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Multimodal K-12 Assessment Frameworks and the Interactive Audience: An Exploratory Analysis of Existing Frameworks

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Abstract

Multimodal writing often occurs through membership in an online, participatory culture; thus, the audience for student writers potentially can shift from imagined readers to actual, accessible readers and responders. In this article, we thoroughly review the idea of audience and then report results from an exploratory review of K-12 assessment frameworks and analyze how key frameworks address the need for consideration of an interactive audience. We found that multimodal composition is being defined consistently across all frameworks as composition that includes multiple ways of communicating, but the majority of multimodal composition examples were texts that were non-interactive composition types (as far as online and participatory interaction with the actual audience is concerned) even though many authors acknowledged the emergence of interactive online composition types that afford the writer the ability to communicate and collaborate with an audience.

Keywords

Assessment, multimodal composition, K-12, interactive audience

Multimodal K-12 Assessment Frameworks and the Interactive Audience: An Exploratory Analysis of Existing Frameworks

Multimodal composition is not new. From ancient Egyptian murals to modern-day graffiti art (Moje, 2000), people have been communicating through compositions that incorporate language, gesture, color, and image, as well as other communicative methods. In the field of semiotics, scholars have been discussing multimodal composition for some time now (Mitchell & Taylor, 1979; Ong, 1979; Ede & Lunsford, 1984; Kress, 2003; Kress, Van Leeuwen, 2006; Van Leeuwen, 2003; Bezemer & Kress, 2008), and it has always featured in multimodal and digital composition studies (Bowen & Whithaus, 2013; Morrison, 2010; Selfe, 2007; Palmeri, 2012; Wysocki, Selfe, Sirc, & Johnson-Eilola, 2004). In addition, the New London Group's concept of Multiliteracies, which includes multimodal and multilingual aspects of composition, has become a dominant conceptual framework in literacy research (Cope & Kalantzis, 2000; Hung, Chiu, & Yeh, 2013) and has been referred to as "the central manifesto of the new literacies movement" (Leander & Bolt, 2012, p. 23). The New London Group (2000) defines multimodal as the integrated meaning-making systems that involve and relate to each other through multiple processes: "those of Linguistic Meaning, Visual Meaning, Audio Meaning, Gestural Meaning, Spatial Meaning" (p. 7). Thus, based on this research, multimodal composition refers to the means, processes, and practices that facilitate communication and creative expression across multiple modes, forms, and modalities, as well as across cultural and communicative perspectives, methods, contexts, and norms. However, how to assess the products of these processes has received less attention.

In addition to being prominent in theory and research, multimodal composition features in technology and content standards. In kindergarten through 12th (K-12) grade national curriculum standards in the United States, students are expected to create and publish digital products that utilize multiple modes for effective communication (Common Core State Standards [CCSS], 2012). For example, a College and Career Readiness Anchor standard for grades K-12 asks students to "use technology, including the Internet, to produce and publish writing and to interact and collaborate with others" (CCSS, 2012, pp. 18 & 41). Moreover, additional standards in the CCSS compel students in grades 6-12 "to make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations" and to "include [in their compositions and presentations] multimedia components (e.g., graphics, images, music, sound) (CCSS, 2012, pp. 48 & 49). Yet it is not clear how these compositions will be evaluated.

Additionally, the International Society for Technology in Education (ISTE, 2007) standards for students, widely used by educators to guide technology integration in K-12 classrooms, emphasize key skills students need to be productive citizens in a digital world. However, these standards focus on the process of using technology, not the products of that use. For example, using the standards as a guide to instruction, teachers could design a multimodal product that requires "creativity and innovation" (Standard 1, p. 1) but how the innovative product will be evaluated is not detailed in the standards. Additionally, these standards are not divided by age group, which then requires educators to apply these technology standards to specific grade-level content standards. Thus, the ISTE standards for students offer useful, general guidance for the creative process of multimodal composition but not for the evaluation of the products, necessitating the use of other tools for educators who want to provide feedback to students about the quality of their multimodal compositions. Because of these major

developments in standards for writing and technology use in K-12 classrooms, the assessment of writing needs to be adapted to fit these types of texts, particularly multimodal composition in online spaces.

Online Multimodal Composition

Although the practice of multimodal composition is not new (Moje, 2000), *online* multimodal composition is a more recent phenomenon that has significantly altered the sociocultural context in which composition takes place. Knobel and Lankshear (2007) and Lankshear and Knobel (2003) have discussed new social practices that use new technologies, including collaborative meaning-making and "subversive" literacy practices that challenge the social, cultural and economic status quo as well as traditional literacy practices and social norms. Online dynamic multimodal composition, such as fan fiction, animé and games, among other creations (e.g., blogs, Instagram and Facebook), are often co-constructed in participatory online communities, also known as do it yourself (DIY) communities (Lankshear & Knobel, 2010), where participants interact and mentor each other on matters of content and/or technology during the design and production process (Black, 2008; Lankshear & Knobel, 2010). Such a dynamic online, collaborative, meaning-making process extends the audience beyond teachers and classmates and assigns it active and participatory roles throughout the composing and assessment processes.

However, even with Knobel and Lankshear's (2007) inclusion of collaborative meaning-making and their challenge to traditional literacy norms, the questions of how context is expanded by the ability to publish more widely, and what this means for assessing multimodal compositions in K-12 classrooms have received little attention in the literature. An exponential increase in accessibility and distribution is critical to understanding how multimodal composition functions today, in great part due to the influence of Web 2.0 tools and other interactive online interfaces (Davies & Merchant, 2009). The nature of communication has changed, based on the affordances of these interactive tools.

This means that in addition to engaging with an audience as an imagined concept or what Ong (1979) would identify as "fictionalize[d]" (p. 11) readers for their writing (Lunsford & Ede, 2009), today's K-12 student writers have expanded opportunities to communicate with and receive feedback from an audience comprised of actual, accessible readers and collaborators outside the classroom (Author, 2013; Lunsford & Ede, 2009). Herein, we argue that new frameworks for instruction and assessment of multimodal composition are needed which would bring audience interactivity to the forefront. In this article, we closely examine the idea of audience and then present a purposive sample of K-12 assessment frameworks and analyze the degree to which these frameworks consider an interactive audience. The following questions reflect the areas of our interest for this analysis:

1. How do assessment frameworks for multimodal composition define multimodal composition? What examples of multimodal composition are provided in the frameworks?
2. How do assessment frameworks for multimodal composition address an interactive audience and collaboration?

