The Future of WAC Is Multimodal and Transfer-Supporting

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" n Multimodality: A Manifesto," a multivocal text that situates multimodality in the "habitable space" of writing studies research and pedagogy, forwards the claim that "[m]ultimodal composing cannot exist outside a larger ecology of teaching and curriculum building" (Wysocki et al., 2019, pp. 18, 21). I agree wholeheartedly with this statement, especially given my position as a writing studies teacher-scholar nearing the end of their first decade directing a writing across the curriculum (WAC) program that encourages and supports multimodal composing and writing transfer-oriented teaching practices.¹ My standpoint has also given me the opportunity to see what needs arise when multimodal—especially digital multimodal—composing is promoted beyond its most habitable spaces. This is, in part, what compels me to extend the manifesto of "On Multimodality" as it relates to the future of WAC: Writing studies folks may indeed have a predisposition to be flexible in the face of dynamic digital genre creation and uptake as a result of their often-practiced disciplinarily skill in developing reactive tactics to address the ever-changing technologies and spaces for writing that demand we approach our writing pedagogies and curricula as recursive processes; however, the future requires more faculty across the disciplines to approach multimodality with similar habits of mind.

If the promotion and facilitation of writing transfer are among the agreed-upon goals of university writing programs that situate themselves in writing studies praxes, and multimodality is included in an expansive definition of writing, then such curricular ecologies should promote and facilitate multimodal transfer. To say that another way: Any postsecondary curricula effectively geared toward (multimodal) writing transfer should, by necessity, have or work toward developing a WAC orientation; it is in disciplines and discourse communities outside of writing studies that the full range of contexts for writing transfer exist and where the full range of established and emerging multimodal composing practices can be found and/or generated.

^{1.} I would like to take this opportunity to thank the peer reviewers whose generous feedback helped refine this article.

My purpose here is to provide a rationale and the beginnings of a roadmap to conceptualizing and developing systems in support of multimodal writing transfer across the curriculum in postsecondary institutions. Such initiatives should build on what is known to work well to sustain effective WAC programs and support primarily alphanumeric writing transfer. The goal of such initiatives becomes to help students develop into skilled multimodal writers who can transfer their multimodal writing knowledge and abilities. By "skilled" I mean that students know how to draw upon their individual semiotic resources and writing knowledge in socially just and evidence-informed ways to communicate in an accessible and inclusive manner with different audiences for different purposes in different genres and media using a productive combination of not only linguistic elements but also aural, visual, gestural, and spatial ones.² While some rhetorically flexible students at some postsecondary institutions may be graduating with such multimodal writing proficiency due to their extracurricular digital composing experiences and/or the curricular emphases of their major programs of study, multimodality, much less multimodal transfer, is not typically given particular emphasis in campuswide WAC initiatives (see Dufflemeyer & Ellerston, 2005 and Bridwell-Bowles et al., 2009 for examples of program-level exceptions). What I mean when I advocate for multimodality across the curriculum is less about exposing students to the deeply embedded multimodal composing practices and tacit rhetorical knowledge drawn upon in certain multimodal-rich disciplines, and instead is more about positioning multimodality, especially digital multimodality, as connected to transferrable student learning goals for all graduates. For example, if an institutional learning outcome states that graduates should demonstrate effective and flexible communication skills, then digital multimodality should be intentionally and meaningfully integrated into the curriculum and assessment criteria connected with that outcome. Multimodality should be emphasized both in general education, where students learn and practice the foundational habits of mind connected with (digital multimodal) writing transfer, and across disciplines and majors, where discipline-relevant (digital multimodal) writing and transferoriented writing instruction can reinforce those habits of mind. More exposure to multimodal writing in the curriculum, then, is not necessarily better, and certainly not transfer-supporting, if that exposure is not contextually relevant to courses and

^{2.} As Jody Shipka (2011) reminds us in *Toward a Composition Made Whole*, multimodal texts can take many forms, not all of which are digital. When I use the term multimodal in this article, I am therefore referring to any composition, broadly conceived, that combines two or more modes. For example, a choreographed dance or a museum installation could be considered multimodal. However, the multimodal composing emphasized in this article is that which is composed with digital tools in/for digital spaces. When the terms "multimodal" or "multimodality" are used throughout this article, readers should assume this digital emphasis with the understanding that most claims can apply to a more capacious multimodality as well.

disciplines across the curriculum and/or if the teaching practices utilized (re)inforce misconceptions about writing.

