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Article abstract

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Analyzing High School Students' Mulitmodal Compositions with Digital Media Platforms Using Metafunctions

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Abstract

This study explores how diverse high school English students designed open-ended, multimodal projects across digital platforms (Weebly, blogs, and Instagram). Framed by metafunctions, emergent and axial coding of each student's website homepage shows a broad range of how they designed in digital spaces and to what rhetorical effects. Additional coding of two focal students' designs across each of the digital platforms highlights how students created complex, multimodal compositions that would have otherwise not been possible with the typical more formal, rigid forms of discourse. By designing multimodally, students showcased interests, humor, emotions, and culture not often seen in this classroom.

Key Words: Metafunctions, multiliteracies, digital literacies, multimodal design, portfolios

Digital technologies are shifting from supplementing traditional literacy practices to driving curricula (Aguilera et al., 2020; Collin & Street, 2014; Stewart, 2023a, 2023b), particularly after COVID-19. Subsequently, students' learning experiences are progressively shaped by the incorporation of new forms of communication as literacy practices become enmeshed with digital technologies (Leu, et al., 2013; Magrino & Sorrell, 2014). Furthermore, as teacher and students attend to the writing possibilities that the multiplicity of the modes (image, sounds, layout, color) offer, learners can expand meaning making potentials and opportunities beyond traditional forms of writing. With increased and persistent curricular and research foci on technologies and their role in classroom literacy practices, the importance of examining the affordances of using technologies as classroom tools cannot be underestimated (Moje, 2016).

In this study, I examine how diverse students in a typically formal, linguistic mode-dominant (i.e., focusing on traditional modes of letters/print/spoken words) high school English Language Arts class designed complex, multimodal, digital compositions while creating digital portfolios across three digital media platforms: Weebly (website building tool), blogs (blogging feature within Weebly), and Instagram (video/picture sharing app). Students reflected on their K-12 literary practices to highlight their growth as writers. I examine these compositions from two levels: 1) a broad multimodal analysis of all the students' homepages to provide an understanding of the breadth of designs in this class, and 2) a more detailed analysis of the complete portfolios of two focal students to show two contrasting cases that provide a rich understanding of the ways in which students designed across the platforms.

In brief, I take design to be "the process of organizing what is to be navigated and interpreted, shaping available resources into potential meanings realized in the context of

reading multimodal texts" (Serafini, 2012, p. 28). Design is seen a dynamic process of reflecting self-interest and transformation of modes (Kalantzis & Cope, 2008). The following research question drives this study: How did a diverse group of high school students design digital portfolios in multimodal ways that otherwise may not have been possible in this linguist mode-focused classroom?

Multiliteracies and Multimodality

Bringing multiliteracies and multimodality together allows me to focus on participants and their multimodal practices, or how they use modes (units of potential meaning) to design and their affordances. Thus, I aim to understand what the participants are *doing* (literacy practices and events) as well as the digital *tools* they use (modes, designs, affordances; Kress & Street, 2006). Literacy practices are the social models that people conceptualize as a result of literacy events, or the interactions and interpretive processes around a text (Street, 2003). Because "literacy practices are connected to the social groups that contest how a text should be read, interpreted, negotiated, understood, and applied in real-life situations" (Ajayi, 2009, p. 586), the ways in which texts are created are context-dependent.

According to a multiliteracies framework, a shift in classroom discourse (language in use for a specific context, Gee, 2014) occurs when teachers move beyond the traditional forms of literacy (i.e., paper and pencil), which, in turn, can lead to more engaging, inclusive, and open curricula and pedagogies (Cope & Kalantzis, 2000; Mills, 2009). While COVID-19 shed light on this importance of this shift as teachers adapted to a solely online environment and harnessed the digital literacy potentials of digital tools, even before the pandemic, many scholars argued for the need to integrate multimodal texts more effectively into the classroom through both reading and composition/design to promote more engaging and inclusive curricula (e.g., Aguilera et al., 2020; Kalantzis & Cope, 2000; Leu, et al., 2013; McVee et al., 2008; Serafini, 2013).

This study adds to the body of research that juxtaposes secondary students' complex multimodal designs to the more traditional linguistic-based writing often valued in classrooms. Many have found that using multimodal projects allows students to break free from top-down restraints of traditional writing and instead show meaning in more personal and culturally appropriate ways (e.g., Ajayi, 2009; Archer, 2014; Smith et al., 2021; Stewart, 2023a, 2023b). For example, students in Oldakowski's (2014) study created and reflected on multimodal projects analyzing literary elements in a text and noted that doing so through multiple modes helped them express their ideas more and prompted deeper thinking. Similarly, Ajayi (2009) found that designing multimodally allowed ESL junior high students different entry points for making meaning while reflecting their own interests and cultures, echoing what many students did in this study.

Opening spaces for students to express ideas in the most apt way can also have strong political implications, particularly for marginalized students. In her study examining South African students working designing complex multimodal designs, Archer (2014) found that it offered "researchers and educators a framework within which to contest and work against the narrow, prescriptive ideas of apartheid education" (p. 9). By forwarding students' voices in selections of modes and design, teachers and students can co-create environments that push back on traditional views of classroom authorship (Stewart, 2023a).

Multimodal Texts and Metafunctions

A mode is a "socially and culturally shaped resource for meaning making" (Bezemer & Kress, 2008, p. 171), and all modes are created and manipulated for specific actions to make meaning in particular contexts (Aiello, 2006; Bezemer & Kress, 2014). Because texts (defined broadly in line with a multiliteracies framework) are always designed for a specific purpose (Aiello, 2006), there are differences in the ways that modes are composed and read. For example, visual modes are generally more reliant on spatial layouts, whereas linguistic modes are typically more linear (Serafini, 2010). Thus, it is important to understand how multimodal texts are created and the meanings associated with them within a specific context and culture.

Modes serve three functions that work together simultaneously: ideational/representation, interpersonal/interactive, and textual/compositional (Halliday,1995; Kress & van Leeuwen, 1996). These three purposes represent metafunctions, or ways to understand and discuss the relationships between modes and what can be done with them—i.e., the types of meaning-making functions available in communication (Shanahan, 2013; Unsworth, 2006). According to Halliday (1985, 1994), the ideational metafunction refers to the content, what is represented in one's experiences of the world or events. The interpersonal metafunction refers to the ways in which relationships between texts and individuals are constructed, and the textual metafunction refers to the ways in which a text is structured to create a complete and coherent whole.