Methods

This work presents findings from an exploratory review of K-12 (kindergarten through 12th grade) assessment frameworks for multimodal composition. Although our search criteria included K-12 grade levels, we did find more frameworks geared towards adolescent learners (grades 4-12) than early childhood learners. As an example of our search methods, we located assessment frameworks for review by searching in EBSCOHost for the keywords "multimodal" and "assessment" in the title of peer-reviewed articles from 1977 to the present, and the search returned 12 results. Of these 12, one was irrelevant, and eight were about using multimodal measures to assess children's work or behavior in which the focus was on the assessment being multimodal, not the students' task. Of the remaining three articles, two were focused on K-12 assessment of multimodal composition (Cumming, Kimber, & Wyatt-Smith, 2012; Curwood, 2012). Other searches utilized terms such as "multimodal" and "assess" in conjunction with "writing" or "composition" as general search terms or title searches. Many of the searches resulted in college level frameworks for assessing multimodal composition (e.g. Adsanatham, 2012) or articles that centered on K-12 assessment, but identified issues in multimodal assessment (e.g. Pandya, 2012). Other articles identified through our searches referenced previous frameworks rather than presenting the author(s)' own framework. For example, Vincent (2006) argued that teachers need a multimodal assessment tool for composition, and cited the United Kingdom Literacy Association and the Qualification and Curriculum Authority (UKLA/QCA, 2005) framework as a promising, yet incomplete iteration of such a tool. Finally, we reviewed reference lists for each source we analyzed, and through this method, we were able to identify commonly cited frameworks and we examine these here.

In this article we offer our findings from our analysis of frameworks that represent a range of attention to audience interactivity in K-12 multimodal composition: Kalantzis, Cope, and Harvey (2003); Burke and Hammett (2009); UKLA/QCA (2005); Kimber and Wyatt-Smith (2009); Bearne (2009); Rowsell (2009); and the Multimodal Assessment Project (2013), plus one college multimodal composition framework: Penrod (2005). Although these frameworks are not an exhaustive list of K-12 multimodal assessment frameworks, these sources were chosen to represent the range of attention to audience interactivity and also to present both theory and practice driven rubrics.

After selecting these sources, we created a rubric with the criteria based on our guiding questions and the literature reviewed in the next-section, to evaluate each assessment framework (see Table 1).

[insert Table 1 about here]

To ensure credibility (Creswell, 2007), we completed our evaluation of each of the eight selected assessment frameworks first independently, then together. This gave us the opportunity to compare our analysis, clarify points of difference, and revise our evaluations, where necessary. For example, as part of the comparative analysis, we had to define for ourselves the terms of multimodal composition, digital multimodal composition, or online multimodal composition and determine what is new, if anything, about these texts. We concluded that the multimodal composition then and now still implies the use of multiple modalities and media and even uses the same term for such creations but that there are new social practices associated with the production and distribution of multimodal texts today. This is because of the recent advancements in the productive tools, the Internet revolution, and emergence of social

networking sites. We also revised multiple times our classification of audience interactivity levels as a result of coding comparison, and based on the review of the scholarship by Jenkins (2006), Lunsford and Ede (2009) or Lankshear and Knobel (2010), whose works contributed to this analysis the constructs of imaginary readers; audience addressed vs. audience invoked, and participatory interaction, among others.

A summary of the eight frameworks and how they represent our guiding questions is presented in Table 2. With respect to the audience question raised in our analysis, we have identified four levels of interactivity with the audience in the frameworks we examined and these include: 1) the audience being considered but only as imaginary; 2) the real audience being considered and addressed but not interacted or collaborated with; 3) the real audience being considered and responded to but not engaged beyond the initial response; and 4) the real audience being considered and engaged in interactive and participatory forms of communication and collaboration throughout the composing and assessment processes. We explore the idea of audience in great detail in the next section.

[insert Table 2 about here]

The Interactive Audience and Audience Analysis

Before we present our findings, we dedicate a significant amount of space to engaging conceptually with the idea of "audience," particularly for online multimodal composition. Writers have been composing for interactive audiences, broadly speaking, for hundreds of years (Lunsford & Ede, 2009) and teachers of composition and rhetoric have always used models and heuristics for audience analysis when discussing the writer's process in the college classroom (Enos, 1966; Ong, 1975; Lunsford & Ede, 2009). For example, Aristotle's *Ars Rhetorica* included the consideration of interactive public audiences that consisted of real people "with whom the rhetor engag[ed]s in dialectic" (Enos, 1966, p. 44). The "interactivity" that Aristotle had in mind, however, was not the multidimensional interactivity for multiple audiences we witness on social networking sites today, which is of interest to this work. We elaborate on this latter kind of engagement with an audience further in this work.

Bakhtin's (1986) notion of "addressivity," which he defines as "[a]n essential (constitutive) marker of the utterance" and that which is "its quality of being directed to someone" (p. 95), underscores and at the same time complicates Aristotle's conception of interactive audience and of the dialogic relationship between the speaker and listener and the reader and writer as well. The role of any audience, Bakhtin argues, is to be "active participants" (p. 94) who respond to the utterance, and this response is anticipated when the utterance is created. In both models, the speaker or writer considers the addressee's needs and the outcome of this consideration is reflected in the style that the writer imagines the particular addressee expects with certain utterances in certain contexts.

Bakhtin emphasizes the dialogical nature of interaction between the writer and the reader through text or utterances. This suggests that like language, the underlying writer-audience relationship is fluid, always in a state of becoming (Elliot, 1999), and that audience analysis centers on the outcome that emerges from this interactional space, the text or speech, which is open to being realigned and developed further in the process of ongoing addressivity. The emergent text is thus built by multiple audiences and as such it reflects multiple perspectives and voices, a phenomenon which Bakthin calls "polyphony," that is, "[a] plurality of independent

and unmerged voices and consciousnesses" (1984/1929, p. 6). However, Busker (2002) pointed to limitations of the model when it is applied to online computer-mediated communication, which are even more salient in today's computer-mediated communication:

> the theory remains based on a print model in which "response" is often delayed by months or even years, in which the general "audience" is given limited venue for response, and in which the relative roles of author and audience remain ostensibly fixed. (Introduction, para. 4)

Like Busker, we also believe that a model for examining interactive audiences in online interactive environments has to move beyond the writer-centered interactivity and design rhetoric in analysis and consider the multi-directional communication and authorship which is characteristic of participatory online text production.

In another model of writing, the audience-response model, Mitchell and Taylor (1979) assigned the audience an interactive role, with the writer and reader sharing "a dynamic relationship" (p. 250). As stated by Mitchell and Taylor (1979), "Readers actively contribute to the meaning of what they read and [they] will respond according to a complex set of expectations, preconceptions, and provocations" (p. 251). In this model, the audience is however viewed primarily as "motivator and arbitrator of writing" (Mitchell & Taylor's, 1979, p. 253), and writers seek the audience's response so as to be able to assess the effectiveness of their writing. That is, readers act as interpreters and evaluators of the writing addressed to them and their involvement in the text production process is limited.

Ede and Lunsford (1984) extended Mitchell and Taylor's model with the proposition that writers themselves can also act "as *readers* of their own writing" (p.158), giving writers the role of active readers in addition to their initial roles of creator and author of composition. In criticizing Mitchell and Taylor's (1979) model for overemphasizing the audience role in evaluating and providing motivation to produce a text, Ede and Lunsford (1984) proposed an audience model that offered to balance the reader and writer roles and the creativity each actor could bring to the meaning making process. According to Ede and Lunsford (1984), "understanding of audience thus involves a synthesis of the perspectives we have termed audience addressed, with its focus on the reader, and audience invoked, with its focus on the writer" (p. 167). The addressed audience is defined as "the intended, actual, or eventual readers of a discourse" (p. 168) while the invoked audience represents the readers whom the writer imagines (invokes) and anticipates to be the audience planned for the text. We note that the notion of "invoked audience" resembles Ong's (1979) construct of "fictionalize[d]"audience (p.11); that is, the audience that writers devise in their imagination.

