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**EVERYONE A MODE, EVERYONE A VOICE: CRITICAL PEDAGOGY
AND COMMUNITY COLLEGE STUDENT PERCEPTIONS OF
MULTIMODAL PRACTICES OVER TRADITIONAL WRITING**

Marina DelVecchio

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EVERYONE A MODE, EVERYONE A VOICE: CRITICAL PEDAGOGY AND
COMMUNITY COLLEGE STUDENT PERCEPTIONS OF MULTIMODAL
PRACTICES OVER TRADITIONAL WRITING

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by

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ABSTRACT

EVERYONE A MODE, EVERYONE A VOICE: CRITICAL PEDAGOGY AND STUDENT PERCEPTIONS OF MULTIMODAL PRACTICES OVER TRADITIONAL WRITING

Marina DelVecchio

Using a sequential explanatory mixed methods design, this study was designed to acquire quantitative and qualitative data that expose community college student perceptions on multimodal compositions compared to traditional writing practices. As traditional writing continues to be privileged in college writing classrooms, a critical pedagogy theoretical framework was used to frame the research to explore how this privilege affects the learning of marginalized students. Through the collection of survey data and interviews with students, this mixed methods study was designed to reveal how being assigned multimodal practices over traditional writing for low-stakes assignments improves the learning environments of students and allows them to choose the meaning making processes that best suit them. Examined as a transformative pedagogy, student multimodal composing can be perceived as a liberatory and anti-deficit approach to meaning making and agented design.

DEDICATION

For Joseph and Marina:

I dedicate this work to the two of you, so you know the value of your education and how it contributes to your self-esteem and self-worth. Never give up on your dreams, and know that it is never, ever too late to pursue them. I am who I am and do what I do for the two of you, with love and devotion.

ACKNOWLEDGEMENTS

First, my immense gratitude goes to Dr. Stewart, my mentor and guide not only for this dissertation but also for introducing me to multimodal practices and engendering me with the language and gifts they afford our students, whether they are in years K-12 or in higher education. Dr. Stewart's courses allowed for our use of multimodal approaches to our learning, and at the same time, I had a few of my own students who were having challenges with traditional and academic writing. By appropriating her learning tools into my own teaching on the community college level, I found a new way of engaging my own students, especially my online ones, with the course material but also by ensuring they had multiple modes through which they could construct their own mastery of content in my courses. Meeting Dr. Stewart, having her as my teacher, and coming to learn about multimodal practices through her, I was able to articulate my own dissertation topic and improve my pedagogy, making it more inclusive to students who were burned out by traditional academic writing practices and to those who expressed their learning differently from the norm. I have a collection of beautiful, thoughtful, and original student artifacts that combine writing, artwork, creativity, and imaginative designs I hope to manifest into a paper that will show how much further we need to go to make our teaching more inclusive and imaginative so that it will allow all our students to thrive and transform our antiquated pedagogical practices. This insight, this dissertation, this growth of my teaching and researching, I owe to the tireless and patient guidance afforded me by the beautiful and brilliant Dr. Olivia Stewart. From the beginning, I told her that I wanted to earn my PhD, I wanted to work for it, to be challenged by it, and grow from it. I chose Dr. Stewart as my steward because I knew she would help achieve

these goals. Without her, I wouldn't be as proud as I am of myself – for completing the project and for completing it well. Her approval of this dissertation is a validation of my work and the challenges I faced and overcame while learning the metalanguage and skills to master multimodalities, their rich history, and the literature that guides this unique and wonderful approach to teaching with multimodal practices and designs in place.

Second, my appreciation goes to Dr. Brett Elizabeth Blake, not only for being on my dissertation committee but also for providing such enthusiastic feedback to my proposal and dissertation within the scope of critical pedagogy. I rushed out to buy her books and found them refreshing in terms of how they focused on feminist and critical explorations of girls in education—a topic that is at the center of my own teaching at my community college. With my new degree, I hope to follow in her footsteps and conduct research that combines critical pedagogy and feminism, as they are reflect my own intersectional approach to teaching. Thank you for being such an insightful teacher and prolific writer who examines how our educational system is harming and derailing the voices of our students. Multimodal practices are one step towards transforming their silenced voices into ones that speak from their own authentic truth.

I must also thank my students at Durham Technical Community College who have encouraged my own learning, and I hope that I modeled for them, as I do for my children, that one is never too old or too late to return to their education and to grow, intellectually and emotionally. My students have not only participated in my own learning but also showed enthusiasm in the multimodal practices I provided them. They were thankful to me because they saw that my teaching experiments were intended for them, to help them, to bring out their creativity, and to address their differences—not as

hurdles but as gifts that needed to be embraced by their teachers and the educational system as a whole. My research put them at the center of my own learning and made them feel included, listened to, and appreciated—and it brought us together in a collaborative effort that I have not experienced in my 20 years as a teacher.

Last, I want to thank my children, Marina and Joseph, for their patience with me when I spent many hours in my office or at the kitchen table or on the couch with my laptop open, writing, researching, grading, creating. For listening to me when I complained about my dissertation, the challenges of understanding quantitative statistics, for the fears and doubts that often crippled me as I pursued this degree, and for encouraging me to keep going, reminding me that there is nothing I cannot do. They have been my favorite cheerleaders and models for not giving up, especially as they had to overcome their own challenges with school and the pandemic during the 3 years the virus coincided with my pursuit of this degree and major life changes in our family. They are my reasons for existing, for waking up each day, and for not failing them as a mother, a guide, and a guardian.

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CHAPTER 1: INTRODUCTION

Background

According to the Pew Research Center, 97% of Americans own a cell phone and 85% own a smartphone, whereas 10 years ago, smartphone usage was 35% (Auxier & Anderson, 2021). In terms of age, 100% of youth between the ages of 18 and 29 years have cellphones and 96% have smartphones. Whether they live in urban, suburban, or rural neighborhoods, the ownership of cellphones is 90% with smartphone ownership dropping to the mid to low 80% (Auxier & Anderson, 2021). Only 7% of the U.S. population does not use the internet, and these individuals are over 65 years of age, have a high school diploma or less, and make under \$30,000 a year. Worldwide, 4.66 billion people go online daily with 77% of Americans contributing to that number (Auxier & Anderson, 2021). Teens spend 9 hours a day online looking up facts, connecting with family and friends, or socializing on social media (Schaeffer, 2019). The statistics indicate technology abounds and is a permeating factor in all our lives, not just the social spheres of teenagers.

Many scholars believe learning environments should mirror students' social environments (Kalantzis & Cope, 2015; Mills, 2009; Moje, 2009; New London Group, 1996). They charge teachers and administration to meet the evolving digital landscape and the complex practices students are acquiring by affording them learning opportunities through which to bring their knowledge of new technologies into the course content. Because literacy has, up until the end of the 20th century, been linked to language only, it disregarded other modes of meaning making in the classroom (Kress & Van Leeuwen, 2006).

The advent of technology and the technological knowledge youth acquired, and for which they have been termed as “digital natives” (Prensky, 2001), contributed to changes that expanded on notions of literacy to include multimodal texts. The shift from a linguistic to a more multimodal focus “requires readers [and writers] to navigate, design, interpret and analyze texts in new and more interactive ways” (Serafini, 2010, p. 86). Research shows students embrace these technological demands (Considine et al., 2009; Li et al., 2015) and are more than eager for teachers and leaders of educational institutions to close the gap between the technologies they use in their social lives and the meager multimodal practices present in their learning spaces (Siegel, 2012; K. H. Turner et al., 2019).

Today’s digital landscapes require teachers, schools, and educational reformers to acclimate to these changes to prepare today’s students not only for a technological future but also for learning the new skills and literacies they will need to function and succeed in society. It is critical that teachers and school leaders mandate that the social changes students encounter and master daily outside of the classroom are equally present and challenged inside the classroom (Cope & Kalantzis, 2013; Kress & Van Leeuwen, 2010; Yancey, 2004). According to Albers and Sanders (2010), today’s

literate person must be able to read and create a range of paper-based and online texts . . . participate in and create virtual settings . . . and critically analyze multimodal texts that integrate visual, musical, dramatic, digital, and new literacies. (p. 2)

As Leu et al. (2013) found in their research on the inherent duality of new literacies, reading, writing, and communicating will take on new forms as new literacies are

considered and initiated into pedagogical practice. Therefore, today's pedagogy needs to mirror the structures and changes of the times, turning classrooms into digital landscapes in which students thrive in being taught practices that speak to them and the technological spaces of society that will demand they keep up with and master new, deictic literacies daily (Leu et al., 2013; Siegel, 2012; K. H. Turner et al., 2019).

Statement of the Problem

Using a sequential explanatory mixed methods design, this study was designed to acquire quantitative and qualitative data to expose student perceptions when offered multimodal opportunities in college-level writing-intensive courses. Applying a critical theoretical framework demonstrates the deictic (Leu et al., 2013) and evolving nature of technology in society that teachers and the educational institution as a whole have not caught up to. Though students are acquiring and adapting to new literacies through social media and video game technologies encountered outside of school, when they attend school, pedagogy is outdated (Leu, 2000; Leu et al., 2013; Prensky, 2001) and does not offer the ability to combine old literacies with the new ones students are currently exploiting and reinventing, remixing and repurposing (Domingo, 2014; Gonzales & Gonzalez Ybarra, 2020; Haddix & Sealy-Ruiz, 2012; Lenhart et al., 2007; Stewart, 2015).

Mills (2016) posited that because higher education is at the forefront of the prerequisites individuals need to enter the workforce, especially a workforce that is currently steeped in "an information and Web 2.0 digital ecology" (p. 45), it is important to address the patterns of inequality that persist in education (Gonzales & Gonzalez Ybarra, 2020; Ohito, 2020; Price-Dennis, 2016). The same technological landscapes students encounter in their social world should be mirrored in their learning environments

to ensure they are being prepared for a world and economy centered on advanced technologies that evolve daily. By not acclimating to the technological landscapes of students, educators are losing them in the classroom, which becomes an irrelevant setting for learning (Leu, 2000; K. H. Turner et al., 2019). By including multimodal assignments that combine old literacies to the new ones, students are learning to connect to their learning, to the new technologies that will prepare them for the workforce, and to the peers and mentors that encourage multimodal compositions often rooted in personal interests and passions (Ito et al., 2013; K. H. Turner et al., 2019).

As early as 2004, the Conference on College Composition and Communication (CCCC) developed and published a definition of multimodal affordances in the writing classrooms and a call for departments to incorporate meaningful text production practices into their pedagogy. Advocating for more multimodal practices in student learning, they outlined the following affordances:

Creating images, sounds, designs, videos, and other extra-alphanumeric texts is an aesthetic, self originated, self-sponsored activity for many writers. Digital technologies have an increasing capacity for individuals to adapt the tools for their own information and communication purposes. Students have the capability to apply literacy skills to real world problems and knowledge-building. They are able to exercise creativity, work for social justice, and pursue personal passions.

(n.p.)

In response, scholars have been advocating for school leaders and educators to implement technological competencies and multimodal literacies into their curricula to meet the affordances and challenges coupled with new technologies that include complex sound

and image resources (Jewitt, 2002, 2008; Kress, 2010; Unsworth, 2008). Multimodal compositions are perceived as necessary competencies for students to meet the evolving demands of media and technology proliferating in the 21st century (O'Halloran et al., 2017). The term digital natives (Prensky, 2001) has been used to describe the new generation of learners growing up in a technologically advanced society. If those in the field of literacy and education do not adapt and pedagogical approaches do not engage students on their playing field, the digital spaces occupying their social lives, then educational systems will continue to be outdated and miss opportunities to reach and engage students (Leu, 2000; Prensky, 2001). Teachers, schools, and educational policymakers are urged to comply with the need for more multimodal meaning-making practices to help students critically learn and become ready for work in a technologically driven society.

Missing Research

In their critical review of 50 empirical studies conducted on multimodal text composition in higher education, Tan et al. (2020) located 19 out of 23 publications from the United States related to assessing multimodal literacies. The pedagogical approaches of these publications used a scaffolding approach of multimodal texts for student learning necessitated by final projects centered on composing texts that expanded their knowledge of semiotic modes beyond language/text centered. Although there appears to be a “multimodal turn” (Goodling, 2014) in higher education, institutions continue to favor written academic literacies (Tan et al., 2020). There have been even fewer studies conducted on assessing the multimodal assignments and literacies encountered by students in their learning spaces, which has been cited as one of the major reasons

educators in higher education do not offer multimodal composition in their content courses (Archer, 2010; Gipps, 2002; Qoura, 2020; Silseth & Gilje, 2019; Tan et al., 2020). The reason is that educators in higher institutions question the academic rigor afforded by student-composed multimodal texts (Jacobs & Low, 2017). However, because today's students are digital natives already, encountering multimodal opportunities that allow them to harness their "technoliterate practices" (Edwards-Groves, 2011, p. 62) affords them not only agency but also confidence in tackling academic writing assignments they find intimidating because of the expected rigors and standards required in college-level writing practices. Thus, more research needs to be conducted to address the multimodal practices of both teachers and students that may contribute to the resistance some teachers have in implementing these practices into their instruction (Beach, 2012; Buckley-Marudas & Ellenbogen, 2020) and students have in composing multimodal texts (Cortiana, 2017; Dallacqua & Sheahan, 2020; Law Bohannon, 2015) when given the option to do so over traditional writing.

Purpose of Present Study

I designed this study to extend the literature on multimodal practices in the community college and online writing classroom through an explanatory sequential mixed methods approach to offer extensive data about how students either embrace multimodal writing or reject it over more traditional, linear writing, and the reasons behind these perceptions/choices. Also known as a "two-phase mode" (Creswell, 2015), the explanatory sequential design prioritizes quantitative data collection and analysis, which were collected through a survey, followed by qualitative data in the form of interviews and student multimodal artifacts collected and analyzed to refine and expand

on the results extracted from the quantitative data (Creswell, 2015). The data collected from the survey and the focus group interview not only supported the extant literature on multimodal designs on the college-level classroom, they added to the current body of student voices and perceptions related to the choices they make when it comes to meaningful text production (K. T. Anderson et al., 2017; Cappello et al., 2019; Papadopoulou et al., 2018; Rowsell & Decoste, 2012).

Overview of Theoretical Framework

With its roots in Marxist philosophy and the Frankfurt School (e.g., Institute of Social Research), critical theory is a transformative theoretical framework that addresses mass consciousness in relation to social, political, and hierarchical powers entrenched in institutions (Mills, 2016). Marxist theorists who examined class struggles between the working class and capitalism and the German Frankfurt School theorists aligned in their belief that injustice dominated societies because of social class differences.

Freire (1970) popularized critical theory by tying it to education in his seminal work *Pedagogy of the Oppressed*, in which he addressed how injustices and power functioned as a pedagogy. He advocated for a mass critical consciousness necessary to uncover and subvert the social inequalities that rested in cultural, political, and economic institutions. Education is a social institution that is not exempt from historically oppressive forces connected to language and literacy that are difficult to access by marginalized learners (Mills, 2016; Unrau & Alvermann, 2013). The term was later adopted by Henry Giroux (2011) as a practice-oriented framework in education.

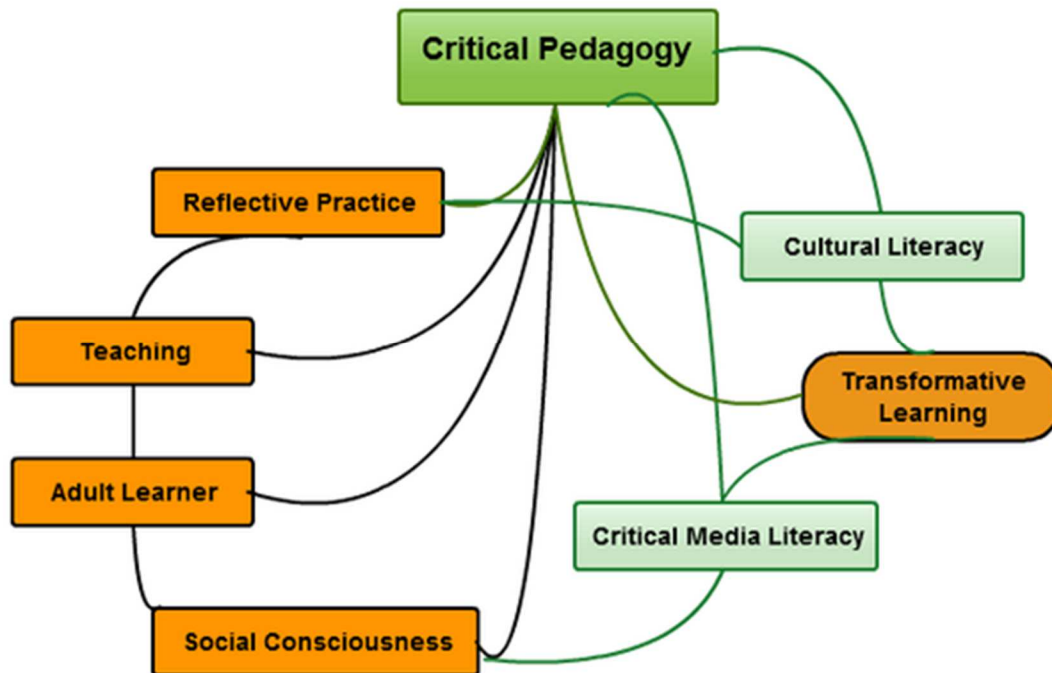
With a focus on knowledge and literacy construction, the major argument within critical theory is that both are conveyed to people with no social power by those with

social power, and thus, knowledge is inequitably accessed and distributed (Unrau & Alvermann, 2013). Critical pedagogy is guided by passion and interest and highlights learning as a liberatory tool undergirded by agency, questioning power structures that define individual identities and their place in society, and using literacy practices that include multimodal texts with which to effect change in academic discourses (Mills, 2016).

The topic of multimodal practices offered to students, especially at a community college, fits well within the critical pedagogy framework because it addresses the issue of traditional writing practices as exclusionary to English language learners (ELLs), nontraditional college students, and marginalized students (Gonzales & Gonzalez Ybarra, 2020, 2020; Ohito, 2020; Price-Dennis, 2016; Selfe, 2009). Language and traditional writing practices are steeped in colonization and cultural capital (Riggins, 1997); therefore, the central role of pedagogy should be about giving students the tools they need to deconstruct power relations in their learning and not about the memorization of facts to pass exams (A. Luke & Freebody, 1999; Mills, 2016). Within the scope of a critical pedagogy lens, multimodal text composition and meaning making can act as a form of social power and freedom for students who may not have agency or voice based on their socioeconomic status. In this study, I aimed to examine how students perceive multimodal composing practices over traditional writing practices in a community college classroom with the intention of adding their voices and attitudes to the extant literature on meaning making with multimodal texts and how they contribute to student learning (see Figure 1).

Figure 1

Critical Pedagogy Construct (Shin, 2020)



Significance of the Study

My work is grounded in a transformative worldview, which aligns well with critical theory, the theoretical framework of my study. It also fits with the focus of my study on student perceptions of the application of multimodal composition in lieu of traditional writing practices, with the belief that multimodally constructed texts support the empowerment and agency of marginalized students in community college classrooms.

A transformative worldview is a philosophical approach rooted in action and reform intended to improve the lives of a study's participants. It is a powerful mechanism and lens through which to examine society and its patriarchal, hegemonic, and inequitably structured institutions that continue to thrive. Within the scope of my study, as a writing, gender studies, and literature college instructor who entrenches my

pedagogy in social justice and oppression topics, multimodal composing practices on the community college level can act as liberatory and anti-deficit (K. T. Anderson et al., 2017; Low & Pandya, 2019) practices for many of my community college students.

Research Questions

Using a sequential mixed methods design, I collected data on community college student perceptions of multimodal practices and traditional writing. The goals of the study fit the sequential mixed methods design because I designed the study to derive data first from a quantitative (the digital survey) strand that were elaborated upon and explained by the data collected from the qualitative strand. I collected data through a pre- and post-digital survey to address Research Question 1 (quantitative) and digital interviews to address Research Question 2 (qualitative). The following research questions guided the study:

Research Question 1: What are the attitudes of community college students toward academic writing and multimodal composition?

Research Question 2: What are the reasons students in an online community college course opt to complete multimodal or print-based assignments?

For Research Question 1, I collected and analyzed data from students pertaining to their attitudes about multimodal practices compared to traditional writing practices in a writing-centered course. The questions related to student demographics, confidence with writing, confidence with digital practices, experience with composing multimodal texts prior to our course, and if and when they chose to complete the semester's coursework by composing multimodal texts or responding to assignments using traditional writing practices. For Research Question 2, I explored student attitudes about multimodal

authorship and traditional writing through digital interviews. I anticipated that the qualitative strand would fill in the gaps of the Likert-type responses garnered from the pre- and post-surveys, providing a deeper understanding of the choices students make when opting for one practice over the other and the reasons behind those choices.

Definition of Terms

Academically marginalized students: Students with special learning accommodations, remedial learners, ELLs, and those marginalized because of their racial, cultural, or socioeconomic status.

Deixis: Technology's ephemeral nature because it is constantly evolving; it is not stationary.

Design: Producing multimodal texts that are composed with purpose and creativity to make meaning from a social semiotics standpoint (Jewitt, 2008; Kress & Van Leeuwen, 2006).

Digital natives: Students born in the 1990s, around the same time as the birth of the internet and mobile technologies.

Multimodal designs/Practices: Creating texts that combine traditional writing with images and sounds.

Perceptions/Attitudes: How students feel emotionally about submitting multimodal compositions or traditional text-based writing.

Traditional writing practices: Assignments that can only be written out in alphabetic texts.

CHAPTER 2: THEORY AND LITERATURE REVIEW

Theoretical Framework: Critical Pedagogy

From a critical perspective, literacy is a social construct, an ideology steeped in historically and politically imbued communicative practices (Cook-Gumperz, 2006), and members of society must critically consider the social and political motives behind its construction. Uncovering and analyzing power structures and how they function in patriarchal and capitalist societies is at the core of critical theory. Critical pedagogy then is used to expose similar constructs of literacy and knowledge in the education arena. Literacy, Riggins (1997) argued, is cultural capital, complicit with social and political underpinnings intended to exclude and marginalize those who do not fit the status quo.

When it comes to education in the United States, the status quo comprises the middle-class White population. Because social inequalities and power relations are situated in language (textual and linguistic), literacy practices are hegemonic and steeped in interconnected power struggles that critical pedagogy is used to disrupt and expose (Mills, 2016). In other words, literacy has been defined and developed within social and political contexts that determine who has access to literacy practices; therefore, literacies, as social constructs, are distributed inequitably to those favored by their socioeconomic status, race, and gender while disenfranchising those who are not, including minorities, immigrants, and the poor.

Tethered to social justice, critical literacy is framed around knowledge and language and how they influence social relations between individuals from differing backgrounds, diverse races, and socioeconomic status (Unrau & Alvermann, 2013).

Literacy and Critical Pedagogy

Literacy scholars (Bourdeau, 1993; Gee, 2007; Janks, 2000; C. Luke, 2000; McLaren & Lankshear, 1993) consider critical literacy to be a theoretical framework used to observe how everyday literacies like writing and reading can function as liberatory forces for marginalized students. Critical literacy practices are centered on students seeing the world they inhabit through a lens that unearths power structures, writing themselves into that world as they want to be written, and effecting change that will liberate them (Unrau & Alvermann, 2013). Through critical literacy practices like multimodal meaning making compositions, we can teach students of all ages that “meanings change according to the social positions of those who hold and make them” (West, 1992, p. 85).

