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A Programmatic Ecology of Assessment: Using a Common Rubric to Evaluate Multimodal Processes and Artifacts

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Abstract

Rubrics are important assessment tools and can play a critical role in relation to workload, programmatic consistency, and multimodality. Teachers need supporting tools for multimodal assessment. Multimodal composition curricula can productively use programmatic rubrics when those rubrics are part of an ecology of assessment that prioritizes feedback and adaptation. Addressing factors of value, environment, and scale, an ecology of assessment can use rubrics as a normal part of a writing and communication program, while nonetheless acknowledging that rubrics can be sterile, artificial, and oversimplified. After discussing a rationale for rubrics and the ways in which a programmatic rubric can be adapted, a specific case study illustrates the application of a programmatic rubric for the design, development, and assessment of a game project in a first-year English composition class. The article concludes by speculating about directions for research and pedagogy to strengthen multimodal assessment.

Keywords: Assessment; Composing; Ecology; Evaluation; Multimodality; Process; Rhetoric; Rubrics

Games in composition classes? Absolutely. Assessment of games in composition classes? Certainly. Scalability that allows assessment of games across multiple composition classes? Yes, that too. We use rubrics for the assessment of projects such as games as well as for other multimodal projects—rubrics that both meet our programmatic outcomes and are adaptable to projects developed by teachers. These flexible rubrics respond to student, teacher, programmatic, institutional, legal, and theoretical needs.

A brief example illustrates the flexibility of our rubric: Amanda Madden (article co-author) designed a game project for students in her first-year composition course, which emphasized literary and historical adaptation in popular culture. The course's final project asked students to apply what they learned by adapting a historical or literary theme into a playable game they then presented to the class. Students designed one of several types of games, including choose-your-own-adventure digital games based on local campus culture, board games using historical or literary characters and events, and playground games borrowing themes from H.G. Wells' *The War of the Worlds*.

The programmatic rubric identified rhetorical outcomes and enabled students doing this project to see how their competencies in analysis and composition built upon one another. The game project provided an engaging and useful vehicle for students to compose written, oral, and visual artifacts and use a rubric to assess the multimodal outcomes.

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While the students were tech savvy and came to the course accustomed to composing in writing, they were less familiar with composing in oral and visual modes. Introducing them to multimodal composing through assignments like games, podcasts, and videos required Madden to provide a framework for composing across and within several modes and media. Quite reasonably, Madden's students asked, "How will the game be assessed and graded?" Teachers should be prepared to answer this question for any project, including games, podcasts, and videos. As students learn to compose in new ways, a rubric not only can scaffold them to meet teacher expectations, but it can also help them to understand how they are being assessed, which increases their confidence. Of course, any good rubric should do these things; what we're arguing is that a rubric necessarily needs to do more.

In this article, we first show rubrics can do more within what we define as a programmatic ecology of assessment. Then we discuss the specific ways our program uses rubrics to assess rhetoric, process, and multimodality within such an ecology, ways that have intellectual integrity, work toward programmatic coherence, and encourage conversations within and beyond the program. Following that discussion, we take a closer look at how the rubric was used in Madden's game assignment. Finally, we propose new directions for multimodal assessment research and pedagogy.

1. Defining a programmatic ecology of assessment

As assessment of writing has necessarily evolved in accordance with theory, curriculum, and technology, the assessment of multimodal artifacts is also evolving (Anderson et al., 2006; Neal, 2011). This evolution occurs across multiple modes and disciplines (e.g., visual rhetoric, communication studies, media studies, computer science) in a rapidly changing environment. In short, multimodal assessment takes concerns of written assessment, such as programmatic consistency and teacher workload, and complicates them with new factors that students, teachers, and administrators must consider (Adsanatham et al., 2013), including assessment of artifacts in a variety of modes.

As one way of navigating the complexity of multimodality, we argue that multimodal composition curricula can productively use programmatic rubrics when those rubrics are part of an ecology of assessment that prioritizes feedback and adaptation. In this section, we define a programmatic ecology of assessment and then address factors of value, environment, and scale as important background for understanding that ecology.

What is a programmatic ecology of assessment? When we use the word "ecology," we draw upon the work of Margaret A. Syverson (1999), who used the word to describe the "numerous interrelated complex systems" (Syverson, 1999, p. 2) that comprise composition. Like Syverson, we believe such systems include not only "writers, readers, and texts" but also "environmental structures" and "other complex systems operating at various levels of scale." Environmental structures, Syverson noted, may include "pens, paper, computers, books, telephones, fax machines, photocopiers, printing presses, and other natural and human constructed features," while the other complex systems within the particular ecology of composition may include "families, global economies, publishing systems, theoretical frames, academic disciplines, and language itself" (p. 5). In short, Syverson defined an ecology as "a kind of meta-complex system composed of interrelated and interdependent complex systems and their environmental structures and processes" (p. 5).

Christopher Manion and Richard Selfe (2012) described the value of Syverson's model in their assessment of wiki assignments in three courses they studied. Like Manion and Selfe, we see value in what they called Syverson's "careful examination of the interrelationships among actors, artifacts, and environments as they develop over time" (p. 27). Unlike Manion and Selfe's focus on an ecology of assessment within particular courses, we propose an ecology of assessment using Syverson's formulation that operates on the programmatic level—including the complex systems of program administration, teachers, students, courses, and other stakeholders within the broader complex systems of disciplinary research and theory, institutional goals, and societal needs.