Both, Mitchell and Taylor's (1979) and Ede and Lunsford's (1984) audience models call attention to the notion of active audience, but the models do not emphasize the productive capabilities of audiences. This is because, as Beard (2009) observed in critiquing the models of the time, these views of audience focused on imagined readers as opposed to real and present audiences that may or may not accede to the roles the writers impose on them by the text they create (Tomlinson, 1990). Neither model gives enough attention to the audience's role as a co-producer of the text and the various forms of audience's direct engagement in the text production.

Offering a final relevant model, Cover (2006) uses the term of "conversational interactivity" (p. 142) to describe this level of direct engagement with the audience. Conversational interactivity "occurs when individuals interact directly with each other, mimicking face-to-face (F2F) contact through computer-mediated communications

technologies" (p. 142). Similarly, in their later work, Lunsford and Ede (2009) propose an audience model that aligns with Cover's (2006) more direct conception of audience. The revised model also gives the audience greater agency than the *audience addressed* and *audience invoked* model from 1984. As Lunsford and Ede (2009) explained, the constructs of audience addressed and invoked are too general to reflect "the full shared agency characteristic of many online communities" (p. 54), where anyone can "become both author and audience, writer and reader" (p. 53).

Collectively, the models reviewed here underscore the conceptual complexity of audience as a construct and of the reader-writer relationship. They clarify and at the same time interrogate the imaginary/immobilized and the invoked/addressed audience distinctions by demonstrating how these constructs work more on a continuum and across boundaries than as independent and unidirectional entities. They show that the texts are not static objects or finished works, but rather products of socially mediated activity (Wertsch, 1991). Finally, and what is most relevant to this discussion, the recent models recognize the increased and more direct audience and writer interactivity afforded by new technological developments, and they call for a better understanding of such interactivity. In response to this call, in this work, we examine the existing conceptual tools and assess their effectiveness for engaging such diverse audiences and the various levels of audience interactivity that have opened in such rich rhetorical contexts.

Writing for Online Interactive Audiences

With the emergence of social networking interfaces such as Facebook and YouTube came increased opportunities for dynamic interactions (Andrews & Smith, 2011; Lunsford & Ede, 2009). In the online communicative environment such as a social media site, the reader and the writer can interact, synchronously or asynchronously, through written, audio-, or even video-based means. The ease with which people can respond to the creative output of others has engendered a healthy, if vociferous, body of lay commentary in many popular blogging and social networking interfaces.

The commenting/reply feature is not the only technological affordance that supports the writer reader interactivity. In fact, Wolff (2013) identified "69 Web 2.0 functions" that facilitate various forms of interaction within social networking environments. Hence interaction with the audience in such dynamic online environments can become both multilayered and multimodal in which the writer as well as the reader have the ability to employ different modes, form, and modality, and a multiuser process (Andrews & Smith, 2011) where meaning can be negotiated by writers and audiences.

The difference between today and the recent past is thus the fact that the purpose and role of the audience for today's content creators has been extended and amplified (Lunsford & Ede, 2009). For today's generation of multimodal composers, audience and interactivity are integral to online multimodal composition and distribution; the work is created *knowing* that it will be seen and may be widely commented on. Thus social networking tools (web 2.0) enable multimodal composing with a dynamic and authentic online audience and as such they provide an alternative route to multimodal composing that often addresses an imaginary and invented audience.

Exploring the affordances of these technologies to their fullest potential, Jenkins (2006) offers the idea of participatory culture as an example of online interactive collaboration. He defines participatory culture as "a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to

novices" (p.3). Jenkins (2006) defines expressions as "new creative forms, such as digital sampling, skinning and modding, fan video making, fan fiction writing, zines, mash-ups." (p. 3). All these forms of expression are actually "mash-ups"; that is, they are compositions that combine and borrow from one or more sources. Jenkins's (2006) participatory culture construct thus reflects an active role of audience in online multimodal composition. Building on Jenkins' work, Jacobs (2012), argues that participatory culture brings social and collaborative work processes to the forefront. Collaboration and social negotiation are, therefore, forms of participation in multimodal composition among the members of "online communities organized around forms of media" (Jacobs, 2012, p. 99). Jacobs, too, acknowledges a participatory reader/writer relationship in the creation and distribution of multimodal composition through this *ad hoc* membership in participatory cultures.

The Interactive Audience and Multimodal Composition in K-12 Classrooms

Finally, having explored the notion of audience and how the interactive audience exists in online spaces, we now turn to the interactive audience and multimodal composition in K-12 classrooms. Teachers of writing and language arts in K-12 contexts have always been helping students to understand the role of audience for particular rhetorical situations (Ede & Lunsford, 1984) but, as Cohen and Riel (1989) point out, much student writing in the classroom tends to be "outside of a communicative context" (p. 144). Such writing, "(like the perennial 'How I spent my summer vacation' assignment)," is thus produced for the teacher as sole evaluator with the purpose being to practice writing skills.

Although writing outside of a communicative context has predominated in the K-12 writing classrooms for decades (Applebee & Langer, 2011; Author, 2014), teachers have made strides to engage students in digital multimodal composition and interactive writing. For example, teachers have used blogs, wikis, or classroom websites and discussion boards in support of collaborative writing (Boling, Castek, Zawilinski, Barton, & Nierlich, 2008), storytelling and dialog development (Huffaker, 2005), to facilitate multimodal response to the literature (Dalton & Grisham, 2013), and to enable student writers to publish and disseminate online multimodal creations such as picture books (Serafini, 2011), multigenre projects (Shannon & Henkin, 2014) or hypertext as illustration remix (Dalton, 2013). Teachers have engaged students in film making (David, 2012; Young & Rasinski, 2013) and video production (Husbye & Zanden, 2015) and students have had the opportunity to create comic books and graphic novels for a range of audiences, online and offline (Nixon, 2012). Among other things, these projects encourage frame-by-frame thinking, storyboarding, collaboration and sharing with a larger audience.

While some teachers have incorporated social networking platforms and applications such as Edmodo, Ning or Twitter into their reading and writing K-12 classrooms (Gambrell, 2015; Hughes & Morrison, 2014; Thibaut, 2015) and have observed increases in student motivation, reading and writing fluency, awareness of audience and authorship issues, many others are uncomfortable, reluctant or do not know how to bring these tools into the K-12 classroom. This is because social networking sites are perceived as "perilous terrain for educators" (Maranto & Barton, 2010, p. 37) and teachers, administrators, and teacher educators alike are concerned about issues of "student safety, privacy, and psychological well-being" (Howard, 2013, p.39), a point we return to in the discussion.

Collectively, this scholarship shows that teachers have expanded student opportunities to compose multimodally and to engage in conversations about their work with authentic

audiences. In the next section, we evaluate a selection of multimodal composition K-12 assessment frameworks for their consideration of an interactive audience.