Traditional Writing Practices and Critical Pedagogy

Despite the burgeoning field of multimodal text production in the classroom and the many options available to educators, learners are still limited to print-centric curriculum and writing practices (Capello et al., 2019). Privileging traditional writing practices is a central issue in critical pedagogy because it can be used by teachers to disrupt its inherent association with “socially constructed epistemological principles” (Street, 2006, p. 1) that are not connected to the skills and abilities of many students. Limiting students to one form of literacy while excluding others is a reductionist approach to teaching that disproportionately affects “students from historically disenfranchised communities” (Ghiso & Low, 2013, p. 27).

By applying multimodal tools to their learning, possibilities for self-expression and agency beyond the printed form are highlighted (Bazalgette & Buckingham, 2013),

adding to and extending students' "repertoires of literacies" (Callow, 2006, p. 9). The expansion of literacy practices is a key affordance to the integration of multimodal opportunities in the classroom (Albro & Turner, 2019; Cappello & Lafferty, 2015; Wiseman et al., 2017). For example, in a case study of one Latina student's fourth-grade multimodal production, Cappello et al. (2019) explored the classroom potential of critical multimodal literacy as it applies to equitable practices and pedagogy. Using critical multimodal literacy as their theoretical framework, they drew from the constructs of social semiotics and signs of meaning-making designs to demonstrate how children use multimodal tools to tell their stories, subvert micronarratives, and demonstrate mastery of content. Their subject, Marcela, applied multimodal tools such as songs, sketches, and photographs to critique sociopolitical constructs of learning as they applied to her, restory narratives centered on "a single story" (Thomas & Stornaiuolo, 2016, p. 314) used to define her, develop her own meaning-making practices, and participate in learning that privileged agency (Mills, 2016; Siegel, 2006). Their close analysis of Marcela's multimodal product generated an understanding of Marcela as a learner, her perceptions of the act of learning, and the power dynamics present in the classroom. They concluded an equitable framing of critical literacy as it applies to multimodal text construction benefits students, educators, and researchers alike as it provides opportunities to understand students as learners, thinkers, and composers of texts, as well as how knowledge is produced and refashioned (Cappello et al., 2019) to empower and liberate simultaneously.

Multimodal Practices and Critical Pedagogy

Scholars engaged in multimodal research have found that student multimodal meaning-making practices are dynamic, engaging, and complex, offering insight into how multimodal pedagogy can be applied in classrooms not only to engage students but also to dismantle the deficit perspectives often attributed to student learning and academic achievement (Ajayi, 2015; Kuby, 2013; Wohlend, 2011). From a critical standpoint, multimodal practices embody equitable learning opportunities that allow students a wide range of visual tools that “make difference visible . . . so that voices that might traditionally be marginalized are heard” (Lewison et al, 2008, p. 33).

Multimodal practices are inherently equitable teaching and learning practices because they allow students a wide range of visual, oral, and auditory communication modes with which to engage, create, and restory meaning making (Serafini, 2010). They provide opportunities for meaning making designs with the potential to be both creative and complex (Cappello et al., 2019).

Students, no matter their race, age, language proficiency, or literacy level, can use multimodal opportunities to represent their experiences from multiple perspectives and ways of seeing (Albers, 2014; Mora, 2017; Siegel & Panofsky, 2009) and critically engage with the world in which they live and experience individually (Lenters, 2016). Two examples of agency situated in restorying socially constructed narratives come from the work of Wiseman et al. (2017) and J. D. Turner and Albro (2017). In Wiseman et al.’s (2017) study, two third-grade students who were identified as struggling readers used images, drama skits, and writing to dismantle the dominant narrative, or micronarrative (Ghiso & Low, 2013), that pigeon-holed them and restoried themselves as competent and

engaged readers, writers, and learners. Similarly, upon observing from their drawings that students were receiving dominant narratives about their career potential because of their racial backgrounds, J. D. Turner and Albro (2017) integrated multimodal practices to help 24 students restory those narratives to their benefit. Through drawings, students visually represented their career dreams, defined the literacies needed to support their career, and identified the people they could use as resources to achieve their goals in career and literacies. The drawings positioned students as creators/authors of their own art and careers, disrupting dominant societal representations of their potential for college and career goals (Cappello et al., 2019).

How students see themselves and their potential in the world they navigate and how they disrupt the dominant power relations they have internalized is exemplified in the multimodal texts they compose and is a central tenet of critical pedagogy. Therefore, students' multimodal responses are integral to their learning and critical in realizing the potential of multimodal composition as a liberatory and agented learning tool that can "shift power and transform the curriculum" (Cappello et al., 2019, p. 211) to benefit students and education.

Connection of Critical Pedagogy to Current Research

A model of critical literacy as pedagogical praxis was offered within the K-8 work of Lewison et al. (2002), who argued that a critical framework begins at the individual level, starting with students' personal and cultural experiences. With an emphasis on disrupting sociopolitical and power relations entrenched in students' lives, the Lewison et al. (2002) model exemplifies critical literacy as social practices that are "needed to enhance both peoples' agency over their life trajectories and communities'

intellectual, cultural, and semiotic resources in multimediated economies” (A. Luke & Freebody, 1999, p. 2).

My research focus on multimodal practices in the classroom can be related to other studies centered on students and their learning, perspectives, and potential in restorying what they have learned from a position of strength, competence, and individuality (Albro & Turner, 2019; Cappello & Lafferty, 2015; Ghiso & Low, 2013; Wiseman et al., 2017). Within the vein of critical pedagogy, multimodal composition and meaning-making practices transform classrooms into “a complex, democratic space, founded on the productive integration of diverse histories, modes, genres, epistemologies, feelings, languages, and discourses” (Stein, 2008, p. 1). A multimodal approach to learning and teaching encourages a more critical landscape used to embrace difference and diversity rather than excluding them (Darvin, 2015).

Literature Review

Defining Multimodal Practices

Multimodal practices, such as those developed for the current study, fall under one of the paradigms established by The New London Group (1996) and their pivotal work with a pedagogical approach that centered on new emerging technologies. Known as “multiplicity of discourses,” or multiliteracies, they cater to “the increasing multiplicity and integration of significant modes of meaning-making” (p. 64) wherein the textual, visual, audio, are connected to each other. The paradigm that stems from The New London Group and translates to meaning-making practices through multimodal assignments is termed “transformed practice” because students are encouraged to take their new technological skills, often acquired from their social spaces, and apply them to

their learning as they design and construct meaning through the multimodal texts of their choice (O'Halloran et al., 2017).

In 2005, the Conference on College Composition and Communication (CCCC) surveyed 38 college-level writing faculty from 32 institutions to gauge how they used technology in their writing courses. It was reported that 93% had their students analyze and compose multimodal texts using a variety of modes (sound and images) and digital mediums (e.g., blogs, PowerPoint presentations, wikis, etc.). The survey was in response to the definition provided by the National Council of Teachers of English (2005) of multimodal literacies in writing as “complex writing processes that are increasingly reliant on the use of digital technologies” (n.p.). Some examples of these digital technologies include designing as well as composing images and graphics into texts intended for both computer screens and printed pages.

Multimodal composing in today's higher institutions exceeds the scope of these modes and mediums, including creating original films, podcasts, ipoeetry, and music (Gordon et al., 2019). Gordon et al. (2019) referred to the bountiful response of technology in writing classrooms as a “multimodal revolution” (p. 44). Kress (2003) defined the proliferation of multimodal assignments as a “revolution in the landscape of communication” (p. 37). The multimodal proliferation has substantially changed how we share information and create meaning and texts, which also mirrors the changes in instruction in classrooms of higher education. Advances in technology require that pedagogy matches the 21st century expectations surrounding multimodal compositions as a way of communicating and sharing new ideas. Adsanatham et al. (2013) asserted teachers have the power and positionality to incorporate “a more varied means to deliver,

to invent, and to construct and communicate knowledge” (p. 315) through multimodal assignments and projects.

The Multimodal Revolution

Scholars have posited all communication is multimodal (Kress & Van Leeuwen, 2010; Lee, 2014), because when we communicate, we construct meaning using a variety of modes the likes of text, image, sound, and gesture (Jewitt, 2008; Kress, 2003; Kress & Van Leeuwen, 2010); therefore, no one mode prevails over the others. The use of “semiotic resources” (Siegel, 2012) that include visual, textual, aural, and spatial also prevail in the personal lives of students as they move from one subject to another, from one activity to another, and from one technology tool to another. Their lives are multimodal in nature, so it stands that their learning should also be ingrained in multimodal texts that enable them to express the knowledge they have acquired in the mode that fits their personality and interests.

Multimodal communication prevails in almost all private and public arenas of human existence (e.g., work, school, and social life), and Selfe (2009) believed faculty should offer students “the full quiver of semiotic modes from which to select” (p. 645) because diverse students with diverse voices and needs need a full spectrum of modes of communication through which to express their ideas rather than being offered only one choice of traditional alphabetic writing. Teaching a variety of media and offering students choices in how they feel comfortable in expressing and sharing their knowledge is crucial to human communication that varies as much as do individuals (Cope & Kalantzis, 2013; Kress, 2003; Kress & Van Leeuwen, 2010; Yancey, 2004).

My study is only one in a handful of studies comparing multimodal versus traditional composing in higher education. One example came from Stowe (2012), who administered surveys and interviews to understand university students' perceptions of composing multimodal versus traditional assignments in one semester. He wanted to understand their preference for one over the other, especially because at the beginning of the course, students opted for multimodal assignments, finding them creative, quick, and fun. By the end of the semester, however, the students preferred the traditional paper assignments because they lacked confidence with multimodal composing. Completing a multimodal project at the end of the semester made the students more anxious than it did earlier in the semester when they were not as stressed about time constraints, the complexities of designing new media, or learning new technological skills for their final project. Adsanatham et al. (2013) observed a similar response from her students who felt more comfortable with alphabetic texts than with creating videos and did not want to take risks associated with learning or approaching a project with an unfamiliar medium. Alexander et al. (2011) reflected on the recurring phenomenon in which "students expressed a preference for the clarity and safety offered by a print text" (p. 18).

In another study, Alexander et al. (2011) focused more on students' perceptions about the affordances of various composing modes through their responses to open ended questions. Pre- and post-questionnaires were distributed to 50 first-year college undergraduate students who composed both a multimodal and a print assignment. Based on a descriptive writing task, students were asked to describe a person, place, or activity familiar to them. Half the students were directed to complete the alphabetic composition first followed by the multimodal and the other half began with the multimodal and ended

with the traditional paper assignment. Students in the study were asked to reflect on the modes applied and how they worked to convey meaning. Much like Gordon et al.'s (2019) study, Alexander et al.'s (2011) research showed students paid more attention to the audience when it came to multimodal assignments that included images and sounds. Only six out of the 50 students in Alexander et al.'s study mentioned a particular attention to the audience for their written text, but the rest of them expressed anxiety over feeling exposed when submitting their work multimodally because they knew their work would be viewable by the public, either their peers or strangers on the web through blog posts.

In Ringrose's (2001) case study in his history course, he replaced one traditional paper assignment with multimodal assignment to assess students' responses and also raised questions about the rigor of multimodal assignments in comparison to traditional papers. Although the multimodal assignments were "visually stunning . . . [they were also] empty of meaning" (p. 221). He concluded that because it is difficult for students to assert an argument and sustain it in multimodal assignments, it is crucial to help students understand how to incorporate higher order thinking along with the creative aspects of multimodal compositions.

Taking a different direction with her study, I. L. Clark (2015) examined the transfer of knowledge of academic arguments from traditional papers to multimodal assignments in a writing course. I. L. Clark's findings serve as cautionary for instructors because her conclusions showed her students' knowledge of word texts did not transfer well when they had to blog about their topics. Although she argued that we should bring into the classroom the media prevailing in the personal lives of our students (i.e., blogs),

I. L. Clark warned against assuming students have full competency of the media with which they are composing. Therefore, we should be critical and careful about the multimodal assignments we offer and the assumptions we make about how well our students use them.

The lack of transfer of student skills and knowledge were also stressed in the work of Purcell et al. (2013), who surveyed 2,462 secondary English teachers' impressions of multimodal assignments and found the multimodal assignments composed by students were too short and lacked critical thinking skills and depth of thought often associated with writing about complicated topics. The messages conveyed multimodally were surface messages that lacked depth and critical inquiry. I. L. Clark (2015) and Purcell et al. (2013) recommended providing students with models of multimodal compositions that integrate sound, images, and alphabetic text in which higher-order inquiry is taking place all at once to add to the intellectual rigor that should be present in both multimodal and written texts.

Affordances of Multimodal Practices

Affordances are defined as digital tools dependent on features that develop and enhance new literacies and skills that invite creativity, collaboration, and digital competencies needed by all to ensure successful futures (Beach, 2012). For example, the use of iPads, podcasts, blogs, or wiki pages in a learning environment affords students opportunities to work with one another, publish their work, and share it with their peers as well as a wider community that exists over the internet, expanding the reach of their voices and influence when it comes to their creative productions and activism. In a study

by Silvernail and Gritter (2007) on the use of laptops among eighth graders, results showed

an increase in authentic and iterative writing; gains in technology literacy skills; increased engagement in the teaching and learning of reading, and, when using blogs, an increase in how to access information, share and learn, self-directed learning, and engagement with new media. (p. 48)

In another study, Wolsey and Grisham (2007) examined threaded discussions in online forums and found students' attitudes toward academic writing improved, as did their understanding and utility of new literacy practices and authentic meaning making practices. The findings are significant to my study because they show students want to be engaged in their learning, and when their teachers' pedagogy mirrors the practices they are acquiring, students are more engaged with their learning and thrive in a learning environment similar to their level when it comes to technology.

Regarding multimodal compositions, it is important to note that 64% of adolescents are producing videos, creating content, and publishing them on YouTube (Beach, 2012). Whether they are creating videos or digital storytelling, students are using the following skills that fall under new literacies required in the aesthetics of video production: "uses of camera shots, sounds, music, and embodied actions--[all] social practices appealing to peer audiences" (Beach, 2012, p. 51). Video production and digital storytelling also involve traditional print literacies, or what Leander (2009) referred to as parallel pedagogies because students first have to write out their scripts, edit them, read them, and then produce them digitally. In other words, new literacies are still based on old/traditional literacies wherein both are enhanced and used at the same time. A primary

example of how these affordances align came from Leu and Forzano (2012). They claimed that digital literacies can be used to develop high levels of engagement among students who continue to contribute to language change by “co-opting language forms and bringing dynamism, identity, and creativity as they reconstruct them and make them their own” (Leu & Forzano, 2012, p. 75).

Multimodal practices also engender a “cultural remix across diverse and digital spaces” (Domingo, 2014, p. 9) that shift away from the singular standard of literacy practices found in classrooms and reflect the affordances grounded in multiliteracies and new literacies (Street, 1995). Scholars have argued that text making in digital platforms, or multimodal ensembles, shapes meaning (Jewitt, 2002; Mills, 2009, 2011; Pahl, 2007). Domingo (2014) confirmed the validity of student-constructed texts, arguing that students’ multimodal ensembles shape meaning in “non-linear configurations . . . [that include] layered, looped, and modular navigation” (p. 10). The observable shifts in meaning making are also evident in the ways in which people read digital texts. Readers are no longer forced to read from left to right or up and down as they do with books or traditionally composed texts; with a more “modular meaning making” (Domingo, 2014, p. 8) approach available, readers are offered more control and more choices through online texts, clicking on hyperlinks that take them to other sites and reading content on the digital page often led by their interests and personal affinities. They are written texts connected to more texts via hyperlinks, providing students with choices in clicking or not clicking on links to delve deeper into information available to them. Confidence, therefore, is developed in reading, accessing, and navigating multimodal texts that include texts, sounds, videos, podcasts, blogs, and more (K. H. Turner et al., 2019). The

complex nature of the multimodal texts to which students are exposed necessitates multimodal practices and new literacy aptitudes that allow for meaning making by analyzing abstract texts and employing critical thinking skills that will help them connect to their learning as opposed to simply consuming a barrage of images (Nagy, 2020). O'Halloran et al. (2017) defined the construction of multimodal texts as “the ability to interpret linguistic, visual and audio resources as they combine in traditional and new media” (p. 148).

Multimodal assignments are at the core of my study in that I endeavored to discover how students feel about being given choices for submitting work multimodally versus submitting in the traditional form of writing/typing out their responses in their online coursework. Similar to Qoura (2020), I designed my study with the belief that giving students choices in their learning allows for an increase in intrinsic motivation that often results in strong learning outcomes and student productivity. Such choices enable students to collaborate with one another, express their creativity, and expand their learning through new and technologically savvy literacies that will benefit them when they enter the workforce. As Qoura most eloquently stated, “When given a chance, students can produce beautiful and creative blogs, movies, or digital stories that they feel proud of and share with others” (p. 56). Multimodal designs, when they come in the form of choices and optionality, offer students certain affordances that benefit not just their overall grade but also how they connect to the material in their courses and how they engage with the coursework as well as with their peers and teachers.

Critical Thinking Skills. Although some scholars believe technology, and in particular social media, when used in learning environments can be a distraction that

gears students away from the act of learning (Kuznekoff, 2022; Pierce & Vaca, 2008;) as well as privacy issues for younger students (Manca & Ranieri, 2013), others argue that such opportunities for learning and meaning making lead to critical thinking skills and independent learners (Arizpe & Styles, 2007). In particular, Price-Dennis (2016) argued that multimodal practices “foster dexterity across genres, platforms, audiences, and registers . . . [and] engaging in such practices . . . position [all students] as active learners who consume and produce knowledge” (p. 340).

Recently, the Pew Research Center (Auxier & Anderson, 2021) reported 97% of students between the ages of 18–29 years used the internet daily. According to results of a survey conducted by M. Anderson and Jiang (2018), 95% of youth have smartphones, 28% of them access information through their smartphones exclusively, and 45% of them are online constantly while 44% are online several times a day. These statistics indicate many of today’s students are “digital natives.” According to Prensky (2001), digital natives embody a generation of people “brought up within the immediate reach of digital devices and multimedia communication” (p. 2). Digital natives are highly skilled with social media, texting, and video and music downloads (Leu et al., 2013). Their skills already include multitasking between activities and between print and online media; reading eBooks and articles located on multiple screens simultaneously; producing work via Chromebooks, iPads, laptops, or smartphones; video and online gaming; and effortlessly skipping from one social media app to another, to name just a few of the new literacies and digital competencies developed after birth. Because of their reliance on technology, their cognitive abilities are also heightened and in constant use (Nagy, 2020). The aforementioned statistics are important to my study because one of the fears

surrounding pedagogy that involves assigning multimodal assignments is centered on the idea that students do not have the skills necessary for multimodal composing and meaning making.

The numbers confirm that students are adept at using technology, and it would be empowering to offer them opportunities that allow them to bring that knowledge into their learning spaces and assume the role of experts in the classroom; putting students at the center of their learning is inherent to critical pedagogy and multimodal text composition and design. Today's texts are no longer "print and two-dimensional graphics" (Leu et al., 2013, p. 1594); there are multiple types of texts being developed and used that encourage students to "integrate a range of symbols and multiple media formats including icons, animated symbols, audio, video, interactive tables, virtual reality environments, and many more" (Leu et al., 2013, p. 1594). The use of these symbols and media formats exemplifies the diverse practices of today's students and the critical skills necessitated and developed when choosing how to incorporate them as signifiers of meaning making in their learning.

To counter the argument that social media and other technological affordances in learning environments distract students (Alexander et al., 2011; J. E. Clark, 2010; Purcell et al., 2013), Stewart (2015) posited that among the advantages of using social media in the classroom are "backchannel discussions, enhanced communication, increased student creativity, classroom management, increased access for academically-marginalized students" (p. 485), and an interactive audience. However, she also cautioned that context and clear guidelines must be aligned with multimodal text composition in the classroom to ensure academic rigor and the potential for self-expression are both available. Shipka

(2005) and George (2002) defended the rigor of multimodal assignments when used in their class instruction. Shipka (2005) noted that although her students' multimodal compositions did not resemble a traditional academic paper, they required students to use the same "complex decision-making processes" (p. 301). For example, multimodal communication requires students to conduct research and discern which sources to use based on their credibility, to compose a variety of complex written texts, and to respond to and apply a combination of rhetorical appeals for purposeful meaning making (Shipka, 2005). Kay's (2012) literature review of 53 studies on the implementation of video podcasts revealed similar conclusions. The use of video podcasts as a mechanism for multimodal learning and composing "resulted in positive affective and cognitive attitudes . . . control over learning, improved study habits, and increased learning performance" (p. 826).

Using a pedagogical approach, O'Halloran et al. (2017) applied a social semiotic theoretical framework with which to examine how multimodal analysis is connected to critical thinking skills. They concluded that multimodal practices enable students to build critical thinking skills, establish differentiated communication, and develop the new technological skills they will need not only as they further pursue their education but also when they encounter the complex global technologies existing in the workforce. Marsh (2011) concurred, arguing that digital tools adhere naturally to children's "natural, exploratory, and interactive learning style" (p. 107). Confirmed by these studies is the prevalence of digital natives who are multiliterate in that they can sort through all the media outlets available to them and quickly assess the ones they need for the particular purpose they seek (Leu et al., 2013). Critical thinking skills are amplified and developed

through the framework of critical theory, which ties well to multimodal practices because they foster an examination of power structures in social and political institutions that include education as well as literacy, language, and technology.

Multimodal Creativity, Agency, and Motivation. Multimodal options foster creativity, which is evident through videos created, developed, and published online via social media like YouTube, VBlogs, podcasts, blogs, TikTok, and Instagram to name just a few tools today's youth use to express their individuality and creativity. The creativity and energy invested in producing multimodal assignments, according to Ito et al. (2013), fit into the paradigm of critical pedagogy that allows for "engaging formats for interactivity and self-expression" (K. H. Turner et al., 2019, p. 292). Finally, through focus group interviews of 60 teens between the ages of 7 and 18 years, Green and Hannon (2007) identified the term "digital pioneers" to define the group of students who created unique designs and engaged in activities that transformed them into creators. These students were self-motivated and claimed ownership of their creations and the knowledge they acquired and brought into the learning environment. Pressing the issue further, Li et al. (2015) recommended that teachers and administrators refer to these digital pioneers when it comes to innovating curriculum that intersects with new literacies and technologies because they are the "seeds of change" (p. 5) that outline where we should be in engaging our students with technology in the classroom.

Multimodal composing in college-level and writing-intensive classrooms like the ones I teach provides opportunities for agency and engagement among students to make meaning with and produce their own multimodal texts (Nagy, 2020). Multimodal composing is not only necessary for teaching students how to integrate technology into

their learning but to also address the importance of preparing students for “agency in their workplace and civic arenas” (Gordon et al., 2019, p. 45). Multimodal assignments are not the same for every creator or used similarly in every classroom or for each assignment. As a result, it is important to make two significant points: multimodal texts should not replace traditional texts and they should not be “conflated” (Gordon et al., 2019), because each approach to composition can lead to different learning outcomes for all students involved.

Multimodal practices can also foster “dialogic and emancipatory practices, in which students are active, engaged and empowered participants in a conversation from which learning emerges” (Qoura, 2020, p. 58). Such rich learning practices can often result, as they did in Qoura’s (2020) study, in engaged conversations that take place in blog comments or discussion forums among students who appreciate creativity. Berghoff and Borgmann (2007) argued that the use of arts, which are inherently multimodal, can encourage disenfranchised students to engage in their learning because “they unleash students’ capacity to be self-directed and innovative, to develop self-discipline and self-confidence” (p. 24), which benefits both students and their teachers who get to know them on a deeper level.