Kress and van Leeuwen (1996) use the terms *representational*, *interactive*, and *compositional* to describe the three metafunctions, though the general meanings of each metafunction have remained. Scholars like Mills and Unworth (2017) and Romero and Bobkina (2021) have used these to discuss the complex and fluid ways in which people communicate through digital media (e.g., memes, digital tools). The representational metafunction concerns how modes are used to convey an idea (e.g., color representing a political party, Carvalho, 2013). The interactive function is discussed in terms of exemplification (the objects within the image) and communication (the creator and reader of the image, Kress & van Leeuwen, 1996). Using this metafunction, images and texts can be described analyzing the demand (participant gazes at the viewer) and offer (participant is looking away from the viewer), framing and social distance, perspective and subjective and objective images, and horizontal and vertical angles (Lewis, 2001) as well as words (e.g., "you", "sir", Carvalho, 2013). The interactive metafunction can also be defined in terms of modality, or how true or close to "real life" the image/text appears to be (Lewis, 2001). Finally, the compositional metafunction concerns the composition of the text through the multimodal ensemble and how this affects how the reader views it.

Unsworth (2006) expanded the ideational/representational metafunction and segmented it into three parts. The first is concurrence, meaning "one mode elaborates on the meaning of the other by further specifying or describing it while no new element is introduced by the written text or image" (Daly & Unsworth, 2011, p. 61). This elaboration can be done through exemplification (modes provide examples of the other), exposition (modes provide the same information in different forms), homospatiality (multiple modes occur in a spatially bonded entity), and equivalence (modes are redundant to each other such as a textual caption for an image). The second is complementarity where one mode extends, enhances, or projects the meaning of another, which can be done through augmentation (i.e., meanings are additional) or divergence (i.e., meanings are opposed).

The third is connection where meaning is made through projection (typically quoting or reporting speech or thoughts) or conjunctive connection (relationships of time, place, and cause). The ideational metafunction (in combination with the other metafunctions) help to create the attitude, or the tone of the composition.

Many scholars have used these metafunctions to discuss and analyze multimodal designs (e.g., Cope & Kalantzis, 2000; Kress & van Leeuwen, 2006; New London Group, 1996; Shanahan, 2013; Stewart, 2017), and I add to that discussion through examining how students were able to design multimodally in an otherwise primarily linguistic-mode dominant class to enable meaning making that otherwise would not have been valued/possible.

Methods

Context of the Study

This study took place in a university-affiliated charter K-12 school that serves predominantly first-generation college-bound students (i.e., their guardians did not attend college) and helps to prepare them for university attendance. I worked with a junior and senior English teacher, Ms. Lee, whom I did not know before the project, to create a unit for her capstone-level senior English (12th grade) students for the final quarter of the year (April-May).[1] After Ms. Lee responded positively to a call from a university colleague working in the school to study multimodal projects in classrooms, I reached out to her. While I presented the initial idea to her to include a reflective unit wherein students would be creating multimodal compositions through digital platforms, Ms. Lee designed the unit, occasionally asking for my feedback. Because the study occurred before the pandemic, Ms. Lee and the students were less familiar with using digital tools to open spaces for meaning making in the classroom, which likely impacted the ways in which they took up the modes of the digital tools as they explored an unknown territory together.

The class was typically characterized as formal and traditional with a primary emphasis on literature analyses with little creative writing and few opportunities for multimodal composition (which I observed in the two class periods I attended before the portfolio unit). This characterization was also corroborated many times in my discussions with Ms. Lee; she described writing in her class as "very academic," "one specific genre," and "a really limited subset of the realm of writing." Ms. Lee also noted that she provided students with detailed rubrics and templates for writing and note-taking. Ms. Lee even noted that even though she had taught this same group of students for both their junior and senior year of English, she felt that she only knew them as writers in this one specific context.

However, the portfolio unit included relatively open-ended, multimodal assignments wherein students could choose pieces to showcase, design their portfolios, express personal ideas, and direct their time. Students could reflect on their literary lives for the past 12 years, creating a narrative of important literacy moments, changes, and growth. Because students were reflecting on their literacy practices over time, personal narratives, reflection, and inclusion of personal interests were inherent components of the portfolio unit (Ranieri & Pachler, 2014).

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[1] All names are pseudonyms.

Weebly. There were four required (predominantly text-based writing) sections for the Weebly website: Academic Writing, Personal and Creative Writing, Literacy Memoir, and About Me.

- Academic and Memoir writing sections: students wrote new essays and reflected on their growth as writers in teacher-provided questions.
- Personal/Creative writing: students selected a range of three piece from any time and any class to showcase their best writing.
- About Me: students introduced themselves as writers and readers.

In addition to these sections, students also included a homepage that served to function as an introduction to their portfolio. Ms. Lee stressed that the homepage needed to be "professional looking" and convey "the purpose/content of the website."

Most of the students' time and energy was spent working on their websites, as this was the largest part of the portfolio and required the most writing. Ms. Lee also graded these the closest, using a rubric and grading each text-based item carefully.

Blogs. Students wrote eight/nine (one optional) blog entries to reflect on the progress of their websites as well as their reading for the class. Thus, many of the blog prompts centered around a project the students were working on wherein they re-read a book and reflected on the differences they noticed between their first time reading the book and now. Ms. Lee generally gave students about ten minutes to complete the blog posts in class and read each blog post carefully, grading the students on the thoroughness of their text-based response.

Instagram. Students had five prompts to reflect on the creation of their portfolios as well as their literacy practices in/out of the classroom. Students shared a class account and hashtagged each of their posts with their names, the assignment, and any apt hashtags. Ms. Lee also required that students include reflective captions beyond the required hashtags, and most posts (95.2%) did. Students could post to Instagram any time, though many chose to post during class. Ms. Lee expressed that she struggled with how to grade the Instagram posts because it was not something she was "trained in," and therefore, she graded the Instagram posts holistically.

Participants

All students working on the project (26) participated in the study (see Table 1). I chose four focal students that I closely watched throughout the unit and with whom I conducted regularly occurring in-situ interviews (see Stewart, 2017, 2023b). I selected these focal students based on: 1) responses to the Likert-type question "I like to write" on the pre-study survey, selecting one student who responded to each of the four options (1-4); 2) equal mix of male and female students; 3) outspoken to quieter students; 4) students who did not sit together often; and 5) students who ethnically represented the range in the class, which was predominantly Hispanic.

Table 1
Student Demographics, N=24

Gender	66.7% Female
	33.3% Male
Age	50% 17
	50% 18
Race/Ethnicity	58.3% Hispanic
	20.8% Caucasian
	8.3% African American
	4.2% Asian American
	4.2% Native American
	4.2% Other

Note. Two students were absent.

Because my goals of richly understanding the nuanced ways in which students designed their portfolios and the depth of analysis required to do so, I selected two of the focal students on which to focus my analysis as two contrastive, maximally-variant cases (Ravitch & Carl, 2016). Marta (a self-identified Hispanic female, bilingual in English and Spanish who expressed loving to write, and was always eager to participate in class) and Julio (a self-identified Hispanic male, bilingual in English and Spanish who expressed hating to write, and often appeared disinterested in class, sitting in the corner with his backpack on his lap).