Findings: Multimodal Online Composition and Assessment in K-12 Settings

Considering the focus of this piece, we use increasing attention to interactive audiences to order our presentation of the frameworks. We begin with two general frameworks that do not offer specific criteria for the quality of multimodal compositions, yet offer interpretations of audience and collaboration that are important for this initial review. The first framework we consider, built on the New London Group's (2000) work, is that of Kalantzis, Cope and Harvey (2003). They note that learning is collaborative and involves accessing resources including "books to look up, people to ask, help menus and Internet links" (p. 24). They also reference examples of multimodal texts such as a scene in a supermarket, TV programs, ATM screens, hyperlinked websites, and magazines. Audience is not defined, yet the authors contrast the old approach to literacy - as conventions and mechanics - to a conception of literacy as "a way of communicating" (p. 22). However, Kalantzis et al. (2003) make no indication as to whether an outside-of-school, online audience should be considered in assessment, perhaps because they are looking at the assessment of multimodal composition more broadly, and are not specifically focused on its potential online aspects. Although no explicit framework is delineated, the authors offer four possible assessment techniques for effective assessment of multimodal composition: project assessment, performance assessment, group assessment, and portfolio assessment. These assessment methods focus then more on the process than the product, with some attention paid to collaboration during the process. Although the makeup of the audience for performances is not discussed, these methods strongly suggest a group-oriented production and assessment process. We note however that in this context, collaboration engages the group of composers, not necessarily an audience to whom it is addressed.

In a second general framework more explicitly focused on web-based multimodal compositions, Burke and Hammett (2009) consider online environments as valid contexts for multimodal composition. Engaging Aristotle's analytic principles of audience, context, and purpose, these authors define online multimodal composition as the process of selecting different modes to produce an intended effect that communicates ideas to an online community. They list "wikis, fan fiction, social networking sites like Facebook and MySpace, cyber communities like Second Life, and blogs" (p. 1), as examples of these types of compositions, and their focus seems to be more on middle and secondary school students. In contrast to Kalantzis and colleagues' (2003) examples of multimodal texts that were analog versus digital examples, Burke and Hammett (2009) refer to instant messaging, blogs, contributions to websites, and creating websites as acts of online multimodal composition. On the other hand, similar to Kalantzis and colleagues (2003), Burke and Hammett focus on collective production of texts; through a process of redesign that involves sampling previously created media in order to create new media. The authors note that even a solitary redesign process draws directly on the work of others, yet in instances such as these the audience is not engaged or collaborated with in any direct ways. However, many times the redesign is collaborative with multiple authors contributing and thus co-authoring one composition even if the audience members themselves might not actually interact with the writers. Conceptually, Burke and Hammett's redesign process resembles Bakhtin's (1984/1929) notion of 'polyphony,' the process of assimilation of others' voices,

styles, and perspectives into a single expression, with no direct interaction of the writer with the authors of the appropriated works.

Discussing the role of collaboration in multimodal compositions, Burke and Hammett (2009) state, "New textual engagements of youth are often not individual efforts, but are instead often collaborative in nature which has strong potential to democratize communication through the creation of a participatory culture of learning" (p. 5). Echoing Kalantzis, Cope, and Harvey (2003), these authors argue that new literacies are distributed and thus assessment of them is based on a theory that multiliteracies need to be different from assessments based on more traditional notions of literacy. Even though no explicit framework is presented for assessment, the authors imply that the assessment of online multimodal composition might need to be collaborative, due to the collaborative nature of the genre. However, Burke and Hammett (2009) acknowledge that "serious issues of authorship arise" (p. 3) when composition is collaborative, presenting a particular challenge for assessment.

Thus, across these two articles, although both frameworks emphasize collaboration with co-authors during the composing of multimodal compositions, the attention to an intended, interactive audience only increases slightly from Kalantzis, Cope, and Harvey's framework to Burke and Hammett's (2009) framework, published six years later. This increased attention to an interactive audience is also represented by the contrast between the analog examples from Kalantzis and colleagues and the digital examples from Burke and Hammett, perhaps due in part to the rapid increase in software at the turn of the century. However, although the collaborative nature of composition is present in both articles, neither piece examines collaboration between author and audience, focusing instead on multi-author, writer-centered and text-centered collaboration. For these reasons, we represented these frameworks as being at the lower end of audience interactivity (see Table 2). We next examine a series of frameworks that offer specific criteria that allow for a more fine-grained analysis of how theory applies to assessment practices.

The first more specific framework reviewed here was developed by the United Kingdom Literacy Association and the Qualification and Curriculum Authority (UKLA/QCA, 2005). We position this framework at the low end of attention to an interactive audience, even though this framework gives multimodal composition a firm place in the curriculum, as the authors discuss narrative multimodal text on the page and screen. Similar to the general frameworks just analyzed, the authors of the UKLA/QCA (2005) curriculum define multimodal text as composition that uses a combination of writing, image, sound, and gesture/movement. However, the examples given in the UKLA/QCA (2005) curriculum are mostly picture books or graphic novels; the curriculum mentions no work online. Rather, the authors of the UKLA/QCA (2005) framework take the writing assessment foci developed by the Qualifications and Curriculum Authority and apply them to multimodal texts in print and on screen. We point out that the time of the UKLA/QCA article, 2005, was a time when collaboration online was certainly possible, making the absence of its discussion from the authors' work even more salient.

Regarding criteria, the framework relies on descriptions for the three writing assessment strands: composition and effect; text structure and organization; and sentence structure and punctuation. The strand of composition and effect includes a student's ability to develop content aligned with a particular purpose and audience; however, the audience is positioned as imagined, rather than a real one with whom the writer can interact. In the introduction, the authors state the teachers could discuss "the effect of the piece and the role played in composition by image, design and words" (UKLA/QCA, 2005, p. 5), but the effect is not clearly defined in terms of *effect on whom.* Returning to other rubric strands, text structure and organization include the

format and ordering of the piece and the cohesiveness of the text, and sentence structure and punctuation include sentence variety and spelling. Referring to collaboration, the authors note, "One of the key features of the screen-based text production was the collaborative nature of the work" (UKLA/QCA, 2005, p. 35). Yet this collaboration is not with the intended audiences, and how individual contributions to a collaborative project would be evaluated are not explicitly discussed. There is no criterion related to collaboration among authors or between authors and audience.

Upon our initial review of the UKLA/QCA (2005) framework, it was not clear how these print-oriented rubric strands applied to multimodal writing. Yet in an evaluation of a picture book about "The Billy Goats Gruff," the authors stretch these traditional categories to encompass elements of multimodality such as color and placement. In terms of quality, the authors have included a list of considerations for multimodal composition that could be useful in building an expanded rubric for assessing these types of text. However, the authors imply that the development of these more specific and detailed rubrics should be locally determined. They suggest, "The staff as a whole could discuss what 'getting better at multimodal representation' might look like" (p. 5).

Although allowing specific criteria to be locally determined is a compelling idea that provides teachers with a traditional print-based rubric as a starting point for the assessment of multimodal composition, it might misdirect assessment efforts since new media demands fundamentally different assessment schema (Curwood, 2012; Katz & Odell, 2012; Mills, 2010; Neal, 2011).