Within an ecology of assessment, teachers can use rubrics while simultaneously acknowledging that some rubrics may be inadequate—too often sterile, artificial, and oversimplified. We challenge the notion that all rubrics are inadequate and argue that rubrics can have value by focusing on selected rhetorical factors to assess multimodal artifacts, can provide an environment for programmatic consistency, and can help manage the enormity of a teacher's workload as it scales up. Appropriately designed and implemented, rubrics can help students become capable self-critics and peer-reviewers as they create artifacts that can become part of their portfolios.

Ultimately, we believe the decision whether to use a common rubric as part of an ecology of assessment in a multimodal curriculum must take into account the *value* of rubrics for assessing multimodal communication, the *environment* in which the assessment of multimodal artifacts occurs, and *scale* of the multimodal assessment[1]:

- ***Value***. Rubrics can help teachers and students alike identify areas of strength and areas for improvement, without feeling overwhelmed. Rubrics can frame the assessment of innovative projects such as video games or films in ways that are comparable with projects such as essays or presentations. At the same time, assessment ultimately cannot be separated into the neat, bounded categories that a rubric, on the surface, presents; the categories are *always* synergistic. A rubric's value may thus be defined in how well it handles the tension between bounded categories and the synergy across those categories.
- ***Environment***. Even though the academic freedom of individual teachers is prized, encouraged, and protected, a program necessarily creates an environment of consistency when everyone uses the same outcomes and the same rubric in multiple sections of the same course. In a multimodal curriculum, the possible approaches and combinations of modes and media are large, so using a rubric based on programmatic outcomes can articulate a common interpretation of the program's vision and help provide programmatic coherence.
- ***Scale***. Despite long-standing guidelines about class size and teacher workload from the National Council of Teachers of English (NCTE, 1987), actual workloads may be 75-100 students or more—too large to efficiently provide extensive, detailed feedback to individual students about their work. Beyond conventional classrooms, tens of thousands of students have enrolled in composition MOOCs, bringing another challenge to scale.[2] Issues of scale also must consider the number and kind of projects in a course, the frequency of office hour visits, and the kind and amount of feedback expected on student work.

We see these elements of value, environment, and scale as part of what we call a programmatic ecology of assessment, an idea we see as expanding disciplinary conversations. While several scholars discuss the culture of assessment within the classroom (e.g., Broad, 2009; Huot, 2002; Inoue, 2005; Elbow, 2006), we think of assessment as going beyond the classroom, as encompassing philosophy and practice both enacted through and the result of "self-organizing, adaptive, and dynamic interactions" (Syverson, 1999, p. 4).

As a result of our awareness of these interactions, a programmatic rubric—used across assignments and across time—has become an important part of our multimodal assessment. We have found that a programmatic rubric allows for longitudinal assessment of both *vertical engagement* (students develop increasing disciplinary competence with practice over time, "moving through a set of phases or stages within a particular community of practice," Wardle & Roozen, 2012, p. 108) and *horizontal engagement* (students are affected by "a wider range of factors than students' engagement in a particular discipline or the undergraduate curriculum," specifically considering "out-of-school literate engagements" p. 109). We agree with Elizabeth Wardle and Kevin Roozen when they argued that,

> no single snapshot or measure of texts alone and/or texts at any one point in time will adequately help us understand what students are learning and writing across and between 'intersecting social worlds,' what sorts of uptake are happening across boundaries, how students are developing (or not) as literate learners—and why. (p. 112)

As Traci Fordham and Hillory Oakes (2013) noted, "multimodal communication environments require broader, more integrated epistemologies: one must be able to entertain multiple perspectives and multiple strategies for com-

[1] While in this article we talk about issues of *value*, *environment*, and *scale* largely as they affect multimodal composition pedagogy, operating within a *programmatic ecology of assessment* also prompts us to be fully aware that these issues affect and are affected by factors including (but not limited to) institutional, state, and national policies, economics, demographics, politics, geographies, and legalities. Similarly, Moore O'Neill, and Huot (2009) offer a provocative and useful discussion about what they call the "culture of assessment," which is affected by "institutional positioning" and "broader social and political factors" (p. W124): "A culture is not static, or finite; it is ever-evolving and web-like, encompassing many interconnected values, practices, and people. Because the best assessments are ongoing and necessarily involve every component of a program, including students, faculty, administrators, curriculum, and resources, and because they both reflect and are affected by individual and institutional values and beliefs, culture is, we believe, a fitting metaphor for the approach that we endorse" (p. W125).

[2] In the spring and summer of 2013, each of the co-authors worked with others on a Georgia Tech team to develop, present, and maintain a MOOC based on multimodal composition, funded by a grant from the Bill and Melinda Gates Foundation. The course, First-Year Composition 2.0, ran for eight weeks, from late May to mid-July.

munication" (p. 315). Our focus is broad in accounting for multiple perspectives and multiple strategies, even as we focus on one rubric for assessing students' multimodal artifacts.

2. A flexible, adaptable rubric

Five years ago, the Writing and Communication Program at Georgia Institute of Technology (Georgia Tech) developed a flexible, adaptable rubric that reflects the philosophy of our program and creates coherence among our programmatic outcomes, the concepts in *WOVENText* (our programmatic textbook), and our assessment processes. We implemented a common rubric for our two-semester sequence of first-year multimodal composition courses as well as for our introductory, upper-level technical communication course.