Analysis of Students' Multimodal Designs

I aim to provide a rich, deep understanding (Creswell, 2013; Gleason, 2016) of how students in this class designed multimodally across three digital media platforms. I analyzed their designs across platforms through iterative rounds of coding, focusing on multimodal analysis informed by metafunctions.

I begin with a brief analysis of all participating students' designs of their Weebly homepages to provide contextualization of the in-depth analysis of Marta and Julio's designs across platforms. This contextualization helps to situate my in-depth analysis of the focal students' designs and provide a more expansive understanding of the design possibilities taken up within this class.

Whole-Class Weebly Homepage Analysis

For the analysis of the Weebly homepages, I began with open, emergent coding of all 26 students' homepages to identify multimodal design choices and their rhetorical effects (e.g., images index personal connection to the school, explanation of what reader can expect). I then moved into axial coding, using the metafunctions to help guide the analysis (e.g., Stewart, 2017). This analysis focused on how the students realized the metafunctions in their designs that included iterative rounds of coding (Saldaña, 2015). For example, "explanation of what reader can expect" became "addresses the reader directly" and "first person", which reflect the student's realization of the interpersonal metafunction. Because students did not include any embedded video or sounds, the analysis focused on the image-textual relations as they were realized through the metafunctions (e.g., Shanahan, 2013).

Focal Student Portfolio Analysis

　　To provide an in-depth analysis of the students' complete portfolios, I focused on two focal students: Marta and Julio. I conducted similar analysis as the homepages by using first and second round coding of each webpage, blog post, and Instagram post (Saldaña, 2015), guided by the metafunctions and my previously described coding techniques.

　　For the two focal students' webpages, I analyzed how they used themes, background pictures, heading pictures, landing pages, fonts and font changes, layout, and the ways in which they incorporated materials (embedded, linked, pasted). For the focal students' blogs, I analyzed the layout of blogs, font (size, color, changes in font), background, colors, length of posts, and pictures accompanying posts and how these features affected the design. For their Instagram posts, I analyzed the overall composition of the pictures/videos, the ways in which each post was edited, the colors featured in the post, and where the picture/video of the post appeared to be taken (i.e., was it in the classroom, outside, at home, etc.). I also analyzed the captions for each post and their relation to the visual modes of the post (Kress & van Leeuwen, 1996), communication on the post, and any hashtags or emojis used. In keeping with my focus on metafunctions, I examined how the students used these modes on each platform for meaning making in conjunction and how that affected the ways in which the potential audience may perceive the portfolios.

　　Analyzing students' text-based writing and how it interacted with the visual modes was also of importance, as this is a traditional form of meaning-making, especially for this class. Specifically, based on Unsworth's (2006) description of the ideational metafunction, I explored Marta and Julio's attitudes/tone within their portfolios, which were often presented via linguistic-based modes and supported/enhanced/augmented/divergent through complementarity or concurrence between the modes. I also identified and analyzed ways in which the students personalized their writing to create social distance and index personal interests, which included humor, cultural references, language-use, etc.

Limitations

　　While I provide a rich description of the students' portfolios, space limits an equally rich description of the context of the learning environment to further illuminate the broader cultural implications of studying a traditionally marginalized population. Furthermore, as a highly-educated, cis, white, female, my interpretations of the data are undoubtedly influenced by my own experiences and culture.

Findings

　　I begin my metafunction-based analysis with all students' homepages, summarizing the findings with illustrative examples of how the class designed multimodally that would not have been possible through linguistic modes alone (Kress, 2003). I then provide a nuanced description of how two focal students created complex multimodal designs across each of the platforms to create rich, personal portfolios. These complimentary analyses using metafunctions provide a way to understand how students are taking up the features of digital platforms to design multimodally.

Students' Homepages

The portfolio unit differed greatly from the assignments that Ms. Lee typically included in her class, which were formal, literary analyses for which she provided clear directions, thorough rubrics, and templates. In contrast, the only requirements for the homepage that Ms. Lee provided to the students was that it must be "professional looking" and convey "the purpose/content of the website."

In the following, I describe the metafunctions individually for a heuristic distinction for analytic purposes to more distinctly illustrate how students created complex, multimodal texts, which were uncommon in this classroom.

Ideational/Representation Metafunction

Most of the students' homepages (22) realized complementarity between the images through either augmentation or divergence. While some students did not appear to have a strong rhetorical connection for the divergence, others skillfully used divergence to highlight specific differences in tone or ideas between the images and text. For example, many students included light, flowery images as their backgrounds and then had more formal, academic, removed text (e.g., an image of a pink-hued snowy tree with a description that reads more academic, using words like "owner of this website" and describing the portfolio as "being used to display" each type of writing that she included for the school and course, see Figure 1). In doing so, students struck a balance between the personal choices for aesthetics and the professionalism expected in their portfolios.

One student, Michael, who was particularly sarcastic and seditious in class, included a cropped, low-demand image of basketball-player Denis Rodman, wrestler "Macho Man" Randy Savage, and wrestler Hulk Hogan with the title "**EVERYTHING MAKES SENSE**". Michael's use of the 1990's photograph pokes fun at the assignment as his title contradicts the use of the image for a writing portfolio (see Figure 2). Others included divergence to highlight personal interests (e.g., an image of a video game controller as the focus of the background).

Figure 1. Homepage (complementarity through divergence in tone of the image and text).
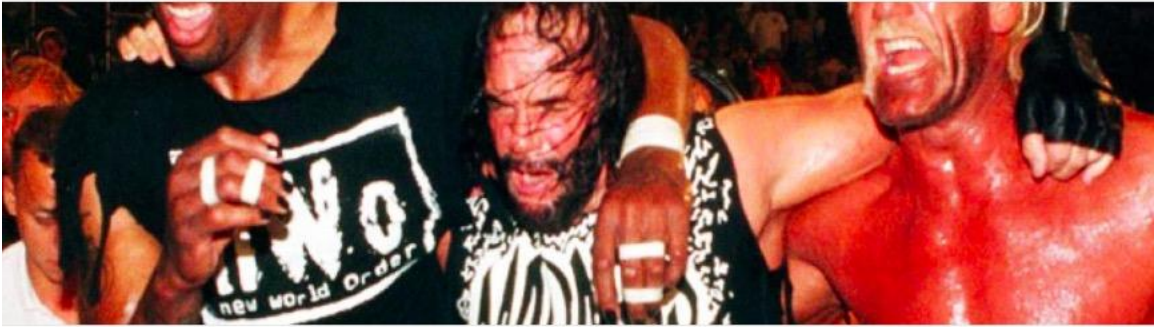
Figure 2. Michael's homepage (complementarity through divergence).

