founded on different rhetorical values regulating the relationships among verbal, visual, and other modes.

For students and faculty alike, the relationship between verbally-based writing and visually-based design courses is not self-evident. Orr, Blythman, and Mullin (2005) demonstrated that art and design students describe their writing process in negative terms and their design process in positive terms, failing to see a useful connection between them. As Michael Carter (2007) observed, "The preponderance of nonwritten performances in art and design and similar programs may seem removed from WID" (p. 406). Carter argued that WID's "roots lie in rhetoric" (p. 387)—a perspective that I share. Drawing on North American genre theory, Carter identified four "metadisciplines" that operate in his institutional context, based on "common ways of knowing, doing, and writing" (p. 394): the "metagenres" of problem-solving, empirical inquiry, research from sources, and performance (p. 400). Significantly, Carter included both architecture and "writing, rhetoric and language" in the performance metadiscipline category (p. 406). I do not find this surprising. The first-year architecture studio syllabus that Will and his colleagues developed articulates a direct connection between the sequence of assignments that comprised the semester-long studio project and the

department's core values, which define architecture as a "situated," "material," "social," "design-based," and "collaborative" practice. This list is strikingly similar to the values we hold in writing studies. Yet the available means for expressing those common values in a persuasive multimodal text or performance are fundamentally different.

The strongest link that Carter (2007) noticed between architecture and writing studies is the design critique, which he characterized as a "language-based genre" because it involves oral communication (p. 406). Carter claimed that the critique is "an 'invisible' genre" because "there is typically little to no formal instruction and evaluation of the critique itself" (p. 407). This claim emerged from Carter's analysis of outcomes-based assessment plans, committee meeting notes, and personal conversations with colleagues (p. 400). Carter envisioned a collaborative WID/CAC intervention that could "make the [design critique] genre more visible, subject to productive instruction and evaluation" (p. 408). Carter acknowledged that "we need to be able to conceptualize writing in the disciplines in a way that is grounded in the disciplines themselves, a viable alternative to an understanding of writing as universally generalizable" (p. 387). Yet he inadvertently rendered the design critique "invisible" to himself and to his writing studies audience by relying solely on research methods, analytical terms, and a theoretical lens that privilege writing as a verbal mode. My ethnographic research findings simply do not support Carter's assertions that the critique is *based* in verbal language, or that students are not taught how to perform effectively in a critique, or that the critique itself is not evaluated as part of design studio pedagogy.

What Weinstein, Carter, and others who are not accustomed to studio culture do not seem to understand is that when architects are "talking within the family," as studio professor Tracy put it, different rhetorical rules apply: Verbal communication is not valued as the most effective available means of persuasion. Studio professor and critic Lynn told her third-year students that the critique requires architects to compose a design argument and to "write it with images instead of with words." Consequently, pointing may be far more eloquent than speech if the visual object indicated by a gesture clarifies the design argument *without* words. In architecture, the goal, as Lynn explained, is to "draw it better so you don't have to talk about it." Yet architects are keenly aware that their choices and combinations of modes must be tailored for specific audiences and purposes. That is why written and oral communication are, in fact, stressed in architectural education: The words used in a review presentation take on heightened significance for an architectural audience, and even novice architects know that a presentation for clients must rely on verbal modes and on different types of visual texts than a presentation for critics.^[5]

This early rhetorical training was evident in the first-year studio's midterm "dry-run." During this all-studio pin-up in the gallery space, the students practiced marshalling visual and material evidence to "document" their projects a week before the midterm review. Will told them, "You need to bring whatever you need for people to understand your project without you being next to it. You will be looking at other projects while people are looking at yours. Even if you have to sketch something *now*." In their peer review, the students rated a project's "clarity" based on their ability to understand it "whether the person was there to explain it or not." One student commented, "I remember Will saying something about that last semester. That you won't always be there to explain that this project was inspired by Grandmama's kitchen. [Laughter.] That stuck with me." The first-year studio professors used this observation as an opportunity to drive home a point about tailoring architectural communication for multiple audiences. Will remarked, "You need to be aware of how you frame your architecture. You need to allow people to read it from where they stand." Potential audience standpoints discussed by the first-year faculty went beyond the immediate audience of critics who would be responding to the projects in a week's time. Additional standpoints included observers/users "who know nothing" and "the developer, the people concerned about code and

logistics, and others who see it as more than the most cheap and efficient way to build something." Each audience—expert and non-expert, architect and non-architect—requires a different rhetorical approach and a different configuration of visual, material, and verbal modes.