These courses are primarily taught by 40 postdoctoral fellows whose experiences in digital pedagogy vary widely (e.g., scholarly interests in areas including rhetoric, composition, literature, film, cultural studies, media studies, performance studies, linguistics, philosophy, history, technical communication, gender studies); the fellows' approaches to multimodal composition and project design necessarily vary. The programmatic rubric they use reflects the communication principles we believe are central for creating successful multimodal artifacts. While we developed the rubric in accordance with state mandates, professional organization guidelines, and programmatic outcomes, we knew that refining the tool and changing the culture would take years.

The rubric sits at the center of our programmatic ecology of assessment by prompting conversation among three main audiences:

1. Administrators ensure the rubric reflects state, disciplinary, and programmatic standards. Administrators also use the rubric to orient new teachers and provide programmatic consistency.
2. Teachers adapt the rubric to their specific assignments and use it to scaffold self- and peer-assessment. Teachers work with program administrators to refine the rubric.
3. Students may participate in adapting the rubric to particular assignments, use the rubric for self- and peer-assessment, and use it to direct their processes.

In short, the rubric unites state mandates for our courses with our programmatic goals, while allowing for maximum flexibility and adaptability for the broad range of multimodal artifacts our faculty assign. The flexibility of the rubric allows teachers to adapt it to their assignments, which range from blogs to flash mobs, from posters to podcasts, from videos to remediation projects, from websites to wikis. The rubric also creates a common vocabulary that students encounter and recognize from course to course within our program.

For a rubric to reflect programmatic outcomes and to be pedagogically useful for us, it must assess rhetoric, process, and multimodality for students as they engage in these tasks (whether written, oral, visual, or nonverbal):

- Respond to rhetorical aspects of multimodal communication, including contexts, purposes, audiences, and register;
- Construct arguments with credible, persuasive evidence and analysis;
- Make decisions about organization, structure, and coherence;
- Use conventions appropriately and effectively—conventions of language, voice, movement, genre, modes, and media; and
- Design in ways that increase engagement, comprehensibility, and usability.

To illustrate how this rubric functions, we provide a description of the generic form, then show one way it has been modified for a short multimodal assignment, and, in the next section, illustrate its use with a longer multimodal assignment.

The programmatic rubric emphasizes *rhetorical awareness*, *stance and support*, *organization*, *conventions*, and *design*, categories that shape multimodal communication. Teachers can adapt categories of the rubric (Figure 1) for particular assignments. Descriptive text within category cells establishes criteria for assessment; that text is representative, not inclusive, so teachers can add text relevant to particular assignments/projects.

Categories	Header columns filled in by individual teachers using letter grades, a numbered scale, or points, as they prefer.					
Rhetorical Awareness Response to situation, considering elements such as context, purpose, audience, and register	Ignores two or more aspects of the situation and thus does not fulfill the task	Ignores at least one aspect of the situation and thus compromises effectiveness	Attempts to respond to the situation, but the attempt is insufficient or inappropriate	Addresses situation in a complete but perfunctory or predictable way	Addresses situation completely, with unexpected insight	Addresses situation completely, in a sophisticated manner to advance discourse on topic
Stance and Support Argument, evidence, and analysis	Involves confusing or unspecified argument; lacks appropriate evidence	Makes an overly general argument; has weak or contradictory evidence	Lacks a unified argument; lacks significance ("so what?"); lacks sufficient analysis	Offers unified but common position with predictable evidence and analysis	Offers a unified, distinct position with compelling evidence and analysis	Offers inventive, expert-like position with convincing, precise evidence and analysis
Organization Structure and coherence, including elements such as introductions and conclusions as well as logical connections within and among paragraphs (or other meaningful chunks)	Lacks unity in constituent parts (such as ¶s); fails to create coherence among constituent parts	Unifies insufficiently (e.g., thesis statements, topic sentences, headings, fore-casting); ignores necessary coherence (e.g., transitions, hyperlinks)	Uses unclear unifying claims; connects weakly or inconsistently, as when claims appear as random lists or when ¶ topics lack explicit ties to the thesis	States unifying claims with supporting points that relate clearly to the overall argument and employs an effective but mechanical scheme	Asserts/sustains a claim that develops progressively and adapts typical organizational schemes for the context, achieving substantive coherence	Asserts a sophisticated claim by incorporating diverse perspectives that are organized to achieve maximum coherence and momentum
Convention Expectations for grammar, mechanics, style, citation, genre	Involves errors that risk making overall message distorted or incomprehensible	Involves a major pattern of errors	Involves some distracting errors	Meets expectations, with minor errors	Exceeds expectations in a virtually flawless manner	Manipulates expectations in ways that advance the argument
Design for Medium Features to enhance factors such as comprehensibility and usability	Lacks features for genre; neglects factors such as linking on websites; uses features that conflict with or ignore argument	Omits important features; distracts with inconsistent features (e.g., type and headings); uses features that don't support argument	Uses features that support argument, but match imprecisely with content; involves minor omissions or inconsistencies	Supports argument with features that are generally suited to genre and content	Promotes engagement and supports argument with features that efficiently use design	Persuades with careful, seamless integration of features and content and with innovative use of design

Figure 1. Programmatic rubric defines five categories for multimodal assessment and uses a scale adaptable to individual assignments.[4]

Criteria within each category may be adapted to an assignment, but the categories remain stable.[3] In this situation, stable doesn't mean unchanging. Todd Migliaccio and Dan Melze (2011) argued that four central criteria of grounded theory—fit, relevance, workability, and modifiability—are a good way to explain the assessment of writing (and, for us, multimodal assessment, as well). In fact, we believe that Migliaccio and Melze's argument empowers individual teachers to modify a programmatic rubric for their own classes—to make it more fit, relevant, and workable for the particular outcomes students should be attempting in a project at that point in the semester. If a teacher wants to prioritize outcomes based on rhetorical awareness and conventions in a particular assignment but wants to de-emphasize a given category, such as "design," that category may be omitted (or shaded in gray) on that assignment's rubric.