Multimodal options are endless with the technological affordances available to us today. The transfer of knowledge from traditional alphabetic authoring to multimodal designing is exponential and boundless. The affordances of multimodal practices were observed by Kesler (2011), who had his students read historical fiction novels and create their own digital stories in response to their final, allowing them to deepen their meaning making and develop authorship and agency. Studies like Kesler’s show multimodal

assignments engage students the most when they are pertinent and personal to social issues that they relate to. In a study with urban high school students in Los Angeles who constructed videos for social change, the students experienced high levels of student engagement because they were creating videos on issues of power, a topic at the center of their lived experiences (Rogers et al., 2007). The Digital Youth Network Program, rooted around the multimodal work of African American middle school students, showed similarly high levels of engagement and skills. According to Barron and Gomez (2009), by producing videos and podcasts, students in their study acquired digital literacies, valuable learning mechanisms that contributed to their engagement with learning.

In a study conducted by Meyer et al. (2010), 388 Canadian students in Grades 4–6 employed e-portfolios to assess and reflect upon their writing and results showed they outperformed students who did not use portfolios on their Canadian Achievement Test. They also developed metacognitive skills when it came to self-reporting. E-portfolios are more advantageous over print portfolios because they enable students to organize, add, delete, or use hyperlinks to connect their writing to other online texts that show patterns in their writing as well as write for a wider and more public audience. Chang (2009) confirmed that students who implement e-portfolios into their learning demonstrate “higher levels of self-evaluation and motivation than students who employed a traditional assessment” (p. 392).

Writing and Reading Skills. Central to multimodal practices and meaning making is offering students multiple ways of seeing and composing, which expands our understanding of literacy in terms of what it is and how it works (Jewitt, 2008). Despite the digital landscape in which students exist, both in the classroom and outside of it,

multimodal composing is still not valued as rigorous or pertinent as traditional writing practices (Thomsen, 2018), even though the demand and need for multimodal practices are evident (Mills, 2010). Multimodal text composing has been shown to be empowering, agented, and critical (Skinner, 2007; Thomsen, 2018); however, it has also been shown to be a means of positioning students at the center of their learning as composers, designers, and experts of their content (Dallacqua & Sheahan, 2020; Wang, 2015; Wissman & Costello, 2014).

A primary example of how multimodal practices can fit into writing courses came from Ohito (2020), who localized her self-study on the multimodal composition essay in a postsecondary English course. She defined multimodal composition essay as “intertwin[ing] textual, aural, linguistic, spatial, and/or visual modes of communication” (p. 189). In her study, Ohito investigated how the multimodal composition essay can function as a self-study, a research approach “that is autobiographical, historical, cultural, and political . . . [involving] a thoughtful look at texts read, experiences had, people known and ideas considered” (p. 197). Ohito conducted her study in an Introduction to Black Studies course at a liberal arts college in Ohio with 13 undergraduate students, 11 of whom consented to being participants: six were Black, four were White, and one was White/Latina. Ohito collected student responses to the question, “What is Blackness?” and addressed its implications in a tri-part essay that appropriated linguistic, visual, and aural modes of communication. Artifacts included written parts along with collages the students had to prepare and present orally for an “artists’ talks” segment in which they explained their choices and responses. The theoretical framework was Black feminist intertwined with writing inquiry, which was inspired by da Silva’s (2014) Black feminist

“poethics,” which “approaches reflection as a kind or study, or as the play of the imagination without the constraints of the understanding” (p. 87). Ohito called for more English education practices situated in social justice themes to give African American students a place in which they can articulate their Blackness and wholeness.

Dallacqua and Sheahan (2020) answered the call with their study on pairing a canonical text (*Hamlet*) with a graphic novel (*Yummy*) as a means to examine power and privilege from a critical multimodal lens. Their 10th-grade students also had to create a multimodal design in small groups wherein they cut and pasted images, texts, and drawings onto a poster board. The cutting, pasting, and redesigning of information gathered from their learning was indicative of the “merging various materials . . . into a complex composition” (Thomsen, 2018, p. 58) that is central to both critical pedagogy and multimodal meaning making. Their goal was not only to emphasize creativity (Wang, 2015), but to also to subvert the traditional English Language Arts (ELA) requirement of canonical texts like Shakespeare’s *Hamlet* (Borsheim-Black et al., 2014). The students applied critical lenses to the texts, noting the privilege and power Hamlet had because he was White and wealthy and the lack of privilege and power Yummy had because he was Black and poor. Students considered the graphic novel significant to their learning because many of them could relate to Yummy coming from a disadvantaged background. Their study noted all the elements existing in multimodal learning and composing that should be grounded in today’s pedagogy from kindergarten to higher education: agency, creativity, relatability, engagement, and assuming the role of experts in content and composition (Dallacqua & Sheahan, 2020).

For the process of writing poetry, Curwood and Cowell (2011) developed a multimodal project called iPoetry in which junior high school students wrote their own digital poems applying images, videos, and audio narration of their work to support the printed/written text. A multimodal approach enabled the students to write for an audience, engage with poetry in a personal manner, and to creatively make it original with their own use of digital tools and graphics, as well as to share their own voices through poetry in an ELA unit. Danzak (2011) implemented a multimodal project through digital storytelling in which students were given the opportunity to tell their own stories using their own choices of digital tools for an audience, work collaboratively with peers to edit each other's work, and improve basic their writing skills encompassed in the written text.

A grounded theoretical study designed by K. H. Turner et al. (2019) involved the use of a mixed methods approach to ask the question, "What, where, and how do adolescents read digitally?" Although their study was centered on reading digital texts and habits developed when using technology, it is relevant to the current study because it shows the need for student perspectives when it comes to learning with multimodal texts, a gap I designed my study in an attempt to fill. K. H. Turner et al. surveyed 804 adolescents ages 13–18 in Grades 7–12 from 12 classrooms in California, New Jersey, Michigan, and New York. Their findings showed that because new technologies are being developed every day, data collected on technology use are consistently outdated. Students showed a recursive process of reading and sharing information—that fits into connected reading and learning in action. They also found high levels of critical literacy wherein "teen readers engaged in reading primarily with interest driving their purpose

and with valued texts that they encountered from their social connections” (K. H. Turner et al., 2019, p. 304). The most significant result they discovered through their study was that teens used a “both/and” approach to the kinds of texts they read daily when they had choice but were disconnected from the texts they were reading in school, which were mostly assigned to them as print texts such as paperbacks. Their findings necessitate a shift in curriculum and teaching practices to allow for more diverse and multimodal texts to be implemented in coursework.

Meaning Making as Social Power. Digital texts abound, affecting not only the way communication is practiced through the use of various digital devices but also the ways in which meaning making is now globally accessible (Jorgensen et al., 2011; Manovich, 2001; Wilson & Peterson, 2002). As classrooms and communities continue to diversify, students’ linguistic and cultural differences engender a need for schools to adapt to societal changes that are more inclusive of these differences.

Teaching as practice needs to also diversify and become more inclusive of students with various modes of learning and meaning making. Students are not one-size-fits-all, and neither should teaching, learning, or meaning making adhere to the limitations of sameness. Students’ fluid appropriation of digital technologies in social spaces should be available to them in the classroom as well, because, as Domingo (2014) observed in his research, the way youth master digital tools in their learning spaces fosters new linguistic, social, and semiotic forms of communication that reflect the advances of our global and digital societies. However, scholars agree that how much technology is incorporated into classroom learning is highly dependent on the familiarity

and competency lead teachers have with technology (Edwards-Groves, 2011; Langley, 2009).

Leu (2000) argued, “Technology should open new doors to students, not limit them” (Miners & Pascopella, 2013, p. 3). The boundless opportunities of multimodal composition is supported by the research of Li et al. (2015), in his own study of urban teens in particular. Although his ELL students had low motivation and literacy skills in school, when prompted to participate in multimodal designs, they came to the assignments with enthusiasm and served as knowledgeable experts when using technology to construct meaningful compositions. His claim serves as evidence that today’s teens, no matter their socioeconomic levels or language barriers, find technology and its many affordances central to their lives and cultures (Considine et al., 2009).

The diversity of students encountered in a single classroom has shifted communication across geographical, cultural, and linguistic borders. As a result, it has caused a ripple effect in which educators need to re-imagine and redefine traditional notions of text authorship and composition as encountered in social and educational spheres (Boulter, 2001; Kress, 2010; O’Halloran, 2010). As an illustration, Lohani (2019) introduced the concept of “rhetorical literacy” regarding the multimodal assignments he assigns in his composition courses such as e-portfolios, visual arguments, community maps, brochures, and public service announcements. He defined rhetorical literacy as a means of “combining functional and rhetorical abilities” taught in a composition course and using “the computer as a hyper textual media [that] helps students become reflective producers of technology” (p. 120). Arguably, multimodal projects allow students to develop from mere consumers of knowledge to creators of new knowledge (Lohani,

2019). It is within this lens that I endeavored to conduct my study, giving community college students options in how they created “cultural artifacts” (Lohani, 2019) that reflected both their voices and their cultures. The focus on individual voices and cultural experiences has its roots in critical pedagogy, the theoretical framework for my study, which also embodies the process of reimagining and rewriting social power by the oppressed through multimodal assignments.

Comparably, Domingo’s (2014) 3-year ethnographic study followed the text making and producing of multimodal texts in digital environments of six urban youth belonging to a hip hop group called the “Pinoys.” Sharing a Filipino heritage, the boys all came from various parts of Europe, Asia, and North America, which was central to Domingo’s focus on how “collaborative text making demonstrates a transnational form of cultural remix” (p. 9). In other words, Domingo wanted to explore how these young men collaborated with each other to make meaning across digital platforms. Domingo argued that though the extant literature on educational research contains the notion that literacy practices are shifting from traditional to digital because of new and evolving technological developments (Hull & Nelson, 2005; Hull et al., 2013; Lam, 2006), technology in relation to how people communicate is not new. He asserted people have always used “[evolving] modes for sign making” (Domingo, 2014, p. 8).

Sign making and communication have been linked in the research of social semiotics which is designed to observe the interlinking connection between social and cultural factors and the ways in which people use signs for communication for various purposes in digital spaces (Halliday, 1978; Kress & Van Leeuwen, 2006). Whether through hieroglyphics, pen and paper, theater, murals, or film, the human experience has

been storied through the evolution of modes accessible by the technologies available (Kress, 2003; Kress & Van Leeuwen, 2006, 2010; Street, 1995); therefore, “multimodal meanings are lived practices of sharing ideas, thoughts, and texts with the social world” (Domingo, 2014, p. 8).

Sharing and meaning making are tools of social power, once embedded only in linear textual practices (Domingo, 2014), that are now accessible to all students with various modes and digital authoring platforms such as blogging, YouTube, vlogging, social media, and others. In their work on framing multimodal practices as emancipatory pedagogies that counter deficit constructions of African American male students, Haddix and Sealey-Ruiz (2012) argued that marginalized students are not being offered literacy practices centered on digital tools and popular culture that could empower them to succeed in traditional school settings. Emancipatory practices include offering students the freedom to read or compose comic books, graphic novels, or hip hop songs through digital and online tools that have the potential to reengage adolescents who have been marginalized by traditional learning environments that push traditionally academic writing and other literacies (Haddix & Sealy-Ruiz, 2012).

Academically Marginalized Students and Multimodal Designs. Authoring multimodal texts is representative of access and equity around marginalized students, especially as it concerns how digital practices afford them opportunities to challenge the power structures that exist in learning environments (K. T. Anderson et al., 2017; Falchi et al., 2014; Haddix & Sealy-Ruiz, 2012; Low & Campano, 2013; Stewart, 2015; Vasudevan, 2006). Reflected in their examination of the lack of technological tools and multimodal affordances for marginalized students, Haddix and Sealy-Ruiz (2012)

contended that educators' resistance to implement the potentials of new literacy and digital practices has to do with their fear of "decenter(ing) teacher authority" (p. 190). They argued that "when young people have tools that enable them to author their lives and to speak out, power in the classroom is redistributed . . . [and resulting] in a positive return for marginalized, academically underachieving students" (p. 190). With a particular focus on African American and Latino male students who are underserved and under constant surveillance, pedagogy that places them at the center and offers them multimodal approaches to authorship and design represents a "framework of freedom" (p. 191) in the classroom that is not afforded them in the public and private spaces of their lives. K. T. Anderson et al. (2017) noted a similar observation when they conducted a 3-year long interpretivist qualitative study in Singapore that focused on the multimodal texts created by marginalized students that expanded their creativity and agency as multimodal designers. In their study, they deemed student multimodal compositions as "signs of success" (p. 111), limited in potential by traditional writing practices but engendered with "possibilities for creative and expansive digital media practices" (p. 111). Siegel (2012) supported the anti-deficit mindset of multimodal composing by noting pedagogical emphasis on multimodality can have the effect of destabilizing at-risk labels of marginalized students into students "of promise" (p. 674).

Critical theory scholars have argued that education and learning in U.S. schools are systemically grounded in power structures that represent White, privileged, middle-class ideals that exclude all other races, cultures, and socioeconomic groups (Kirkland, 2013; Ladson-Billings, 1995; Lee, 1995). Several scholars have concentrated their research on the affordances of multimodal text design and composition that benefit

marginalized groups of students (K. T. Anderson et al., 2017; Haddix & Sealy-Ruiz, 2012; C. Luke, 2003; Unsworth, 2001). In particular, Archer (2010), in her study of multimodal composition in higher education, examined self-expression through student authorship. K. T. Anderson et al. (2017) noted multimodal designs “positively transform literacy practices and social relations” (p. 113) when students engage in complex literacy designs that take advantage of the digital tools available to them. Agency was a significant finding in the work of Hull and Katz (2006) and Vasudevan (2006), who argued that student-directed authoring paths and opportunities afforded marginalized students the confidence and pride to deem themselves successful as academics and producers of meaning making.

Meaning making activities involve allowing students to shift from learners to creators and “content curators” during which they “collect, aggregate, and condense information from online sources through the use of [digital tools]” (O’Byrne, 2014, p. 103). The freedom to create and curate multimodal ensembles in their learning allows students to show mastery of content, decentering teachers and positing students at the center as experts. These skills contribute to their empowerment as students and as independent learners with critical and technological competencies they can take with them when they move out of their learning environments and into the public spaces of their lives (Gutiérrez et al., 1999; Haddix & Sealy-Ruiz, 2012; O’Byrne, 2014).

Multimodal writing opportunities that allow for videos, wikis, and podcasts among others “create, nurture, and produce communities of writers” (Law Bohannon, 2015, p. 39) as well as producers of texts that can be shared with a wide and public audience. It is also important to note that the arguments and choices behind multimodal

texts composed by students are intentional and thoughtful rather than accidental (Papadopoulou et al., 2018), which reflects the sophisticated development of critical thinking skills when remixing modes in the meaning making process. Tan et al. (2020) aptly pointed out that multimodal tasks also contribute to identities being worked out by students as they navigate their beliefs and knowledge. An even more significant affordance of multimodal tasks is that they “encompass multiple languages and are increasingly seen as effective plurilingual pedagogy” (Tan et al., 2020, p. 109). In other words, “non-institutionalized writing” (Cortiana, 2017, p. 68) affords students the freedom to express themselves and their identities through multimodal productions that complement traditional writing but are not situated in the singular and rigid confines of one mode of expression.

Multimodal Composition as Emancipatory/Fugitive Practices. Closely aligned to multimodal assignments that will garner autonomy and academic success for my nontraditional college students, Price-Dennis’s (2016) study on how multimodal assignments affect Black girls’ literacies in digital spaces revealed much about redesigning the curriculum for the success of all our students. The study was centered on a fifth-grade class in a large urban school district. This qualitative study grounded in the theoretical framework of Black girls’ literacies, as developed by Muhammad and Haddix (2016), involved exploring which digital tools students were using to examine the intersection of “power, language, and identity” (Price-Dennis, 2016, p. 338). Students engaged with these modes of identity construction “to author complex texts that counter mainstream narratives of Black girls’ achievement” (p. 338).

Similarly, Paul (2016) looked closely at test-driven mandates like the Common Core and argued that they do not prepare students, especially African American students, with the skills they will need to succeed in a global economy, “wherein traditional boundaries have been either collapsed or made much more porous” (p. 408). Conducting a literature review on the extant digital divide, Paul offered concrete suggestions on reforms to education that can empower African American students’ capabilities with digital literacies and using new technologies. She looked back at slavery to show how literacy had been used as a social act to disenfranchise African Americans, first by denying them oral language when mixing them up with different tribes so they could not communicate and then by denying them access to literacy through reading and writing. She pointed to “emancipatory literacies” as the means by which African Americans developed toward their freedom, some of which include body language, singing, sewing maps on quilts, secret literacy lessons by allies, and Black schools for the emancipated. If we think of literacy as liberatory, which also aligns with critical pedagogy, then multimodal practices are emancipatory tools that can empower African American students “to traverse complex understandings about power, economics, and politics, so they can set their sights on navigating the free market, attaining the independence that comes with true learning, and ultimately ownership” (Paul, 2016, p. 408). Although Paul’s work was not an actual study, it supports the use of multimodal practices in schools and in classroom settings to ensure all students have equal access to literacies that will empower them and set them up for successful futures.

Although the aforementioned studies focused on African American student experiences/access to multimodalities in classrooms, Gonzales and Gonzalez Ybarra

(2020) addressed multimodalities as “fugitive literacies” produced by “transfronterizx” youth, which means the young people who have experienced both sides of the border between Mexico and the United States. Their study was centered on storytelling and multimodal creation, also penned as “multimodal cuentos,” as an empowering learning mechanism through which transfronterizx youth “exhibit, build, and sustain their ways of resisting white, Western, hegemonic definitions of literacy through [multimodal] communication and creativity” (Gonzales & Gonzalez Ybarra, 2020, p. 223). To forge a connection between the two, communication and creativity as presented by the transfronterizx youth, the researchers developed a multimodal storytelling project (multimodal cuentos) in an afterschool program in El Paso, Texas/Ciudad Juarez, Chihuahua, Mexico, and the border to give youth an opportunity to engage in fugitive literacies they created and shared. Their study was influenced by Butler’s (2017) study on developing “a plurologue . . . or polyvocal dialogue” (Gonzales & Gonzalez Ybarra, 2020, p. 224), which is translated as plural voices that bring together Black feminist and decolonial feminist theories that shed light on the “complexity of women of color literacies and experiences” (Gonzales & Gonzalez Ybarra, 2020, p. 224).

Working against the definition of Western literacy as a “marker of civility” that has been used to cast Indigenous and people of color as inferior in comparison to the standard of Whiteness (Gonzales & Gonzalez Ybarra, 2020, p. 224), fugitive literacies position Latinx youth as subjects in their own storytelling. The participants of the afterschool program, La Escuelita, consisted of students ranging from preschool to high school. They were instructed to compose a multimodal project that included themes of their constant mobility from one housing unit to the next because of their parents,

immigration issues, and economic struggles. The themes included community, culture, and home. The students went into their housing complex, took pictures of their community, and used word maps to collect themes of issues related to their topic of interest as they developed their cuentos. During the qualitative study, the authors followed the students and observed the students' choices for their project and developed field notes on their observations to take note of emerging themes in the data collected. The students' cuentos consisted of poems, a book of memes that included pictures, text, and drawings. The data narratives revealed the various ways in which the youth participants exhibited their fugitive literacy practices through their writing and the images they chose to include in their cuentos. They also revealed how the students individually navigated the complex experiences of their lives living on the border. Their creations showed they did not dwell on the checkpoints and limitations border restrictions imposed on them; instead, their cuentos concentrated on the stars, the mountains, and their community to locate and celebrate their identities, interests, and the joy they found in nature.

As indicated by the scope of the current literature review, multimodal assignments not only provide students with the learning agency they need to use their voices in their unique and creative ways to express knowledge of content, they also allow for cultural diversity to intersect with learning. Ohito (2020) observed multimodal composition as a fugitive literacy that develops “wake work” (Sharpe, 2016). She unearthed the need for an awakening, especially in the education of new English teachers who are getting their licenses:

If lovers of literacy are to awaken from whiteness and anti-Blackness in English teacher education, then we must create more such tools with which to toil for a world in which education is a practice of freedom capacious enough to allow Blackness to unmoor from whiteness and fly free. (Ohito, 2020, p. 215)

The affordances of multimodal assignments in classrooms are transformative for students and for pedagogy.

Multimodal Challenges

Rigor of Traditional Writing Practices. Rowsell and Decoste (2012) argued that traditional writing fails to appeal to students because it is not attached to real-life applications. In their study in which high school students in Canada analyzed hidden agendas in magazines and composed multimodal arguments with a focus on sound, images, and moving images, they found that “the boundaries and bandwidth of writing” (p. 258) need to be remixed or reimagined so that as a literacy tool, writing can become more meaningful and engaging in a classroom setting. They argued the following:

Writing still deals mostly with words. Writing should be tied to texts studied in class. Writing also deals with, or at least should deal with, new media and digital technologies, Writing should deal with design. Writing ought to be creative and innovative. Yet, most of the time [academic] writing . . . remains a five-paragraph essay on a canonical text. (Rowsell & Decoste, 2012, p. 258)

As an exemplar, Lee’s (2014) case study of two language learning students in Taiwan over the course of 2 years supported the notion of implementing multimodal assignments not only to enrich instruction but also to appeal to the motivation and achievement of low-achieving students. As language learners, several students were

intimidated by the constraints and rigors of written texts, “the conventional linguistic model of meaning-making” (p. 56), and through observations, Lee argued that when he offered students “an alternative mode” of constructing meaning through images, they felt more encouraged and motivated to complete the assignments. Although the two students he observed were failing his course by not completing the tasks required of them, once Lee integrated multimodal alternatives such as an online literature circle, first-person narrative writing with images, and digital storytelling, both students were engaged, completed the assignments, and felt acknowledged by their teacher and peers for constructing meaning according to their own creative inclinations.

Similarly, a study centered on two collective case studies by Edwards-Groves (2011) examined 17 Australian primary school teachers over an 18-month period who had been chosen by their administration to incorporate technology initiatives into their pedagogy. The study’s results showed the multimodal texts enabled students to engage in the curricular content and because these affordances also occurred in their social spaces. Multimodal designing afforded students agency, creativity, the acquisition of new technological skills for self-expression, and the availability of a social and collaborative space in the classroom, outside of it, and in the “third-space” in which new text construction is practiced and created (Gutiérrez et al., 1999). Additionally, they provided students the opportunity to develop new texts through a combination of modes (e.g., images, sounds, text) that are missing when print-only representations are privileged by teachers (Edwards-Groves, 2011).

An educational landscape that favors “text-based representation as the primary legitimate form” (Literat et al., 2018, p. 566) of communication excludes marginalized

students and needs to be challenged for its “hegemonic conceptions” (p. 566). Because multimodality shifts to modes beyond language (Jewitt, 2008), it offers varied and creative ways of meaning-making potential that benefit students in their learning and social spaces.

There is a fear among practitioners that traditional texts will be replaced with unconventional texts that lack desired academic rigor (C. Luke, 2000; Mills, 2009; Stewart, 2015). Others believe incorporating new technologies will distract students and move the learning away from the curriculum (Kaufer et al., 2011). In her mixed methods case study on student attitudes on multimodal construction in a first-year composition course at a 4-year university, Law Bohannon (2015) argued for multimodal practices to be used in composition courses because they afford students the opportunities needed to enter academic spaces and discourses that affect their rhetorical voices. Based on her 15 STEM students’ survey responses, it was noted not only that multimodal text construction opportunities were missing in higher education courses but also that students desired these opportunities to be offered to them. As a result of the multimodal practices she offered through the study, her students reported they grew as writers by constructing a variety of multimodal texts and stated they performed better in the course. Similar results were determined in a longitudinal study by Lunsford et al. (2013), who concluded students need to be given chances to construct meaning by writing in various genres and about topics that interest them, resulting in fewer instances of plagiarism and more authentic writing.