The Development of Academic Multimodality in Writing Studies

Unlike architecture and other visually-based disciplines, writing studies has only recently emphasized creating non-verbal forms of argument as an integral part of our mainstream composition practices and pedagogy. The essays in Pamela Childers, Eric Hobson, and Joan Mullin's (1998) edited collection *ARTiculating: Teaching Writing in a Visual World* demonstrated writing instructors' long-standing practice of assigning written analyses of popular visual texts and explored ways to use visual modes of invention, such as creating visual metaphors, in conjunction with or in service of producing written texts. By the time the students in my study were enrolled in their first-year writing classes and first-year design studio classes, there were a number of popular composition textbooks available that integrated visual texts as objects of analysis, such as Sonia Maasik and Jack Solomon's (2006) *Signs of Life in the U.S.A.*, and a few that promoted non-print composition as part of the first-year writing curriculum, such as Anne Wysocki and Dennis Lynch's (2007) *Compose, Design, Advocate*.

In the academy, we have clearly taken what David Sheridan (2010) called "the multimodal turn" (p. 1), a move that theorists of multimodal literacy have long recognized in non-academic settings, such as workplaces. Sheridan credited this shift toward *academic* multimodality to a number of factors involving the widespread availability and cultural acceptance of new media, defined primarily in digital terms. A glance at the tables of contents of professional journals in writing studies, rhetoric, communication, and education; or at the programs of our national and international professional conferences; or at the catalogues of our academic presses should dispel any lingering doubt that academic writing in the 21st century includes multimodal composing. Since the New London Group (NLG) published their seminal article "A Pedagogy of Multiliteracies" in 1996, the field of writing studies has invested over a decade and a half of scholarship in understanding multimodal literacies and incorporating them into writing pedagogy. Consequently, it is not uncommon to find students in writing classes today analyzing visual texts, re-mediating traditional print papers as PowerPoint or Prezi presentations, or producing video essays.

The New London Group emphasized the importance of students' "lifeworlds"—their private lives outside of school—(NLG, 1996, p. 72). Therefore, our theoretical approach to multimodal composition in writing studies has been shaped by our understanding of the digital literacies students bring to the classroom from their previous schooling and extra-curricular experiences and by the ways multimodal texts circulate in popular culture and in public discourse. Studies of multimodal literacy acquisition abound. We have rich data about how individuals learn to compose multimodal texts in pre-K through secondary education, as well as in self-sponsored personal and institutionally-sponsored workplace contexts (see, for example, Bazerman 1981; Jensen, 2008; Jewitt, 2006, 2008; Kamberelis & de la Luna, 2004; Kress, Jewitt, Ogborn, & Tsatsarelis, 2001; Medway, 1996a, 1996b; Roozen, 2009; Selfe & Hawisher, 2004). As Dana Wilber (2008) demonstrated, there has been extensive research on the everyday digital literacy practices of college students and their attitudes toward multimodal learning environments. However, we have paid relatively little attention to the rhetorical aspects of academic multimodal composing in the context of undergraduate education outside of writing studies, especially as multimodal composition is practiced and taught in other performance-based disciplines.

Early WAC/WID studies of college students' writing in fields that we now associate with visual and numeric modes, such as the sciences or engineering, paid scant attention to the non-verbal features of those students' texts, even when their analytical framework was explicitly social (McCarthy, 1987) or rhetorical (Herrington, 1985; Winsor, 1996). These studies pre-date the proliferation of scholarship on multimodality following the New London Group, of course. Yet even the more recent studies by writing scholars have focused on linguistic aspects of rhetoric in undergraduate writing from other disciplines. As Carl Whithaus (2012) noted, "Kelly and Takao (2002) and Kelly and Bazerman (2003) have reported how university students working in the sciences use evidence in written arguments. ... They do not, however, focus on how claim-evidence relationships cut across different modalities" (p. 107). Because of this, Whithaus argued, "Models for understanding and curriculum materials that focus on science and engineering writing privilege linguistic forms of argument over an interactive formula that considers the relationships among linguistic, visual, and numeric forms of evidence" (p. 111).

This bias toward the verbal is so strong that writing studies has largely ignored its own decades-long history of promoting the role of multimodality in composition. Instead, we have emphasized a "multimodal progress narrative" that divides writing studies into an alphabetic past and a multimodal future (Palmeri, 2012, p. 5). Inevitably, this stance affects our interdisciplinary conversations about writing pedagogy. Even when WAC/WID scholarship highlights the importance of rhetorical contexts in disciplinary writing instruction, multimodality can be marginalized by a narrow definition that reinforces a verbal bias. For example, Katherine Gottschalk and Keith Hjortshoj (2004) discussed teaching aural/oral communication to improve class discussions and student presentations in their handbook for WID instructors. Yet despite their reliance on examples from undergraduate biology, mathematics, economics, and political science classes, Gottschalk and Hjortshoj never addressed the role of figures or charts or graphs in their advice for improving assignment design and responses to student writing.