For example, the rubric in Figure 2 was created by Kathleen Hanggi (article co-author) for her class blog, to which students posted at various points during the semester. Her rubric in Figure 2 modifies the programmatic rubric and includes her responses to an individual student. Hanggi made these specific changes:

- ***Fit***: She replaced generic category statements with assignment-specific questions for self- and peer review so that the concepts in her rubric more precisely articulated what she wanted her students to learn and practice.
- ***Relevance***: She omitted "design" as a category—since it wasn't relevant for her particular blog assignment. She deleted the generic cell descriptions and wrote individualized, assignment-specific feedback in the cell corresponding to the appropriate point value; this individualized feedback was relevant as guidance for students to improve their future blog posts.

[3] Schryer (1993) introduced the concept of "stabilized for now," which suggests that genre exist because they *are* stable, but that stability is always in flux, always fluid, so that genres gradually evolve. Similarly, our rubric is "stabilized for now," but it is always evolving. In fact, the evolution is institutionalized in an ecology that, for example, officially encourages teachers to modify the rubric for specific assignments.

[4] These categories modify a rubric developed by ISUComm at Iowa State University when that institution created an institution-wide communication across the curriculum program.

Categories	0-1 Points	2-3 Points	4 Points	5 Points	Total
Rhetorical Awareness Have you established your position in relation to the blog's topic?		*You summarize the Beatles transatlantic popularity, but you do not take a position of your own. Where is your argument, your voice?*			**3**
Stance & Support How well does your evidence support your position in your blog?			*Using a quotation is good, but you need to provide more explanation to help your readers understand how the quotation from the Rolling Stone interview supports your position.*		**4**
Organization How well is your blog post organized?				*Good. Your topics are logically organized, with transitions to help readers.*	**5**
Conventions How consistently have you linked to your blog's sources? How appropriate are your language conventions?		*You need to cite and link to all your sources to support your position and establish your credibility. Do you have sources for your Beatles background information?*			**3**
Design					
Total Points					**15**

Figure 2. Programmatic assessment rubric modified for an individual assignment by (a) adding assignment-specific questions, (b) omitting the design category for this assignment, (c) adding an assignment-specific scale, and (d) adding a summary "points" column and "total points" row.

- ***Workability***: She added an assignment-specific scale at the top of the rubric that worked for grading this assignment. The program supports teachers in adding or modifying the scale for individual assignments. However, so that end-of-semester portfolios can be compared across the program, the scale for portfolio assessment cannot be modified.
- ***Modifiability***: She added a summary "points" column and "total points" row because the grade for this assignment was determined by compiling the point value of the cells that have comments.

Hanggi's modification (Figure 2) illustrates that the criteria—fit, relevance, workability, and modifiability—defined by Migliaccio and Melze (2011) are useful for talking about the way rubrics work.

Teachers in our program can develop course themes around their own professional interests, but, as Figures 1 and 2 show, the rubric provides concepts that ensure courses prioritize rhetoric, process, and multimodality. For example, Hanggi's composition course focused on globalization; when she assigned blog posts to encourage students to write about aspects of globalization in ways that fit with their individual interests, she adapted the rubric accordingly. Even with Hanggi's adaptation, the rubric, whose language reflects the vocabulary of *WOVENText*, emphasizes rhetorical principles that students learn as they undertake multimodal projects. Further, teachers are trained to make the rubric's language part of each stage of a project, ensuring a focus on rhetoric, process, and multimodality and creating synergy among readings, planning, peer review, and assessment.

A common programmatic rubric also contextualizes assessment within and across courses. Rubrics separate rhetorical elements into constituent parts that students sometimes inappropriately conflate or underspecify; we explore these rhetorical elements in class, discussing processes and strategies that apply to all modes and media. A rubric, then, can encourage students to recognize that multimodality is comprised of processes as well artifacts.

3. Arguing for the use of rubrics within an ecology of assessment

Programs around the country have developed multimodal communication curricula for first-year and upper-level composition courses, recognizing that students compose multimodal artifacts in and outside their classes (Whithaus, 2005; Wardle & Roozen, 2012). In all of these programs, the criteria for what defines a successful multimodal artifact must be made explicit to students (Katz & Odell, 2012, p. 2). These criteria must consider factors such as audiences, interactivity, scope or concept, and situatedness, as well as form and content (Ball, 2012; Whithaus, 2005). Finally,

assessment must be transparent and integrated throughout the life of a project in order to help students connect composing and revising with assessment and the overall goals of the project (Borton & Huot, 2007, p. 100).

The political reality is that many writing and communication programs across the country are staffed by inexperienced, untrained, and unsupported teachers. Further, most teachers need to be supported in the transition from writing-based pedagogy to multimodal pedagogy, regardless of how experienced, trained, or supported those teachers may otherwise be. Not only can rubrics save teachers time assessing work and providing feedback, but they also help teachers articulate differences between inept, average, and superior student work, providing elements for training and consistency across a program.