In Sustainable WAC, Michelle Cox, Jeffrey R. Galin, and Dan Melzer (2018) provide fifteen principle-guided "whole system strategies for launching and building sustainable WAC programs" with an aim of supporting "WAC program directors tasked with making transformational change to complex institutional systems" (p. 63). One reform-oriented strategy deals with how to address "the principle of transformational change [which] focuses on the importance of changing ideologies and practices as they relate to writing culture" on a campus (p. 97). Understanding multimodal transfer as described above has significant system-level implications for myriad people and practices situated both within and outside of the field of writing studies (e.g., program directors, instructors, instructional technologists, programs, curricula, assignment design, assessment, etc.), all of which is undergirded by a need to change the theoretical frameworks that typically inform campus cultures of writing-regardless of whether a WAC program or initiative is already in place. I contend that a deliberate, overlapping, and sustainable application of knowledges drawn from scholarship on multimodality, WAC, writing transfer, writing conceptual knowledge, and faculty development can collectively guide efforts toward transformational change-supporting multimodal writing transfer across the curriculum. In this article, I synthesize relevant findings and evidence-based advocations from this scholarship to inform the systems-level innovations I advocate for the future of WAC: that is, for faculty and student (mis)conceptions about writing to change and inclusive and transfer-promoting approaches to (multimodal) writing to be taken up more widely across postsecondary education and thrive within curricular ecologies that extend beyond writing studies.

Some Considerations for Multimodal Writing in Postsecondary Education

In 1996 the New London Group coined the term "multiliteracies," meant to encapsulate "the multiplicity of communications channels and media, and the increasing saliency of cultural and linguistic diversity," and they made a convincing (though perhaps difficult to operationalize) argument for a more capacious approach to literacy pedagogy responsive to these multiliteracies (Cazden et al., 1996, p. 63). In turn, over the last two decades, many writing studies scholars have advocated for the teaching of multimodality and digital literacy development more broadly to be the purview of postsecondary writing courses (e.g., Selfe & Selfe, 2002; Wysocki, 2004; Takayoshi & Selfe, 2007; Palmeri, 2012; Hafner, 2014; Wysocki et al., 2019). First-year writing (FYW) programs, in particular, have begun to adopt this expanded understanding of writing in response to scholarship-informed statements issued by national organizations and working groups over the last ten years. Most recently,

the Institute of Race, Rhetoric, and Literacy put forth "Toward Antiracist First-Year Composition Goals" (Beavers et al., 2021). This statement, shared as a Google doc through various social media platforms and listservs in 2021, places an emphasis on antiracist and anti-white supremacist pedagogies and practices and goes beyond the complexity and potential of multimodality to connect all languaging—that is, "an embodied set of linguistic, performative, and material habits and behaviors that often are called 'writing,' 'speaking,' or 'communicating'" (Beavers et al., 2021, para 6)-to the purview of FYW. Multimodality thereby becomes part of a multiliteracies-informed "critical languaging," defined as "the ability to deeply listen, analyze, synthesize, interpret, and evaluate ideas, information, situations, and texts" (Beavers et al., 2021, Critical Languaging section, para. 1). While this more expansive languaging as described in "Toward Antiracist First-Year Composition Goals" situates itself in the ubiquitous postsecondary literacy-learning space of FYW, development of multimodal critical languaging abilities can and should extend to WAC spaces as well, especially given the emphasis on rhetorical contexts of writing in the 2014 "Statement of WAC Principles and Practices." However, reference to or insinuation of intentional multimodality is conspicuously absent from that statement, which implies alphanumeric text-based composing to be the primary purview of WAC based on its use of the term "writing." In this article, when I use the term "writing," I mean, aspirationally at least, the result of a multiliteracies-informed conceptualization of the action, which "focuses on modes of representation much broader than language alone" (Cazden et al., 1996, p. 64).