Overall, the definition of multimodal in the UKLA/QCA (2005) framework, by focusing on physical versus online products, and the traditional criteria included that position the audience as imagined versus actual, may undermine attention to an interactive audience. Furthermore, returning to the examples of multimodal composition offered, although some texts in this publication are digital, they are not online, and therefore there was no consideration of an interactive audience that mediates the process or evaluates the end product.

In contrast to the UKLA/QCA (2005) framework, Kimber and Wyatt-Smith (2009) use the term "online multimodal creations" for student-generated texts such as PowerPoint, Word documents, and websites in their study. Yet although they specifically identify the products as online, and online sources are used to develop these student creations, final products do not appear to be distributed beyond the classroom. The framework does not assign an active role to the audience either, even though the authors argue that online spaces create opportunities for co-constructed learning and knowledge sharing. As such, the concept of "connectivity" is constrained to a one-way process of either information retrieval or distribution, which Kimber and Wyatt-Smith label as the ability to "use existing knowledge texts or materials" and "create and share new knowledge texts or materials" (p. 11).

Kimber and Wyatt-Smith's (2009) criteria for evaluating online multimodal texts include audience consideration through the "Cohesion" category (p.6), but they limit this component to the writer's awareness of the audience members and their needs as readers. The authors define this skill as the writer's "ability to select software and mode of display appropriate for selected audience, the medium and type of content" (p.11). Within this context, audience is being invoked, imagined and addressed (Lunsford & Ede, 2009), but not interacted or collaborated with. This approach to audience analysis mirrors Aristotle's (Enos, 1966) and Bakhtin's (1986) outcome-centered audience consideration and indirect engagement of the writer (through text) with an audience.

However, unlike the UKLA/QCA (2005) framework, this framework includes specific assessment criteria for *online* multimodal composition. The three categories are: 1) e-credibility (selecting accurate sources and not plagiarizing – ethical use and creation); 2) e-designing (encompassing creativity); and 3) e-proficiency (ability to use software to achieve desired effects for intended audience). Kimber and Wyatt-Smith (2009) propose a five-point scale for the above criteria, "Outstanding performance; Accomplished; Developing; Limited, and Lack of evidence of performance" (p. 6), but it is unclear how students' consideration of audience can be determined and assessed within this framework. Neither does the framework discuss the collaborative creation of multimodal texts.

We chose to place Bearne's (2009) framework after Kimber and Wyatt-Smith's (2009) because Bearne's framework exhibits more attention to audience interactivity and it also offers specifics on how to assess a collaborative endeavor. Bearne (2009) defines multimodal texts as compositions created through different modes of communication including gesture and/or movement, images, sound, and writing. Examples include slideshow presentations, magazines, picture books, television, video, and radio programs, with a focus on oral multimodal texts such as "told stories, drama, and presentations" (p. 16). Like Kalantzis, Cope, and Harvey (2003), Bearne acknowledges that "often multimodal production is a matter of collaboration" (p. 18), yet similar to the three frameworks reviewed thus far, the collaboration that she contemplates does not include an online audience or online forms of collaboration. As in Mitchell and Taylor's (1979) audience-response model that relies on the audience as evaluators of writing, not necessarily as co-creators of it, Bearne's audience treatment is also limited to making assumptions about the invoked audience (Ede & Lunsford, 1984) through questions such as deciding on the use of "perspective, colour, sound and language to engage and hold a reader's/viewer's attention" and then reflecting on how to "improve own composition or performance, reshaping, redesigning' and redrafting for purpose and readers'/viewers' needs" (Bearne, 2009, p. 22), a conception of audience that . Bearne (2009) acknowledges, however, "the complexity of assessing multimodal texts" (p. 18) and she offers a process-oriented, formative assessment framework for evaluating such texts. The criteria for assessment within this framework rely on skills such as: "deciding on mode and content for specific purpose(s) and audience(s); structuring the design and layout of texts; using technical features for effect, and reflection" (p.22). To describe development, Bearne suggests these four levels: "multimodal text maker in the early stages"; "increasingly assured multimodal text maker"; "more experienced multimodal text maker" and "independent multimodal text maker" (p. 23). Yet Bearne does not link the framework to these rankings and only provides sample projects for the second and fourth level.

Compared to the UKLA/QCA (2005) framework, Bearne's (2009) framework has more attention to an interactive audience through specific questions connecting multimodal composing choices to an intended audience, yet the audience appears to still be invoked rather than actual. Bearne (2009) also believes that the assessment criteria that she proposes can apply to collaborative compositions. To prove her point, she provides an example of a collaboratively created picture book where the authors "divide work as author and illustrator" (p. 23) and where the teacher as a result of such labor division is able to "to see— and describe—what each has accomplished" (p. 23). IHowever, the collaboration was within a group of writers, not between audience and writer(s).

In contrast to the frameworks from UKLA/QCA, Bearne, and Kimber and Wyatt-Smith, as well as the general frameworks from Kalantzis and colleagues and Burke and Hammett,

Rowsell's (2009) framework is the first framework presented here that attends to an interactive audience to a greater degree than previous frameworks. Rowsell's research focuses on multimodal composition in social media collaborative spaces. Accordingly, Rowsell (2009) presents three case studies of adults using Facebook and examines how each of these adults deliberately creates an identity online. She discusses the significance of the community on Facebook, positioning the community as an important audience, as well as a varied one based on the different amounts of time the Facebooker has been "friends" with each person. Rowsell posits that the three new skills needed for using Facebook are "mediating identities through multiple modes and applications," "shaping written text and visuals around diverse audiences that have shorter and longer timescales" (p. 108), and "developing a relationship with users in common affinity groups" (p. 96). This set of skills suggests that these Facebook creators consider the reader's/viewer's response to their online multimodal identity representations, and that they indeed use this input as they continue to reshape and redraft these compositions.

Regarding collaboration, Rowsell's (2009) use of the word "mediating" appears to have a specific meaning in describing these identities. That is, her use of the term "mediating" in this context implies a collaborative compositional process, even if only a thought-process, with the Facebook creator taking into account not only the reader's/viewer's needs but also the reader's/viewer's individual responses to the creator's online multimodal compositions. We could not determine from the description of this framework, however, if the readers or viewers were actually engaged in the acts of producing and assessing of the "remediated" product, which would have indicated the writers' interactive and iterative forms of engagement and collaboration with their audiences.

Rowsell's (2009) criteria are presented in a framework for "Assessing Rhetorical Uses of Multimodality" that includes questions about "Multimodal Impact, Organization, Salience, and Coherence" (p. 110). These criteria take into consideration an audience's participation in the compositional process through questions such as, "What details have been chosen to create an effect?" "What message is the text telling its audience?" and "How do you know?" (p. 110). Even though these questions communicate an audience-centered approach, they do not consider the audience's direct involvement in the creation of new texts, and for this reason the framework does not reflect the highest level of direct engagement with an audience, as conceived by Cover (2006). Neither does Rowsell provide guidelines for how these questions might be used to assess student work. For example, if the teacher and student discuss the details that have been chosen to create an effect, how does the teacher then give the student feedback to improve quality of those details? Rowsell has thus proposed an interesting framework for discussing rhetorical uses with students, but it is not clear how the framework would be used for assessing multimodality in the K-12 classroom or if the real audience had a participatory role in this process.