Similarly, Pamela B. Childers and Michael J. Lowry (2005) focused on the potential for multimodal composing in science classes as a writing-to-learn strategy that could "deepen and enrich the learning experience by making critical connections between visuals and written text" (para. 1). However, Childers and Lowry's characterization of multimodal texts in scientific discourse minimizes the rhetorical complexity of discipline-specific multimodal composition: "Biologists use diagrams, cross-sections, and graphs for lab reports all the time, and *students can easily label, plot, and place words on them*. What we want to discuss is something beyond memorizing and fitting information into computerized formats" (para. 1, emphasis added). My research suggests that such assumptions about the transparency of combining verbal and non-verbal modes may be unfounded. In architecture, verbally labeling a visual artifact is a complex, value-laden rhetorical act.

Much of what writing studies scholars know about academic multimodal composing practices in higher education—as opposed to professional writing or public writing—comes from inward-focused studies of our own classrooms. In their 2005 survey of how multimodal composition was being included in college writing instruction, Daniel Anderson et al. found "an assortment of programs and classes that housed some multimodal composition instruction at their institutions (for example, rhetoric/composition, technical communication, English education, and several interdisciplinary programs)" (p. 72). Yet we have limited data about academic contexts for multimodality outside of the familiar disciplinary territory of writing studies. As Anderson et al. pointed out, their sample was limited to respondents who were active in professional organizations related to writing studies, many of whom were recruited specifically because of their scholarly interests in multimodal composing (p. 66). One of the writing instructors who responded to the survey wondered whether her course in website design should count as teaching multimodal

composing, leading her to raise the question: "Have many classes been using multimodality all along and we're just beginning to 'get it' in Composition?" (as cited in Anderson et al., 2006, p. 80).

From Multimodal Literacy to Multimodal Rhetorics

Jody Shipka (2009) has argued persuasively that writing instructors should not assume that the terms *multimodal* and *composition* apply only to digital or new media texts. She described, for example, a student who composed a literacy autobiography in the form of a series of written messages trapped in a wine bottle, accompanied by a reflective written account of the student's rhetorical goals and strategic choices (Shipka, 2009, p. W345). Shipka's aim was to increase both instructors' and students' awareness of the range of available rhetorical choices. Yet this approach also demands that audiences will accept and, with the help of the student's explanatory written text, will be able to read and interpret a highly personal, innovative, non-traditional multimodal text. While Shipka's assignment certainly challenges writing instructors to view multimodality as more than just words plus images in a digital format, her approach to teaching multimodal composition does not take into account the rhetorical constraints that specific disciplinary cultures can and do impose on academic multimodal texts.

For example, Dan Melzer (2009) analyzed the "rhetorical features and genres" (p. W240) of college writing assignments in four disciplinary domains: "100 courses in the natural and applied sciences, 100 courses in the social sciences, 100 courses in business, and 100 courses in the arts and humanities" (p. W242). Melzer focused on the discouraging finding that most formal writing assignments in his national sample merely required "providing the correct answer to the teacher-as-examiner" (p. W248). This characteristic of school and college writing has been lamented since the early WAC days (e.g., Martin, D'Arcy, Newton, & Parker, 1976/1994; McCarthy, 1987). However, there are hints in the excerpts Melzer has provided from actual assignment instructions that visual and other non-alphabetic modes are highly valued in the assignments that "provide students with a rhetorical situation and genre" (p. W251). For example, one marketing course instructor's assignment emphasized the need to include quantitative data tables and statistical analyses because "the numbers tell a story" in business writing (Melzer, 2009, p. W256). Similarly, in his discussion of what counts as evidence in disciplinary contexts, Melzer highlighted a history instructor's research paper assignment that reminds students to consider photographs and oral histories (p. W255). According to Anderson et al., (2006), writing studies scholars know that non-verbal modes are "rhetorical resources," which multimodal composers choose "depending on rhetorical and material contexts within which the communication [is] designed and distributed" (p. 59). Therefore, I argue that faculty in other disciplines who call attention to multimodality in their assignment language shape their students' rhetorical knowledge in discipline-specific ways.

In my study, for example, the first-year studio professors' assignments adopted a deliberate and explicitly cautious approach to the introduction of new media and materials at each stage of the project's development. Students were frequently reminded that the audience for their "architectural intervention"—the built object that they designed—was the uninitiated observer or user. Therefore, the choice of materials and methods used to craft that non-verbal text was crucial to the effectiveness of their design argument from the user's perspective. The written directions for one assignment asserted, "Each material will lend a distinct voice to your project. Look carefully at your materials to determine how you should emphasize or contradict this nature." The first-year architects learned very early to view their work as speaking to insiders and outsiders in different ways: from the ultimate insider audience of the designer using conceptual diagrams as a form of multimodal inquiry, to the audience of other architects reading more conventional visual texts to evaluate the strength of

their design arguments, to the "know-nothing" audience of a person encountering the built work as a finished product, without the benefit of a "Grandmama's kitchen" explanation.