Calls for students to analyze and produce digital multimodal writing, in particular, presuppose that programmatic/curricular changes are made (Adsanatham et al., 2013; Lee & Khadka, 2018; Takayoshi & Huot, 2009) and that faculty can design for and meet certain technological, pedagogical, and conceptual affordances and expectations that extend beyond alphanumeric uses, practices, and ideas in support of digital multimodal production (Mina, 2020; Rodrigue, 2015; Sheffield, 2016). Though composition pedagogy as a whole has seen many advancements and innovations over the past several decades, and published resources on digital multimodal composing have become available for students in recent years (e.g., Ball et al., 2022 [and earlier editions]; Gagich, 2020), Naomi Silver (2019) asserts that "when it comes to analyzing the means by which students become rhetorically savvy multimodal writers, the field seems to remain in much the same place as Chris Thaiss and Terry Myers Zawacki indicated in 2006: we are 'not here yet' (93)" (p. 217). A decade ago, Elizabeth G. Allan (2013) also noted that we do not yet "know enough about the rhetorical functions of multimodal texts and performances in disciplinary contexts" (p. 2), which largely still seems to be the case.

If the field of writing studies still has an incomplete picture about how students become rhetorically savvy multimodal writers or what multimodal rhetorical savviness means in different disciplinary contexts, then we are certainly "not here yet" in terms of how to address multimodal assessment across the disciplines. "Toward Antiracist First-Year Composition Goals" recognizes these interconnected concerns when digital multimodality is directly invoked in a section on rhetorical knowledge, noting that "[p]art of this knowledge is an ability to inquire into how various people judge the languaging in question as mediated through different media and technologies, and most important, mediated through dominant ways of judging languaging that are promoted as a universal 'standard'" (Beavers et al., 2021, Rhetorical Knowledges section, para. 1). The general lack of standards by which to judge digital multimodality across contexts may well be part of its appeal to writing studies teacher-scholars in this moment of rapidly developing and changing semiotic resources. However, this dynamism and associated lack of expertise typically developed in the writing of more stable genres also make assigned digital multimodal writing even more difficult to assess fairly and equitably than status quo forms of assigned writing. This is a concern I have found in my work directing a WAC program that keeps many faculty outside of writing studies reluctant to directly engage with new forms of multimodal writing in their teaching.

Ways to approach the assessment of multimodal writing have been addressed, perhaps most comprehensively in Heidi A. McKee and Dànielle Nicole DeVoss's 2013 edited collection, Digital Writing: Assessment and Evaluation. Of particular multimodal transfer-relevance at the course level, contributors advocate for the use of student-developed aspirational multimodal project goals to reward risk-taking (Reilly & Atkins, 2013) and for continuous evidence-based reflection to encourage self-assessment about the rhetorical choices made in multimodal projects (VanKooten, 2013). Regardless of what multimodal writing is assigned, members of the National Writing Project Multimodal Assessment Project Group (Eidman-Aadahl et al., 2013) remind us that "[f]or any type of multimodal assessment to aid in learning, it needs the flexibility to address both the context and the developmental capacities of the learner" (Conclusions section, para. 2). All of this points to the need for equitable approaches to multimodal writing feedback and assessment-a logical extension of assignments and instruction designed to promote multimodal transfer. Ethical assessment practices are necessary across differences of learner identities, interests, capabilities, and institutional contexts. Labor-based contract grading (Inoue, 2019), engagement-based contract grading (Carillo, 2021), and other forms of equity-oriented approaches like ungrading (Blum, 2020) as means to promote socially just assessment ecologies are important curricular components to consider when intentionally integrating multimodal writing goals into FYW program goals *and* WAC initiatives. In such ecologies, both students and faculty are in situations where they can take risks, collaborate, reflect, and learn together as multimodal writing is assigned, taught, drafted, responded to, and revised. Implementation of digital portfolio initiatives can potentially enhance this work given the digital portfolio's "status as multimodal composition" as well as their "ability to foster multimodal composition to an extent not possible in other, especially print, formats" (Balthazor et al., 2020, pp. 18, 22).