In the ongoing debate about rubrics and their place in writing and communication classes, those who position themselves in favor of the rubrics argue value in their use and origins (Andrade, 2005; Turley & Gallagher, 2008; Young, 2009). Assessment strategies developed at a state level may fail to accommodate idiosyncrasies of individual programs and classes and the needs of both students and teachers (Gallagher, 2011). Yet, when created in a particular class, whether by teachers or by students in conjunction with teachers, rubrics have many benefits. They establish transparency in teacher expectations (Andrade, 2005), particularly if they are created as part of conversations with the students (Inoue, 2005; Ball, 2012). So, too, on the programmatic level, rubrics created (via interactions among state and university standards, disciplinary theory, administration, teachers, and students) establish transparency while allowing for consistent assessment of the widest range of possible multimodal artifacts. Ultimately, as Andrade (2005) noted, rubrics do not preclude individualized, written feedback; rather, many teachers incorporate written feedback into their rubrics (cf. Andrade, 2005, p. 29; see Figure 2 for an example).

In multimodal classes, rubrics can also help students identify criteria for a high-quality multimodal project (Ball, 2012). Ball described assigning different multimodal, or webtext, rubrics to her students to help them understand the elements comprising a digital, multimodal project. Then, after reading and then comparing and contrasting three rubrics, her students collaboratively created a rubric that fit their semester-long project. Their class rubric was culled and created from the material they had read. According to Ball (2012), this process aided students in learning the ways form and content must be considered throughout the entire life of the project, and it gave students a vocabulary for assessing one another's work during peer review (p. 70). By incorporating assessment and its critique into the course, Ball demonstrated ways in which assessment was an integral component of the ecology, where understanding assessment aided in creating artifacts as well as helping students learn to be self-assessors of their own work and the work of the peers and moving them toward more expert-like communication behaviors.

We argue that the practical realities of value, environment, and scale make attention to rubrics an important part of a large-scale program. We don't dismiss the objections so much as believe that they can be overcome by careful rubric design with attention to flexible use and an awareness of the rubric as but one part of an ecology of assessment.

4. Using a programmatic rubric for multimodal assessment: A case study

The approach a program (or individual teacher) uses to help students become more expert-like has typically been separated into three broad approaches: current-traditional, expressivist, and rhetorical (Burnett & Kastman, 1997, p. 266). A rhetorical approach—emphasizing a "dynamic, communicative, constructive, contextual, and collaborative" process—enables teachers to concentrate on defined situations, using, for example, service learning, simulations, or gamification. The case explored here focuses on gamification as an example of multimodality.

Multimodal projects can be effectively conceptualized, visualized, and implemented when students use a programmatic rubric (see Figure 1) as a general planning tool as well as a tool for formative and summative assessment. Regardless of media and modes, students use written, oral, visual, electronic, and nonverbal (WOVEN) communication as they create multimodal projects. In the extended case we discuss, students created games. In the assignment we introduced at the beginning of this article, Madden's students not only submitted a written proposal in which they described the rhetoric, organization, and design of their game and presented their schedule, they also considered why and how they might ultimately privilege one mode in the final version of the game, even though all WOVEN elements were present during each phase of design and development.

In order for students to envision composing as multimodal, both students and teacher use the programmatic rubric in various ways. In Madden's class about popular culture and adaptation, for example, after students were introduced to the rubric at the beginning of the course, the rubric helped guide discussion before, during, and after each phase of composing: First, the rubric prompted students to think through their choices, regardless of the kind of game they

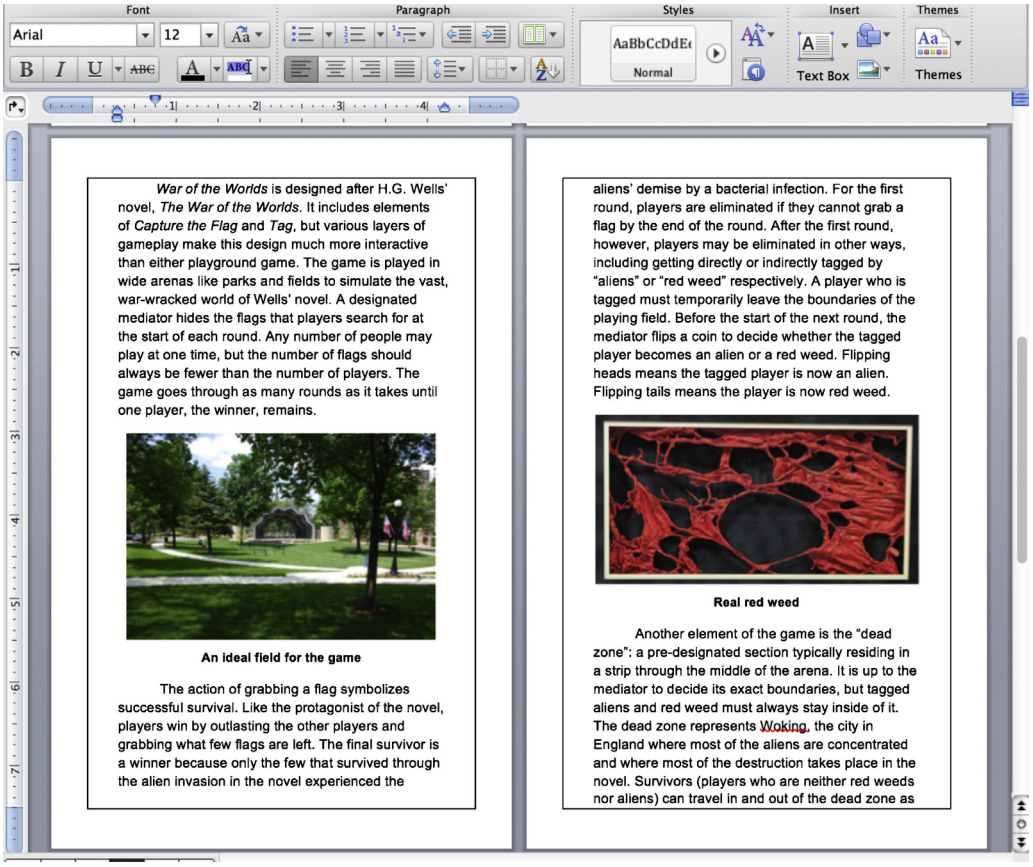

Figure 3. Screen capture of excerpt from a discussion about rules for a live-action role-playing game (reprinted with permission).