The depth of rhetorical understanding evident in the architecture studios that I observed arises from the architects' professional and discipline-specific experiences, not from any verbally-inflected WAC/WID intervention, such as those proposed by Weinstein (2008) or Carter (2007). The architects in my study were acutely aware of the importance of verbal and visual communication both within their own discipline and across disciplinary boundaries. Chris Anson and Karla Lyle's (2011) archival research revealed "a growing independence of scholarship in WAC within the disciplines, as faculty became acquainted enough with the theoretical and empirical background of writing studies to conduct their own research" (p. 13). But apart from issues involving the impact of digital technologies on writing, Anson and Lyle's study does not address the extent to which scholars in other disciplines publish articles that address multimodality in their own rhetorical contexts.

Several studies by scholars from other disciplines have emphasized the importance of multimodality in their undergraduate courses not only as a pedagogical tool but also as a means of establishing professional identity. For example, Margaret Werry and Stephanie Walseth (2011) argued that in theater arts, writing "takes place in verbal, textual, graphic, and embodied media, and moves fluidly among these modalities" (p. 192). Similarly, Pippa Stein (2008) described how audiology faculty designed a sequence of multimodal assignments that helped undergraduate students to understand the "spatial relations of anatomical structures" and "to think of themselves as capable future audiologists" (pp. 872-873). In both cases, undergraduate students used multimodal composing to communicate with multiple audiences: themselves as learners, their instructors as disciplinary professionals, and spectators or clients as non-specialists.

Like the architects in my own study, these students and professionals in theater and audiology understand that their discipline-specific, non-verbal modes of communication are not inherently suited to a general audience. Nor are public expressions of multimodal composing necessarily compatible with their professional multimodal practices. Framing WAC/WID work as a way of investigating multimodal rhetorics in the disciplines gives us a different vantage point from which to address specific disciplinary concerns about how expert and non-expert audiences value distinct modes. Disciplinary and professional identity is defined, in part, by a commitment to rhetorical strategies that include not only what counts as evidence and the preferred arrangement of an argument, but also the modalities that are considered appropriate for specific rhetorical situations, whether among disciplinary peers or in mixed company.

Architecture as an Academic Lifeworld

Rhetoric is part of the hidden curriculum of disciplinary pedagogy. Understanding disciplinary rhetorics is as much a part of the enculturation process of becoming a disciplinary expert as acquiring specific literacies and learning the conventions of a discourse community. Architecture provides an ideal case study to illustrate tacit instruction in multimodal rhetorics because design studio pedagogy emphasizes the students' identity as architects from the start and provides ongoing, intensive training in effective verbal and non-verbal communication on and in its own terms. That is to say, the architects who participated in my study do not use the same terms that writing studies scholars do to articulate the theoretical lenses of multimodality or rhetoric. However, architects do embody a rhetorical approach to multimodal composing that is explicitly taught and practiced as a defining characteristic of their professional identity. Borrowing a term from Lee Shulman (2009), Eliason and Schrand (2010) identified the design critique process as a "'signature pedagogy'" that "presents opportunities for modeling actual professional practices" (p. 23). In this way, participation in studio

reviews throughout their undergraduate education functions as a powerful, complex, and sophisticated multimodal rhetorical education for architecture students. Moreover, it is grounded in their own disciplinary culture, not the public culture of new media or the verbally-dominant culture of writing studies.

In the architecture studios that I observed, discipline-specific multimodal literacies and rhetorical knowledge developed concurrently and unevenly. Often, the novice students did not yet have the visual literacy skills necessary to make the argument that the rhetorical situation required. At other times, they did not understand the rhetorical task well enough to realize that their argument required a particular modal expression. Architects would consider the common first-year writing assignment that asks students to turn a print essay into an oral presentation or video essay "busy work"—*unless* the new medium (or mode) affords an opportunity to generate new knowledge about the research problem and makes that information visible to a specific audience. As Palmeri (2012) noted, this is not always the case: "Our new multimodal assignments might also continue to reify old (and perhaps problematic) assumptions," resulting in a "simplistic thesis-driven argument that ignores the complexities of the issue they are tackling—a kind of canned five-paragraph essay in a new medium" (p. 109).

This failure to deploy multiple modalities in rhetorically strategic ways explains why the first-year architecture students in my study were chastised in the midterm review for presenting drawings that merely *represented* what the critics could already see in their models. It was a rookie mistake, characteristic of the "naiveté" of novices and further compounded by the fact that the students had only been working on their drawings for two weeks. In contrast, the students' early diagrams and watercolor studies of their project sites were "generative," in first-year studio professor Perry's words. Unfortunately, the first-year students struggled to "translate" that knowledge from one mode to another. Will summarized the critics' response to the midterm presentations this way: "You knew this *here* [in the diagram/watercolor], but you forgot it *there* [in the drawing]."