The intentional integration of multimodality into FYW and upper-division writing studies courses and curricula has also been shown to offer opportunities for students to compose with accessible and inclusive practices that address diversity of language, race, ethnicity, religion, socioeconomic status, gender and sexuality, ability, age, etc.-with the potential to emphasize what Adam Banks (2010) refers to as "culturally relevant, culturally responsive writing for all students" (p. 15). For example, Erica Cirillo-McCarthy (2015) draws upon disability studies concepts such as an ethic of inclusion when bringing multimodality into her writing courses, which positions students to "become aware of the rhetorical power of representation" (p. 266). In a similar spirit, Elizabeth Kleinfeld's (2019) multimodal writing pedagogy is informed by universal design for learning (UDL) principles. The approach she describes both relies upon student agency-opening writing assignments up to all students without the need for retrofitting-and asks students to engage in accessible and inclusive practices as they make decisions about what modes and genres to use to communicate their messages to specific audiences, and then how to communicate those messages in ways that take "concepts central to UDL, universal access and acknowledgement of diversity, into account as they create their pieces" (p. 34). Santosh Khadka (2020), who advocates for a pedagogical approach "informed by recent developments in media and new media studies, literacy studies, World Englishes, information technologies, and intercultural communication," conducted a study in a course that culminated with a collaborative documentary filmmaking project and found that this pedagogy "can help teachers better respond to the diverse linguistic, cultural, and literacy traditions students bring with them" and can help students cultivate "translingual, intercultural, multimodal, and digital skills, among othersqualities highly desired in individuals looking to join a workforce shaped by globalization" (p. 195). Such inclusive approaches to and rationales for teaching multimodality illustrate different ways that the goals of a pedagogy of multiliteracies expressed by the New London Group (Cazden et al., 1996) have become realized in different course contexts. These approaches are also timely, widely applicable, and have the potential to be modified and ported to courses taught outside of writing studies.

Additionally, studies of the impact of digital multimodal composing on the facilitation of rhetorical knowledge and writing development for L2 students have

indicated that students "exhibit[ed] advanced expertise and rhetorical sensitivity when layering meaning through multimodal composition" (Gonzales, 2015, abstract); that "the activities helped them develop language and voice to convey ideas that they were struggling to express using the written mode alone" (Dzekoe, 2017, p. 73); and that "multimodal composition can promote writing of beginner L2 learners, regardless of the exact context in which the writing takes place" (Vandommele et al., 2017, p.23). While these findings are promising for L2 learning overall, if developing grammatical alphabetic writing proficiency in the target language takes precedence over multimodal meaning making in the target language, multimodal integration may not be seen as having as much curricular use-value for L2 learners (see Kim & Belcher, 2020). This is yet another reason for more widespread adoption of compassionate feedback and assessment practices that place value not only on the diversity of available multimodal genres but also the diversity of linguistic and other semiotic assets that students bring to writing tasks across the curriculum.

Almost all of what has been covered here thus far has been studied in or advocated for implementation in courses situated in writing studies or L2 teaching contexts, and much more has been written about specific multimodal composing practices in these contexts (e.g., soundwriting, page/web design, visual-spatial rhetoric, digital storytelling, etc.). Multimodality is so deeply integrated into technical writing pedagogy and curricula that engaging with that body of scholarship is also beyond the scope of this article. However, designated "writing" courses taught by writing specialists are not the only courses that should or do engage with digital multimodality as a valid form of communicating knowledge to diverse audiences within and beyond disciplinary discourse communities. Of course, disciplinarily situated "multimodality" by that or other names has long been featured in fields like communications, marketing, education, applied arts, and as part of visual design in science writing, medicine, and public health, etc. although that multimodality is likely understood separately from "writing." Beyond the obvious, we're only starting to understand the landscape of how and why multimodality appears across the disciplines. Dan Melzer (2014), in his study of 2101 disciplinarily situated writing assignments collected between 1999 and 2007 from 100 U.S. colleges and universities, does not share much evidence of multimodality across the curriculum beyond noting that what counts as evidence differs from discipline to discipline and gives the example of one assignment asking history students to gather oral histories and images from family members (p. 63). However, he was not explicitly looking for multimodal writing. More recent studies have captured snapshots of how multimodality manifests through both faculty writing and student assignments across the curriculum at individual large research-intensive institutions in the United States (Reid et al., 2016; Lim & Polio, 2020). These illustrate an increasing importance for WAC programs at postsecondary institutions

of all sizes and missions to address a diversity of modes and interplay among modes in faculty development and other programmatic initiatives, especially given that we are in a faculty-acknowledged "moment of genre change" prompted by a proliferation of emerging digital genres (Reid et al., 2016, p. 16).