created. For example, one group's design of a board game led to a discussion about rules that incorporated both written and visual elements. The game pieces themselves incorporated both written and visual elements and encouraged students to consider nonverbal communication that was part of gameplay. When students designed electronic games, they not only thought about electronic composing, they also considered written, oral, and visual elements (See another approach to multimedia literacy in Jacobs, 2012).

To illustrate ways the rubric guided this process, Figure 3 shows an example of one discussion about rules for a live-action role-playing game. Note the students' attention to the design of the written and visual elements—the way the visuals are placed in relation to the text and the way visuals are referred to in the text. Although Microsoft Word is not usually an appropriate application for highly designed artifacts, the rules discussions were short (2–3 pages) and typically included fewer than five visuals, which is within Word's capabilities. The students in each group placed the visuals in relation to the text and added standard elements, such as figure titles.

Another group of students took a different approach to the same assignment. They created a board game that required action cards drawn from the deck during game play. Figure 4 shows three of the playing cards for the board game; the entire pack of cards incorporated visuals and text that demonstrated a realistic awareness of audience, a clear understanding of source materials, and an ability to use principles of graphic design and usability.

The broad learning outcome for this end-of-semester game design project required students to demonstrate the synergy of written, oral, visual, electronic, and nonverbal communication, which would be holistically assessed using the programmatic rubric. The physical game and gameplay were evaluated for rhetorical awareness, stance and support (students did literary or historical research, the results of which were incorporated into their game), organization, attention to written and visual conventions, and design. Assessing not only the game itself but also each phase of composing required clear guidelines for students as well as an explanation of ways in which the elements of effective communication in the rubric were implemented.

Figure 4. Player cards designed for a board game (reprinted with permission).

Figure 5 shows how the rubric guided conceptualization for creating a multimodal project. As noted above, in the first phase, students submitted a written group proposal that outlined their design process, both delineating their roles and giving details about the ways in which they would design the game. Students used the rubric to focus on their design process and to self-assess the viability of their choices of medium and content. The rubric also cued the teacher to assess how well students explained their plans moving from a concept into an actual game that had an argument, one that made a point for the players.

The rubric was a useful reference as students brainstormed (in their groups and with their teacher) ways in which multimodality would appear throughout their design and development phases and in their final project. The final

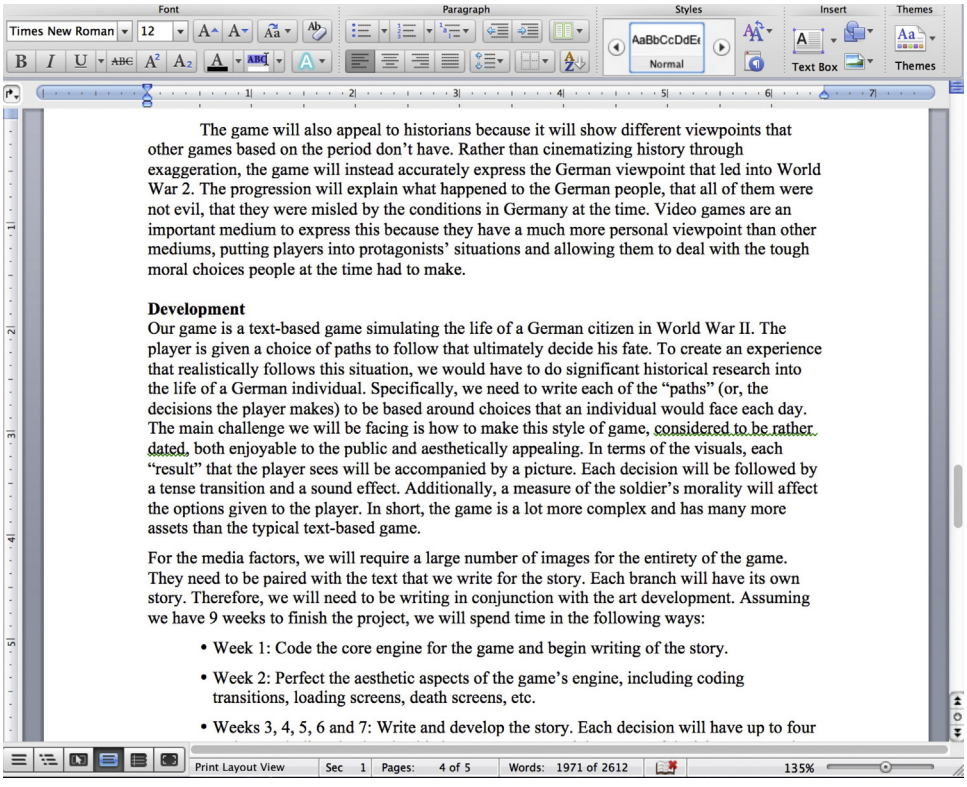

Figure 5. Excerpt from written proposal (reprinted with permission).