An overarching tension that exists in relation to multimodal composing relates to the suitability of the mode to assignment. Instructors should carefully consider which

assignment is amenable to a multimodal approach. If multimodal assignments appear to be composed more aesthetically and, on the surface, lack higher order logic (Alexander et al., 2011; I. L. Clark, 2015; Purcell et al., 2013; Ringrose, 2001; Stowe, 2012), then educators should consider assigning traditional papers for argument/thesis-based assignments and multimodal options for low-stakes assignments that follow examples such as reflections, topic proposals, and approaches/pitfalls to research and writing.

Student Anxieties With Nontraditional Texts. In a recent study conducted at Elon University in North Carolina, Gordon et al. (2019) investigated student perceptions of multimodal (sound and image-based) versus traditional (text-centered/alphabetic) assignments with special attention given to which one the students preferred when assigned to submit an argument analysis project. Out of 129 participants comprising first-year students at the university, 52% preferred submitting their final argument assignment as a traditional paper whereas 48% preferred to submit their assignment multimodally (as an electronic presentation). Although the difference reflected a small margin, students who chose the paper over the multimodal submission claimed it was safer to write a traditional paper. The process was easier and more familiar, and they believed they would do better on the paper than the multimodal assignment, which was “uncomfortably open and less prescribed” (p. 54). With regard to the audience, the traditional paper only had one audience member—the instructor. For multimodal assignments, however, students had to share their presentations with students or other members of a public arena if they were submitted on a website, which made them feel more insecure and exposed. The most significant finding in Gordon et al.’s study was that students found traditional papers to be more intellectually rigorous than multimodal assignments.

Similar findings were identified by Cortiana (2017) in a quasi-experimental study with 30 writing students tasked with producing a traditional essay on the issue of fathers and sons. Her intervention consisted of three 2-hour sessions during which she taught students about multimodality, the potentials of different semiotic modes (Kress, 2003) as they related to expression, and the use of the Glogster platform for the creation of their multimodal products, which were used to compare to the traditional essay. Students were administered a questionnaire to assess students' experiences with the traditional and multimodal products composed during the study. Cortiana's (2017) concluded the study with the observation that though students were offered multimodal options, they remained tied to traditional writing, going as far as bringing the multimodal composition back to the criteria of traditional writing practices. Her assumption rested on the realization that students resist "non-institutionalized" (p. 74) modes of communication that are not attached to traditional perceptions of what is valued as academic language and unsuitable for "school language" (p. 73).

Student anxiety over grades can be solved by teachers being more discerning about when to assign multimodal practices and when to assign traditional writing practices. The extant literature on multimodal versus traditional print assignments shows students pay attention to the modes afforded them and think critically about which mode will provide them with the learning or grade outcome they desire. Gordon et al.'s (2019) study demonstrated students are thoughtful in choosing the mode that serves them best, and are aware of the affordances of the assignment choice as well as their strengths and weaknesses in relation to submitting their work multimodally or traditionally. As a result, educators must require assignments that offer choices in modes for students, as the

students are as different as the modes with which they choose to construct their arguments and ideas. To further understand their choices, each assignment should be aligned with a reflection that asks students to consider their choices, their audience, and their strengths or weaknesses in the assignment are dependent on the modes they chose. A clear understanding of what is and is not working when it comes to multimodal and traditional print assignments when applied to our instruction will become evident.

Multimodal Metalanguage

After surveying 55 upper primary school teachers who engaged in multimodal composition in their teaching, Chandler (2017) found teachers who implemented multimodal assignments were primarily self-taught, and their guidelines and directions to students in producing multimodal designs were general and lacked the “metalanguage” needed to guide students in making meaning in meaningful ways. According to the Department of Education and Training NSW (2003), metalanguage is defined as the conversation between teachers and students about how language works by “pointing out how differing sentences, types of texts, discourses and other symbolic representations actually work” (n.p.). Chandler (2017) argued that teachers need to be professionally trained to teach nontraditional texts with particular attention paid to the metalanguage of multimodal texts that includes how these new texts work to communicate meaning effectively. Although The New London Group (1996) espoused that “literacy pedagogy must account for the burgeoning variety of forms that are becoming increasingly significant in the overall communications environment” (p. 60), current studies (Cloonan, 2011; Edwards-Groves, 2011) have shown that though teachers are excited to implement

multimodal texts into their teaching, many teachers have deficient skills in using technology.

In an argument for the explicit teaching of multimodal texts as encouraged and necessary for student success in composing multimodally, some of the metalanguage terms necessary for multimodal composing include genre, social purpose, design elements, conventions, line, and balance if we are to prepare students for success (Mills, 2011; Myhill, 2016; Shanahan, 2013). A good example was provided by the digital animation and video assignments of Burn and Durran (2006), who “showed that when grammatical design was taught, students made very sophisticated commentaries on their reformulated movie texts” (p. 274). Conclusively, teachers need to be trained to prepare their students, and the training has to be explicit for each participant if students are to be successful as digital meaning-making authors. The findings reported by Chandler (2017) and Myhill et al. (2012) support the need for teacher training on multimodal texts and authoring with particular attention given to the metalanguage needed to explicitly train students to author their own multimodal texts successfully.

Connection to Current Study

The urgency for digital advancements in learning environments reflected in the aforementioned research mirrors my experiences with teaching at a community college and being one of the very few instructors offering multimodal options for my students in their coursework. For future research, more mixed methods studies centered on teacher interviews, especially on the community college level, would benefit a wider scope to understand the choices instructors make in designing curricula that do not include multimodal assignments, which have been proven to benefit students’ learning. The

information provided from such studies could also incite new professional development opportunities for community college instructors who are hesitant to try implementing new approaches, such as multimodal assignments, into their core content and overall pedagogy.

Although my study contributes to the handful of studies dedicated to collecting student perspectives on multimodal versus traditional written texts, it also brings attention to the limited use of multimodal assignments for low-stakes assignments in writing-intensive, online community college courses in which students also must compose traditionally written final papers situated in arguments and scholarly evidence. I have yet to completely replace traditional research papers with multimodal composition; however, more research needs to be conducted on educators who have and how it alters the technological landscape of academic college writing. Furthermore, an understanding of new literacies as they emerge is fundamental to today's teaching with digital technologies, so constant professional development for teachers from K-12 and in higher education is necessary to "fully access their potential" (Leu et al., 2013, p. 1158) before they are implemented into learning environments that bridge both multimodal and traditional print texts for well-rounded student learning.

There is also a need for more qualitative approaches to the examination of student perspectives in composing multimodal texts, which would give scholars and teachers a wider scope of understanding of how multimodal assignments differ from traditionally written papers when it comes to posing arguments and using scholarship to support those arguments. A more comprehensive understanding of multimodal practices

can also benefit teachers in understanding the types of multimodal assignments they can and cannot incorporate into their curriculum designs.

More implications arise from an action research standpoint. Although there are differing opinions about technology and its use in the educational arena where some posit it is distracting and shifting away from traditional views of learning and teaching, Sullivan (1991) suggested we look at these technological shifts as “change agents” (Swenson et al., 2006, p. 360). By creating rich and multifaceted learning environments that appeal to students’ interests and individual learning styles, teachers are tapping into students’ needs to learn and to engage, which can have a major and positive impact on whether they complete the course and continue down the path to achieving their academic pursuits.

CHAPTER 3: RESEARCH METHODS

Research Design

I designed this explanatory sequential mixed methods study to explore how students perceived multimodal assignments in writing-intensive community college courses and how they felt about creating multimodal texts over traditional, linear writing practices. Research centered on student perceptions in relation to meaning making practices through multimodal text construction can benefit students and practitioners in the literacy field, add to the research on multimodal text construction in higher education, and effect change when it comes to engaging students with academic writing that often “others” (Law Bohannon, 2015, p. 34) marginalized students. As part of my intervention for this study, I offered my online community college students the opportunity to submit their assignments as multimodal designs or traditionally written compositions throughout the semester. An explanatory sequential design complemented my study, as the quantitative survey I constructed was followed by a focus group interview at the end of the semester to explain the survey responses in relation to the choices my students made with the multimodal intervention.

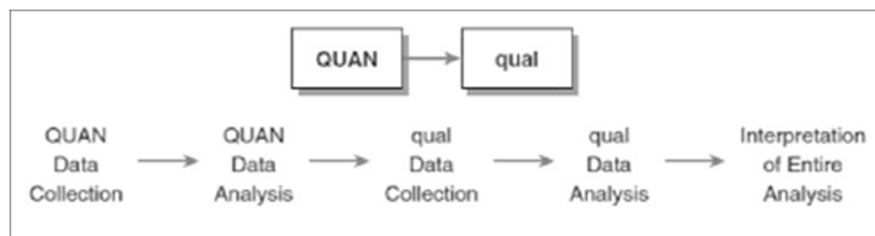
Consistent with the two-phase research approach (Creswell, 2015; Huck, 2012), I spent the first 9 weeks of the course allowing students to experiment and become acquainted with multimodal practices, as many of them had no prior experience designing or composing such practices before my course. In the 10th week of the semester, following the final date for student withdrawals, I administered the quantitative survey to collect data in response to the first research question: What are the attitudes of community college students toward academic writing and multimodal composition? For

the qualitative portion of the study, I conducted a virtual focus group interview via Zoom during the 15th week of the semester to address the second research question: What are the reasons students in an online community college course opt to complete multimodal or print-based assignments?

The mixed methods approach to examining student choices in composing multimodal texts compared to traditionally written texts fit well with my study because a mixed methods approach does not privilege one form of data collection over the other. Though the quantitative strand gave me a global perspective of the data, I was able to use the qualitative thread to explain the quantitative findings through student voices (Creswell, 2015). Hearing students’ voices and perceptions in relation to the pedagogical strategies assumed by their instructors in a democratic classroom benefits students, teachers, and future researchers of multimodal practices. Figure 2 outlines the explanatory sequential design steps I used and the phases, procedures, and predicted outcomes.

Figure 2

Sequential Explanatory Mixed Methods Design



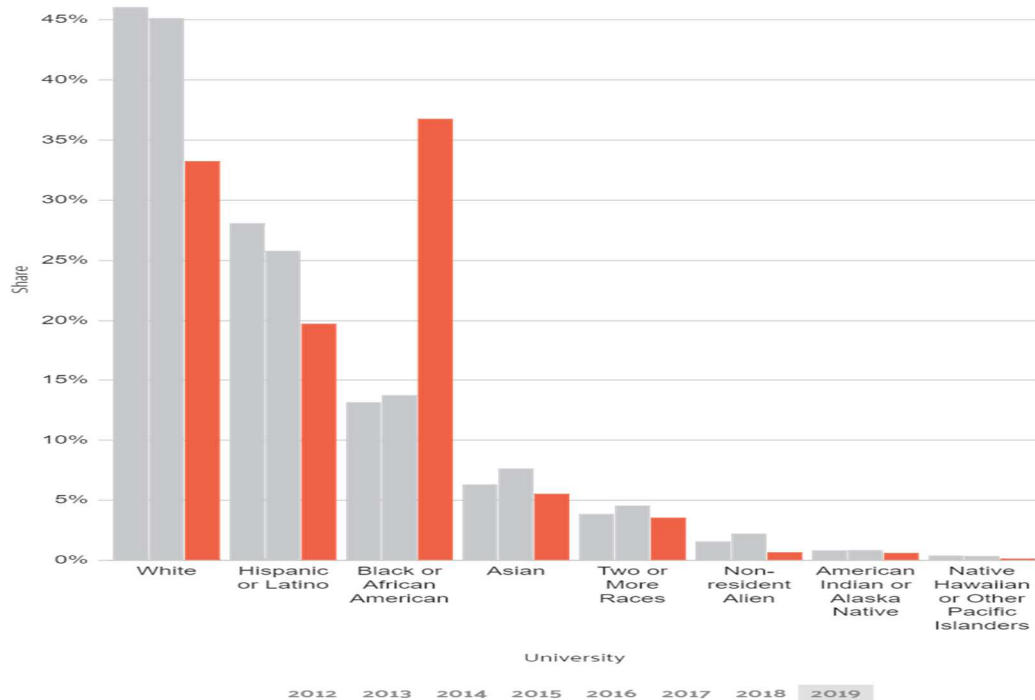
Research Site

I conducted my study at my place of employment, an urban 2-year community college in the southeastern part of the United States with an annual enrollment of 5,665 students. As of 2019, full-time students comprised 1,454 (25.7%) and part-time students

comprised 4,211 (74%) of the population. With a 65% retention rate as of 2019, the enrolled population of students, both undergraduate and graduate, is 36% Black or African American, 32.3% White, 18.6% Hispanic or Latino, 5.19% Asian, 0.547% American Indian, and 0.106% Pacific Islanders. In terms of gender, as of 2019, 284 more women than men received degrees with 520 degrees awarded to White females compared to 414 degrees awarded to both Black or African American males and females. For undergraduate programs, 60.3% of the degrees were awarded to women and 39.7% were awarded to men with the most common racial group receiving the awards being White (see Figure 3).

Figure 3

Community College Demographics at the Research Site



I centered my study on the five online courses I was assigned to teach in the fall semester of 2021. The courses were all taught and designed by me; they were also diverse

in subject and content with English Composition, American Literature II, and American Women's Studies. The elements that tied them together and allowed for the study to occur was that they were all 16-week long online courses, writing-intensive, and offered multimodal options for all low-stakes assignments that did not include major research papers as part of my experimentation with multimodal practices. Students were given choice in terms of the modes they adopted to complete their weekly assignments (e.g., video, PowerPoint with video or voice over narration, poster, comic strip, poem, etc.), and aside from offering the options, I had no authority over their decisions. Autonomy and choice are not only grounded in critical pedagogy (Blake, 1997; Price-Dennis, 2016), but also in the affordances central to multimodal authoring and designing as well as critical pedagogy, the theoretical framework of my study. By making their own choices when designing responses multimodally or through traditionally linguistically based approaches, students are given the opportunity to assert their "diverse lived experiences and voices on our curricula" (Blake, 1997, p. 53). Through the results of my study, I hoped to acquire an inside perspective on the choices students make about multimodal composing and what determines these authorial choices.

Participants and Sampling

Using a convenience sampling method, participants for my study comprised students in five online courses at a 2-year urban community college in the southeastern part of the United States. The convenience sampling method fit my study best because my courses were automatically populated by the college without my input and based on students' registration status. Although it was an easy sampling method and most appropriate for my study, the findings may not generalize to the public, only to the

students in my courses and perhaps at my college (Creswell, 2015; Huck, 2012). Between my five courses, I had a minimum of 100 students with 52 respondents to my survey. The target population ranged in race (African American, Latinx, Asian, White, Middle Eastern), religion (Muslim, Christian, Catholic, Jewish, Southern Baptist, Atheist), sexuality (cis, gay, bi, poly, pansexual, asexual, etc.), age (16–65+), gender (male, female), and socioeconomic status (below poverty level, homeless, affluent, middle class). In addition, students differed in terms of writing and technology skill as some students were ELLs, international, or had accommodations for learning or mental health disabilities. Because my community college students comprise high school, traditional (college-aged students), and nontraditional (older, military, or working adults) students with vastly different life, technological, and writing experiences, my study stands to bring to light many diverse perspectives to add to the extant literature on multimodal versus traditional writing practices at the community college level (K. T. Anderson et al., 2017; Cappello et al., 2019; Papadopoulou et al., 2018; Rowsell & Decoste, 2012).

For the qualitative strand, I used a voluntary response sampling method, also known as a judgement sampling (Huck, 2012), to select which students to interview. For the voluntary response sampling, I only contacted those students who responded to the survey question on whether they wanted to volunteer for interviews. Based on those who responded to my final query for focus group interviews, I had five student participants. Voluntary sampling afforded me a varied range of data related to my students' experiences, knowledge, and choices (Creswell, 2015; Huck, 2012; Lichtman, 2013) when it came to multimodal and traditionally written practices in an online community college classroom.

Instruments

I developed a survey (see Appendix A) for the quantitative data collection that I administered virtually through an announcements page that goes directly to students' college email addresses via our learning management system, Sakai. The survey was administered on October 28, during the 10th week of the 16-week semester (see Figure 4 for Timeline). This was determined based on the last day of campus-wide student withdrawals (October 27), as I wanted to make sure only those who remained in the course until the end of the semester would complete the survey and be available for the focus group interview. After the official withdrawal date, I emailed the survey to 93 students from the five courses I taught in the fall. Of the 93 students, 60 students filled out the survey; however, after executing the data cleaning process, I had 52 respondents for the final data collection. The survey included multiple choice questions pertaining to respondents' demographics and open ended inquiries as to their previous experiences with multimodal practices, traditional writing practices, and the multimodal interventions I offered during the semester. The survey contained questions about students' confidence with writing, their confidence with digital tools, and if/how multimodal options in the course influenced their learning. Students were also asked to respond to 5-point Likert-type questions regarding their attitudes toward and experiences with multimodal and linguistically based composing. Last, the survey included nine open ended questions, which allowed participants to respond to questions in their own writing, not limited to numerical values, which allowed for richer data and deeper insights into the phenomenon (Taylor, 2019).

Figure 4

Timeline for Data Collection

Timeline for Data Collection	
Week (16-week semester)	Data Collected
Week 2	Introduction to Multimodal Practices and Expectations
Week 10	Administered Survey (Likert-type, yes/no, open ended) and left it available to students until week 16
Week 16	Conducted focus group, semi-structured interview with five participants

Of the participating students, five participated in one focus group interview through a voluntary sampling. I recorded the focus group interview via Zoom and the free Otter app that also recorded and transcribed the interview. All interviewees completed the survey, passed the course successfully, volunteered for the interview, and designed at least one multimodal assignment during the semester. All five participants were female with one adult woman in her 50s, three high school students between the ages of 17 and 18 years, and one college student in her early 20s. Three identified as White, one as African American, and one as Latinx. The interview questions addressed learning outcomes, confidence in writing, confidence with multimodal text construction, and what variables influenced their choices during the semester (see Appendix B for the interview questions). I analyzed the qualitative data using the thematic analysis method (Guest et al., 2011), which required me to examine and code the respondents' commentary line-by-line several times until the most salient themes emerged to address the study's focus (See Appendix C).

Quantitative Instrument

As per the explanatory sequential mixed methods design, I began my study with the intervention, criteria, and introduction of multimodal options for low-stakes assignments traditionally submitted through linguistically based text in Sakai's forums. I administered the survey and began to collect quantitative data during the 10th week of a 16-week academic semester. In the 16th week of the semester, I also conducted and recorded one focus group interview. Before analyzing the quantitative data, I exported the survey data from Qualtrics to Excel for ease in cleaning the information acquired from the survey. Excel allows for a more efficient process when cleaning data for missing, incomplete, duplicate, or incorrectly formatted data (Sharma, 2020) that would not translate as well if I had uploaded the data to the IBM SPSS 26 program first. I defaulted the process as CSV and to change the data to numeric values while also removing any irrelevant information to the research, such as date, time stamp, or IP address, while keeping the consent signatures and relevant variables.

Screening and Cleaning Data in Excel. Although 60 students from my five online courses submitted a survey, I had to exclude five participants because they did not complete all the survey questions. I deleted three more rows because they had the same ID but no responses for any of the questions and were labeled as "review." I only kept the participants who submitted signed consent forms (see Appendix D), parental consent forms for students under 18 years of age (see Appendix E), and those who completed the survey at 100% (see Appendix A).

After deleting incomplete survey responses that were below the 100% completion mark, I was left with 52 participants who met all the criteria and whose responses I could

use to analyze the data collected from the survey. Twelve were students who were under the age of 18 years. All 12 supplied parental signatures of consent for completing the survey (see Appendix E).

Continuing the process, I labeled the headers for each construct, making sure to consecutively label constructs that were focused on one measurement (i.e., CONF1, CONF2, CONF3). In total, my Excel sheet included 64 header labels based on the variables being measured as well as the short answers included in the survey. I created a data collection codebook (Dunaetz, 2017) with abbreviated codes for each variable and made sure to use it when renaming the survey questions. The codebook helped me in recalling the variable labels when it came to analyzing my data throughout the process. Once I vetted all the data and converted the demographic and Likert-type scale responses to numerical values, I uploaded the file to the IBM SPSS Statistics 26 program.

Screening and Cleaning Data in SPSS. According to Pallant (2016), when checking for errors in a SPSS dataset, we are screening for outliers, or values that fall outside the possible values for a particular variable. For the variable of sex assigned at birth in my dataset, I had two missing values because two students did not assign themselves a 1 (male) or 2 (female) code for this variable. I located the missing data by checking the categorical variables by running an analysis of the dataset with a focus on the minimum and maximum dispersion section of the frequencies under descriptive statistics label. Because having the values of these missing participants' sex was not crucial to my study, I opted to leave the missing values empty because the two students may not have wanted to identify in such binary terms of sexuality. According to Creswell and Creswell (2018), removing observations with missing data could contribute to model

bias, as the rule is to only remove data if they are missing 60% of the observations. The missing data of the biological sex construct were equivalent to 3%, and therefore, I determined to leave them alone. Furthermore, as I concentrated my study on student preferences in respect to learning style, race, and creativity, the biological sex of my students was not an imperative value central to the results of the study. Although it is antithetical to the framework of critical pedagogy, I included the binary biological sex data strictly for an overall sense of the participants' demographics.

I ran a simple descriptive statistical analysis on the survey data, locating demographic information for my students to obtain race, age, learning style, student status, and biological sex differentials. To describe what my collected data looked like, I conducted descriptive measures to assess the mode, median, mean, range, and standard deviation of my variables. Descriptive statistics is a statistical analysis process that allows for understanding the characteristics and classification of the data acquired (World Sustainable, 2020) from the survey. It is also used to summarize frequency or measures of central tendency (MyCalStateLA, 2010). The information I gathered included the general tendencies and dispersions of the variables (e.g., race, age, learning style, student status, and sex assigned at birth).

The critical framework of my study engendered an understanding of student choices between multimodal assignments and traditional print-based practices, but because I also wanted to know how these choices were potentially different for marginalized students, I conducted a multiple regression analysis to determine whether the demographics of the participants were in any way strong or weak predictors of the major constructs of my study—preference, enjoyment, creativity, social power, and

confidence as they related to traditional writing, digital composing, and having options in which modes they use to demonstrate their mastery of knowledge. The results showed whether the statistical difference between the variables was uniquely significant or if it was determined by mere chance (Huck, 2012).

Qualitative Instrument

Once I analyzed the quantitative data, I then collected qualitative data from the nine open ended questions that came at the end of my survey (see Appendix A). According to Züll (2016), open ended questions are beneficial to surveys because they help “avoid steering respondents in a particular direction” (p. 2). They also give respondents the opportunity to express their own views in their own words, providing rich detail and personal accounts that are often missed during survey collection. I imported the questions and student responses into nine separate Excel sheets, as I had to conduct data analysis for each question and separating them aided me in organizing and categorizing the data without any confusion. After reading each response, I determined a categorization scheme (Züll, 2016) from the prevailing themes that surfaced from the student responses. I labeled each theme with letters from the alphabet (e.g., A, B, C, etc.) and began categorizing each student response with its respective codes. Coding is defined as identifying a significant link between the data collected and their meaning (Lichtman, 2013). Developing thematic codes in this context is the process of detecting and coding themes that present themselves from the collected open ended questions (Huck, 2012). Once I had coded all responses on the sheet based on their themes, I used Excel to determine a factor distribution analysis table. From the table data, I determined the frequency and percentage of students who shared related themes and responses. The data

acquired from this process enriched the quantitative strand with recurring themes students articulated with their own voices outside of the quantitative results (Lichtman, 2013).