In architecture, drawings and diagrams are distinct visual modes that can be expressed through a variety of different materials or media, which require different literacies and have different rhetorical consequences. The studio professors' use of *translation* corresponds to multimodal theorists' concept of *modal affordances*. For the first-year architecture faculty, the opposite of *translation* is *transcription*, by which they mean the mere replication of information that can be read equally well in another medium. NLG theorist Gunther Kress (1999) argued that "the visual and the verbal provide fundamentally distinct possibilities for engagement with the world"; therefore, "translation from one *mode* to another has to be seen in the more radical sense of 'translation as transformation'" (p.78, emphasis added).⁶¹ Architects understand translation from one medium or material to another to be a generative process that capitalizes on differences: Each medium's distinct "voice" is valuable only to the extent that it is able to "add insight" to the project in a way that no other medium can fully accomplish.

Gunther Kress and Theo Van Leeuwen (2001) argued that media *become* modes as they take on greater cultural significance in a given context, providing that the different media can be controlled to produce distinct meanings through the development of a "metalanguage, whether visual or verbal, for making these choices explicit" (p. 79). In the studios I observed, the architects' explicit attention to material choices suggests a more nuanced array of visually-based modalities than verbally-minded audiences are likely to recognize or expect. In the instructions for an assignment that required first-year architecture students to "translate" a photograph of their site into an abstract painting, Will stated, "As a medium, watercolor paints lend themselves to the layering of information. Follow this lead." He reminded the students that the purpose of the ongoing watercolor study assignment was to "challenge our understanding of the [photographic] image," which would only be possible if they took

his instructions to heart: "Look carefully and avoid assumptions. This is not an exercise in transcription, but translation." In the midterm review, Will commented that it was often a student's conceptual diagrams and evolving watercolor study that "spoke most eloquently" about the project's purpose, while the more formal drawings were stuck in mere representation of already known information.

In their midterm review, the students' attempts to buttress their inexperienced visual arguments with words usually backfired. Will called attention to this when the first-year cohort resumed their studio classes after spring break:

How many had a crit that went in a totally different direction than what you were expecting? [Many hands are raised.] You have to ask yourself *why*. Chances are it was something about the way you presented. It could be your word choice. That's why we spend so much time working with words.

An introductory statement, a turn of phrase, or even a single evocative word sets the course of a review. Verbal communication can channel the presentation toward a productive "energetic conversation" or send the crit spinning out of control. As novices, architecture students must lean on words while they develop the visual literacy skills that will allow them to articulate their design arguments clearly through the preferred visual modes that are not yet fully available to them as a means of persuasion. But even in the first year, when the visual work requires a lot of verbal explanation, the critics make it clear that the disciplinary culture of architecture will not tolerate this verbal dependence for long. When first-year student Kent presented his project, he faced a barrage of questions from the critics, which he answered confidently and clearly. After listening intently to his oral argument, critic Carly leaned forward to scrutinize Kent's impressive array of drawings, diagrams, and study models and said, "It's a pity that doesn't *show* more. Then [we] wouldn't have to ask the question."

Over the course of the semester, the more successful first-year students shifted their practices so that their design arguments relied more heavily on effectively-combined visual modes. After much reflection and revision, Natalie earned high praise from first-year instructor Aman during an all-studio pin-up: "There's actual thinking going on in your drawing, not representation or regurgitation, but exploring another side of your project." As they prepared for their final review of the semester, Will urged the students to select and arrange their visual evidence strategically and to curtail the oral component of their multimodal presentations: "Two minutes. Don't blather on. Say two minutes and get out of the way. Pick up the rest in questions."⁷ Ideally, those questions do not ask for clarification of the existing visual texts; rather, they focus on the next level of development, the next iteration that will shape the design argument beyond the boundaries of a studio course into their professional portfolios.

The architects in my study were not familiar with rhetoric as an academic discipline and had never heard of the New London Group. However, they were acutely attuned to modal affordances, invention, arrangement, delivery, argumentation, persuasion, ethos, and audience as these concepts applied to their professional practices. As a disciplinary outsider learning their insider language (both verbal and non-verbal), my explicit observations and questions made their tacit rhetorical knowledge about multimodality more visible to them within the familiar framework of their own disciplinary language. My attempts to translate rhetorical concepts into their multimodal language created common ground for an interdisciplinary exchange of ideas. As a participant-observer, I was able to share a new theoretical perspective on what was happening in the studio from a rhetorical standpoint, and my presence was valued as "a pair of fresh eyes" for the students' work. At times, I

was the perfect stand-in for the "know-nothing" audience, but as the semester progressed, I came to appreciate the subtlety and complexity of architectural multimodal texts and performances as seen through the lens of studio culture. The architecture faculty who welcomed me into their studio world taught me about layering information through the careful integration of multiple modes that do not just replicate one another or sit on the surface like a decorative "appliqué." They taught me the value of a "long and careful look prompted by a thread project"—an ongoing, scaffolded series of related activities—that pushes students to "find limits" in one mode before being allowed to engage with another one. In the first-year studio, students had to "earn the right to complexity" in their multimodal projects, lest they be charged with "lacking rigor," or worse, being "arbitrary" in their design choices.