However, most of the students used complementarity through augmentation, including images and text that played off each other in either literal or more figurative senses (e.g., bright, cartoon confetti background image with a joyful greeting or images of writing utensils with an introduction to the writing portfolio, see Figure 3).

Figure 3. Homepage (complementarity through augmentation).

Five students had concurrence between their text and images (one student had both concurrence and complementarity). This concurrence was through exposition for three students, as they included images that presented the same information in different forms. For example, Zach included a welcome message for the reader and a picture of Spock giving the Vulcan greeting, staring directly at the reader with strong demand (see Figure 4). Others used concurrence through exemplification (e.g., an image of a coffee cup and writing materials accompanied by the statement, "I was the kid that always got out of reading and writing. I am now the kid that will enjoy a cup of joe and will read or write.").

THE CENTER FOR READING AND WRITING

My center, to be precise.

HELLO VISITOR!

Welcome to my writing portfolio, a website I'm using to showcase my writing.
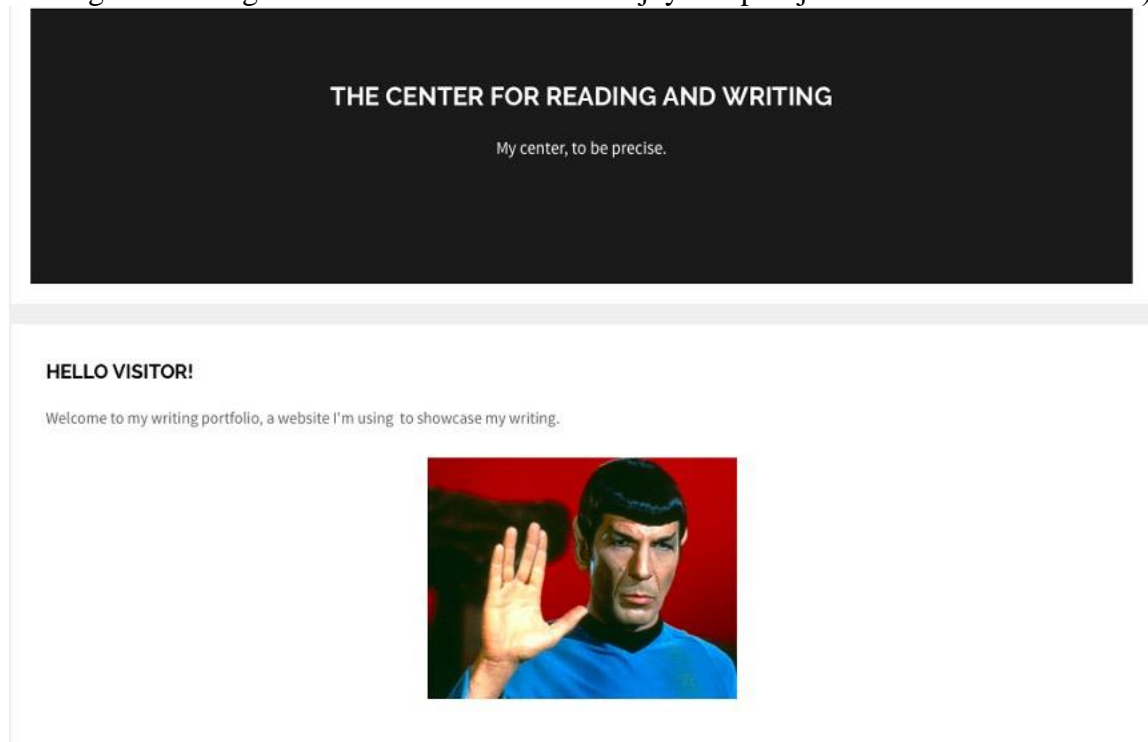
Figure 4. Zach's image of Spock's Vulcan (concurrence through exposition).

By considering the ways in which the text and visual modes related to each other, the students created sophisticated multimodal designs. Though this class typically only focused on linguistic modes, the students could now design to reflect their self-interests and personas while still meeting the requirements of the academic portfolio.

Interpersonal/Interactive Metafunction

The students' take up of the interpersonal metafunction varied. Some chose to have close personal distance, using more informal and excited punctuation often in combination with relatively informal or personal images (e.g., "Welcome!!!!!!" with a picture of the student taking a mirror selfie). Others chose to include humor (like Michael and Zach). For example, Zach's portfolio (Figure 4) includes a few small jokes ("My center, to be precise") as well as Spock greeting the visitor. Others were more formal, but still personal, using the first person and introducing their portfolios in academic ways (e.g., a cartoon image of a student working on a computer at a desk with the tagline "This portfolio shows my work of writing from my senior year and also give explanations to where I stand as a reader, writer, and in language." see Figure 5). However, others were much more formal

with impersonal social distance (e.g., a grey-toned image of an elaborate ballpoint pen with an open notebook and the text "BRIAN STEPHENS/ENGLISH PORTFOLIO") or even academic, including the name of the course or semester (e.g., "**SILVIA CISNEROS' WRITING PORTFOLIO/**Silvia's Writing Portfolio for Capstone English Literature." over a sepia-toned picture of a car-lined street in a busy city).

HOME   ABOUT   ACADEMIC WRITING   PERSONAL & CREATIVE WRITING   LITERACY MEMOIR   BLOG

SENIOR WRITING PORTFOLIO

BY: ~~ALEXI ARREDONDO~~

This portfolio shows my work of writing from my senior year and also give explanations to where I stand as a reader, writer, and in language.

Figure 5. Formal yet personal example of a student's homepage.

This range of interpersonal meaning making was rarely seen in this class, as Ms. Lee frequently characterized the class as quite formal and relatively devoid of students' personal reflections and interests (as is common with literary analyses). However, with this unit, the students could choose the formality, social distance, and perspective to create portfolios through which they could connect and communicate with their potential global audience.

Textual/Compositional Metafunction
Much like the interpersonal metafunction, students' use of the textual metafunction also varied widely in part because of the open-ended design paths. Despite the variation, students generally used traditional conventions of formatting for a website homepage (i.e., centered heading, smaller text where applicable below the heading, quotes in italics,

centered images). By including the heading as the largest text at the top, the students recognized that that information was given and the most important —or "ideal"—and the descriptions included below were new information and concrete—or "real" (Unsworth, 2006). Students skillfully arranged their homepages to meet these standard conventions.

Students' textual choices were likely based in what they wanted in their portfolio designs, their understanding of design structures, what was provided in their selected theme (and potentially edited), and in the available design elements that Weebly provides (e.g., selecting a "quote" element automatically formats the quote into italics and changes the color and font of the text). Students could edit their themes and add elements to design their portfolios in ways that they felt were most appropriate for their goals and potential audience. Some emphasized particular elements (e.g., highlighting their names like in Figure 5, including buttons with links to other pages of their portfolio or to external links such as personal blogs or the class Instagram account, etc.).