Last, I collected the qualitative data via one semi-structured focus group interview (see Appendix B), which was the second phase of the explanatory sequential design of mixed methods. Semi-structured interviews were rooted to the research questions, but they allowed for flexibility that ensured students would feel free to use their voices in authentic ways (Blake, 1997; Rabionet, 2011). According to Creswell (2015), the results of the quantitative findings defined which interview questions I needed to ask to explain the results from the quantitative strand.

Focus group interviews are beneficial to qualitative research because they allow participants to have a discourse with one another, “piggy-backing” off each other’s revelations (Leung & Savithiri, 2009). The semi-structured approach of the interview offered a safe space for students to diverge from the structure of questions and answers portion of the interview (Lichtman, 2013). To avoid what Butin (2010) referred to as “response effect bias” (p. 97), wherein interviewees provide answers they believe the researcher wants to hear, I was attentive to their gestures and facial expressions, and asked follow-up questions without asking leading questions. Interview questions were open ended and elicited “meaning and deep responses” (Butin, 2010, p. 97) that sounded much like stories or narratives. For the data to be “thick” with description (Geertz, 1973), interview questions and follow-up queries elicited responses related to feelings, emotions, opinions, and experiences. The data I collected allowed me to draw inferences from the qualitative results and how they contributed to the quantitative findings (Creswell, 2015; see Appendix B for the interview framework).

I coded the interviews in two or more cycles (Saldaña, 2013). For the first cycle, I “encoded” (Saldaña, 2013, p. 5) the transcripts in their entirety through a process called thematic coding. Thematic coding is a process that involves noting themes as they are discovered in the margins beside the excerpts. It is centered on first impressions and allowed me to simply label each finding of the transcript. The goal of the process was to later synthesize the labels and extract thematic codes from the list of marginal notes (Saldaña, 2013). To ensure validity and objectivity, I remained transparent and honest with my coding and labeling, for my attitudes and expectations with the study could have potentially colored or “filter[ed]” (p. 7) my lens. During the second cycle of my coding process, I generated themes and categories from student perspectives in response to multimodal and traditional writing practices, and then used the themes to construct patterns and deeper meanings relevant to my study without inserting myself or my expectations as a teacher–researcher into the findings I coded and captured. I expected that my codes, categories, and themes would evolve as I undertook multiple cycles until the data was ready for interpretation. While interpreting my collection of themes and categories, I assumed Saldaña’s “codeweaving” approach in a journal, which helped me develop a tentative narrative to see how the codes, themes, and categories connected to each other. The purpose of “codeweaving” was to work out the tensions of the material I developed through the multiple cycles of coding. As Saldaña suggested, I practiced writing various sentences to explore how “the items might interrelate, suggest causation, indicate a process, or work holistically to create a broader theme” (p. 248). Following his advice, I also wrote about the major themes and categories one at a time and had a peer look over my work to search for “buried treasure” (p. 259) I may have missed.

Through the methodological design and the data collection process, I was critically aware of my position as both the instructor and researcher of my study. Research positionality is a term grounded in action research in which the teacher is also the researcher (Herr & Anderson, 2015). Because of my dual role in my classroom, I had to hold myself responsible for mitigating implicit biases through consistent self-reflexivity (Lichtman, 2013). Implicit bias had the potential to contribute to “romanticizing” (Low & Pandya, 2019, p. 7) my students and their multimodal composition practices because I was both their teacher and the researcher. To ensure the interpretations I derived from the themes and codes categorized from the multimodal texts were valid and not filtered through my teacher lens, I conferred with colleagues and dissertation peers to add their insights on the multimodal data collected. It was critical not to use my students’ voices to validate my findings but rather to add new perspectives to the multimodal data analysis process. Seeking the assistance and perspectives of other researchers added to the collaborative inquiry inherent in qualitative studies and should be used when analyzing multimodal artifacts (Low & Pandya, 2019). I practiced self-reflexiveness (Lichtman, 2013) during my analysis of the open ended and qualitative data collection to ensure I was not injecting my own values and identities into my students’ attitudes. Being transparent and honest with my intentions was the key to avoiding biased research.

Mixed Methods Analysis

In Chapter 4, I present the findings from the quantitative data collection I acquired by running descriptive statistics, multiple linear regression analyses to test the statistical significance independent variable model had on the constructs, and the beta levels of each

demographic variable to test their strength of prediction for each dependent variable. I also combine the open-ended questions from the survey to the qualitative strand to determine how the open-ended questions resulted in qualitative responses contributing to the understanding of the numerical values I extracted from the survey.

Finally, I present the thematic results I gathered from the focus group interview of the five participants. The data I collected from the qualitative thread “restory” (Thomas & Stornaiuolo, 2016) student perspectives on multimodal and linguistically based text composing and add to the extant literature on multiple modes of expression and meaning making as well as the role of multimodal learning at the community college level.

CHAPTER 4: RESULTS

The purpose of my study was to examine community college students' perceptions of composing multimodal assignments over traditional assignments in writing-intensive courses. I also examined whether variables such as age, biological sex, race, Latinx origin, student status, prior experience with technology, preference or confidence for traditional writing or digital composing, learning styles, and social power affected these attitudes. I applied an explanatory sequential mixed methods design to acquire quantitative and qualitative data to reveal the multimodal and traditional composing practices and choices among community college students.

Data Description

I acquired the data for Research Question 1 from the survey I developed for the purpose of this study. I emailed the survey, which included both Likert-type questions and short answer queries, to my community college students through Sakai, our community college's learning management system. Students began responding to the survey in the 10th week of a 16-week semester and after the official school's withdrawal date for the Fall 2021 semester. I obtained the qualitative data for Research Question 2 from five focus group participants who had completed the course and submitted at least one multimodal design during the semester.

Quantitative Data Analysis

Research Question 1

What are the attitudes of community college students toward academic writing and multimodal composition?

Extant research shows students continue to choose traditional composing over multimodal composing when given the option in college-level writing classrooms (Cortiana, 2017; Dallacqua & Sheahan, 2020; Law Bohannon, 2015). The research did not include community college students or a mixed methods approach that provide a deeper exploration of this phenomenon among students. I designed my study to add to and expands the research to include community college students exposed to multiple modes of expression and meaning making in learning environments that are inclusive of student choices (Qoura, 2020) as a means of equity, expression of creativity, and different learning styles (K. T. Anderson et al., 2017; Falchi et al., 2014; Low & Campano, 2013; Stewart, 2015; Vasudevan, 2006).

Demographic Relevance. To understand how a topic affects a population of people, we need to understand first (or to keep in mind) how race, culture, age, religion, socioeconomic status, able-bodied/disabled, and gender (there are more) also affect the values and access to resources for the population chosen (VanderStel, 2014). Demographics shape people and how they shape children's literacy, ability to communicate, read, spell, take tests, and other activities (Blake, 1997; Haddix & Sealy-Ruiz, 2012; Siegel, 2012; Stewart, 2015). As VanderStel (2014) stated, "A student's socioeconomic status, family structure, parent level of education, culture, technology usage, transience, race, spirituality, and crime rate near the home all impact them on a daily basis...they are imprinted on the student" (p. 14). Researchers cannot lump people together to examine an issue unless they look at all the people individually as they are shaped by their environments. Students are all affected differently, and we need to see the whole picture if we want to fix any existing problems when it comes to their learning.

Using the IBM SPSS 26 program with my data already cleaned and screened, I ran a frequencies distribution to understand the demographics of the study participants. The survey I developed for the scope of this study comprised five parts: demographics with a drop-down menu, yes/no questions, drop-down questions related to multimodal options in the classroom, Likert-type questions with seven constructs (i.e., preference, enjoyment, prior writing experience, prior technology experience, creativity, social power in the classroom, and confidence), and nine open ended questions. All responses ($N = 52$) were anonymous as no identifying information was included during the electronic survey data collection process (see Tables 1 through 4 for demographic specifics).

Table 1

Sex Composition of Survey Participants

Sex category	Percent
Female	65.4%
Male	30.8%
Other	3.8%
Total	100%

Table 2*Student Status at Community College Composition of Survey Participants*

Student status category	Percent
Full-time status	58%
Part-time status	31%%
Dual enrolled high school	11%
Total	100%

Note. Dual enrolled students are high school students between the ages of 16–18 years who are taking high school and college-level courses for college credit at the same time.

Table 3*Race/Ethnicity Composition of Survey Participants*

Race/Ethnicity category	Percent
African American or Black	27%
Asian or Asian Indian	8%
Hispanic or Latino	17%
Native American or Alaskan American	0%
White or Caucasian	38%
Multiple racial/Ethnic identities or other	10%
Total	100%

Note. As access to equity in learning closely aligned with choices was a major focus of this dissertation, it was imperative to also include demographics on the race of my students.

Table 4

Age Composition of Survey Participants

Age category	Percent
Under 18	21%
18–24	40%
25–34	25%
35–44	10%
45–54	4%
Total	100%

Note. As the school at the center of this study is a community college, the ages of our students vary. This diversity in age also aligns with prior use or confidence with technology and multimodal composition, as younger students tend to be more expressive with technology.

Descriptive Analysis. I applied descriptive statistics analysis to the data collected from my survey to acquire a “very concise compact tabular output” (Paulson, 2021). In other words, descriptive statistics allow for a great amount of information to be presented in a compact or small space. I moved all the survey variables in the output for analysis and noted a total number of 52 observations that included mean and standard deviation values.

Because I relied on critical pedagogy as the theoretical framework to drive the research on multimodal assignments versus traditional writing and student choices based on individual identities, I was interested in first constructing an understanding of student perceptions in relation to the constructs of my data. The constructs included learning

style, preference, enjoyment, creativity, prior experience with multimodal designs and writing, and the social power students felt in an inclusive classroom that allowed for individual preferences in designing assignments. For each construct, I used SPSS 26 to run a descriptive analysis that included mean, standard deviation, skewness, and kurtosis (see Table 5).

Table 5

Descriptive Statistics for Each Construct

	<i>N</i>	Min	Max	<i>M</i>	<i>SD</i>	Skewness	Kurtosis		
PREF	52	1.00	3.60	2.2346	.67064	-.114	.330	-.596	.650
ENJ	52	1.50	3.75	2.8494	.41750	-.230	.330	1.413	.650
WRIT	52	2.00	5.00	3.1923	.67429	.401	.330	-.177	.650
TECH	52	2.00	4.67	3.2115	.58309	.040	.330	-.291	.650
CREAT	52	1.67	5.00	3.5449	.85055	-.339	.330	-.648	.650
SOCPOW	52	1.38	4.88	3.7507	.69915	-1.387	.330	2.320	.650
CONF	52	1.80	5.00	4.0038	.77863	-1.178	.330	1.425	.650

Preference Construct. For this construct, I asked students five questions in relation to their preferences for (a) traditional writing, (b) digital modes, (c) a mix of traditional writing and digital modes, (d) composing traditional papers and assignments, and (e) composing only multimodal assignments (see Table 5). I calculated each variable as the average of all responses to the items included in the variable. When it came to student preferences (PREF) between writing traditional texts and composing multimodal designs, the findings indicated a normal distribution with a skewness that had a very slight lean to the left. The kurtosis results confirmed a light tail with no outliers, favoring a distribution that was flat.

Enjoyment Construct. To determine the role enjoyment (ENJ) played in student choices, I asked students four questions in relation to their enjoyment for (a) traditional writing, (b) composing multimodal designs over traditional writing, (c) being given options with which to demonstrate their mastery and knowledge, and (d) not enjoying multimodal options over traditional text composing (see Table 5). Information obtained by the constructs resulted in a normal distribution close to the mean. The skewness and kurtosis data points confirmed that the data were slightly negatively skewed with a flat distribution and lack of outliers.

Writing Construct. To understand the writing skills of students in terms of how they made their choices in this study, I asked students to identify their writing skills through three questions: (a) strong writer, (b) okay writer, (c) weak writer (see Table 5). The mean score standard deviation indicated the data points of the construct fell close to the mean. The results confirmed a slightly negatively skewed and flat distribution with a lack of outliers.

Technology Construct. Technology (TECH) mastery is a central determinant (Considine et al., 2009; Li et al., 2015; Serafini, 2010) when it comes to opportunities with multimodal options in the classroom; therefore, I asked students three questions in relation to their prior technological practices: (a) use of online platforms, (b) comfort with using technology, and (c) prior experiences with multimodal composing in their learning. The mean score and the standard deviation data revealed there was a normal distribution to the mean and a very symmetrical result. The kurtosis data supported a light-tailed distribution with a lack of outliers.

Creativity Construct. To determine the role creativity (CREAT) played in student choices, I asked students three questions in relation to how their creativity influenced their multimodal versus traditional writing decisions in our coursework: (a) I am creative and chose multimodal options, (b) multimodal designs allowed me to express creativity, and (c) I am creative but still chose to write out my responses (see Table 5). The mean and standard deviation data revealed a normal distribution with a slightly negative skew to the left and no outliers in the data.

Social Power Construct. Student choices contribute to social power in one's learning (Qoura, 2020); therefore, I asked students nine questions in relation to the opportunities to choose between multimodal and traditional composing of assignments impacted their understanding of social power in the classroom: (a) I feel included in classroom decision making, (b) I feel that I worked with my teachers as partners in my learning, (c) I would like more student choices in the classroom, (d) I think multimodal practices are a helpful way of gaining knowledge, (e) I would like to see more instructors offering multimodal practices as options, (f) I would like to continue to use multimodal practices in the classroom, (g) multimodal practices helped me express my knowledge in a way that best fits my learning style, (h) I had the resources I needed to submit multimodal practices in the course, and (i) I would consider multimodal practices for a major assignment instead of the required traditional paper. The data points of the construct were below the mean with a left-tailed skewness and situated below the normal distribution, indicating the distribution was too peaked.

Confidence Construct. To determine the role confidence (CONF) played in student choices, I asked students five questions in relation to their confidence for (a) their

writing abilities, (b) using technology to express ideas, (c) using technology for communication, (d) designing multimodal compositions, and (e) multimodal designs would yield higher grade than traditional writing composition (see Table 5). Information obtained by the constructs resulted in a mean score and standard deviation that were distributed close to the mean. The data were slightly negatively skewed with a slight lean to the left and a flat distribution with light tails and no outliers.

Multiple Regression Analysis. A theoretical framework centered on critical pedagogy revealed the need to explore each construct through the lens of the demographics of my survey participants ($N = 52$). The diverse nature of my classrooms yielded a curiosity to explore whether there was any correlation between some of my constructs and the individual identifiers of my students. For this part of the quantitative thread of my study, I conducted a multiple regression analysis because I had seven independent variables to explore in conjunction with six dependent variables. The independent variables comprised confidence with media, confidence with technology, confidence with writing, social power, and preference for multimodal designs. The dependent variables that did not change within the study included age, race, sex, student status, learning style, and Latinx origin. Much of the extant research on multimodal practices is centered on Latinx students, and because my college is very focused on anti-racist pedagogy as it pertains to our African American students, Latinx students are subsumed by this attention. As the total college enrollment rates for Latinx students increased between 2000 and 2016 from 22% to 39% (de Brey et al., 2018), paying attention to the learning outcomes and environments of Latinx students is significant to the critical theoretical framework of my study, which endeavors to give a voice to all

students within the scope of multimodal and strictly writing practices on the community college level. As they represent 17% of my study's respondents, I singled the ethnicity out to understand their role in my college and their attitudes to the multimodal and writing interventions in my courses. For each construct and demographics, I ran a descriptive analysis, tested for assumptions, and then if the assumptions indicated no deviations from normality, I ran a multiple regression analysis to test whether each individual independent variable made a statistically significant and unique contribution to the outcome of the study's predictions.

Confidence in Writing. To determine whether the independent variables of age, race, Latinx origin, sex, student status, education, and learning styles ($N = 52$) predicted participants' confidence with writing ($M = 3.94$, $SD = 1.195$), I first had to check the Pearson value assumption through the correlations table. The findings showed a small degree of correlation between the independent variables and the dependent variable in that their R-value was below $+0.29$ and ranged from -0.220 (Learnstyle) to $.235$ (Latnorgn; see Table 6). The second assumption to test was the collinearity through the coefficients table. For collinearity, I had to look at tolerance, how much of the variability of the predictor variables was not explained by other predictor variables in the model. Less than $.10$ indicates multiple correlations that are high, suggesting multicollinearity. The tolerance value for each of my independent variables was way above $.10$, which indicates my variables did not have multicollinearity; therefore, I did not have to change or correct any of my variables. The variance inflation factor (VIF) also tests for collinearity statistics and is the inverse of tolerance. VIF values above 10 are concerning in that they indicate multicollinearity. However, all the VIF values for my dependent variables were

below 10 (ranging from 1.084 to 2.927), confirming that the collinearity assumption was met. The normality assumption was met by checking the probability chart for the variables. The P-P plot showed a reasonably straight line with very little deviation, which meant there was a good fit with little deviation from normality. I referenced the scatterplot to test the linearity assumption, which was also met, as there was evidence of a roughly rectangular distribution in which the scores clustered within the center of the rectangle. Finally, to test for outliers, I referred to the scatterplot. Outliers are defined as cases that have a standardized residual as displayed on the scatterplot of more than 3.3 or less than -3.3. In this case, none of the cases fell near these two values, indicating no outliers existed in the values.

Table 6

Pearson Correlation for Confidence in Writing

Item	Sex	Age	Educ	Learnstyle	Latinorgn	Race	Studentstat
Confw	-.103	.079	-.009	-.220	.235	-.017	-.035

With the assumptions met for confidence in writing variable, I evaluated the model to see how effective it was and whether it was statistically significant and accurate in its predictions that confidence in writing is somehow related to the independent variables. To make this determination, I looked at the model summary table (see Table 7). The R square was .191, which explained that this model of true prediction of variables determined only 19% of variance in perceived confidence in writing.

Table 7*Model Summary for Confidence in Writing*

Model	R	R square	Adjusted R square	Std. error
1	.437 ^a	.191	.062	1.157

^a Predictors: (Constant), STUDENTSTAT, RACE, SEX, AGE, LEARNSTYLE1, LATNORGN, EDUC. ^b Dependent variable: CONFW1

The final step was to assess whether the statistical significance of the result accurately reflects the population by running an ANOVA (see Table 8). ANOVA tests the null hypothesis that multiple R in the population is equal to 0. In other words, the model cannot predict accurately the outcome. If Sig. = p-value of <.05, then according to the ANOVA test of my variables, the Sig = .198, which was above the p-value of <.05, meaning that the model was not significant.

Table 8*ANOVA for Confidence in Writing*

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	13.905	7	1.986	1.483	.198 ^b
	Residual	58.922	44	1.339		
	Total	72.827	51			

^a Dependent variable: CONFW1. ^b Predictors: (Constant), STUDENTSTAT, RACE, SEX, AGE, LEARNSTYLE1, LATNORGN, EDUC.

However, when examining the individual predictors in relation to the confidence in writing in the coefficients table, it became evident that learning style was the only variable that had a *p*-value of .041. Because *p* < .05, the learning style of students was statistically significant in predicting a unique variance of confidence in writing. Based on the beta levels of each dependent variable in this model, the one with the largest

contribution to confidence in writing was Latinx origin with a beta level of .327. Therefore, though together the independent variables only predicted a 19% impact on students' confidence in writing, learning style made the largest contribution and had a statistically significant contribution to confidence in writing with Latinx origin coming in second through the beta levels (see Table 9).

Table 9

Coefficients and Beta Levels for Confidence in Writing

	Std. error	Beta	Sig.	Tolerance	VIF
(Constant)	1.403		.028		
SEX	.356	-.156	.274	.923	1.084
AGE	.265	.315	.182	.342	2.927
EDUC	.216	-.270	.250	.344	2.908
LEARNSTYLE1	.104	-.317	.041	.809	1.236
LATNORGN	.525	.327	.058	.654	1.529
RACE	.094	.116	.531	.543	1.841
STUDENTSTAT	.183	-.085	.568	.833	1.200

^a Dependent variable: CONFW.

Confidence With Technology. In assessing whether the independent variables of sex, age, education, learning style, Latin origin, race, or student status predicted participants' ($N = 52$) confidence with technology ($M = 3.81$, $SD = 1.189$), I first had to check for assumptions. Upon reviewing the correlations table, in which the R-value = $>.30$, I noted all the independent variables showed a small correlation to the dependent variable of confidence with technology (see Table 10).

Table 10*Pearson Correlation for Confidence With Technology*

Item	Sex	Age	Educ	Learnstyle	Latinorgn	Race	Studentstat
Conftech	.025	-.119	-.081	-.196	.098	.065	-.059

In testing for the collinearity assumption through the coefficients table (see Table 11), I conducted tolerance and VIF statistics for my model. A tolerance value $<.10$ indicates multiple high correlations, suggesting multicollinearity and requiring a change in variables. All my predictors were valued above $.10$, ranging from $.342$ and $.942$, indicating a lack of multicollinearity. Testing for VIF, which is of concern if the values are >10 , variables were all less than this value, ranging from 1.084 to 2.297 . My test met the assumption of collinearity with proof of a lack of multicollinearity (see Table 11).

Table 11*Coefficients and Beta Levels for Confidence With Technology*

Model		B	Std. error	Beta	Tolerance	VIF
1	(Constant)	3.167	1.479			
	SEX	.077	.375	.031	.923	1.084
	AGE	-.096	.279	-.084	.342	2.927
	EDUC	-.061	.228	-.066	.344	2.908
	LEARNSTYL	-.119	.110	-.174	.809	1.236
	LATNORGN	.728	.553	.234	.654	1.529
	RACE	.075	.099	.149	.543	1.841
	STUDENTST	-.204	.193	-.166	.833	1.200

Note. Dependent variable = Confidence with technology.

For the assumption of normality, I referred to the P-P plot, or normal probability plot, to note that my points fell reasonably close to the line on the chart with very little deviation. For the linearity assumption, the variables on the scatterplot had a roughly rectangular distribution in which the scores were clustered in the center. There were no deviations or violations of linearity assumptions. Finally, there were no outliers among the variables or scores that went outside the -3.0 and +3.0 scale on the scatterplot. As all the assumptions were met with the variables of this model centered on predictors and confidence with technology, I referred to the model summary table to determine how statistically significant it was in its predictions. The R-square was .093, which yielded 9% (see Table 12). In other words, 9% of confidence in technology was predicted by the independent variables of sex, age, education, learning style, Latinx origin, race, and student status.

Table 12

Model Summary for Confidence With Technology

Model	R	R square	Adjusted R square	Std. error
1	.304 ^a	.093	-.052	1.219

^a Predictors: (Constant), STUDENTSTAT, RACE, SEX, AGE, LEARNSTYLE1, LATNORGN, EDUC. ^b Dependent variable: CONFTECH.

To assess the statistical significance of my results in terms of making a true prediction that reflects the population outside of my model, I ran an ANOVA to test the null hypothesis that multiple r in the population equals 0. In other words, the model cannot predict accurately the outcome (see Table 13). If $p \leq .05$, then there is a statistical significance indicating the model does a great job at predicting the outcome better than just settled on chance. The p -value for my variables came to .719, which was $> .05$,

indicating there was no statistical significance among the predictors of this model as a whole centered on confidence with technology. In checking the Sig. values of each variable, they were all greater than the p -value of .05 and did not make a statistical contribution to the confidence in technology construct based on race, sex, age, student status, education, or learning style of the participants in this study ($N = 52$). To determine how the individual variables predicted technology confidence, I referenced the beta levels for each variable in the coefficients table (see Table 11). The largest beta coefficient in the model was .234, which came from the Latinx origin variable. This variable made the strongest contribution to student confidence in technology.