Implications for Supporting Academic Multimodal Composing: "You Knew This Here ..."

To be effective, any effort to teach and support multimodal rhetorics in the academy must come to grips with very real differences in the ways that multiple literacies are valued in diverse disciplines, and, consequently, the affordances and constraints of using these literacies to make disciplinary arguments using multiple modes of communication. Multimodal or new media texts are no less—and no more—inherently valuable than traditional print texts. The criteria used to evaluate multimodal texts are subject to the conventions, expectations, literacy norms, purposes, and audiences of specific academic disciplines. Thus, architects' tacit rhetorical knowledge is evident in the ways that they select, harness, and combine modes to achieve their generative and persuasive purposes *as* architects.

David Sheridan and James Inman (2010) addressed the implications of academic multimodality for writing centers, which they reframe as *multiliteracy centers*. Building on the work of writing studies scholars who have championed the cause of new media in writing classrooms (e.g., DeVoss, Cushman, & Grabill, 2005; Hawisher & Selfe, 1999; Selfe & Hawisher, 2004; Wysocki, Johnson-Eilola, Selfe, & Sirc, 2004; Yancey, 2004), Sheridan, Inman, and the other contributors to their edited collection, *Multiliteracy Centers: Writing Center Work, New Media, and Multimodal Rhetoric*, explored what it might mean to expand the mission and the material conditions of writing centers to serve the needs of students who produce and analyze new media texts in their classes across the curriculum and in their disciplines. As Sheridan and Inman's title phrase makes clear, the shift in writing center work required to support academic multimodal composing goes beyond just incorporating new media into a print-based model of composition. By introducing multimodal *rhetoric* into the equation, Sheridan and Inman have begun to confront an often-invisible aspect of the WAC/WID and CxC/CAC approach: the role of situated, rhetorical knowledge in deploying new literacies in academic versus public discourse.

In an alternative move that seems to be aimed at a similar goal, some colleges and universities have begun to use the term *Rhetoric Across the Curriculum* (RAC) to define their commitment to supporting oral, visual, and digital literacies, as well as print or alphabetic literacies. For example, Quest University Canada (n.d.) describes its required foundational program in Rhetoric Across the Curriculum as not only teaching students "traditional" forms of writing and public speaking, but also preparing them for the diverse assignments they should expect to encounter in all of their classes: "Presentations often involve the preparation of slide shows, reports on group work, or even short documentary films" (Rhetoric Across the Curriculum section, para. 2). Similarly, Calvin College in Michigan established a RAC Committee, which is responsible for "ensuring that instruction in written, oral, and visual rhetoric is carried on throughout the college curriculum" ("Rhetoric," 2010, para. 1).

While these efforts signal an impulse toward inclusivity that highlights the importance of rhetoric for effective multimodal communication, they also run the risk of presenting an old model of all-purpose academic discourse dressed in new media forms.

In their article on critical visual literacy, Barb Blakely Duffelmeyer and Anthony Ellertson (2005) promoted an approach to multimodal CAC that emphasized "allowing students to create multimodal texts that deal with civic and cultural and/or discipline-specific *themes*" (Abstract, emphasis added)—but not a discipline-specific *audience*. Rather, they advocated that writing instructors "offer students both composing and interpretation opportunities that more closely mirror those surrounding us in the media environment today" (Communication Ecosystems section, para. 3). Though this approach is certainly valuable, it does not address the problem of supporting academic multimodal composition that is targeted toward an audience of disciplinary experts. As recently as 2010, Kathleen Blake Yancey called yet again for more research on "the multi-disciplinary universe of composing" to create "a working map of what writing across the curriculum actually looks like" (as cited in Rutz, 2010, p. 74). If we fail to consider how *multimodal* composition is actually practiced in undergraduate courses in other disciplines—particularly those that do not assume that the verbal mode is predominant—then we risk being viewed by our colleagues as offering a model of "good" writing (this time expanded to include non-verbal modes) that does not fit their disciplinary culture's values and expectations.