In doing so, the students personalized their portfolios through their designs that would not have otherwise been possible through linguistic writing alone (Ajayi, 2009; Kress, 2003; Oldakowski; 2014; Stewart, 2023a, 2023b). In her final interview, Ms. Lee noted that the portfolio unit may have been more of a learning experience for her than the students, as she was unaware what students were capable of when given more open platforms through which they could make meaning through multiple modes.

Focal Students

I begin each focal student's section with analysis of their websites before discussing their eight blog and five Instagram posts. By examining each of these platforms individually, I explore how the students designed modal compositions and included personalization and personal interests to design on each platform. I present the portfolio analyses of the metafunctions as they are taken up simultaneously (Halliday, 1985; Kress & van Leeuwen, 1996; Unsworth, 2006). In doing so, I explore how the students were able to design their complete multimodal portfolios to reflect their personal interests and make meaning in ways that would not have been possible in the traditional forms of discourse.

Marta
Marta's Weebly

Unlike many of her peers' webpages that had consistent background images, Marta used different images based on the category of page (e.g., Home, About Me, Writing sections). However, her pictures were consistent in color and tone. The background on Marta's homepage is of a shadowy man walking down a rainy street in the city carrying an umbrella. The greys, blacks, dark purples, and a splash of magenta from a car's break lights carry throughout the rest of her webpage backgrounds: a close-up photo of a grey succulent plant on About Me, a dimly-lit field of flowers at sunrise/sunset for her Writing sections, and a streetlight at sunrise/sunset (which Marta took herself) for her blog.[2] These darker, softer images in cool tones offer complementarity with the pensive, emotional nature of Marta's portfolio and of her linguistic modes.

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[2] Though I analyzed the blog separately, it was located within the Weebly and added to the overall color scheme of the websites.

Marta's homepage is relatively minimal with simple white text that reads: "WELCOME TO MY SENIOR PORTFOLIO" followed by a quote that Marta attributes to Hayley Williams, lead singer of pop-punk band Paramore, whose brooding songs offer complementarity with the emotional, angsty tone of Marta's website. I further discuss Marta's inclusion of other musical lyrics below, but she included popular-cultural interests throughout her portfolio, creating a close social distance by indexing her outside interests through text (and potentially through her photos through less overt references).

Marta's About Me page continues the dramatic/emotional tone of the portfolio with her close-up photo of a grey-toned succulent as the predominant focus of the background. Her white text is divided into three parts with headings for each ("This is who I am," "As a writer I am," and "As a reader I am"). In her "This is who I am" section, Marta compares herself to an unspecified book-character as an "overachieving dreamer that ends up getting caught up in her own brain." Her textual self-description shows her interest and connection to the traditional literary world, comparing herself to book characters (over movie/other types of characters). Marta's dramatic descriptions of these characters echoes the dark, emotional tone that she maintains throughout her portfolio. Here, Marta's meaning-making is done predominantly through written text; however, it is made more powerful through the layering of this text with other modes that offer complementarity—i.e., the selection of background images, the colors that she chose—as well as the inclusion of her outside literary interests, which from the perspective of the interpersonal metafunction, makes the design more personal.

Marta continued the close social distance and complementarity throughout the other sections, which include portions of her writing embedded in front of an out-of-focus purple field with in-focus orange flowers at sunrise/sunset. The complementarity between the background image and Marta's text is in keeping with that which she creates throughout the portfolio as the general emotional tone (purple) is contrasted with bright spots of passion (orange) through both image and text.

Textually, on her Academic Writing page, Marta was the only student to embed her original essay side-by-side with her revised essay. Because of the freedom of layout, Marta was able to embed and move the documents in a way that focused the reader's attention on the differences between drafts, straying from the layout in Ms. Lee's example portfolio and showing ownership over her design, which was not always available in this class.

Marta's selections for her Personal and Creative Writings were: "A Poem called: Notice Things," "TRUTH - A short story (so far)," and "Piano Lessons - Auto Ethnography." [3] Though all were dark, dramatic, and emotional, in the interest of space, I discuss only Marta's first piece, "A Poem called: Notice Things". The four-page, free-verse poem mixes Spanish, English, and literary/mythical references while detailing a feeling of drowning, which from the perspective of interpersonal metafunction, continues Marta's close personal distance, as she invites the reader into personal events. Under the textual metafunction, Marta's layout of the poem offsets particular words, forcing the reader to emphasize them more (see Figure 6 for the first stanza).