Table 13

ANOVA for Confidence With Technology

Model		Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	6.674	7	.953	.641	.719 ^b
	Residual	65.402	44	1.486		
	Total	72.077	51			

^a Dependent variable: CONFTECH. ^b Predictors: (Constant), STUDENTSTAT, RACE, SEX, AGE, LEARNSTYLE1, LATNORGN, EDUC.

Confidence With Multimodal Options. For confidence with multimodal options ($M = 4.12$, $SD = 1.022$) as the dependent variable and race, sex, student status, learning styles, education, gender, and Latinx origin as the independent variables, I analyzed whether these independent variables contributed in any statistically significant way to participants' ($N = 52$) confidence with multimodal options. The Pearson correlation factor illustrated the independent variables showed some degree of correlation to the dependent variable of confidence with multimodal options. With the R -value $> .30$, I tested all the

variables and noted they had a small correlation as they fell below .30 R-value; however, the one variable that showed a value of .303 was Latinx origin, indicating a moderate correlation between this predictor and confidence in composing multimodal assignments (see Table 14).

Table 14

Pearson Correlation for Confidence With Multimodal Options

Item	Sex	Age	Educ	Learnstyle	Latinorgn	Race	Studentstat
ConfMM	-.042	-.038	-.084	-.074	.303	-.181	-.098

To test the collinearity assumption, I used the coefficient table and checked for the tolerance value of each variable, which determines how much the variability of the specified predictor is not explained by other predictor variables in the model. A value < .10 indicates that multiple correlations are high, suggesting multicollinearity. As a result, I would have to omit variables from the equation. In my model, the tolerance levels for each predictor were > .10, suggesting no multicollinearity. All variable values were > .10, ranging from .342 to .923, which meant there was no multicollinearity, and the assumption was tested. To double check, I explored the variance inflation factor or VIF, which must be >10 or else it indicates multicollinearity. The VIF values of my model's predictors all fell < .10, ranging from 1.084 and 2.927, and confirmed the assumption of collinearity had been tested (see Table 15).

Table 15*Coefficients and Beta Levels for Confidence With Multimodal Designs*

Model		Std. error	Beta	Sig.	Tolerance	VIF
1	(Constant)	1.229		2.984		
	SEX	.312	-.081	-.560	.923	1.084
	AGE	.232	-.037	-.154	.342	2.927
	EDUC	.189	-.079	-.333	.344	2.908
	LEARNSTYLE1	.091	-.153	-.994	.809	1.236
	LATNORGN	.459	.340	1.980	.654	1.529
	RACE	.082	-.043	-.227	.543	1.841
	STUDENTSTAT	.161	-.189	-1.245	.833	1.200

^a Dependent variable: CONFMM.

To test the normality assumption, I examined the normal probability chart or the P-P plot. The dots in the P-P plot fell along the straight line with very little deviation, indicating there was no major deviation from normality. For the linearity assumption, I assessed the scatterplot scores, which fell within the center distribution and met the assumption of linearity. Last, I used the scatterplot again to determine whether any outliers or cases had a standardized residual (> 3.3 or < -3.3) along the horizontal base of the scale. The scores in the model met this assumption as well because they fell between the two numbers in the scale. To determine whether the model was statistically significant or how accurate it was in its predictions, I explored the values in the model summary box and found that the R square = .152, which yielded 15% (see Table 16). In other words, 15% of the dependent variables of confidence with multimodal composing

was explained by the demographic variables in the model. In this case, 15% did not explain a lot of the variance, therefore I had to run an ANOVA (see Table 17).

Table 16

Model Summary for Confidence With Multimodal Options

Model	R	R square	Adjusted R square	Std. error
1	.390 ^a	.152	.017	1.014

^a Predictors: (Constant), STUDENTSTAT, RACE, SEX, AGE, LEARNSTYLE1, LATNORGN, EDUC. ^b Dependent variable: CONFMM.

The ANOVA tests whether the model is a statistically significant predictor of the outcome and whether it makes accurate predictions that reflect what would happen in the population (Huck, 2012). ANOVA tests the null hypothesis that multiple R is equal to 0, meaning the model cannot predict an accurate outcome. The Sig. value in my model had a *p*-value of .364 (see Table 17). As it was greater than the *p*-value .05, there was no statistical significance in its predictions that the independent variables of race, sex, student status, learning style, Latinx origin, or age had a unique role in predicting confidence with composing multimodal artifacts.

Table 17

ANOVA for Confidence With Multimodal Options

Model		Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	8.102	7	1.157	1.127	.364 ^b
	Residual	45.206	44	1.027		
	Total	53.308	51			

^a Dependent variable: CONFMM4. ^b Predictors: (Constant), STUDENTSTAT, RACE, SEX, AGE, LEARNSTYLE1, LATNORGN, EDUC.

To determine which of the variables in the model contributed most to the prediction of the outcome, I compared the individual variables according to the beta levels under the standardized coefficients column. The largest beta value was .340, which represented the Latinx origin independent variable. In other words, it made the strongest contribution to explaining the outcome. Student status came in second with a 1.9 beta value and learning style came in third with a .153 beta level. Last, I examined the significance (Sig.) column for the statistical significance of each variable as it contributed to explaining the outcome of the model. If the Sig. value $< .05$, it made a significant unique contribution to the prediction of the outcome, and if it was $> .05$, then the variable did not a unique contribution to the prediction of the outcome. All the independent variables in this model had a Sig. value that was $> .05$, so they did not make a unique statistical significance; however, the Latinx origin Sig. value was .05 and reinforced the finding that the Latinx variable was making a statistically significant and unique contribution to the outcome of the study's predictions when it came to confidence with multimodal assignments (see Table 15).

Social Power. With a dependent variable of social power ($M = 3.75$, $SD = .699$), the next step was to confirm how the independent variables of race, sex, age, student status, Latinx origins, and education contributed to students' ($N = 52$) sense of social power as learners. To determine whether social power showed some correlation to the independent variable, I first had to determine whether the R-value $\geq .30$. In the case of this model, all the predictor variables tested had an R-value $< .30$, indicating a small correlation (see Table 18).

Table 18*Pearson Correlation for Social Power*

Item	Sex	Age	Educ	Learnstyle	Latinorgn	Race	Studentstat
SOCPOW	.028	.171	.096	-.221	.285	-.042	-.026

In checking the collinearity assumption, I first explored the tolerance statistics to determine how much variability of the predictor variables was not explained by the other predictor variables in the model. If $< .10$, the tolerance levels indicate there may be multiple correlations that are high, suggesting multicollinearity. However, the tolerance levels in my social power model were all $> .10$ and ranged from .342 to .923, suggesting no multicollinearity and meeting the collinearity assumption. Inversely, the next assumption I tested was the VIF or the variance inflation factor. As VIF values > 10 are concerning because they indicate multicollinearity, none of the VIF values in my social power model variables were above 10, ranging from 1.084 to 2.927 (see Table 19), and met the second assumption. I tested the normality assumption by using the P-P plot or the normal probability plot to determine where the points fit along the straight line with very little deviation. There were no deviations from normality, and the assumption was also satisfied. To test the linearity assumption, I referred to the scatterplot scores and found them clustered in the center, which met the assumption of normal linearity. In checking for any outliers, I referenced the same scatterplot and identified that the scores were clustered within the 3.3 and -3.3 scale. The results satisfied the assumption that there were no outliers in the social power model.

Table 19*Coefficients and Beta Levels for Social Power*

		Std. error	Beta	Sig.	Tolerance	VIF
1	(Constant)	.811		3.255		
	SEX	.206	-.017	-.120	.923	1.084
	AGE	.153	.301	1.316	.342	2.927
	EDUC	.125	-.123	-.541	.344	2.908
	LEARNSTYLE1	.060	-.324	-2.176	.809	1.236
	LATNORGN	.303	.364	2.199	.654	1.529
	RACE	.054	.103	.566	.543	1.841
	STUDENTSTAT	.106	-.061	-.414	.833	1.200

^a Dependent variable: SOCPOW.

With the assumptions satisfied, I assessed the model summary and checked for the R square to see how much variance the independent variable of social power was predicted by the independent variables related to the student demographics. The R square value for social power was .212 (see Table 20). In other words, 21% of social power was explained by the independent demographic variables.

Table 20*Model Summary for Social Power*

Model	R	R square	Adjusted R square	Std. error
1	.460 ^a	.212	.086	.66837

^a Predictors: (Constant), STUDENTSTAT, RACE, SEX, AGE, LEARNSTYLE1, LATNORGN, EDUC. ^b Dependent variable: SOCPOW.

I then conducted an ANOVA on the model to test for statistical significance. The population's significance (Sig.) level was .137, which meant there was no statistical

significance between the dependent and independent variables as a whole. Therefore, this model could not predict accurately the outcome I expected (see Table 21).

Table 21

ANOVA for Social Power

	Model	Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	5.273	7	.753	1.686	.137 ^b
	Residual	19.656	44	.447		
	Total	24.929	51			

^a Dependent variable: SOCPOW. ^b Predictors: (Constant), STUDENTSTAT, RACE, SEX, AGE, LEARNSTYLE1, LATNORGN, EDUC.

To determine which variable in the model contributed most to the prediction of the outcome, I located the largest beta level under the standardized coefficient in the coefficients table. The largest unique contributing factor was once again the Latinx variable with a beta level of .364. The second largest contributing factor was learning style with a beta level of .32. The third largest contributing factor was age with a beta level of .301. I assessed the statistical significance of each variable's contribution. With a Sig. value < .05, learning style had a *p*-value of .035, which meant it had a unique, statistically significant contribution to social power. The Latinx variable had a *p*-value of .033, which also meant it had a unique statistically significant contribution to social power. For both variables, I rejected the null hypothesis (see Table 21).

Preference Between Traditional Writing and Multimodal Designs. The final construct I analyzed was the study's participants' (*N* = 52) preference between traditional writing and multimodal designs as the dependent variable (*M* = 2.23, *SD* = .670) with the demographic variables to determine whether there were any correlations. I conducted the

Pearson correlation test in which the R value $> .30$. All the independent variables in the model were $< .30$, which indicated a very small correlation between the variables and preferences in writing versus multimodal options (see Table 22).

Table 22

Pearson Correlation for Preferences

Item	Sex	Age	Educ	Learnstyle	Latinorgn	Race	Studentstat
PREF	1.67	2.35	2.77	2.94	1.83	3.52	1.65

In testing for the model's collinearity diagnostics assumption, I surveyed the tolerance statistics values that indicated how much of the variability was not explained by the other variables in the model. As the tolerance values needed to be $< .10$ and all the variables in my model had a tolerance level $< .10$, I concluded that my model did not have multicollinearity and met the collinearity assumption. The variance inflation factor confirmed collinearity. VIF values > 10 suggest multicollinearity, but my data confirmed that the VIF values of my independent variables were < 10 , ranging from 1.084 to 2.927. The assumption of collinearity was met (see Table 23). The next assumption to test was normality through the P-P plot scores from the assigned variables, which ran along the straight line with few deviations. There were no major deviations from normality. The scatterplot indicated no rectangular distribution in which the scores remained clustered in the center and met the linearity assumption. The final assumption was to check for outliers using the same scatterplot. The value scores remained within $+3.3$ and -3.3 scale, indicating a lack of outliers skewing the data.

Table 23*Coefficients and Beta Levels for Preferences*

		Std. error	Beta	Sig.	Tolerance	VIF
1	(Constant)	.822		2.875		
	SEX	.209	.010	.067	.923	1.084
	AGE	.155	-.044	-.184	.342	2.927
	EDUC	.127	-.239	-.992	.344	2.908
	LEARNSTYLE1	.061	.257	1.634	.809	1.236
	LATNORGN	.307	-.018	-.103	.654	1.529
	RACE	.055	.185	.961	.543	1.841
	STUDENTSTAT	.107	-.139	-.898	.833	1.200

To determine how effective the model was in accurately predicting the expected outcomes between the dependent variable of preference for traditional text and multimodal designs and the independent variables related to demographics, I conducted a Pearson correlations analysis. The R square of the model was .118. The true predictive variables only explained 11.8% of the preferences students made between multimodal and traditional text-based composing (see Table 24). This was a very small correlation.

Table 24*Model Summary for Preferences*

Model	R	R square	Adjusted R square	Std. error
1	.343 ^a	.118	-.022	.67809

^a Predictors: (Constant), STUDENTSTAT, RACE, SEX, AGE, LEARNSTYLE1, LATNORGN, EDUC. ^b Dependent variable: PREF.

In running the ANOVA, I examined whether there was statistical significance between the dependent and independent variables. In this test, if $R = 0$, then this model

cannot predict an accurate outcome; if a p -value is $< .05$, there is statistical significance and the model does a good job of predicting outcomes not dependent on chance. The significance (Sig.) level of my model was .560 and greater than the p -value of .05. The results were not statistically significant, indicating strong evidence that the null hypothesis failed to be rejected. In other words, the results were not significant and occurred through chance (see Table 25).

Table 25

ANOVA for Preferences

Model		Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	2.706	7	.387	.841	.560 ^b
	Residual	20.232	44	.460		
	Total	22.938	51			

a Dependent variable: PEF. b Predictors: (Constant), STUDENTSTAT, RACE, SEX, AGE, LEARNSTYLE1, LATNORGN, EDUC.

Last, I evaluated each independent variable to determine which variables contributed most to the expected outcomes. The beta levels under the standardized coefficients in the coefficients table indicated education yielded the second greatest contribution with a beta level of $-.239$ with the largest contribution being attributed to learning style with a beta level of $.257$. Learning style, therefore, made the strongest contribution in predicting the expected outcome (see Table 23). I also examined the statistically significant (Sig.) unique values of each independent variable in the same coefficients table to determine whether one variable stood out more than another. The significance levels for each of the dependent variables in the model were $> .05$, indicating

they did not make a unique statistical significance in the outcome and no effect was observed. Therefore, I rejected the null hypothesis.

Summary. In summary, although there was very little statistical significance between the demographic information and the dependent variables chosen for comparison through the multiple linear regressions, the beta levels of individual independent demographic variables demonstrated clear distinctions. For example, Latinx origin and learning style were the two variables that showed strong predictions over student choices when it came to their preferences over traditional writing and multimodal designs. These two variables also determined a strong correlation when it came to social power, which is central to critical pedagogy (Mills, 2016; Unrau & Alvermann, 2013) as it relates to student agency and autonomy derived from being given choices in learning practices and multimodal composing.

Qualitative Data Analysis

Research Question 2

What are the reasons that students in an online community college course opt to complete multimodal or print-based assignments?

Explanation

For the qualitative strand of the sequential mixed methods approach to my study, I included two types of qualitative methods: open ended questions that were part of the survey and a focus group session with five participants. I applied both qualitative approaches to explain the quantitative results from the survey presented above.

Instruments and Data

In the survey, I included nine open ended questions related to student perceptions of traditionally written texts versus multimodal designs. The most salient themes included (a) lack of confidence or experience with multimodal designing; (b) lack of criteria/guidelines/models of multimodal designs that would aid students in reproducing them; (c) fear of not meeting the requirements, which would affect their grade; (d) multimodal composing was too time-consuming; and (e) traditional writing was most common in academic environments and students were conditioned to institutional writing practices (Blake, 1997; Cortiana, 2017; Muhammad & Haddix, 2016; Price-Dennis, 2016). In addition, the focus group was centered on addressing the qualitative research question. The questions asked during the recorded Zoom meeting were semi-structured and directive (Rabionet, 2011), which enabled students to expand on their statements without interruption from me. In addition to video and audio recordings, I also took notes for any salient comments made by the participants.

Applying a thematic approach to the coding, categorizing, and theme-determining process of the qualitative data I collected from participant responses, after reviewing the transcripts, video, and audio recordings of the focus group interview, I observed recurring themes about student perceptions of multimodal and linguistically based practices. The following is an overview of the four categories I determined to apply the responses from the interview questions for the qualitative strand of the explanatory sequential mixed methods design of my study as they aligned with the quantitative findings and corresponded to the open ended questions: (a) multimodal practices affordances and challenges, and (b) traditional writing practices affordances and challenges.

Affordances of Multimodal Practices

Created Online Community. Each participant in the interview conveyed that multimodal options in a writing and online classroom is a practice that should “be given to all students and in every course. It’s an opportunity that we should all have access to” (Participant B). Participant B added that “visual learners, like myself, would prefer more opportunities to design multimodal work.” All five respondents agreed that when they did create a multimodal design, “it was worth it.” They felt challenged and respected for their creativity and individuality by their instructor and their peers and felt “connected to their classmates.” Participant C stated, “Everyone was going for video and that is a little counter what I’ve ever done before, but from watching other students’ perspectives and faces and hearing their voices, I really enjoy that kind of connection with my classmates.” Similarly, Participant D, who claimed that multimodal designing was in line with her strengths and how she enjoyed learning and expressing herself, agreed that “watching other people’s videos provided a community in an online classroom.” Comparatively, Gonzales and Gonzalez Ybarra (2020) emphasized the importance of forming a strong sense of community among multimodal learners. They adhered to the notion of a positive learning community by positing multimodal activities for young Latinx girls in an after-school program. When given the opportunity to create and share “cultural artifacts” (Lohani, 2019) with peers, designers of ideas and content feel empowered and connected to one another and to their learning. A community of trust is forged, and although community was not a construct in my survey or the quantitative strand of my study, being part of a study their instructor was putting together that required their service and perspectives did form a community among the learners in my online courses. This sense

of community among my students was also evident in the multimodal designs they created and conversing with and debating ideas with each other in an online community through video and audio recordings, posters, artwork, and poems they wrote in response to the assignments. It would be an interesting and fresh perspective to study such learning communities among online learners in future research.

Creativity and Individuality. Participant E pointed out that “the opportunity to draw and create comic strips in response to reading literature, and then being graded on my artistic expression, was refreshing and fun. I was getting instant gratification.”

Similarly, Participant E echoed the pride that comes with self-expression and authorship (Archer, 2010) by professing that “it gave me the opportunity to turn in something I was proud of. More teachers should give us the freedom to be creative if we choose to.”

“Impostor syndrome” is a phrase students used in the focus group that made this conversation telling and interesting. Working with computers but submitting only a video introduction during the first week of the semester, Participant A revealed this about herself in relation to creativity:

I kept telling myself I’m not creative enough to do this. I can’t draw. I can’t find the pictures to tell the story. And boy, it really gives a little perspective on the world and how it pulls creativity out of you as you get older.

Participant C brought up preschool and elementary school in response: “Think about our early education. It was all creativity. All we did was draw and express ourselves with pictures and images. All of that disappears when we get to middle school and high school.” Deepening the issue of education and its erasure of creativity, Participant E brought up Montessori schools and how she wished she had gone to one of them because

“I would love to be pouring water and just learning about physics that way. Instead of writing a whole two-page paper about it.” Nodding in agreement, Participant B revealed she also “talked myself out of a lot of the creative options, like the web cartoon, because it was an easier option to be less creative.” The creativity and thoughtfulness that reside in the kind of learning process and expression that combines academic word and creativity was expressed by Participant D when she claimed,

I think it’s beautiful. It’s beautiful to bring both sides (the right brain and the left brain) together like that. It kind of forces us to reconceptualize what learning is and how it should be. It made me question if a subject like science, for example, wasn’t creative. What if it was just differently creative?

By reaching this conclusion, the participant was expressing the views of Li et al. (2015), who purported that the emerging and innovative ideas and inclusion of new literacies and technologies is transformative teaching and learning, penning them as “seeds of change” (p. 5).

Supported Different Types of Learners. Learning style was a notable factor that developed from the quantitative strand of my study when I explored its relation to the student preferences. Learning style was a strong predictor of the preferences students made in a classroom that offered options and the freedom to choose how to express mastery of content in a way that most aligned with their learning strengths and proclivities (Law Bohannon, 2015; Papadopoulou et al., 2018). Out of 45 of the survey respondents, 24% appreciated having the option and 22% liked that the practice accommodated different learners, whereas 31% felt multimodal practices allowed them to express their views differently and according to their individual learning styles (Albro &

Turner, 2019; Cappello & Lafferty, 2015; Ghiso & Low, 2013; Wiseman et al., 2017). It is significant to note the learning styles among the respondents of my survey as 20 of them identified as visual learners and 19 identified as kinesthetic (see Table 26 for breakdown of learning styles). The numbers confirm the quantitative findings within the high beta values of learning style as having a significant prediction level to individual student preferences, which also intersects with the qualitative data and the literature on multiple modes of learning and how they are connected to the learning styles of students (Law Bohannon, 2015; Papadopoulou et al., 2018).

Table 26

Learning Style Breakdown From Quantitative Data

Learning style	Percent	<i>N</i>
Visual (I learn best by watching/observing)	36.36%	20
Auditory (I learn best by listening)	7.27%	4
Verbal (I learn best by talking it out)	5.45% 3	19
Kinesthetic (I am a hands-on learner)	34.55%	19
Reading and writing (I learn best by reading and writing)	9.09%	5
Other	7.27%	4

Similarly, all five participants observed that their decisions in how they produced their knowledge depended greatly on their individual preferences as learners (Leu et al., 2013; Leu & Forzano, 2012; Marsh, 2011; Swenson et al., 2006). Each of the five participants in the focus group interview conveyed that multimodal options in a writing and online classroom was a practice all students should all have access to, no matter their race, age, or learning affinities. Participant A noted “my children are neurodivergent,” adding that their learning experiences would not have been as fraught with difficulties

and challenges had their teachers offered these types of learning practices to them. Additionally, Participant E identified as a “visual learner [who would] prefer more opportunities to design multimodal work” in her learning. Finally, Participant E expressed a desire for more multimodal options across the curriculum because they “offer community, individuality, and allow us to express ourselves.” The participants’ responses supported the findings of the quantitative data collected on learning style and how it influenced the engagement and motivation of those students who considered themselves to be creative.

Connected and Engaged to Course Content. Much like the findings in the research by Kesler (2011) and Rogers et al. (2007), Participant A reported that multimodal options “help us relate to the material better . . . makes us more engaged in the class and the content.” From the open ended survey respondents ($n = 36$), 42% admitted that the option of multimodal designing in an online classroom made online learning more enjoyable and fun, more engaging (28%), and got them excited about doing the work (22%; Silvernail & Gritter, 2007; Wolsey & Grisham, 2007). A focus group participant (Participant D) who wanted to try out creating podcasts in my course had prior experiences with multimodal learning from her biology course and the webcomic she created to explain the correlation between race and DNA. Coinciding with Gutiérrez et al.’s (1999) notion of multimodal practices as a form of “hybridity” (p. 268), Participant E commented that students should be “allowed to create their own [hybrid] versions of multimodal assignments with a varied and wider range based on individual skill set.” The potential for such hybrid undertakings is immense. Evidence for this was provided by Participant B, who “felt more connected to the content” and material of the

course when she approached her assignments from a multimodal perspective. Because she used a good deal of audio clips in her multimodal designs, she said it “forced her to learn more about the topic in order to talk about it” to her peers. Likewise, Participant C agreed that in spending a lot of time on YouTube to learn how to create multimodal designs, she also “used the time to delve deeper into the material for the course.”

Participants noted having a choice afforded them the freedom to express their mastery of content in their own individual way. They appreciated having the choice to write or to draw or to combine medias that reflected their learning (K. T. Anderson et al., 2017).

Participant B found she was “more confident creating multimodal designs over writing even though I’m a good writer.” Participant D “felt better about ‘how’ I was learning because writing became a choice, not a requirement. If I felt like writing, I could. But if I wanted to create something else, I could do that also. It was very freeing.”