A framework that has the same level of attention to an interactive audience as Rowsell (2009) but potentially could be more easily applied in K-12 settings, is the National Writing Project (NWP) group's framework developed in the United States, entitled the Multimodal Assessment Project (MAP) (2013). According to the creators of MAP, multimodal compositions are "artifacts," in analog or digital format, that communicate "a coherent message with a clear focus created through an appropriate use of structure, medium, and technique" (Eidman – Aadahl et al., 2013, MAP Domains section, para. 2). Features of the multimodal product/artifact are evaluated within domain one, with the remaining domains focused on process and context of composition. These are: "context, substance, process management and technical skills, and

habits of mind" (Eidman – Aadahl et al., 2013, MAP Domains section, para. 2). Each domain includes an element of audience analysis.

For example, in the domain of Context, the consideration of audience is writer-centered and is presented as a part of design decision-making about purpose, context, and delivery method skills. Similarly, audience consideration under the Substance domain is product-centered, where the communicative effectiveness of composition is evaluated based on "purpose, genre, and audiences" (MAP Domains section, para. 4). Such audience evaluation reflects a classical rhetorical analysis similar to the approach employed in the other frameworks (e.g., Bearne, 2009; UKLA/QCA, 2005).

Collaboration with others is presented as a part of the Process Management and Technique-domain, which concerns the skills required for planning or creating compositions. The authors note that collaboration often involves "interactive situations." Unfortunately, the construct of interactive situations is not defined or illustrated within this domain, so it is not clear if interactive situations may be conceived to occur online or offline. The authors include though multimodal artifact examples that are collaborative online compositions.

The last domain within the framework, Habits of Mind, which is defined as "patterns of behavior or attitudes that reach beyond the artifacts being created at the moment" (MAP Domains section, para. 6) includes, among other habits, "an openness to participatory and interactive forms of engagement with audiences" (MAP Domains section, para. 6). This element suggests that the MAP framework considers whither the creators of multimodal compositions might actually interact with their audiences through some form of interactive engagement with them, even though example forms of engagements are not provided, as opposed to evaluating merely if the creators can analyze rhetorically the audience's expectations and needs for a given context and purpose.

Because of its attention to such multilevel audience awareness, we placed the MAP framework after Rowsell's (2009) even though both frameworks are similar in the ways in which they position conceptually the multimodal composition and the writer's awareness of audience. In addition, although the authors of the MAP framework do not mention directly the online environment as the potential context for "participatory and interactive forms of engagement with audiences," they provide artifact examples from the classroom that are online compositions, including a multimodal online research report created with Google Earth software and a multimodal project including clips from interviews with internment camp survivors.

Regarding the latter project, this example represents the highest level of interactivity with the real online audience, where the audience members actively engage and collaborate with writers when creating a multimodal text. Such interaction with the audience reflects Cover's (2006) idea of "conversational" (p. 142) interactivity, the interactivity reminiscent of face-to-face ongoing engagement with an audience.

Because MAP is viewed as a process and growth-oriented framework, with the focus on individual learners and their ability to "get better at [their] capacities— [their] processes and [their] judgments" as they compose multimodal artifacts, the creators of the framework chose to not compare compositions or "what makes one thing better than another (Wahleithner, 2014, p. 82). As a result, no scale or evaluation rubrics for the above broadly-defined domains were offered by the developers of this framework, raising some questions about how K-12 teachers less experienced in either multimodal composition broadly or online multimodal composition in particular might apply the framework in classroom settings.

Finally, in a framework we considered as giving the most attention to audience interactivity, especially in an online environment, and discussing it in most explicit terms, Penrod (2005) focuses on the production and assessment of "e-texts" (p. 30). This framework was not explicitly designated for use in K-12 assessment, and in fact drew upon examples from college settings; however, we found that Penrod's (2005) framework was a good representation of high attention to an interactive audience and could be applied to K-12 settings. Additionally, although the term 'multimodal' is not used for defining e-texts such as blogs, MUD, object-oriented text-based virtual reality games ((MOOs), or web pages, Penrod acknowledges that e-texts can include media and multimodal elements. Penrod (2005) also notes that the e-text "can span many genres" (p. ix) and that "e-textural writing requires instructors to reconceptualize both the text and the criteria under which the text can be evaluated" (p. ix). This is because writing of e-texts is a complex process. Penrod (2005) explains:

> The merging of the visual and verbal in an e-text demands the instructors to contemplate both rhetorical effect beyond the written word and the volume of knowledge a writer must possess to create functioning MOOs, websites, multimedia presentations, hypertexts, and so on (p. 27).

Penrod sees e-texts as public writing in "internetworked spaces" (2005, p. 3), and argues that often such writing is a communicative discourse, since it invites a response, because, as she explains, "Without a response, there is no communication" (p. 2), the view that returns to Bakhtin's (1986) notion of "addressivity," the quality of speech always being "directed to someone" (p. 95) and continually anticipating a response. Contrasting with most of the previous frameworks, Penrod thus positions the audience as active respondent in online public writing and she posits that writing teachers will have to develop new approaches to assess students in public, interactive online spaces. "Interactive online spaces" thus imply a dynamic nature of communication with the real audience and analogously of the writing resulting from such collaboration. Since such writing involves multiple genres and different modalities through visual, aural, and interactive "writing technologies" (pp. 14, 20), writing teachers will also need to develop models "to measure interactivity, visuality, and aurality combined with writing in a truly authentic context like a webpage or blog" (Penrod, 2005, p. 20). Although she is clearly including a consideration of an actual, interactive audience, Penrod does not comment on the level of interactivity or collaboration the writer would typically have with their actual readers and commenters. In addition, we note that Penrod's work took place in 2005, which interactively speaking, was a long time ago. Contemporary online interactive communication platforms offer even more opportunities for various levels of interactivity or collaboration with an audience.

Penrod also questions the usefulness of the traditional psychometric assessment notions such as validity and reliability, and argues that networked writing requires a qualitative approach to assessment, which she calls "deep assessment" (p. 98). For this assessment, students and teachers assemble numerous writing samples such as texts, comments or interviews. An example of the "deep assessment" that Penrod provides is the e-portfolio. Although Penrod does not provide specific criteria for such an assessment other than to "simply measure whether the writing is acceptable for the situation" (p. 112), she recommends aesthetic criticism as a conceptual framework for evaluating e-texts and their communicative effectiveness and offers domains such as this one for assessing e-texts: "Students demonstrate a critical analysis of how networked writing is constructed and is received by audiences in various historical, social, and cultural contexts" (p. 55).