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[3] Marta also included a link to her Google Drive for updated versions of "TRUTH - A short story (so far)" that led readers to an updated version of her story.

```
I don't know if it's just me
But
I have felt myself
                    drowning
        over and
                over again...
Constantly really.
Trying          surface          air.
        to reach
                the
                        just for

Have I mentioned that I don't know
                        how
                            to
                                swim?
Yeah, well, I don't.

But everything else does.
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Figure 6. First stanza of "A Poem called: Notice Things".

      Embedded on the same purple and orange floral image, Marta's Literacy Memoir, "The Porcelain Doll," describes a moment in her childhood when she heard her family gossiping and how this sparked her interest in stories. The flowery two-page story includes some Spanish (e.g., "tia," "chismosa"), which was in keeping with the personalization of her Personal and Creative Writing pieces. She also addresses the reader directly at times ("Now, I told you that this story would reflect badly on me…"), which indicates a level of informality that not many other students included in their literacy memoirs and created a very close social distance that was echoed by the inclusion of her native language and the tone of the story (Ajayi, 2009).

Marta's Blog

      Marta's blog posts are predominantly text that create a more informal tone than in her Weebly and does so with less structured reflection. Instead, Marta's blog is highly personal, including references to bands and informally working through ideas like a journal, recounting her feelings and locations of events. In doing so, Marta took up the common features of blogs that allow for personal writing (Manca & Ranieri, 2013). By treating her blog as a journal, Marta also exhibited ownership, writing several more prompts than was required. Though Marta did not include many substantive pictures that contributed denotative meaning to her blog posts, she did include an original photo as her background, again personalizing her blog. The interplay of the dark, bleak photo with her personal text adds to Marta's overall dramatic, emotional tone in a personal way.

      Marta's blog is unique in its layout, showing that she attended to the modal potentials of the visual modes over linguistic modes that tend to be more linear (Serafini, 2010). While all other students created their blogs to include the title and visible text where the reader could scroll through the page and read each of the blog posts (mirroring Ms. Lee's example and in keeping with a linear format), Marta designed hers to have only hyperlinked titles visible, where readers be directed to a new page to read each post. Textually, this layout serves to make each post feel unique, as they are not easily read

through all at once. Instead, the reader must read each title and then select a post on which to click and read the full text.

Aside from the background image, Marta only included two other images on her blog: an optional Instagram picture and an illustrative picture of the book she was re-reading. Marta's focus on meaning making through primarily textual modes on her blog shows her preference for designing with written text and is in keeping with her designs throughout the blog and beyond. The picture of the book that she included is not referenced in her post; instead, it is merely placed to the side of her textbox, seeming to serve an illustrative function (Jewitt, 2005; Unsworth, 2006). Marta's decision to not include images on her blog focuses the reader's attention to the small white text on the stark background, which maintains Marta's consistent dramatic tone.

Much like her Weebly, Marta included references to her interests in popular culture in the form of quotes at the end of eight out of the nine required blog posts. Seven quotes were from a British pop-rock band, "The 1975". Each of these quotes seem to relate to her responses peripherally, while still reflecting Marta's interests and design. By referencing the band's lyrics, Marta includes personal out-of-school interests that index her within a larger culture without directly stating her interests in music, the specific genre, or the particular band.

Marta's Instagram

Instagram offered a unique opportunity for the class to attend to visual modes for meaning making in direct ways. The combination of visual modes in the posts as well as the text-based captions allowed students to create multimodal compositions that featured multiple modes in concert for meaning making that would not have been possible through linguistic modes alone.

Marta had six Instagram posts; two were poems that she created (blackout and book spine), though the two posts were quite different. The blackout poem was a photocopied page from *Fahrenheit 451* with many words and sentences marked out in black marker (students could choose any color, see Figure 7). The content and caption of the post read quite dark, and Marta was able to achieve this tone through the interplay of her image, which she edited with a filter to appear gritty and dark, the text of the poem, and her caption.
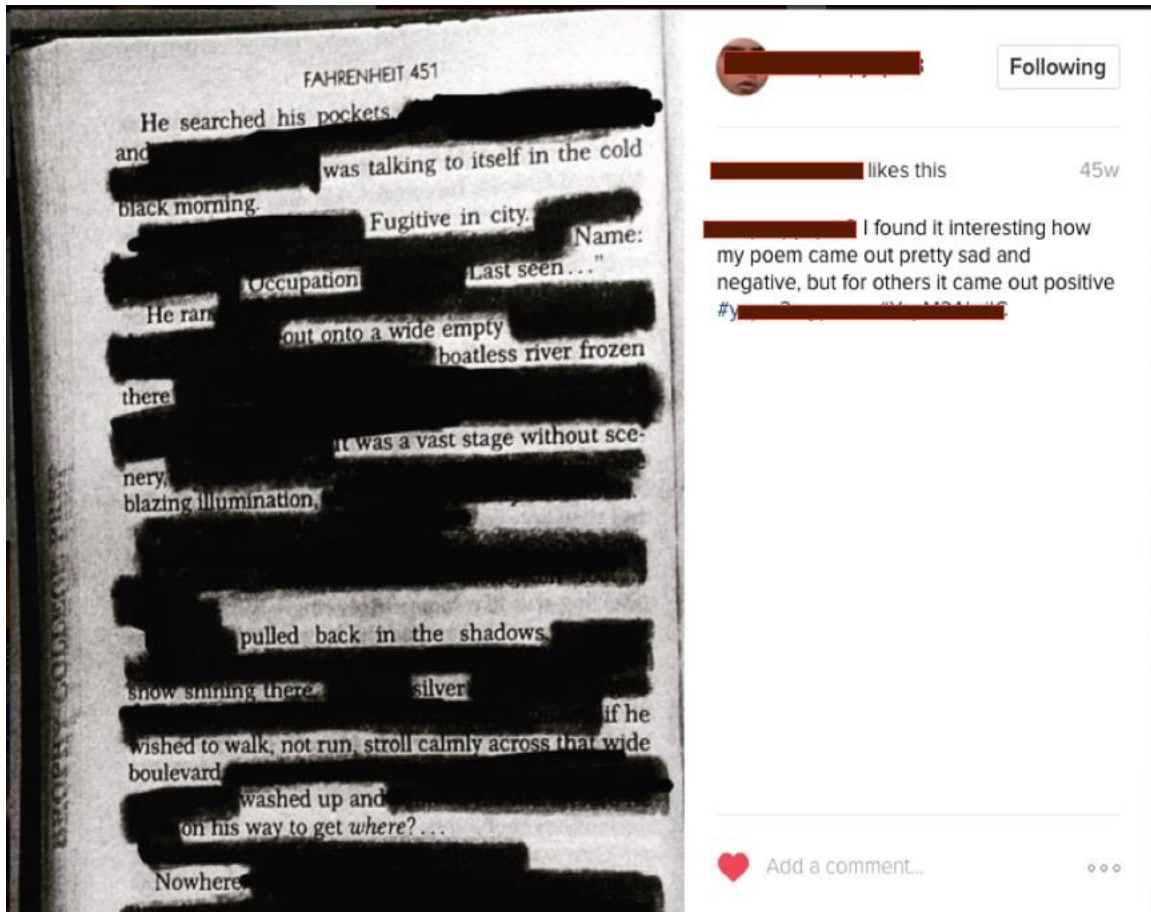
Figure 7. Marta's Instagram blackout poem post.

Most of Marta's other posts also seem to reflect her dark design. By using pictures in combination with text-based captions, Marta multimodally designed her portfolio to be thoughtful, dark, and emotional. However, one of Marta's posts deviated from her typical emotional tone. Like many other students in the class, Marta used humor on her Instagram page for meaning making through memes. Memes are internet jokes that consist of a picture with an apt caption (usually on or below the picture), generally reflecting those who share the joke's culture (Gleason, 2016). Her post shows a cartoon character from *Spongebob Square Pants*, a common meme, spinning out of control (see Figure 8) with the caption "When you're trying to finish your memoir but can't remember anything about your life all of a sudden." By including a meme, Marta again displayed her connections and interests outside of school, indexing her interests beyond the classroom, which would have not been possible through other forms of writing in this class (Aguilera et al., 2020; Stewart, 2023b).

Figure 8. Marta's meme Instagram post.

Julio
Julio's Weebly

       Julio's Weebly is markedly personal throughout. His consistent header on every page is a professional-looking picture of his face, his school uniform shirt just barely visible, and out-of-focus fellow students in the background (see Figure 9). His gaze is directly at the reader, insinuating strong demand. Below this header, each of his pages had grey text on a white background. The predominant colors on his pages are maroon (found on Julio's shirt and on the out-of-focus doors behind him in the picture), grey (text), and white (background). By including a picture of himself as the theme, Julio likely signaled to the reader that this was, in fact, a personal portfolio.