Critical Thinking Skills. In creating multimodal designs, Participant D affirmed that she “had to put her thinking cap on” because there were a lot of choices to be made when conceptualizing the best way to design the response, drafting and editing the script, and then publishing the material. Out of 24 survey respondents, 21% stated technology can be more efficient for work and learning, with Participant A admitting she rehearsed her speeches and mannerisms multiple times “just so that I could not trip up on pronunciation and stuff like that.” Multimodal composing challenged Participant C to think about pronunciation as well, especially as she had “trouble rolling her r’s.” In comparing multimodal practices to linear writing practices, Participant B said she had to think more about what she was writing than what she was composing with a multimodal approach:

When I'm writing, I don't really think about it. I just write and hope that I'm answering all the questions. But with the multimodal assignments, I actually had to think more about the material, the mode I was using, how it translated to the material itself, and that I was answering the questions and wasn't confusing anyone.

The student observations aptly echoed the findings of Papadopoulou et al. (2018), who addressed the complex and critical choices students make when they choose which modes should be applied to express their knowledge. Designing multimodal tasks is not easy work to undertake as it takes a lot of time and consideration not only to learn the technical skills required for such compositions but also to determine how students want to express their knowledge in a way that makes their work translatable and impactful to the audience.

Challenges of Multimodal Practices

Table 27 offers some of the explanations from the quantitative data collected that reveal the recurring themes among participants from both the quantitative and qualitative data to support reasons for not choosing multimodal options over traditional text-based ones. The themes derived from both the quantitative and qualitative data also reflect the literature noted in this study on why students opt for traditional writing compositions even when they are given the options to be more multimodal in their learning designs.

Table 27*Quantitative Data for Reasons Student Did Not Choose Multimodal Options*

Reasons	Percent
Not enough time to figure it all out	19.30%
Not enough resources or models to help me choose	5.26%
I prefer writing out my answers	28.07%
I am a stronger writer than media creator	21.05%
Too time-consuming/confusing	10.53%
Unsure of the grading criteria and I didn't want to gamble with my grades	7.02%
Other	8.77%
Total	100%

Insecurity With Grading and Criteria. Lack of criteria, models, or guidelines that could have made them feel more confident in attempting multimodal designing was a prevailing factor noted in both the quantitative and qualitative results as well as the extant literature on multimodal practices (Adsanatham et al., 2013; Gordon et al., 2019; Silseth & Gilje, 2019). Twenty-six percent of the respondents ($n = 43$) from the open ended survey noted a lack of confidence in using multimodal designs. In addition, the second highest percentage of students (19%) were afraid of risking their grades (Gordon et al., 2019) by choosing multimodal options over constructing traditional text-based responses. Of the respondents, 14% noted a concern with lack of guidelines/criteria/models (Silseth & Gilje, 2019). For example, Participant A clarified that she was not always sure she was answering all the required questions in her multimodal designs and commented that “sometimes, the paper feels clear on what’s expected.” For students who are concerned

with their grades over self-expression, it is critical to include models, criteria, and a grading rubric to help them determine how multimodal assignments will be graded in comparison to the traditional writing work they submit (Godhe, 2013; Jewitt, 2003; Silseth & Gilje, 2019). Similarly, Participant A added “some examples could have helped me feel more encouraged to try something other than writing out my work.” A need for models and examples from other students returned to the conversation when Participant C admitted to waiting until she saw other students’ multimodal work before submitting hers: “I would see how they did it and how much they’re interacting with each other. And then I sort of gained my confidence from other people’s submissions.” The results from the survey questions also showed that out of 38 respondents, 21% needed more models and criteria to be induced to attempt multimodal practices.

Social anxiety can impede different types of learners from attempting new learning experiences, such as multimodal practices. Anxiety presented a barrier for a few of the participants when it came to putting themselves out there, whether it was exposing their voices, their faces, their artwork, or their ideas. “Vulnerability” was a term the participants repeated throughout the discussion because they felt that through video or audio or comics or drawings, they were exposing themselves to ridicule from others. This response not only came from the young female participants but also from the one adult female in the focus group who was an Information Technologist and worked with computers every day. Because of social anxiety (Alexander et al., 2011), their motivation to attempt multimodal compositions either led to procrastination (as with Participant C) or refusal to produce anything other than traditionally written texts (as with Participant A). Interestingly, Participant B added that “if multimodal work is required, as opposed to

optional, then it can feel just as stressful for me as a written assignment.” In agreement, Participant D revealed it was the optional part of the multimodal assignments that induced her to create some of her comics for our course. However, it should also be mentioned that in the open ended questions of the survey, 24% of the respondents admitted they would have approached more multimodal assignments if they had been required. In the end, such decisions are dependent on individual expectations and needs of teachers and students as they work together to create learning environments in which all types of students thrive in their learning.

Too Much Work, Time, and Effort. The same four respondents who referred to multimodal options as scary and anxiety-ridden also considered the act of creating multimodal designs as time-consuming and a lot of work. The respondents used modes such as PowerPoint slides with audio/video and text, audio, and video. They addressed frustration in having to create, delete, and recreate their work a few times before it was ready to be made public to the rest of the class; it also took a lot of time to write out their responses and then copy them onto the slides or record them via video and audio. For instance, Participant B articulated her conundrum, resolving that “writing it out would have taken me less time . . . It’s just easier to write it out.” Concurrently, even though Participants D and E found multimodal practices “super helpful,” Participant D commented that “getting videos to upload was the only hurdle I experienced.” Another participant asked for fewer choices, “as having too many choices [with which to construct meaning] made me anxious. Choosing the wrong mode on the wrong assignment stressed me out.” Intersecting with the quantitative data, students were asked how often they took advantage of multimodal options in the course. Although 69.3% said they did take

advantage of them and 30.7% said they did not, the data revealed students took advantage of the multimodal options only when they were required; these facts are consistent with the literature and qualitative data collected from the interview as well (see Table 28 for the frequency of multimodal utilization among survey participants).

Table 28

Frequency of Multimodal Utilization From Quantitative Data

Frequency	Percent	<i>N</i>
Often	10%	5
Never	25%	13
Only when it was required	30%	16
A few times	35%	18
Total	100%	52

Lack of Experience With Multimodal Technologies. For four respondents, the words used to describe the experience of being offered multimodal options were “terrifying” and “jarring.” As an older student in her 50s, for Participant C, this was the first time such modes of expression were offered to her in her learning, which was intimidating for her even though she worked in IT: “It was brand new for me. Maybe seeing some examples would have helped me feel more comfortable in creating using technology.” Participant B, who noted anxiety when offered too many choices, revealed that she lost confidence with technology: “So one thing I found when I tried to submit, like audio clips, is that if it didn’t work, I found myself getting really frustrated and then I like kind of gave up on it.” Similarly, Participant D referred to the process of drawing, writing, and editing her multimodal designs as “jumping through a lot of hoops . . . I not only had to learn about the course material, I was also learning more about how to use technology.” The qualitative findings support the quantitative data, which revealed a little

more than half of the respondents in the survey had prior knowledge of or experience with multimodal composing (see Table 29).

Table 29

Survey Question About Having Prior Experience With Multimodal Options

Answer	Percent	<i>N</i>
No	61.5	32
Yes	38.5	20
Total	100%	52

Affordances of Traditional Writing Practices

Academic Rigor. Identifying traditional writing as “institutionalized” was an observation also reflected in the research by Cortiana (2017), who argued that “non-institutional writing” (p. 68) afforded students the kind of freedom they needed and desired to present their ideas in their ways—not in traditional ways that require self-erasure and conformity not only of language but also of individuality (Falchi et al., 2014). Participant D referred to traditional writing as “demoralizing,” articulating the beauty that can be derived from combining academic rigor and creativity as she did with her biology webcomic project on race and DNA. The realization of multimodal practices and their potential is perhaps the most valuable and significant finding in my study as it pertains to the respondents’ observations. How students understood academic rigor as a requirement for traditional written expressions in school assignments explained 26% of 35 open ended survey respondents who chose to write their work out (Adsanatham et al., 2013; Alexander et al., 2011; Stowe, 2012). What they have come to expect as academic rigor explained much of the lack of statistical significance between any of the individual

demographics of the study's participants in relation to composing traditionally based texts even when given the option to try something new.

Conditioned to Write. Of the open ended survey respondents ($n = 49$), 43% chose to write out their assignments over attempting multimodal practices. Out of the 45 respondents asked whether they did use multimodal designing, 33% noted they did not use multimodal practices during the semester at all. When asked why they did not participate in multimodal composing when given the option, out of 27 respondents, 48% admitted that multimodal options required too much time and effort and 37% said it was easier and faster to write out their responses to the online assignments than attempt multimodal designs. Student anxiety with trying new approaches to expressing knowledge was conveyed by 19% of the respondents. When it came to the preferences question on the open ended survey, 17% of 24 respondents admitted a strong preference for writing over multimodal options. Some of the reasons for this preference included that it is easier and faster to write, they are used to writing, and they are more confident in the grades they will receive as writers as opposed to multimodal designers.

Challenges of Traditional Writing Practices

Writing “Burnout”. Participants D and E were both young college students who felt represented by the multimodal options because of their age, race, and creativity. Both self-identified as artists who felt “burned out by academics” and writing. Additionally, Participant B found the process of presenting her ideas through multiple modes each week helpful because “writing took too long, especially when I had to edit my writing again and again.” Stress with writing was also a major concern for Participant C, who expressed insecurities with writing out her responses because “English is not my first

language and I always receive poor grades for grammar. Writing is stressful for me, so having options to express my ideas multimodally was helpful to me.” In alignment with the rigid standards of traditional writing, Participant C also agreed, saying writing all the time and for every course “is a tiresome activity. This would help so many of us who aren’t strong writers.”

Rigid Standards for Writing. Trying something different, especially in writing-intensive college courses, was a risk quite a few of the respondents were not willing to take. Cortiana (2017) found students have been conditioned to express their knowledge in “institutionalized” forms of writing, so multimodal composing is not something they will choose unless forced because it is not perceived as “academic” language (p. 73). The struggle students have in determining whether their work is academic enough or not, especially as multimodal practices are engendered into their learning, was expressed by Participant D while composing her web comic project: “I realized that even when I was trying to be creative, I was actually thinking in the opposite way. I was trying to be a more normal academic.”

Erasure of Identity and Individuality. Interestingly, all the participants expressed the erasure of self and individuality in standardized writing (Falchi et al., 2014) that multimodal designs welcomed and afforded to students. For example, Participant B noted “writing has a professional standard and has to be perfect, but when I created audio files, I was able to articulate my ideas without editing myself. I felt like I could really just be myself.” Nodding in agreement, Participant A commented that when designing multimodal assignments, she could also be “silly and make jokes, which you can’t do in academic writing.” Participant D agreed, noting “tone and inflection come out in

multimodal assignments, like with seeing people's facial expressions in videos, but they do not translate in academic writing.”

Merging Qualitative and Quantitative Data

In my study on multimodal versus linear writing practices in online community college courses steeped in traditional and academic writing, I applied two research methods, quantitative and qualitative, to collect and analyze data.

First, the results of the quantitative and qualitative analyses affirmed that the data are connected to the extant literature on both practices. Research Question 1 related to the factors that may have predicted student preferences between multimodal and traditionally text-based practices. These factors included social power, preferences, enjoyment, creativity, and confidence as they each related to multimodal and linguistically based writing practices offered to students. Although the quantitative data showed no statistically significant correlation between these five constructs and the demographics, when I focused on the individual beta levels of each demographic in relation to the constructs, there were a few strong predictors that resulted from the quantitative data. Learning style and Latinx origin were the two factors that bore a strong correlation to preferences, confidence, and social power. In a dissertation study centered in a critical pedagogical framework, these two predictors, one of individual learning styles and one of an ethnic background, serve to offer some new information and perspectives to add to the extant literature on multimodal practices, linguistically based practices, and how they contribute to the learning of students marginalized because of their ethnicity or different learning styles.

Second, the focus group interviews added oral perspectives to learning style, as all the participants enjoyed and took advantage of the multimodal options because they appealed to their visual or creative learning styles. However, as there was only one Latinx student in the focus group who cannot be used to speak for the various groups of the Latinx communities, the focus group discussions did not extend the conversation into the 17% of Latinx students who completed the survey and course or shed light on their perspectives even though this demographic was presented as a strong predictor for many of my study's dependent variables. The focus group discussions did lend themselves well to demonstrating how multimodal and traditional writing practices, when offered as options in intensive-writing college courses, make students feel seen, heard, and considered for their differences, which should be perceived as an advantage and never as disadvantageous in any learning environment, whether it is among K-12 grades or at the college level.

Third, through the literature review, the survey, and the focus group, I verified the qualitative data by comparing them to the quantitative data themes I extracted from the transcribed interviews. I used Research Question 2 to explore the attitudes of the students when given the option of choosing between multimodal and traditionally text-based writing practices. The core themes developed from the participant responses aligned with the quantitative factors shown in Table 30. The collective beliefs and responses of the survey and focus group participant perspectives confirmed the extant literature on multimodal practices when compared to that of institutionalized writing practices and their impact on marginalized students as well as those with diverging learning and creativity styles. My study's results are confirmed by the work of Blake (1997) who

argued in her book that “traditional student responses are grounded in society’s assumptions, inequities, and limits” (p. 110). Multimodal practices integrated into all levels of institutionalized learning practices will expand our understanding of teaching, learning, and student potential no matter the diverse backgrounds of our students.

Table 30

Comparison of Quantitative Factors and Qualitative Themes

Quantitative factors	Qualitative themes
Preferences	Access for all students Dependent on the type of assignment Easy and effortless mode
Enjoyment	Fun, new, and interesting Dependent on Learning Style
Confidence	Learned new technology Lacked skills in digital tools Too stressful to try something new
Creativity	Allows for individuality Allows for self-expression
Social power	Created community among peers Felt seen and heard

Summary

To determine community college student perceptions between their preferences in composing multimodal designs versus traditionally written texts, I used an explanatory sequential mixed methods design to explore the following research questions:

Research Question 1: What are the attitudes of community college students toward academic writing and multimodal composition?

Research Question 2: What are the reasons students in an online community college course opt to complete multimodal or print-based assignments?

Though the quantitative data did not offer any statistically significant correlations between the independent variables of race, Latinx origin, age, student status, learning style, or sex and each of the dependent variables or constructs presented in my survey via a multiple regression analysis, there were some interesting observations when I examined the beta levels of each independent variable in relation to a few dependent variables. For example, the Latinx origin independent variable was a strong predictor for four out of the five variables I tested through a multiple linear regression analysis: confidence with multimodal designs, confidence with technology, confidence with writing, and social power. In other words, the Latinx background of my students strongly contributed to their confidence with technology, confidence with writing, confidence with the use of multimodal options, and their sense of social power in relation to a course that offered options in designing their responses to course content. This is an important finding for a study centered on a critical pedagogical framework designed to explain how students are represented in their learning and how a learning environment can be used to embrace their difference, which should be perceived as a gift and not a hurdle (Siegel, 2012). Such treatment of student differences can be impactful to their learning and their sense of social power (Paul, 2016; Price-Dennis, 2016). It is also interesting because much of the literature review centered on this study and in multimodal research is focused on Latinx students and how multimodal practices afford them opportunities to speak in their authentic voices (Blake, 1997; Gonzales & Gonzalez Ybarra, 2020; Ohito, 2020; Tan et al., 2020).

To argue that the Latinx origin construct and identities of my students felt seen and represented because of the options offered in my courses is making an assumption that may not be accurate; the group's confidence in writing, technology, multimodal practices, and social power may in fact have nothing to do with my course and the multimodal options I offered and everything to do with other factors, like the prevalence of technology in their private lives and their prior experience with multimodality. It could be that they are today's digital natives that Prensky (2001) identified as the new generation of students in the nation's classrooms.

The most noteworthy results emerged from the open ended questions in the survey and the focus group conducted as they allowed the participants to voice their attitudes toward multimodal versus more linear writing practices as they had experienced them. A recurring theme from the discussions and the open ended questions that also reflected the quantitative strand of my study was a refusal on the part of students to engage in multimodal practices out of fear, anxiety, and lack of efficiency. Apprehension presented itself among many students when they were unsure of the criteria or grading requirements of multimodal assignments. Although many found the choices fun and interesting, many of the respondents stayed away from the multimodal tasks out of fear of not meeting the criteria and getting a poor grade on the assignment (Cortiana, 2017; Gordon et al., 2019). Students also feared they would not be able to transfer their knowledge into a multimodal design as easily or as clearly as they would with a traditional and linear writing response. Of the survey participants, 33% claimed they did not attempt any multimodal practices during the 16-week course and 37% admitted it was easier and faster to write out their responses each week.

Despite the interactive and exploratory nature of technology (Marsh, 2011) and the digital natives (Prensky, 2001) in our learning environments, there is still a resistance among students, especially in college-level courses, to pursue multimodal practices (Gordon et al., 2019). The main reason for this resistance, as it related to my study, rests largely on the fact that it was more efficient to rely on what they already knew and how they had already been trained to participate in their learning as students: through academic and traditional, linear written form. A secondary reason had much to do with the lack of criteria and models presented by the instructor for multimodal practices. Overall, responses from the open ended survey questions paralleled the extant research on multimodal practices in comparison to linguistically based traditional writing and student interest (Darvin, 2015; O'Halloran et al., 2017). Multimodal practices offer engaging opportunities, especially for online learning, and meet the needs of students with creative and different learning styles; however, students on the college level have already been conditioned to writing out their responses and do not have the time or patience to try something new, or more importantly, a new approach that will possibly affect their grades in a negative way (Black, 2015; Cope & Kalantzis, 2013; Silseth & Gilje, 2019). In relation to this issue of new learning approaches, the overriding theme is that students need more guidance in terms of multimodal criteria, models, and specific instructions to participate in them, especially if they count toward their final grade (Godhe, 2013).

With the multimodal revolution prevailing in the classroom, it becomes incumbent on educators and researchers to examine the processes involved in multimodal assignments because of the complex nature of these compositions (Black, 2015; Cope &

Kalantzis, 2013; Silseth & Gilje, 2019). Models and criteria for multimodal compositions will benefit students who need clear criteria with which to learn and produce multimodal assignments without negative consequences (Godhe, 2013; Jewitt, 2003). For example, Aagaard and Lund (2013) confirmed that to incentivize students to compose multimodal designs, teachers must treat multimodal texts in the same way they would treat traditional papers. Just as we provide criteria, models, and grading rubrics for traditional papers, we must provide the same information for multimodal compositions. Lack of criteria, instructions, and models were noted by 53% of the respondents in my study as reasons they did not feel induced or confident enough to pursue multimodal practices throughout the semester. Silseth and Gilje (2019) purported that “these practices shape what students see as valuable to learn and . . . recognize a specific way of participating as more valid than others” (p. 28). Their findings showed that not treating multimodal designs the same as traditional papers will result in students not choosing to commit to the work and effort it takes to compose multimodal texts over traditional ones for which the criteria and instructions are clear and directive (Silseth & Gilje, 2019).

It is important then to introduce models, clear instructions, and criteria for assessment for both traditional papers and multimodal designs that are clear about which criteria need to be demonstrated for success with the respective assignment. Establishing criteria based on multimodal assignments may be one of the reasons students find themselves anxious about producing them over traditional papers. Traditional papers are definitive and familiar (Gordon et al., 2019). The rules are laid out clearly and quite often rubrics and models are attached to the assignments. More scholarship needs to address assessing multimedia compositions so students will be more confident in choosing and

composing new media through which to argue, synthesize, and support their ideas multimodally as they do in traditional papers (Adsanatham et al., 2013; Gordon et al., 2019; Silseth & Gilje, 2019).

CHAPTER 5: DISCUSSION

In this dissertation study, I examined community college students' perceptions as they related to constructing multimodal versus traditionally linear written assignments. The participants of my study consisted of 52 students who completed a survey and five students who volunteered for a focus group interview held via Zoom. To answer my research questions, I applied a sequential mixed methods approach to collect quantitative data followed by qualitative data that qualified the numerical data established by the respondents' participation in both.

An important factor that developed from the open ended questions and the focus group interview was the need for models, instructions, and criteria (I. L. Clark, 2015; Purcell et al., 2013) to make students feel more comfortable with using multimodal practices in their learning on the college level. Many students addressed that multimodal composing was a new concept for them, and neither traditional (high school and college-aged) nor nontraditional (older, parents, military, working adults) students had been exposed to this kind of choice in how they expressed their knowledge. Only one student from the focus group, Participant D, had prior experience creating a comic web project about DNA and its relation to African Americans for a biology course at our community college. Even though today's students are often thought to be digital natives (Prensky, 2001) who are exposed to digital tools and social media (Stewart, 2015) at home and in schools, such exposure is not prevalent at the community college used as the site for my study. A few students agreed in the open ended questions that they wished more teachers approached learning in this manner, making room and offering opportunities for individuality, different learning styles, and self-expression in both high school and

college-level courses. The fact that one student identified traditional writing as “demoralizing” warrants further attention to the colonization of language (Blake, 1997; Riggins, 1997) and writing that excludes and punishes those for whom English is a second language or who identify as weak writers. The notion of replacing major research papers with web comic designs, as Participant D’s biology teacher offered her students, is not new, but may be rare as it was for the participants of this study at my community college.

A noteworthy finding from the quantitative strand of my study came from the role of the independent variable, Latinx origin, and its strength as a predictor of the dependent constructs of confidence in writing, confidence in technology, confidence in multimodal work, and social power. Significantly, such a prediction model was not addressed in the extant literature on multimodal composing as it related to traditional writing practices in community college settings. The Latinx demographics of the study participants comprised only 17%. As my study was grounded in critical theory and how multimodal composing can be an equitable practice for traditionally marginalized students, this was an interesting finding that will enable future opportunities to add to the extant literature on multimodal practices among Latinx students (Capello et al., 2019; Gonzales & Gonzalez Ybarra, 2020; Gutiérrez et al., 1999; Haddix & Sealy-Ruiz, 2012).

Implications

Implications for 21st Century Teachers

Implementing digital composing in any classroom does not mean traditional writing practices and their affordances should be replaced or supplanted (Leu et al., 2013; McVee et al., 2008). Digital tools serve as engaging and powerful tools that allow

teachers to tap into students' interests, embolden their voices, empower them to act as designers and composers with authorial agency, and expand their critical thinking skills (Edwards-Groves, 2011; Haddix & Sealy-Ruiz, 2012; O'Byrne, 2014). Therefore, digital tools need to be used in moderation and not as a "panacea" (Stewart, 2015, p. 494) that solves all educational problems or ailments. In affording students digital tools to express their agency through multimodal compositions, it is equally critical that the content of the course is not decentered from the primary focus of learning. Another way of looking at the relationship between teachers and students in a classroom centered on new technological literacies in the process of academic writing is that the relationship should be collaborative wherein students and teachers learn from one another (Edwards-Groves, 2011).

To make classroom learning more meaningful to students, educators must "reconstruct and renegotiate [their] notions of text" (O'Byrne, 2014, p. 104) to allow room for the technological skills and potential that will be required of students when they enter web-centered and literate workforces evolving globally and at major speed. Literacies that include technological advances continually evolve because of the social and cultural changes of a given society (Archer, 2010; Leu et al., 2013); therefore, educators, policymakers, and others in the field of education must adapt to these changes by refining and redefining literacies and how they play out in the practice of teaching (Stewart, 2015).

Implications for Writing Pedagogy

In order to offer multimodal practices to students to help them succeed in writing courses, teachers need to learn principles of design related to specific modes applied to

multimodal authoring (Archer, 2010; Chandler, 2017; Myhill et al., 2012). Rowsell and Decoste (2012) particularly noted in their study that isolating modes in a classroom is quite helpful in that the isolation illuminates the potential and limitations of each mode; however, teachers' lack of knowledge of the technical side of modes like sound and moving image stands as a barrier to students' success when composing multimodal ensembles. Therefore, the teaching of writing as a field needs to be informed on how each mode functions so that when educators offer these modes for construction to their students, they are knowledgeable enough to teach not only writing but also the technical skills required for multimodal compositions (Rowsell & Decoste, 2012).