Artifacts for game design project. All project artifacts are multimodal. Gray checkmarks ✓ reflect use of the highlighted modalities only during design and development. Black checkmarks ✓ reflect the highlighted modalities of the final artifact. Parenthetical checkmarks (✓) reflect optional use, depending on the nature of the game. The dotted lines represent the permeability among the modes.	**Written Communication**	**Oral Communication**	**Visual Communication**	**Electronic Communication**	**Nonverbal Communication**
Proposal memo	✓	✓	✓	✓	✓
READ ME FIRST game rules discussion	✓	✓	✓	✓	✓
Instruction manual	✓	✓	✓	✓	✓
Game board or digital game	✓	✓	✓	✓	✓
Game components	✓	✓	✓	✓	✓
Game website	✓	✓	✓	✓	✓
Promotional video	✓	✓	✓	✓	✓
Face-to-face presentation of game	✓	✓	✓	(✓)	✓
Gameplay	✓	(✓)	✓	(✓)	✓

Figure 6. Assignments in the game design project, reflecting use of various modalities.

outcome of their brainstorming often looked something like the information in Figure 6, which identifies ways students used various modalities during design and development as well as in the final artifact. For example, the proposal memo involved *written* notes and drafts, *oral* collaborative planning and review, *visual* elements in designing a memo and incorporating figures, *electronic* use of word processing, and *nonverbal* elements during collaborative interaction. The final artifact, though, despite the multimodality during planning, is a written memo, well-designed and presented in a digital form. Students learned that all processes and artifacts are, indeed, multimodal.

Thinking through how this game project was multimodal framed the written proposal and encouraged the students to think about moving from their proposal to the final artifact. Based on teacher feedback on the written proposal, students expressed their argument in many ways, considering the ways in which history and literature could be combined with popular culture and adaptation. Students chose from a range of possibilities: computer game, board game, live-action role playing game, and so on. The rubric established common elements for the project, including the argument/rhetorical purpose, stance and support, organization, conventions, and design. Students were asked to conceptualize the game according to each category of the rubric, which allowed them to think, for example, about the breadth of a category such as "argument." Students inevitably asked, "What is the argument of a board game?" The research they did as part of the rubric's stance and support category allowed them to incorporate the literary and historical concepts they researched.

Each rubric category forced attention to the game in new ways that influenced both the design and development as well as the final artifact. For example, when using the rubric category "Stance and Support" (refer to Fig. 1, "Stance and Support" row), the students and the teacher evaluated the success of the adaptation and incorporation of research into the game. Some students adapted H.G. Wells' *The War of the Worlds* into a live-action role-playing game and incorporated elements from the book into gameplay. In the case of one particularly successful group, the adaptation of elements of the novel into gameplay fell into the category of "inventive, expert-like." In general, students use the rubric as a tool to help understand the task as well as increase the likelihood of creating a successful artifact.

As the brief example about a game design project shows, using the rubric as part of the design and development process helped students understand that their work was rhetorical and that they had considerable control of the outcome. Using the rubric in multiple ways—for example, as overarching criteria, as a planning tool, as a self- and peer-review tool, as a set of benchmarks for formative assessment, as summative assessment criteria—created both student and teacher confidence for the task, in understanding the terms of assessment and in the complex composition process they undertook.

5. Conclusion

In keeping with a programmatic ecology of assessment, the interactions occurring with and around a programmatic rubric do not stop at the classroom door. Assessing multimodal artifacts in ways that are pedagogically effective,

consistent, and practical on multiple levels—for students, teachers, administrators, accrediting agencies, and others—presents special problems for writing and communication teachers as members of a broadly defined discipline (including first-year composition, advanced argument, business and technical communication, and so on). At the same time, multimodal assessment presents us with an array of questions.

As a way of deploying our argument for a programmatic ecology of assessment that actively engages disciplinary theory and scholarship, we conclude with questions we see as important for our discipline, grouped in the same three categories that we raised in the beginning: *value* of rubrics for assessing multimodal communication, the *environment* in which the assessment of multimodal artifacts occurs, and *scale* of the multimodal assessment.

5.1. Extending the value of rubrics

Working within a programmatic ecology of assessment makes us especially aware of issues of value such as workload, programmatic consistency, and the assessment of multimodal processes and artifacts. In response to these issues, we want to make our program's rubric—and, in turn, our assessment of multimodal artifacts—more flexible, relevant, and adaptable, that is, more valuable.

One way to increase value is to become more nimble in responding to the increasing range of multimodal artifacts that teachers assign and students create. This range challenges the ability of a print-based or static screen-based rubric to respond adequately to and evaluate such artifacts. Further, a print-based rubric does not sufficiently reflect the synergy of our program's core philosophies of rhetoric, process, and multimodality.

Within the ecology of feedback and adaptation our program is establishing, we have—through our Development Lab (DevLab) and in cooperation with campus IT services—experimented with and are testing the capabilities of new technologies to respond to our needs. For example, we are using tablet-based and browser-based apps to provide formative and summative feedback on digital artifacts. We are experimenting with ways to make the rubric itself multimodal and allow new kinds of assessment of multimodal artifacts. For example, a web-based, linked rubric may allow richer or more subtle and specific assessments of complex multimodal artifacts. Finally, we are exploring value gained from video-annotation, audio-annotation, and screen-annotation tools.