In architecture as in writing studies, selecting and combining modes through distinctive media is a critical component of the rhetorical composing process, governed by the values of the community of practice and responsive to the diverse expectations of the target audiences. Those of us familiar with decades of research in writing studies know that "good writing" is not defined by surface features but rather by much more complex issues that are difficult to address if instructors focus on grammar and mechanics first. Likewise, by invoking ostensibly universal principles of "good design" in academic multimodal composing, writing instructors may have inadvertently masked far more consequential differences that are deeply rooted in disciplinary cultures. As a result, importing a verbally-inflected version of new media texts may not serve students in visually-based disciplines like architecture well. In fact, it may convince them that what writing instructors teach in our writing classes—or the support we offer in our writing centers—has little or no relevance in their academic and professional lifeworlds.

Fortunately, multimodal literacy theory has always been sensitive to the need to acknowledge differences and view them as strengths and opportunities for learning:

To be relevant, learning processes need to recruit, rather than attempt to ignore or erase, the different *subjectivities*—interests, intentions, commitments, and purposes—students bring to learning. Curriculum now needs to mesh with different subjectivities and their attendant languages, discourses, and registers, and use these as a resource for learning. (NLG, 1996, p. 72)

Educators have responded to this challenge on the individual level (e.g., accounting for individual learning styles) and across the home/school divide (e.g., recognizing cultural differences in literacy practices). The WAC/WID movement has raised awareness about disciplinary differences in print texts intended for diverse expert audiences, and the CxC/CAC movement has expanded that awareness to include oral and visual modes. Now, to build on these insights and advance the project of teaching and supporting multimodal composition, we need to develop a much more nuanced understanding of how rhetorical principles governing multimodality already operate in other

academic lifeworlds, sometimes in ways that may seem counterintuitive to those of us who come from verbally-based disciplines.

My title phrase, *rhetorics in the disciplines*, is meant to provoke us to consider the role of discipline-specific rhetorical knowledge in our efforts to support composing, in all its forms, across the curriculum and in disciplinary contexts. Despite the increasing presence of undergraduate and graduate programs that lay claim to rhetoric in their names, we have yet to overcome the negative association that the term *rhetoric* still carries for the public or for many of our colleagues. Renaming WAC/WID or CxC/CAC programs with the unfortunate acronym RID could do more harm than good. By advocating that we work to make rhetorical knowledge visible and explicit not only in writing classrooms but also in other academic settings like the architecture studio, I am certainly not suggesting that writing studies scholars should impose unfamiliar disciplinary jargon on colleagues from other disciplines. In this case study, ethnographic inquiry revealed how architects train their students to develop effective rhetorical strategies for multimodal communication in their own discipline without ever using the specialized terminology of rhetoric or literacy studies.

In this sense, my study of multimodal rhetoric in the disciplines expands on the connections that Orr, Blythman, and Mullin (2005) made between the verbal and visual composing processes of art and design students: "There is great potential for teaching writing in the strategies students use to make their art"—in viewing the composing process as a "puzzle," rather than as a set of "stupid rules" (Awareness of Process section). In other words, it is more effective to move from what is already known in a given discipline—tacitly or explicitly—to the unfamiliar territory and vocabulary of multimodal rhetorics. Consciously or not, our disciplinary colleagues are already engaged in training their students about what is and is not effective multimodal composing in their disciplines. If we want to support them and their students, using plain language or their discipline's own terms to articulate the rhetorical strategies they value is more helpful than asking them to translate what they do into our own specialized vocabulary. More importantly, however, writing studies scholars cannot take for granted that our perspectives on written, oral, visual, digital, or multimodal communication are shared by other disciplinary cultures, nor that our preferred rhetorical strategies will be compatible with their discipline-specific values and practices.

Recently, Palmeri (2012) called on WAC directors to "bring together instructors from 'allied arts' fields—providing opportunities for teachers of writing, theater, visual art, film, music, graphic design, and architecture to collaboratively develop and share multimodal strategies for promoting creative invention in their disciplines" (p. 151). The cross-disciplinary collaborative work that Palmeri envisions cannot be successful without a more complete understanding of the discipline-specific multimodal rhetorics that we each bring to the table. In my own teaching, I often remind myself of a key principle of multimodal composing that I learned from Will: "Grow your work in size and complexity slowly, bearing in mind that each new material or jump in scale will place new pressures upon your position, requiring new research and insight." Will's strategy resonates with me because I understand how it is grounded in the rhetorical principles that govern multimodal arguments in architecture.