Barriers and Resistance to Multimodal Writing Across the Curriculum

Perhaps the greatest barriers to developing and sustaining curricular systems in support of multimodal writing transfer across the curriculum—more so than technology access or acumen, more so than the relatively insufficient emphasis on writing in the disciplines as compared to first-year writing across higher education in the United States-are 1) the status quo of entrenched practices and standards of writing in the disciplines that have not yet taken into account this moment of genre change and 2) faculty misconceptions about what writing is and how writing knowledge is developed.³ These barriers are the primary reason pointing to the need to change the theoretical frameworks that typically inform campus cultures of writing. In my institutional context, faculty often approach digital multimodality as "not writing" even when they assign multimodal projects or ask students to integrate multimodal elements into otherwise primarily alphanumeric texts (e.g., designing a data visualization to include in a public health article). I attribute this in large part to the ubiquitous cycle of traditional alphanumeric academic writing published and assigned across most disciplines. Previous campus-wide writing assessments conducted at Moravian University where I serve as WAC director consistently illustrate that while some faculty in some departments regularly ask students to create digital multimodal writing projects in support of student learning outcomes, many others do not. Some faculty, particularly those not from already multimodal-rich disciplines who have not engaged with writing program-sponsored faculty development in which we promote the idea that *all* writing is multimodal, tend to categorize digital multimodal writing assignments as less rigorous and/or important than traditional academic writing. Even in the instances when such projects are assigned, these faculty tend to dedicate less class time to these projects (although the projects often need more time), often describing such writing as fun but difficult-to-assess creative endeavors. Conversely,

^{3.} This is being exacerbated in 2023 by misconception-fueled fears that artificial intelligence (AI) language generators like ChatGPT will be the end of writing across higher education. The Association for Writing Across the Curriculum (2023) issued a position statement in response, reinforcing the idea that writing is a "vital activity [that] cannot be replaced by AI language generators" and concluding that "Current AI discussions remind us, yet again, of long-established best practices in Writing Across the Curriculum, grounded in research and extant for decades: designing meaningful and specific assignments that foster learning and develop skills; focusing on processes and practices such as peer-response and revision; encouraging writing in multiple genres, including ones connected to specific disciplinary practices."

those who have engaged with writing program initiatives that frame all forms of writing as multimodal tend to be more inclined to see value in including digital multimodal writing instruction in their courses and understand it as a worthwhile way to expand the accepted means of communication within their given disciplines.⁴

The limited number of published studies regarding transfer and multimodality (e.g., Alexander et al., 2016; DePalma, 2015; DePalma & Alexander, 2015; Rosinski, 2017; Shepherd, 2018; VanKooten, 2020) tend to illustrate that, similar to faculty, students frequently do not conceive of digital multimodal writing *as* writing and therefore have difficulties transferring writing conceptual knowledge into or out of multimodal composing situations. In a WAC-situated ethnographic study of undergraduate architecture studios that takes up the question of whether multimodal writing transfer across the disciplines is possible, Allan (2013) found that the 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" (p. 2). However, Allan cautions that "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" (p. 5) and that,

[d]isciplinary 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. (p. 7)

To mitigate this possibility of negative transfer, WAC programs should both work with faculty and students from academic departments and programs to intentionally design outcomes and curricula to support vertical (multimodal) writing transfer *and* support individual faculty across the disciplines to develop and promote productive conceptions of (multimodal) writing informed by the ways writing studies threshold concepts intersect with the threshold concepts of other disciplines through contextsituated writing activities.

The Possibility of Writing Transfer Across the Curriculum

Understanding and facilitating writing transfer has become a major goal of writing instructors and administrators of FYW seeking to develop effective courses and

^{4.} To learn more about the latter group, see Yozell, et al. 2018; Fodrey and Mikovits 2020; Mikovits et al. 2021.

programs that aim to emphasize specific rhetorical exigencies and genres that could be generalizable by students as they iteratively develop a transfer-oriented "metaawareness about writing, language, and rhetorical strategies" (Wardle, 2007, p. 82) in different disciplinary contexts. However, Melzer (2014 b) argues that writing transfer should be supported "not just from first-year writing to courses in the disciplines but at every stage of a student's college writing career" (p. 83). In order to facilitate a vertical transfer writing curriculum, Melzer suggests that WAC programs promote the following principles, based on his synthesis of vertical curriculum and transfer research available at that time:

- Require self-reflection and self-monitoring throughout the curriculum
- Distribute writing over time and embed writing throughout the curriculum
- Focus on situated, authentic, domain-specific practice
- Introduce and reinforce academic writing threshold concepts
- Create shared writing meta-language
- Design multiple opportunities for peer mentoring (pp. 83-84)

While I agree that all of these principles should be considered in the development of any initiative attempting multimodal writing transfer across the curriculum—as my colleagues and I did in designing the transfer-oriented Writing at Moravian program (see Fodrey et al. 2019)—the most relevant to the topic of this article regards the reinforcement of writing threshold concepts in tandem with "situated, authentic, domain-specific practice" (Melzer, 2014, pp. 83-84) so that the writing intentionally distributed over time and embedded throughout the curriculum is being framed, taught, and assessed in productive ways.

Threshold concepts are "concepts crucial for epistemological participation in disciplines" (Adler-Kassner & Wardle, 2019, p. 3) and represent the "transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress" (Meyer & Land, 2003, p. 1). When addressed in concert with transfer promoting practices, threshold concepts can enhance students' abilities to become consumers and producers of knowledge in their associated discipline(s) (Maid and D'Angelo, 2016). Scholarship on writing threshold concepts has engaged with misconceptions that individuals hold which can prevent them from making gains in their abilities as writers and/or teachers of writing (Adler-Kassner & Wardle 2015; Adler-Kassner & Wardle, 2019; Adler-Kassner & Wardle, 2022). Some among the many misconceptions that could impede multimodal writing transfer are that multimodal writing is not writing, that it is possible to learn to write in general, that feedback should focus on grammatical correctness (or an elusive "creativity") above all else, that it is possible to assess writing objectively or to use the same rubric to reliably and validly assess all writing, etc. Research on threshold concepts of writing in the disciplines suggests that "[t]he conceptions students hold about writing will impact their engagement in learning about writing and their future deployment of that learning" (Paz, 2022, p. 343). Specifically, Enrique Paz (2022) relies on the findings of his study of "the context and experiences of geology students in a geology and earth science program that has vertically integrated writing instruction into its curriculum" (p. 321) to argue that students' misconceptions about writing have the potential to be transformed "into accurate threshold concepts of writing" if disciplinary faculty and the curricula they develop prioritize students' engagement with contextually-situated writing (p. 320).

When considering multimodal transfer across the curriculum, identifying both students' and faculties' existing conceptions of writing is an important step in this process. From there, WAC leaders can work with faculty across the disciplines who teach and assign writing to students to facilitate conceptual change about writing connected to a "shared writing metalanguage" (Melzer, 2014b, p. 84)—e.g., program-wide key terms like purpose, audience, genre, discourse community, multimodality, etc. with shared definitions that "students think with, write with, and reflect with reiteratively" (Yancey et al., 2014, p. 5). I'm not alone in advocating for something like this; multiple scholars have emphasized the importance of faculty connecting the threshold concepts of writing across disciplines (Adler-Kassner, 2019; Adler-Kassner & Majewski, 2015; Adler-Kassner & Wardle, 2022; Glotfelter et al., 2022; Wardle, 2019). In addition, Anson (2015) names six concepts that each represent "both a domain of inquiry and a domain of praxis" for WAC practitioners:

- defining writing as a disciplinary activity;
- reconceptualizing the social and rhetorical nature of writing;
- distinguishing between writing to learn and writing to communicate;
- establishing shared goals and responsibilities for improvement;
- understanding the situated nature of writing and the problem of transfer; and
- viewing student writing developmentally. (p. 205)

If we take the threshold concept that "all writing is multimodal" (Ball & Charlton, 2015, p. 42) to be true and read a capacious definition of writing into Anson's list of WAC threshold concepts, then this list is certainly a good starting place for what we hope for any teacher and/or assessor of writing to understand about (multimodal) writing. For both primarily alphanumeric and explicitly multimodal writing contexts, faculty need to be prepared to design assignments and assessments utilizing productive knowledge of these and other named and not-yet-named writing threshold

concepts as well as be able to discuss relevant concepts with students in effective, context-situated, transfer-supporting ways that could fundamentally change and/or expand students' understanding of (multimodal) writing.