Figure 9. Julio's header for his Weebly pages.

       Like Marta, much of Julio's meaning making on his Weebly is relayed through textual modes. Julio did not include a homepage, but instead opens with his About Me page, which begins with a seemingly enthusiastic "Welcome!!!!!!" From an interpersonal perspective, this greeting indicates a close social distance through both the enthusiasm and through the informal punctuation. As was required, he included a section introducing himself ("About Me"), a section about his writing ("About My Writing"), and a section about his reading ("About My Reading"). He also included an untitled section about his

portfolio where he wrote directly to the reader as a sort of substitution for his homepage ("This is my portfolio. Here you will stumble upon several pieces of my writings…. You will also see blogs about my progress and my feelings. I hope you enjoy all of my works!"). In addressing the reader directly, Julio created a personal tone with close social distance for his website, one that contrasts the typical formal, third person literature analyses that were common to this classroom. Next to this introduction, Julio also included a full-length selfie of himself in the mirror, contrasting the professional photo of his header, signaling dual levels of formality. This personal tone of his modal ensemble helps to form a more informal design wherein Julio expressed ideas that were atypical for this classroom where the writer was often removed from the text.

In the next section of Julio's About Me page, he introduced himself as "just a small town boy from Mexico" and discussed how much he dislikes the school and how it has caused him so much stress– a candid, rebellious comment for school-based assignment. Even though there is complementarity between the personal images of Julio and his candid text, there is divergence in some of Julio's writing, as his statements seem to have different attitudes and social distances. In each of his introductory sections, Julio expressed his dislike for school and school-related literacy practices. However, he contrasted these with things that he does enjoy (poetry and creative writing, books about space and superheroes). This complex juxtaposition in tone as disinterested versus emotional and reflective is present throughout his portfolio and will be addressed further in each section.

Though Ms. Lee requested that students select a wide range of types of writing to showcase their varying writing styles, Julio chose three poems (two of which were in his native language, Spanish). By opening spaces for students to draw from multiple modes to make meaning, all parties acknowledged the legitimacy of bringing Julio's first language into an academic assignment where that was typically unseen. The two Spanish poems were relatively short (10 and 11 lines), and Julio included a summary of their meaning in a separate textbox at the end.[4] Both poems are about emotional experiences: killing a deer while camping and nearly drowning in a river but being saved by his late uncle. His emotional writings in his native language contrast those of his Academic Writing section, which had much more impersonal social distance as it was more academic. This change may suggest that Julio's sense of freedom as a writer could shine through in his poetry in ways that essays would not allow. He could rise above the institutional constraints of the classroom (e.g., English, formal literature analysis, prescriptive formatting) to include pieces that he felt more connected to, that included the personalization that he expressed that he valued in writing.

Julio's Blog

Julio did not include any pictures in his eight blog posts, which again shows his propensity toward text, and his blog's formatting was generally consistent (simple title and uniform grey text). Julio's responses were also relatively similar in length, and the uniformity of design and length may indicate little exploration of the other design features. Thus, like his Weebly webpages, Julio's meaning making and design within his blogs was largely text-based.

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[4] As a Spanish speaker, I was able to read these.

Julio's blog posts were filled with emotion and candid expressions of his own experiences and pain as well as reflections on his connections to the text, as blogs tend to be (O'Byrne & Murrell, 2014; Stewart, 2015). For example, Julio made strong connections to the characters in a book, *Speak*, that he was re-reading as per the assignment. *Speak* is the story of a high school student who is ostracized at school. Julio explains in a blog post that he did not like the book when he first read it as a freshman, but now that he is older, he can better relate to Melinda, the main character. Julio revisits this notion of relating to Melinda and her pain throughout his blog posts, drawing comparisons to her experiences. Julio wrote emotionally and candidly about his own struggles (albeit slightly vague) that serves to create a close social distance while also making strong, personal connections with the text and possible audience. Though the meaning is not relayed multimodally necessarily, this kind of ideational expression would not have been possible in other forms of writing that were typically found in this classroom.

Julio's Instagram

Julio again used predominantly textual modes for meaning making, even in a visual-forward platform like Instagram. Three of his posts were pictures of text, which for someone who described himself as hating writing, shows a heavy reliance on traditional linguistic forms of meaning making. Unlike many other students, Julio did not include any memes in his posts, despite claiming to enjoy writing with humor in his final interview. He also did not include much personalization that would have belied much information about Julio beyond his class-based reflections.

Julio posted to Instagram five times. Most of these posts were relatively upbeat, which juxtaposed Julio's writing/design on his Weebly and blogs. His first post, a picture of his tutorial page is captioned, "Man, this was the easiest/funnest thing I've ever done. It was not bad and the directions made it easier." Despite the concurrence between the caption and image, the visual modes of the picture reflect very little meaning making, as most of his meaning is created through his text-based caption (Jewitt, 2005). This use of textual over visual modes was also in keeping with how Julio used Weebly and his blog.