In an effort to further increase the value of rubrics for assessing multimodal communication, we pose these questions, some of which are already being addressed, to move our scholarly inquiries forward:

- What are similarities between writing assessment and multimodal assessment rubrics, and what might those similarities say about the way going forward in multimodal assessment?
- What are the implications of using a common rubric for multimodal artifacts produced in team-taught courses or communication-across-the-curriculum courses?
- What are alternatives to rubrics for assessing multimodal artifacts on a programmatic level?

5.2. Acknowledging the environments of rubrics

Working within a programmatic ecology of assessment makes us especially aware of the ways in which the environment or context in which a rubric is used—physically or virtually—affects users' attitudes and the interpretation of the feedback. We want to extend the environment in which feedback is given and interpreted, both within and beyond the program. Assessment practices, particularly as embodied in a programmatic rubric, must flexibly and quickly respond to new environmental cues from students, teachers, research, and institutional and societal factors. One way to gather responses is to conduct annual interviews and focus groups with students and teachers about ways to make the rubric and assessment process clearer, more efficient, and more useful.

In our program, the two committees provide input about the rubric; similar committees would work in other institutions. Our Assessment Committee keeps the rubric updated to respond to multimodal projects such as the game project described above. These colleagues regularly ask how the program can reconcile the need for programmatic consistency with the need for project innovation and assignment specificity. Our Advisory Committee, representing teachers and (indirectly) students, responds to proposed changes in the rubric and in the assessment process, recommends changes to writing and communication program administration (WCPA), and responds to needs expressed by the WCPA. The Assessment Committee and the Advisory Committee work together to review and revise the rubric and recommend policy changes.

We are also interested in assessing students in the broader context of communicators, not just in relation to other students. Our program explores ways that allow students to compare their achievements in rhetorical awareness, stance and support, organization, conventions, and design with a broader population of communicators. We want students to see themselves on a continuum, from "basic" communication to "exemplary" communication. "Exemplary" communication in this continuum does not refer to getting an "A" in class but to professional, perhaps even prize-winning, expertise. We ourselves as professional communicators may, on our best days, be "exemplary" in this sense; undergraduates rarely are (though it does happen). Our challenge, then, is to integrate the existing programmatic rubric with a continuum in a way that is still easily usable and comprehensible.

In an effort to broaden the environment in which multimodal processes and artifacts are assessed, we pose these questions, some of which are already being addressed, to move our scholarly inquiries forward:

- What kinds of assessment, training, and norming do programs with multimodal curricula currently use?
- What are the roles of training, norming, and enculturation in the future of multimodal assessment?
- What is the role of mandated standard rubrics, mandated flexible rubrics, and individual idiosyncratic rubrics in the future of valid multimodal assessment?
- How may writing program administration need to evolve to account for multimodal curricula, pedagogy, and assessment?
- What are the relationships among program-level multimodal outcomes/assessment, university-level GenEd outcomes/assessment, and state-mandated outcomes/assessment?

5.3. Managing the scale of factors affected by rubrics

Working within a programmatic ecology of assessment makes us especially aware of the ways in which scale—including, for example, class size, type of course (e.g., face-to-face classes, hybrid classes, MOOCs), demographics of students and teachers—affects assessment. Scale is a practical issue in the day-to-day operation of classes; it is also an economic and political issue affecting factors such as pedagogy, hiring, facilities, technology, and equipment. In our discipline, some dismiss economies of scale without sufficiently examining how they might be achieved while maintaining pedagogical rigor. However, in engaging an ecology of assessment that is open, we must consider institutional, state, and societal economic imperatives in relation to composition education.

In an effort to further increase our understanding of scale as it relates to the way multimodal processes and artifacts are assessed, we pose these questions, some of which are already being addressed, to move our scholarly inquiries forward:

- How might assessment of multimodal artifacts scale beyond an individual classroom and beyond a specific program?
- How does a multimodal curriculum transfer to an online or massively open online platform, and how are multimodal artifacts assessed in those platforms?
- In what ways might multimodal artifacts be "robo-graded," and what arguments can be made for and against such practices (Whithaus, 2005)?
- How can new, innovative technologies be used to assess multimodal artifacts?

5.4. Current practices

Responding to the questions we pose requires balancing a student-centered philosophy based on rhetoric, process, and multimodality with state and institutional requirements, programmatic needs, and teacher efficiency. The questions interrogate what we believe can lead to more successful practices in multimodal assessment. While a programmatic rubric works for our multimodal curriculum, assessment will always continue to evolve, so these questions provide a direction for experimentation with and adaptation of assessment practices. In this article, we have argued that assessment in a program with a multimodal curriculum must work within an ecology that includes interactions with students, teachers, program and university administrators, and relevant disciplines. In our program's ongoing development of such an ecology, we are involved in the following activities that include but are not limited to value, environment, and scale:

- To extend the *value* of assessment within and beyond the program, we are making our assessment more flexible and adaptable to a range of specific projects and artifacts.
- To broaden the *environment* in which we assess processes and artifacts, we are developing strategies to help students see themselves in a larger population of communicators.
- To reinforce the *scale* of the constituent elements within the rubric, we are refining the relationship between course and assignment/project outcomes so the rubric works regardless of group size.

In the beginning of this article, we posed three questions about multimodal assessment—one about the value of games as a genre, one about the environment of assessment, and one about scalability. We have argued for an ecology of assessment that includes rubrics meeting programmatic outcomes and adaptable by teachers. We encourage an extended disciplinary conversation that responds to the questions we pose about the use of rubrics to assess multimodal artifacts.

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