The multimodal pedagogy research team at Moravian University⁵ found this to be true in our own institutional context, where many faculty were interested in the idea of incorporating multimodal projects but unsure how to effectively create or assess them. Results from our study with arts, humanities, and social sciences faculty who developed multimodal assignments as part of a grant-funded digital storytelling initiative not specifically connected to WAC (Mikovits et al., 2021) demonstrated that the digital multimodal projects faculty described as most successful were those that expressly prompted students to consider the five knowledge domains from which successful writers draw (as theorized by Beaufort, 2007): subject matter, rhetorical, genre, writing process, and discourse community knowledge. Specifically, we concluded the following:

[W]orking with non-alphabetic modes requires that faculty across the disciplines interrogate their assumptions about what writing is and how it happens. Faculty may also need to be convinced that, as one study participant cautioned, we are not merely asking students to engage in a "cutesy exercise in low-level technology." To illustrate the legitimacy of multimodal projects, WAC/WID leaders and others involved in faculty development should prompt faculty to expand their conceptions of what writing in their disciplines can be by framing multimodal writing as meaningful writing with the potential to do work in the world. (Mikovits et al., 2021, p. 288)

This research also led us to define an intentionally designed digital multimodal assignment as one that:

- 1. focuses on learning outcomes and exigence more so than focusing heavily on digital tools, which can result in artificial writing situations;
- asks students to analyze the rhetorical situation, genre conventions, and functions of model artifacts as an inventive activity for writing-to-communicate projects;
- 3. gives students flexibility in decision making regarding their approach in lieu of developing overly directive and proscriptive prompts;

^{5.} Thank you to the members of the Writing at Moravian's multimodal pedagogy research team over the years, especially my colleagues Meg Mikovits, Erica Yozell, and Karen Groller as well as the many Moravian University undergraduate writing studies researchers who have gathered and analyzed data on multimodal composing across the curriculum that has informed my thinking on this topic.

- 4. provides a framework of expectations that allows for flexibility in approach while still meeting student learning outcomes;
- 5. recognizes students' growing digital literacy skills and scaffolds the process of project development instead of making assumptions based on the fallacy of the digital native; and
- 6. builds opportunities for student reflection before, during, and after digital multimodal writing processes.

Based on these findings, a colleague and I developed a faculty workshop—which has since been expanded into a workshop series with a growing set of resources—on creating and assessing potentially meaningful, context-situated multimodal activities and projects. The original workshop described in "Theorizing WAC Faculty Development in Multimodal Project Design" (Fodrey & Mikovits, 2020) was built around what is intended to be a multimodal transfer-supporting heuristic to lead faculty through considerations grounded in the knowledge domain areas. The prompting questions in this heuristic, which we refer to as the Writing Project Design Guide,⁶ are reviewed and updated as needed to respond to local concerns as well as larger scholarly conversations. For example, the following critical language awareness-inspired question was added in a section addressing writing process knowledge and scaffolding: "When might you incorporate opportunities for students to both practice and critique linguistic and/or broader semiotic norms and academic standards associated with common communication practices of the course's disciplinary discourse community?"

It is important to note here that what was learned from the study and subsequent educational development work at Moravian described above provides a snapshot of faculty across the disciplines' experiences designing and implementing digital storytelling-framed multimodal projects at a particular point in time in a particular institutional context. Beyond not being here yet in terms of understanding the rhetorical functions or effective assessment practices for digital multimodal writing in the disciplines, WAC is also not here yet in terms of understanding the uptake, teaching, and educational impact of emerging forms and practices of digital multimodal writing for faculty and students in disciplines beyond writing studies, nor do we know much of anything about WAC/WID-situated digital multimodal writing assignments across multiple institutional sites. However, I will end this section on the possibility of writing transfer across the curriculum with a hypothesis that brings me hope: My small scale engagement with digital multimodal WAC initiatives seems to indicate (for now, mostly on an anecdotal level) that because digital multimodal

^{6.} A version of the document from Spring 2023 is available at https://tinyurl.com/ writingprojectdesignguide

writing, as opposed to more traditional forms of primarily alphanumeric textual production, tends to be dissimilar to the rhetorical situations and genres of writing typically assigned in academic settings, engagement with digital multimodality has the potential to productively challenge misconceptions about writing held by both faculty and students across the curriculum; this could, therefore, potentially mitigate negative transfer and better encourage transfer of (multimodal) writing conceptual knowledge in both faculty and their students. Only time and more research will tell if this hypothesis has merit, but it is one worth exploring—especially as concerns about Chat-GPT and other large language models pervade conversations about the future of primarily alphanumeric linguistic-mode writing in higher education.