Although the domains such as the one in the example invite the student writer to consider the needs of the interactive audience in an online environment, they are rather broad, and as such they may be difficult to translate into a teacher-friendly assessment tool for evaluating student online multimodal texts in the K-12 classroom. Penrod, as if in anticipation of such criticism, uses her own undergraduate and graduate courses as a way to illustrate for teachers how to develop "individualized criteria for their programs" (p. 55), based on the-broad assessment domains she proposed. For example, one way to measure the learning outcomes for the domain in the example provided is to have "students examine a social problem in real life that has similar effects in virtual communities (i.e., illiteracy, addiction, rape, freedom of religion, privacy rights, hate speech, racism, sexual discrimination)" (p. 56).

We note however that while these sample criteria might work well in a college classroom, they are too complex for K-12 contexts. This is because they require a great deal of experience with self-directed learning and critical analysis, the skills that K-12 students are still in the process of developing and improving.

Discussion and Implications

The purpose of this analysis was to examine a selection of K-12 assessment frameworks in multimodal composition and the ways in which these frameworks define multimodal composition and address through their assessment criteria the concepts of interactive audience and collaboration. In summary, our review of research on multimodal composition and assessment in K-12 settings confirms a solid place for multiliteracies in these settings and the importance of collaboration in creation and distribution of multimodal creations, albeit more often in face-to-face contexts than in online environments. In addition, the frameworks that we reviewed tended to focus on the final product and less often on the process-based assessments or dynamic collaboration with the audience. Except for Penrod's (2005), NWP MAP's (Eidman – Aadahl et al., 2013), and Rowsell's (2009) frameworks, which ask the designer to give considerable attention to an audience and its purpose and impact on their compositions, the consideration of an interactive and collaborative audience as we define it here is not present in the other frameworks. The following themes have emerged from this exploratory analysis. We conclude our discussion of each theme with recommendations for developing an assessment framework that considers an interactive online audience.

The Construct of Multimodal Composition

We found that multimodal composition is being defined consistently across all texts as composition that includes multiple ways of communicating, including gestural, spatial, linguistic, visual and auditory, reflecting the concept of multiliteracies (Cope & Kalantzis, 2000; New London Group, 1996). Many multimodal composition examples were, however, texts that include non-interactive composition types (as far as online and participatory interaction with the actual audience is concerned) such as e-portfolios, slideshow presentations, collages, digital videos, radio programs, magazines, picture books, graphic novels and other types of narrative composition, on the page or screen. These forms predominated, even though many authors acknowledged the emergence of interactive online composition types that afford the writer the ability to communicate with an audience (Burke & Hammett, 2009; Penrod, 2005; Rowsell, 2009). Examples of the latter types of composition are wikis, fan fiction, Facebook and MySpace creations, interactive webpages, blogs, and virtual reality designs, such as in Second Life.

Perhaps Penrod (2005) makes the strongest argument for viewing multimodal e-texts such as blogs, MOOs, or web pages as forms of interactive communication that not only invite, but rather demand response from the reader, a postulate that is comparable to that of Bakhtin's (1986) and his concept of addressivity.

However, as evidenced in this review, the affordances of the online interactive communication are largely missing in most multimodal composition types that accompany the frameworks examined in this analysis. We also discovered that some frameworks (e.g., UKLA/QCA, 2005) apply the standards and rubrics used to assess print-based compositions to multimodal composition even though scholarship shows that multimodal composition and new online compositions, especially wikis, fan fiction, created in collaborative fashion require new assessment measures and approaches (Jenkins, 2006; Katz & Odell, 2012; Lunsford & Ede, 2009; Penrod, 2005).

Implications for Teachers

Since today's youth engage daily in creation and distribution of multimodal composition for interactive online audiences in spaces such as Facebook and YouTube (Andrews & Smith, 2011; Lunsford & Ede, 2009), such composition should be integrated into the curriculum on a regular basis as well, to connect these writers to the world in which they live and compose.

Additionally, general frameworks for multimodal composition offer a starting point for teachers and students to begin thinking about necessary skills for developing multimodal compositions and criteria for quality, especially in conjunction with content and technology standards. In particular, we found Kimber and Wyatt-Smith's (2009) framework useful due to its focus on the use of software and the technological proficiencies necessary for successful multimodal composition within the specific context on online spaces. However, we would incorporate more genre and mode-specific questions for students to consider based on their multimodal choices and the intended audience and context. This is because multimodal composing is not the same as traditional writing. For example, composing a podcast or a digital video essay has its own idiosyncrasies and best practices, and not all of these can be borrowed or adapted from print. Thus, questions like the following become critical for creating and evaluating these forms of multimodal composition that one generic rubric simply cannot address: How do you write for the ear as you compose a piece such as an audio essay, as opposed to a composition for the ear and eye when sound and motion picture are part of the product?; and how do you determine what constitutes a good "audio essay" or "video essay"? We have to help students understand the unique conventions for creating such divergent multimodal compositions and teach them the quality criteria that are relevant to a specific multimodal genre, mode, and modality as well, so that they can apply these understandings and measures to their own multimodal creations.

The Construct of Collaboration

The affordances of collaboration between writers and audience members outside the classroom are also largely absent in the assessment frameworks presented here. At the same time, many authors recognize, collaboration within a group of writers or co-authors (Bearne 2009; Kimber & Wyatt-Smith, 2009; UKLA/QCA, 2005). Collaborative production may involve students working with others to create one composition, or performance.

Burke and Hammett (2009) note that "serious issues of authorship arise" (p. 3) when a multimodal text is created collaboratively. This is because assessment, both national and in the

individual classroom, is based on individual achievement, whereas the digital multimodal compositions of today's youth, especially those created for online spaces such as Facebook, MySpace, wikis, or Youtube, are forms of collaborative composition and communication. As such, these collaborative compositions celebrate the achievement of many authors, who compose and distribute their work in peer-to-peer and participatory communities and networks. The conversational interactivity (Cover, 2006) around these texts, in turn, represents the highest level of the writer's direct engagement with an audience.

Implications for Teachers

While several authors recommend assessing the process and not only the end product of multimodal composition (Bearne, 2009; Kalantzis, Cope, & Harvey, 2003), which creates space for conversations about the individual and group members' contributions, no rubric examples or specific criteria have been put forward for assessing collaborative and participatory forms of engagement with audiences. One way to encourage more collaboration between author and audience might be a simple process-based reflection for assessing collaboration. For this reflection, students might be asked to report on: a) with whom they collaborated in social media environments and whether their collaborative efforts also included a new audience, that is, readers and viewers beyond the classroom peers and the teacher; b) how they selected their collaborators and audience members and where to publish their work and why they chose those particular individuals and their specific online forum; and c) what they would do differently and what they would preserve in their process to select collaborators and audience members and the ways in which they interacted and worked with these individuals. This idea extends Kalantzis et al.'s (2003) suggestion for "group assessment" (p. 24) within a classroom collective of students and applies it to students' interaction with external collaborators. To clarify, we are not recommending assessing the suggestions of the respondent(s) but rather the writer's response and decision-making in response to audience feedback.