By providing an ethnographic sketch of studio culture, my goal has been to make this architect's-eye view of multimodality accessible to those who have never encountered a design critique—or who have been baffled by one. When our practices are so different as to appear incompatible, a closer look at the rhetorical values that make a particular strategy effective in one discipline and ineffective in another can help us to establish common ground with our colleagues from other disciplinary cultures. As Palmeri (2012) warned, WAC-initiated efforts to "thread the reflective practice of persuasive multimodal composing throughout the entire university curriculum" must not attempt "simply to impose our own [writing-based] theories of rhetoric and process on the teaching of

multimodal composing in other disciplines" (p. 154). As writing studies scholars, we need to be mindful of the relationship between our selection of modes and our cultural identity within the academy, as well as our connection to the public sphere. The rhetorical strategies that we practice and teach as writing instructors should be framed by our disciplinary impulse to expand the boundaries of literate practices so that, as Yancey (2004) has famously put it, our concept of composition is "made not only in words" (p. 297). Ethnographic research that provides a thick description of multimodal composing practices and rhetorical strategies in undergraduate classes across the curriculum and in the disciplines can help us to bridge the gap between the verbally-dominant, public-oriented, digitally-produced multimodal communication that has shaped the disciplinary culture of writing studies and the academic multimodal rhetorics that are embedded in the signature pedagogies of other disciplines.

By invoking multimodal rhetorics in the disciplines as a new framework for WAC/WID inquiry, I also want to stress that those of us who teach and support multimodal composing in the university are translating what we know about rhetoric to new contexts for new audiences whose purposes and values and literacy practices may be radically different from our own. That is why ethnographic research on the rhetorical, multimodal, and pedagogical practices of our colleagues in other disciplines is crucial to our understanding of our students' academic multimodal composing practices. When we can clearly articulate the insights gained from such studies, as I have attempted to do in this article, we will be in a much better position to help our students find the most effective available means and modes of persuasion in a given discipline-specific case. Jack Selzer (2004) maintained that "contextual rhetorical analysis proceeds from a thick description of the rhetorical situation that motivated the item in question. It demands an appreciation of the social circumstances that call rhetorical events into being and that orchestrate the course of those events" (p. 292). Just as scholars in writing studies no longer accept a singular view of rhetoric emerging from the Western (white male) tradition, or a singular view of literacy as an alphabetic skill, we all need to re-imagine academic multimodal composing as a practice that has a long tradition not only in writing studies but in diverse disciplinary cultures. Now as before, in the academy as in the community, "the challenge is to make space available so that different *lifeworlds*—spaces for community life where local and specific meanings can be made—can flourish" (NLG, 1996, p. 70). Just as we acknowledge culturally-dependent rhetorical conditions whose aims and available means of persuasion sometimes clash with our own and shock us out of our comfort zones, we need to "look carefully and avoid assumptions" about multimodal rhetorics in whatever academic lifeworlds they inhabit.

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Notes

- [1] In general, I use the term *writing studies* in this article as shorthand for a network of scholars who may identify themselves as compositionists, rhetoricians, literacy studies scholars, writing center scholars, or English studies scholars.
- [2] Elsewhere I have described how studio assignments, such as design charrettes, can promote interaction among novice, intermediate, and advanced undergraduate architects (Allan, 2012).
- [3] Only one of the 49 students enrolled in the first-year studio course was not included in this study. Due to illness, the student took an incomplete for the semester.
- [4] A complete discussion of the scholarship on transfer in writing studies is beyond the scope of this article. For additional information on transfer-based writing pedagogy, see, for example, three articles on transfer and first-year writing that were published in the Fall/Winter 2007 issue of *WPA: Writing Program Administration* by Linda S. Bergmann and Janet Zepernick, Gerald Nelms and Ronda Leathers Dively, and Elizabeth Wardle.
- [5] In his study of architects' drawing practices, anthropologist Edward Robbins (1994) notes, "When presenting to laypersons [architect Edward Cullihan] tries to make his drawing more narrative so that people can feel they are making a journey through the scheme he is trying to explain" (p. 63).
- [6] Drawing on writing process theories developed in the 1980s, Palmeri (2012) characterized writing as "a kind of translation—a movement from the multimodal world of the mind (where images, words, and kinesthetic sensations mingle) to the alphabetic space of the page (where conventionally only words appear)" (p. 35). Seen through this lens, translation is an artificial simplification of naturally-occurring multimodal thoughts to written words. Neither the architects in my study nor the New London Group theorists used the term *translation* in this sense.
- [7] In contrast, one discourse analysis study of design critique as an oral communication genre interpreted architects' assessment of a student's level of success, in part, by the length of time that the student was able to "hold the floor" and stave off critics' questions; consequently, although the critics addressed only the *arrangement* of verbal information in their evaluation of the students' opening statement, the researchers also highlighted the fact that the student had spoken for "only 3 minutes" before one of the critics asked for clarification (Swales, Barks, Ostermann, & Simpson, 2001, p. 447).

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Complete APA Citation

Allan, Elizabeth G. (2013, December 28). Multimodal rhetorics in the disciplines: Available means of persuasion in an undergraduate architecture studio. *Across the Disciplines*, 10(2). Retrieved from <https://wac.colostate.edu/docs/atd/articles/allan2013.pdf>