Toward Multimodal Writing Transfer-Supportive Institutional Ecologies

The aspirational road to multimodal writing transfer across the curriculum may indeed be somewhat obstructed by misconceptions and multifaceted institutional and programmatic needs; habitable curriculum-spanning spaces do not yet exist for multimodal writing to be understood as writing, and efforts to bring together the various facets necessary to develop multimodal writing transfer-supportive ecologies have rarely been attempted. However, the bodies of scholarship brought together in this article give us a starting place from which to navigate the path. If widespread acceptance of the value of primarily alphanumeric writing-intensive experiences and intentional scaffolded integration of increasingly difficult discipline-relevant writing practices are essential components for a vertical transfer writing curriculum (Melzer 2014b), then a similar but much more difficult ask of acceptance and integration seems vital when multimodality, especially digital multimodality, expands what "writing" in the academy is and can be, scaled to the institution or state-system-level. The scholarship suggests that faculty across the disciplines who integrate digital multimodal writing projects into their courses will better serve their students when those faculty and the administrators who support them approach digital multimodal writing as writing that relies on the development of the same knowledge domains-of writing process, subject matter, rhetoric, genre, and discourse community-from which successful primarily alphanumeric text producers draw.⁷ It also stands to reason that students who engage with intentionally designed contextually-situated multiliteracies-promoting instruction and assignments in multiple classes taught by faculty who use evidence-supported, inclusive, transfer-oriented practices and who hold and promote a threshold-concept-informed understanding of writing will be

^{7.} See Beaufort 2007 for a theorization of the knowledge domains applied to alphabetic text production in the disciplines and Fodrey and Mikovits 2020 for a theorization of the knowledge domains applied to multimodal writing in the disciplines.

best positioned to transfer multimodal writing knowledge and abilities across the curriculum and beyond.

Let's move forward with the assumption that digital multimodal writing transfer across the curriculum is possible and is something that interested institutions will pursue in the future. Changing postsecondary institutions to support digital multimodal writing transfer ecologies, however, would be no small task. I believe at each institution it would require a well supported, sustainable institutional-contextresponsive WAC program with a writing transfer-oriented mission that defines and promotes "writing" as any form of multimodal communication (i.e., as communication in which audio, visual, spatial, gestural, and/or alphanumeric textual components convey meaning)-ideas best understood through ongoing reflection on accepted and emerging threshold concepts, specifically how threshold concepts of writing intersect with disciplinary threshold concepts, "creating an interdisciplinary discursive frame that emphasizes faculty expertise around writing across and in the disciplines" (Wardle 2019, p. 300). Inductive Writing-Enriched Curriculuminformed strategies (see Anson & Flash, 2021) could be used to help departments and programs articulate how writing in their disciplines is already multimodal and how they can push the discursive boundaries of their disciplines forward by leveraging multimodality in rhetorically savvy ways and intentionally scaffolding writing, broadly conceived, and necessary technological support into departmental and programmatic curricula. Changes would also likely need to be made to institutional learning outcomes, general education curricula, and student learning assessment—as noted earlier-and also to writing center consultant and graduate teaching assistant training, to information literacy education and what can count as a source, and on and on and on to ripple effects I cannot yet anticipate. To accomplish such systemic changes in the most sustainable manner possible, it seems, would require WAC programs with the power and autonomy to engage in the level of change work described above to take a whole systems approach as theorized by Cox, Galin, and Melzer (2018), an approach that is mindful of and responsive to the context-specific, multifaceted and, at times, divergent directives of the highly complex systems that are institutional settings. I, for one, look forward to seeing how the international WAC community takes up questions and practices of (multimodal) writing transfer in the future to explore this productive space for student learning.

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