Two of Julio's posts featured pictures of himself. One of these was a picture of himself at school, leaning against the wall and pursing his lips with strong demand as he looked at the camera captioned, "Revising my essay was really hard and stressful. I had to dig in my bag for notes from a long time ago." Julio's expressed disinterest for school is presented through this post and both image and caption offer complementarity in tone, as his face shows clear dissatisfaction, and his caption further explains the reasons for this dissatisfaction. Julio was able to use both visual and textual modes to create a more complete representation of how he felt about writing his essay. By showing a picture of himself and then commenting about his progress on his essay, Julio's reflection appears more personal as the reader can see his physical reaction through his facial expression, creating a close social distance.

Julio also posted a picture of his blackout poem, for which he used a purple marker to non-uniformly cross out words to create his poem (see Figure 11). His caption discusses what he likes about the poem, which is the mystery of it and includes several sarcastic hashtags. Because of the size of the document in the picture, the poem is illegible, making

his caption more subjective to his interpretation.[5] However, the concurrence between the picture and the caption helps to create a text that is multimodal, where both modes add to the meaning of the composition. Julio leads with what he likes about the poem and keeps his focus on the darker side of writing ("something bad happened"). Even though he writes that he liked his poem, Julio then seditiously undermines his reflection through his included (optional) hashtags, creating a closer social distance, which also serve to add more personalization to his post through humor, slightly poking fun at himself ("#HarHardWorker" and "#OMG") and expressing his unenthusiastic feelings about the assignment ("#ehhhhh").

Julio created complex, multimodal posts on Instagram that met the requirements of the assignment while also including his personal reflection and personal elements (e.g., humor). As expressed in in-situ interviews and surveys, Julio did not enjoy writing, especially in this class. However, his Instagram posts showed that there were some elements to writing that he enjoyed that may not have otherwise been possible in the typical class assignments.
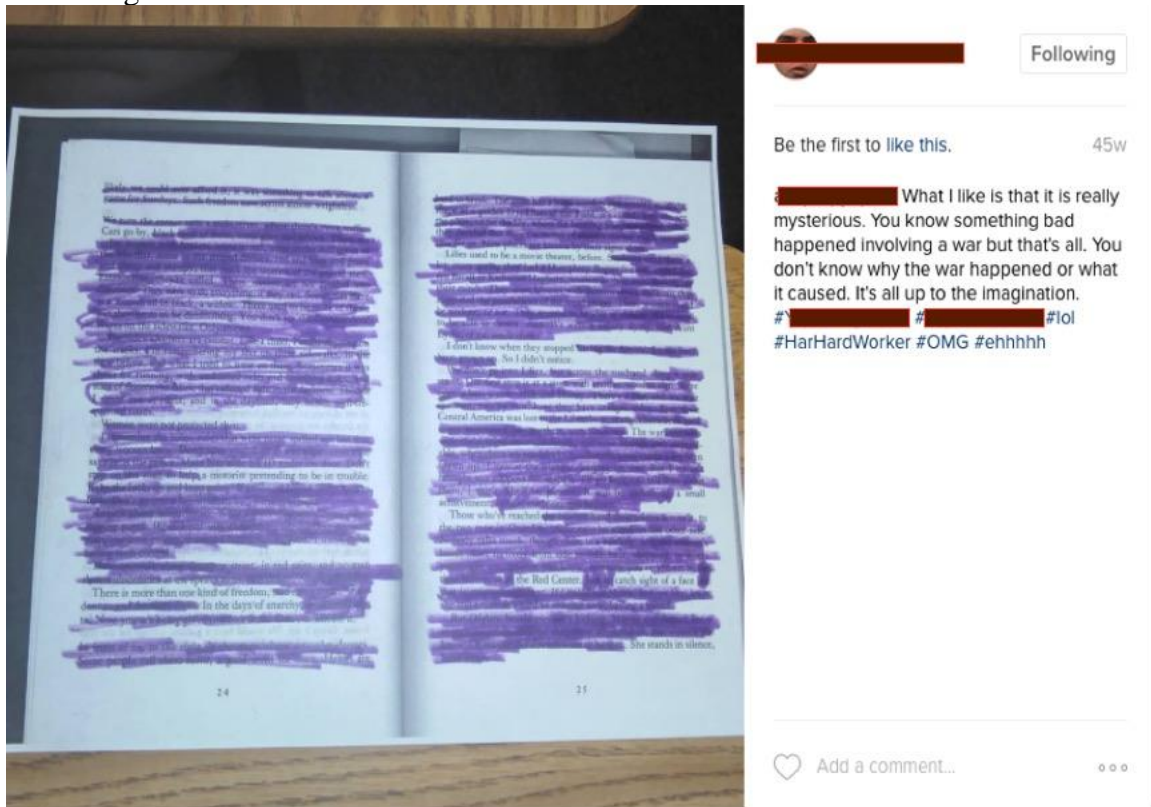

Figure 10. Julio's blackout poem on Instagram.

Discussion and Implications

Multimodal composition offers students an opportunity for meaning making beyond traditional forms of linguistic-based writing, which, through COVID-19, we learned needs to be embraced in all classrooms, even those that are inherently more formal and traditional. We saw a need to understand how to harness the power and digital literacy

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[5] This was posted before Instagram allowed users to zoom in on pictures.

practices that digital tools can offer (Zhao & Watterston, 2021). Thus, it is imperative to understand what/how students can design when given space to do so, even with little practice with educational multimodal design. In the unit studied here, students designed multimodal portfolios that reflected personal interests, emotions, humor, and culture and interacted with the audience through the interplay of modes, creating compositions that were more than the sum of their parts (Kress, 2003).

Layering and attending to the interplay of modes in design can lead to powerful, effective communication (Kress & van Leeuwen, 1996; Mills & Unsworth, 2017). However, when modes are taken up in specific and isolated ways, their effectiveness for communication becomes more limited as one mode becomes the focus over another (Shanahan, 2013). Ms. Lee's classroom focused predominately on linguistic-dominant modes for meaning making before the beginning of the portfolio unit. In doing so, students were restricted to expressing ideas through specific types of modes where essay-based forms of writing were more privileged than others (Stewart, 2023a). However, when given the opportunity to design using multiple modes, the students flourished. Attending to these modes and their interplay using metafunctions to discuss them allows educators to understand these possibilities more clearly.

Students expressed themselves in their writing through an expanded array of design choices afforded by multimodal platforms. For example, Marta's portfolio was markedly personal, including pictures that she had taken, band lyrics, home language, cultural references, etc. Ms. Lee even commented specifically about Marta's page during her interview, noting that "You could see [Marta's] personality was in her backgrounds that she picked, or the banners that she chose or the headlines that she wrote." Ms. Lee's understanding of Marta expanded as Marta's ability to represent her ideas in different modes began to expand as well.

This shift in design and meaning making was one that profoundly affected the ways in which Ms. Lee approached writing in her classroom. In her final interview, Ms. Lee said, "I liked that I was saying to them, 'this is also valid writing', and I like that I could also see them[…] work through that and wrestle with that, and do that." Because she gave students an opportunity to express ideas in different forms and through a combination of modes, she saw many of her struggling students succeed and felt more confident in their writing.

It is important to understand "how modal resources are used by people in a given community/social context" (Jewitt, 2008, p. 30) and that the context in which these texts were produced, as writing (or design) is always influenced by social, cultural, and historical factors (Kress & van Leeuwen, 2001; Shanahan, 2013). For example, semiotic resources such as color, images, text, and even photography may carry different meanings and carry those meanings differently (Kress, 2003). The sociocultural associations of those resources help to provide and shape meaning and interpretations for the creators and the viewers (Serafini, 2010). Using the metafunctions here to understand the ways in which a predominantly Hispanic-identifying class of first-generation college-bound high school students created sophisticated designs to show interests, humor, emotions, and culture, we can better understand how multimodal texts can be included in classrooms to open spaces for traditionally marginalized students to make meaning in ways that may be more apt to them culturally (Ajayi, 2009; Smith et al., 2021).

As meaning-making structures of language continue to evolve alongside ever-changing social systems with digital platforms offering users new ways to represent ideas, understanding the social context of the ways in which it influences how individuals design is essential (Unsworth, 2006). New/digital literacy practices involve textual design, designers' relationships with discourse, context, and their cultural influences, all of which fluidly affect how they design texts (Bakhtin, 1979; Domingo, 2012). Thus, it is important to open spaces for students to reflect themselves and their backgrounds as they create multimodal texts and understand the contexts of the environments in which they are designing.

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