The Construct of Audience

Referring to the four levels we describe in the methods and use to categorize frameworks in Table 2, the majority of the frameworks we evaluated represent level one of audience interactivity. Such audience treatment was evident, for example, in the UKLA/QCA (2005) framework, which evaluated the student writer's ability to address the audience's needs through choice of content and style as appropriate for the specific multimodal composition and its purpose. Alternatively, Bearne's (2009) framework reflects level two in terms of audience interactivity as it asks student writers to consider "mode and content for specific purpose(s) and audience(s)" in authentic and real contexts and communication and to reflect on how they could "improve own composition or performance, reshaping, redesigning' and redrafting for purpose and [actual/addressed] reader's/viewer's needs" (p. 22). While asking questions such as these about the role of real audience is necessary to establish the rhetorical context, the framework does not consider active engagement with this real and authentic audience. Jointly, the treatment of audience in the level one and two frameworks aligns with the writer-centered and product-oriented models of audience evaluation such as Aristotle's (Enos, 1966) rhetorical triangle or Bakhtin's (1986) dialogic speech model.

The frameworks describing the texts whose authors had the opportunity to communicate with an actual audience through communicative means such as email, wikis, blogs, fan fiction, Facebook or similar social networking sites (Rowsell, 2009; Penrod, 2005) reflect our level three

of audience interactivity, yet did not include in their assessment criteria the consideration of an interactive, participatory audience (Jenkins, 2006). In addition, this last group of frameworks did not indicate if interaction and collaboration with the real audience was intended as a form of recurring participatory and collaborative engagement, which we associate with level four of audience interactivity on the scale that we employed. Level four of participatory engagement would ask of the writers to extend their consideration of real audiences' response beyond their initial reaction to their multimodal writing and have the writers collaborate with these audiences throughout the composing and assessment processes. This level of interactivity would give the audience "the full shared agency" that was advocated for in Lunsford and Ede's (2009) model for online interactive communities.

Implications for Teachers

Based on our findings, we propose that multimodal composition assessment frameworks incorporate interaction with the intended audience about their response and experience of the multimodal compositions they review during the composing and assessment processes — regardless of online or offline contexts. However, we foresee more and more multimodal composition being online as technology continues to develop rapidly and becomes more ubiquitous and accessible. Today's interactive technologies and interfaces such as blogs, wikis, and social networking sites such as Facebook and YouTube expand and enable increased communication with the reader through a commenting feature and other Web 2.0 functions built into these interfaces (Andrews & Smith, 2011; Lunsford & Ede, 2009; Wolff, 2013). In addition, these communicative technologies enable the inclusion of not only text-based, but also multimodal responses, such as a video or audio clip commentary or another form of digitally mediated response.

Teachers can then ask student writers to reflect on how the actual audience reacted to their designs and what they did or did not do in response to the reaction they had received from the audience. Another element to consider for the student writer is a discussion of the nature of interaction with the audience, through questions such as these: Did you communicate with one or more readers and viewers regarding this particular multimodal composition? What did you expect of your audience (s)? What did your audience(s) expect of you and of your composition? How did you know that? What did you do in response to the audiences you had not considered initially and whose feedback you did not like? In these reflections, students would thus reflect on their interaction with the audience (Author, 2015) and what they learned about their audience (s) and about the assumptions and values they bring to their texts (Lunsford & Ede, 2009). We hope that this initial reflection will lead to more conversation and more in-depth analysis of the production process and the writer's audiences.

In addition to having a reflection on the interaction with the audience as a component of the assessment framework, another possibility is to involve the audience in a peer review process. Students and classroom teachers might then use the evaluation from these external reviewers as advisory comments, as they revise and self-evaluate or evaluate for a grade student-generated multimodal compositions. Both students and teachers will need to be prepared for such collaborative assessment, including providing specific directions for external reviewers and student writers regarding assessment criteria expectations, as well as description of student writer and reviewer roles during this process.

Finally, in order to help student writers understand the complexities of interactive, multidimensional contemporary audiences, frameworks for audience analysis will also need to

include the questions that concern issues of ownership, copyright, and respect in the writer and reader interaction, that is, the ethical dimensions of such communication (Author, 2010). Lunsford and Ede (2009) proposed the following question ideas for identifying and interrogating the multiple responsibilities in the reciprocal writer-reader relationships, which we augmented with our own ideas as well:

  What do you owe to all the potential audiences of your text?

  What responsibilities do audiences have towards you whose texts they receive, question, reject, or adopt?

  What do you owe to those whose ideas you share with others on your site and on the websites of others?

  Naturally, such an analysis will need to entail conversations about privacy and privacy issues as well, helping student writers understand the distinction between public and private discourse in a seemingly public space of the social media sites and how the distinction affects the writer-reader/audience relationships (Lunsford & Ede, 2009).

Conclusion

  The frameworks analyzed here have done much to "go beyond our intuition, unearthing our implicit criteria to make them explicit and public" (Katz & Odell, 2012, p. 2). These scholars have identified criteria that are useful for the instruction and assessment of multimodal composition. However, our hope is to push the conversation further. We need to help students evaluate the communicative impact of their compositions when they are writing for an interactive online audience. Although this review was not intended to be an exhaustive analysis of multimodal frameworks, these selected frameworks have raised questions about how print-based rubrics are being translated into frameworks for online multimodal compositions, and whether or not the affordances of online composing, including interaction with a real audience, are being adequately considered by theorists and practitioners.

  To answer these questions requires us to embrace multimodal composition as being not only visually or aurally exciting works but also as an interactive and collaborative endeavor between the writer and the reader/viewer as well. Only with such mindset will teachers and educators be able to create in the classroom the effective support system and evaluation rubrics to assist students as they compose for interactive audiences with the unknown technological tools and genres of the future.

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Table 1. Rubric for Evaluating Frameworks for Assessing Multimodal Composition

Area of Focus and Description	Key Questions
Ownership and Collaboration: Construction of text	Is the collaborative construction of multimodal texts addressed? Who is involved in the construction of multimodal texts?
Audience: Readers and viewers of the composition	For whom is the student composing? Does the audience participate in the production and/or assessment process?
Multimodal Composition: Definition, terms, & text types	How is multimodal composition defined? What examples are offered?
Multimodal Composition Assessment Criteria: Descriptors and/or measures	What elements/rubric strands are included in the framework? Is interaction with an audience(s) included?

Table 2. Multimodal Assessment Frameworks Comparison Chart

Framework provides[a]:	Examples of multimodal compositions	Examples of interactive, online multimodal compositions	Collaboration with co-authors	Collaboration with audience	Criteria for assessing multimodal compositions	Level of audience interactivity (1-4)[b]
Kalantzis, Cope, & Harvey (2003)	X		X			1
Burke & Hammett (2009)	X	X	X			1
UKLA/QCA (2005)	X		X		X	1
Kimber & Wyatt-Smith (2009)	X		X		X	1
Bearne (2009)	X		X		X	2
Rowsell (2009)	X	X	X		X	3
Multimodal Assessment Project (2013)	X	X	X		X	3
Penrod (2005)	X	X	X	X	X	3

a. X indicates that the feature is present in the article presenting the framework.
b. Levels are defined as: 1-audience being considered but only as imaginary; 2- audience being considered and addressed but not interacted or collaborated with; 3-audience is responded to, but not beyond initial response; 4-audience engaged throughout composition and assessment process.