Professional development for teachers is critical in the implementation of multimodal and digital practices in the classroom as they are the ones who design, execute, and assess student learning and multimodal composition expectations. To decenter the teacher so students are given the freedom to self-express through their multimodal compositions and to self-construct as experts in their content, teachers need support and understanding in their new role in the classroom as facilitators and not as experts and owners of knowledge (Edwards-Groves, 2011; Stewart, 2015). Specialized multimodality courses should be offered to education majors in tertiary classrooms (Papadopoulou et al., 2018). The elementary education questionnaire by Papadopoulou et al. (2018) showed that after spending a semester learning about multimodality and how multimodal texts can be implemented in their pedagogy, student-teachers developed a clear understanding of the meaning making process derived from the "interplay of the various semiotic modes in a text" (p. 322). A strong portion of the undergraduate students (70%) in their study found the course on multimodality in the classroom relevant and

integral to teaching in the 21st century. Papadopoulou et al. (2018) also noted that “multimodal metalanguage” (p. 326; i.e., the language needed to talk about multimodality, design, and how it works) is a prerequisite for teachers who are ready to implement multimodal pedagogies that meet the contemporary needs of our students.

Many scholars have addressed the need for learning the relevant language associated with multimodality in the classroom, though teachers are often not familiar with such language (Archer, 2010; Chandler, 2017; Cortiana, 2017; Edwards-Groves, 2011). In his examination of teacher readiness as it related to teaching multimodal authoring, Chandler’s (2017) study on the preparedness and knowledge of 55 primary teachers showed school leaders and educators need to make systemic pedagogical changes to ensure teachers can satisfactorily implement multimodal practices, emphasizing a “general sense of malcontent about teacher content knowledge” (p. 2).

By acquiring the “metalanguage” necessitated by multimodal composition, teachers are “produc[ing] generative learning opportunities” that enable students to “practice and develop new capacities in multimodal text construction” (Edwards-Grove, 2011, p. 56). Creating multimodal texts requires facility in design construction; therefore, teachers and students both need to be taught the language and technical elements of design to construct meaning-making opportunities in which students’ work and the use of technology in the classroom are both relevant and current (Kalantzis & Cope, 2015).

Teachers need support to allow them the time and practice needed to learn and implement student-directed authoring paths determined by multimodal composition, and policymakers and administration in higher education institutions must make it a priority. Professional development is necessary for educators (Edwards-Groves, 2011; Leu et al.,

2013) who wish to implement social media and other multimodal practices into teaching digital tools that encourage multiple modes of text construction in academic environments. With the advent of out-of-school literacies used in social media, such as texting with abbreviations, fragments, memes, and selfies, many scholars fear these nontraditional texts will replace the rigor and standards of traditional writing (Bezemer & Kress, 2014; C. Luke, 2000; Mills, 2009; Stewart, 2015). Therefore, it is critical for teachers to have training and support to implement new literacies/practices that complement the traditional ones rather than make them obsolete. To teach students how to effectively produce and reproduce texts multimodally, teachers need to be taught how to teach the use of new digital tools and provide models students can see and comprehend in order to craft their own messages or arguments and convey the meaning they desire through their authored texts (Rowse & Decoste, 2012).

If there is agreement with the notion that literacy is socially constructed, as noted by Castanheira et al. (2001), then “what counts as literacy in any group is visible in the actions members take . . . and how they engage with, interpret, and construct text” (p. 354). This is an important definition for my study on multimodal literacy because it calls out the way in which we define literacy and how exclusionary it can be for ELLs and other nontraditional college students who do not have the prior skills in writing to succeed in an online college-level writing classroom. Affording students choices in submitting multimodal texts in lieu of traditionally text-based assignments gives them equity and access to literacy practices through which they can insert their voices to highlight acquired knowledge through the mode that makes them most comfortable. By

telling students there is only one way to construct their voices and assert their knowledge, we are limiting their autonomy and success (Riggins, 1997).

Likewise, Kress and Van Leeuwen (2010) drew a correlation between multimodalities and multiliteracies as social practices that “expand the idea of text” (Lohani, 2019, p. 120). Offering students opportunities to submit multimodal over linear text-based compositions gives them an equitable opportunity (Blake, 1997) through which they can insert their voices and share their acquired knowledge using the mode that makes them most comfortable. If there is only one “institutionalized” means through which to construct their voices and assert their knowledge, students’ potential to succeed in writing courses and in college will be curtailed. New technological and cultural changes have altered the landscape of every school and classroom, and policies must be redressed to make allowances for these changes. Students outside of the classroom have access to multimodal communication through video games, computer programs, videos, smart phones, social media, a variety of apps, email, and texting to name just a few of the most common forms of communication used daily. Learning environments must reflect students’ experiences with technology to engage and prepare them for a future in which technology is a prevalent factor in their existence.

Implications for Higher Education and Policymakers

Educational policies are intended to serve students and prepare them for a future in which they can thrive as individuals, thinkers, and creators of new knowledge. Therefore, they must mandate multiple modes of communication as normative expressions of learning, communicating, and the acquiring and transferring of knowledge (Bazalgette & Buckingham, 2013; Callow, 2006); otherwise, students will not be engaged

by new information that can expand their learning potential. Technology is pervasive and has “expanded the multimodal resources available to students, multiplied the reading paths to be navigated, and introduced practices of re-mixing and redesign of communicational forms” (Jewitt et al., 2009, p. 10). Educators are called upon to provide learning environments that meet students where they are in terms of acquired skills related to technology and forms of communication that have grown exponentially in just the past decade, or else we are failing them.

Limitations

Nontraditional Students and Technology

The major limitations of my study included the former experiences with technology by many community college students who are not considered traditional students (i.e., students transitioning from high school to college). If given the option to use other modes of technology like video recording with images and text, students may not have prior experience with these kinds of meaning making processes and may be too intimidated to pursue them even though it may improve their overall grade and engagement in the course (Gonzales & Gonzalez Ybarra, 2020; Ohito, 2020; Price-Dennis, 2016; Selfe, 2009). Another limitation was that my participant pool may not have been large enough. If the survey was available to more students across community colleges, the results would have been more extensive and generalizable to a wider and more diverse community that could reveal more complexities in relation to multimodal assignments and how they compare to traditional writing practices from students’ perspectives.

Dual Researcher/Teacher Role

Advocating for teacher–researchers, Buckingham (1926) understood that teachers who also conducted research with their classes was an opportunity not an issue of ethics. Research, according to Buckingham, empowered these teachers to develop better techniques for their pedagogy and “vitalize[d] and dignif[ied]” their work as teachers (p. iv). Cochran-Smith and Lytle (1993) identified research conducted by teachers as “systematic and intentional inquiry” (p. 440) that produced results relevant to their practice (Santa & Santa, 1995). When teachers conduct research to evaluate the effectiveness of a method or process used in their pedagogy, they are combining practice and theory instead of relying solely on theoretical approaches to teaching developed by researchers without teaching experience. However, the power and authority inherent in both the teacher and the researcher, as dual and as singular roles in a classroom, cannot be ignored or denied. In this dissertation study, I was the researcher and the instructor, and my students could have responded in favor of the multimodal options to please me as their instructor, which affects the internal validity of my study. Geertz (1973) noted that although research is rampant, an objective truth is elusive. To ensure we can achieve the closest thing possible to the truth we seek through our research, we must continue to be transparent about what we are researching, why, and how (Butin, 2010; Lichtman, 2013). As democratic as my learning site was, and as student empowered as I intended the multimodal practices to be, my authority as both researcher and teacher have to be addressed as a possible limitation when it comes to how my students participated in both the quantitative and anonymous survey as well as the focus group interview that revealed the participants’ faces, mannerisms, and identities. As the multimodal options assigned

during the semester and the study participations were not forced upon my students contributed the appropriation of student-led authority and agency I often preserve in my pedagogy. However, their work was also graded by me, so how coerced the students felt to participate in both the study and the multimodal designing is an unknown in this study. As Spigelman (2001) posited about teacher authority and negotiating power in any classroom, “competition for grades and instructor approval remain unacknowledged forces, which ultimately sustain teacher power” (p. 28). To mitigate the level of authority already inherent in my dual roles as teacher and researcher, I made sure to only announce the multimodal opportunities once in the semester, at the beginning. The only other time I mentioned it was when I emailed the survey to my students, emphasizing that it was both anonymous and not required. The fact that all my courses for this study were taught online and asynchronously added to the anonymity and lack of pressure my students may have felt if we had been in a physical classroom during the semester. The lack of my physical presence in their learning allowed me to “regulate the conscious and unconscious desires” (Spigelman, 2001, p. 35) I had as both their teacher and the researcher of my study.

Sample Size

The limitations of my study had much to do with the sample size for both the quantitative and the qualitative strands. Even though I offered the survey to five courses with over 100 students, only a little over half of the student population in my courses participated in the study. Some factors that could have contributed to the small size were the fact that because of the pandemic, all my classes were online. It would have been easier to garner more participation if students had access to me physically at least two

times a week. Online learning provides a distance between teachers and learners that is also reflective in end-of semester teacher evaluations in which only about six out of 22 students tend to submit evaluations.

COVID-19 Pandemic and Motivation

Another factor was the COVID-19 pandemic itself. A great deal of our teaching currently is aligned with creating a learning environment that is nurturing and full of self-care practices for our students due to low enrollment, students dropping out of courses because of anxiety, and accommodations such as extended time on assignments for students with mental health concerns. With more than half of our courses being taught virtually and student anxiety with mental and physical concerns over COVID-19, students are hard-pressed to complete extra assignments not required for their grade that include filling out online surveys or teacher evaluation forms. In such a climate fraught with fears and anxieties, students and teachers are setting boundaries that limit their exposure to anything more or extra that is not a requirement for their place of work or in school.

The climate also affected the sample size of my focus group. Although 12 students shared their contact information and a desire to be contacted for the focus group interview, only five committed to the discussion. This is a small sample size, as a favorable and effective sample size for focus group interviews would include at least 16 respondents (Lichtman, 2013). Although the responses from the focus group provided rich and detailed interactions among the participants that helped shed light into students' attitudes students toward multimodal versus traditionally written composing, ideally, my study would have benefitted from a more diverse student body that included two to three

of each of the following demographics: high school students, working adults, students who favored multimodal over traditional writing, and vice versa. A more diverse pool of participants with more diverse ideas and experiences with writing and multimodal practices would have deepened the conversations and extended the findings to those that would more effectively generalize to the public.

Last, many of my students had no prior experience with multimodality, what the term meant, or how it functions in an online writing classroom. Taking the time to define the term and pedagogical approach, along with providing criteria for assessment and production, would have induced many of these students to approach a few multimodal designs outside of their comfort zone. As much of the extant research shows (Cortiana, 2017; Dallacqua & Sheahan, 2020; Law Bohannon, 2015), students take the most efficient path to completing assignments, and the traditional use of text-based responses, writing out their ideas and claims, is a pedagogical approach they have been conditioned to use for expression (Blake, 1997; Cortiana, 2017; Muhammad & Haddix, 2016; Price-Dennis, 2016). They understand the criteria and requirements and are confident of the grade they will acquire based on their writing skills.

Using a multimodal design for expression would entail learning a new skill, transferring their thoughts and responses into a multimodal design that does not come as natural as traditional writing and without the assurances of a good grade, completing the assignment correctly, or having used the appropriate mode to communicate their responses multimodally (Leu et al., 2013). Fear of the unknown and uncharted territory of multimodal practices deter students, as they deter teachers, from appropriating new forms of academic expressions that allow them to engage with learning and content in

new and imaginative ways. Although I provided a few examples of previous student designs as well as instructions for producing them, my examples were limited to videos with art and text, audio clips, and PowerPoint presentations with video or audio, images, and text. This is a limitation in my pedagogy, as a more diverse body of examples and criteria for my students to follow (Godhe, 2013; Jewitt, 2003; Silseth & Gilje, 2019) could have provided my students with the confidence they needed to attempt more multimodal designs. I could have also developed different types of assignments that aligned well with the creativity and the time/effort it takes to produce multimodal compositions in lieu of traditionally written responses to the required assignments. An approach such as this would have erased the fear and anxiety students experienced when having to make choices for self-expression without any added benefits related to grades.

Future Research

More research on multimodal designs needs to be conducted as they pertain to Latinx students. Because this demographic stood out in my study, more research needs to be conducted to examine student perceptions and digital literacies as they apply to Latinx communities. A more focused examination of other disenfranchised student communities the likes of African Americans, adult learners, and ELLs would benefit the extant literature on multimodal practices as compared to traditional writing practices. It would be interesting to conduct a phenomenological study on the attitudes of students who see traditional writing as “demoralizing,” institutionalized, and limiting to students’ potential and creativity as it relates to their learning. Such a study would expand on how this marginalized group of students were personally influenced by multimodal work and where their confidence in writing, technology, and social power stemmed from in relation

to multimodal learning practices at a community college level. Although there was one Latina student (Participant C) in my focus group, her responses were limited and short, but she did admit to creating videos and PowerPoint slides with images and written text because she was too embarrassed by both her writing and her pronunciation of the English language.

More importantly, there needs to be more research focused on the use of digital tools in learning among community college and higher education students. Although research shows technology has advanced in college environments, this is not the case in my community college, and more research into community colleges in the areas of new literacies, professional development for its educators, and more access to multimodal practices would benefit community college students, especially as they attend for a degree, licensure, entry into base positions in their fields of interest, or to transfer into a senior institution. A nationwide exploration could provide deeper, meaningful insights into new literacy approaches as they pertain to community colleges in various states. For example, do community colleges offer fewer innovative multimodalities in classroom learning the farther south they go on the national map? Does the use of technology and multimodal practices vary depending on state, or on age of educators, or on experiences with technology among educators? This is another opportunity for future research to help explain the lack of utilization of multimodal composing in lieu of traditional papers, especially given as options through which students can express their knowledge and mastery in their own voices and their own distinct style of creativity and interest. Just as there is not one way to learn, there should not be one institutionalized way of presenting mastery of content and material in a learning environment. Multimodal composing

enriches not only learning as a process but also teaching as a pedagogy that is effective and nurturing to student differences and learning proclivities (Law Bohannon, 2015; Mills, 2016; Papadopoulou et al., 2018).

Finally, teacher perspectives from the community college level are missing in the literature surrounding multimodal and traditionally written practices as choices offered to students. If we know what resources educators need to further the cause of new literacies as commonplace practices in college-level content courses, we can then discern how to assuage those conflicts and how to approach training so educators can be on the same technological plane as their students. What is missing, however, is whether the authoring of multimodal texts provides opportunities for access and equity for African American students in my study, a variable that was buried in the race construct along with White, Muslim, and Asian students. More research would greatly influence the literature on multimodal practices and how/if they reflect similar results for students of color (K. T. Anderson et al., 2017; Falchi et al., 2014; Haddix & Sealy-Ruiz, 2012; Low & Campano, 2013) in community colleges and in higher education as a whole. More research into this interesting finding would expand on the literature of multimodal practices and how they are being implemented into the learning environments that affect Latinx students. In addition, perhaps the lack of multimodal practices afforded students is not a nationwide concern but a concern among community colleges in the southeastern part of the United States in which my study took place. In that case, more research needs to be conducted into community colleges located in the South and how teacher perspectives on multimodal practices in these community colleges influence their pedagogy.

Conclusion

As a study into community college student perceptions of multimodal and traditional writing practices fostered in online writing-intensive courses, my study is a valuable step in adding to the extant literature on multimodal practices and students' attitudes toward them. In-depth qualitative research should be conducted to gauge teacher perceptions and challenges through interviews and observations to provide a richer and more extensive examination of the choices community college instructors make when it comes to multimodal pedagogies. More research needs to be conducted on assessments (Archer, 2010; Chandler, 2017; Qoura, 2020; Stewart, 2015; Tan et al., 2020), which is one of the major reasons practitioners are hesitant in implementing multimodal practices into their pedagogy. Further research is also needed to foster multimodal opportunities for marginalized college students, which could potentially close the literacy gaps and expand the scope of writing practices accepted in higher education (K. T. Anderson et al., 2017; Haddix & Sealy-Ruiz, 2012; Law Bohannon, 2015; Nagy, 2020; Ohito, 2020).

Last, normalizing “non-institutionalized” forms of learning is integral to the future of our educational system and our students. Ideally, we should favor learning environments that meet technologically aligned students on their level of expertise with digital tools and social media while also enriching students' learning by introducing them to the various forms of academic expressions available to them, such as creating multimodal designs (e.g., web comics, podcasts, vlogs, etc.). The objective is not to displace or replace traditional writing practices (Leu et al., 2013; McVee et al., 2008), but to enrich them. Offering students choices that allow them to express their learning in ways that are meaningful to them as individual learners with diverse backgrounds and

even more diverse learning styles and proclivities is integral to learning as a process. Critical pedagogy is central to teaching and learning and can be used by teachers to embrace students' differences, empowering educators and school leaders to cultivate learning environments from K-12 and in higher education that will prepare our students for a future inclusive of and dependent on technology. This can only be achieved by normalizing multimodal (Nagy, 2020; Ohito, 2020) practices and the individuality that is inherent in our students, in the ways they learn and make meaning, and in the digital literacies that reflect nonconforming and inclusive pedagogical practices.

APPENDIX A

Survey

Part I: Demographics (Drop Down Menu)

1. Age: What is your age?

- a. 16-17 years old
- b. 18-24 years old
- c. 25-34 years old
- d. 35-44 years old
- e. 45-54 years old
- f. 55-64 years old
- g. 65-74 years old
- h. 75 years or older

2. Ethnicity: Please specify your ethnicity/race.

- a. Native or American Indian
- b. Black or African American
- c. Hispanic or Latino
- d. Asian/Pacific Islander
- e. Caucasian or White
- f. Multiple Ethnicity/Other (please specify) _____

3. Sex: What is your biological sex?

- a. Male
- b. Female
- c. Intersex

d. Other _____

4. Gender: How do you identify?

a. Male

b. Female

c. Nonbinary

d. Gender Nonconforming

f. Other _____

5. Student Status: What is your student status at the college?

a. Full-time student (12-18 credits or more per semester)

b. Part-time student (3-9 credits per semester)

c. Visiting Student

6. Type of Learner: How do you identify your learning style?

a. Visual (you learn best by watching/observing)

b. Auditory (you learn best by listening)

c. Verbal (you learn best by talking it out)

d. Kinesthetic (you are a hands-on learner)

e. Reading and Writing (you learn best by reading and writing)

f. Other _____

7. Employment Status: Are you currently...?

a. Employed for wages

b. Self-employed

c. Out of work and looking for work

d. Out of work but not currently looking for work

- e. A homemaker
- f. A student
- g. Military
- h. Retired
- i. Unable to work

8. College Credentials: What Degree are you pursuing at our college?

- a. High School Diploma
- b. Dual High School and AA/AS Degree
- c. Associate in Arts
- d. Associate in Fine Arts (Music, Art)
- c. Associate in Sciences
- d. Associates in General Education
- e. Associates in Engineering
- e. Other _____

9. Technological Practices: Which modes are you most comfortable using for course assignments?

- a. PowerPoint slides with voice narration/video
- b. Posters/collages
- c. Videos
- d. Blogs
- e. Comic strips/drawing
- f. Pod casts
- g. Other _____

Part II: Yes/No Questions

1. Prior to this course, have you been assigned multimodal options/assignments in your courses?
2. Prior to this course, have you composed any multimodal assignments for a grade?
3. Did you take advantage of the multimodal options available to you in this course?

Part III: Drop Down Questions

- 1) How often did you take advantage of the multimodal options available to you in the course?
 - a. Often
 - b. Never
 - c. Once in a while
- 2) Which multimodal options did you take advantage of? Check all that apply. *
 - a. Video
 - b. Audio
 - c. Voice-Over PowerPoint Slides
 - d. Meme
 - e. Graphic/comic book
 - f. Poem/rap song
 - g. None...I wrote out all my responses
 - h. Other _____
- 3) If you did not submit any multimodal options, are these some of your reasons?
 - a. Not enough time to figure it all out
 - b. Not enough resources (I did not know how to create/submit videos, audios, etc.)
 - c. I prefer writing out my answers

- d. I am a stronger writer than media creator
 - e. Too time-consuming/ too confusing
 - f. Unsure of the grading criteria and I didn't want to chance it
 - f. Other _____
- 4) Overall, what did you think of the options of submitting your work as a multimodal design rather than writing it out?
- a. It was new and refreshing
 - b. I liked the idea but didn't have time to invest in it
 - c. It was irrelevant to me
 - d. It was an interesting way to think about submitting assignments
 - e. I had fun creating multimodal assignments as opposed to writing each week
 - f. I am creative, so it appealed to me
 - g. It may work for some people, but it wasn't for me
 - i. I wish more teachers gave us this option

Part IV: Likert Scale Questions

Using the following scale, rate the statements in each section:

- 1: strongly disagree
- 2: somewhat disagree
- 3: neither agree nor disagree
- 4: somewhat agree
- 5: strongly agree

Construct 1: Preference

- 1) I prefer to use traditional paper texts in the classroom (printed articles, newspapers, magazines, and textbooks).
- 2) I prefer to use media and technology-based texts in the classroom (videos, music, internet resources).

- 3) I prefer to use a mix of traditional paper texts and media texts in the classroom.
- 4) I prefer to compose traditional papers in the classroom.
- 5) I prefer to compose multimodal texts in the classroom

Construct 2: Enjoyment

- 1) I enjoy writing assignments over composing multimodal texts for grades.
- 2) I enjoy composing multimodal texts over composing traditional writing assignments.
- 3) I enjoyed being given the option to compose multimodal assignments.
- 4) I did not enjoy the multimodal options.
- 5) I prefer to submit assignments in traditional written out formats.

Construct 3: Prior Writing Experience

- 1) I consider myself a strong writer
- 2) I consider myself an okay writer.
- 3) I consider myself a weak writer.

Construct 4: Prior Technology Experience

- 1) I use online platforms to access news and information.
- 2) I am comfortable with using computers and other technology
- 3) I have used multimodal practices in my learning previous to this course.

Construct 5: Creativity

- 1) I am creative.
- 2) I found the multimodal practices suited my learning better than submitting written assignments during the semester.
- 3) Multimodal assignments allowed me to express my creativity.
- 4) I wrote out my assignments because I believed my grade would be better.

Construct 6: Social Power in the Classroom

- 1) I feel included in classroom decision making.
- 2) I feel that I worked with my teachers as partners in my learning.
- 3) I would like more student choices in the classroom.
- 4) I think multimodal practices are a helpful way of gaining knowledge.
- 5) I would like to see more instructors offering multimodal practices as options.
- 6) I would like to continue to use multimodal practices in the classroom.
- 7) Multimodal practices helped me express my knowledge in a way that best fits my learning style.
- 8) I had the resources I needed to submit multimodal practices in the course.

- 9) I would consider multimodal practices for a major assignment instead of the required traditional paper.

Construct 7: Confidence

- 1) I am confident in my writing abilities.
- 2) I am confident in using technology to express my ideas.
- 3) I am confident using computers and other technology.
- 4) I was confident submitting designing multimodal assignments this semester.
- 5) I was confident that my multimodal assignments would yield me a higher grade compared to submitting written assignments.
- 6) I was confident that my written assignments would yield me a higher grade compared to submitting multimodal designs.

Part V: Open Ended Questions

- 1) Explain any concerns you may have about composing multimodal assignments (video, blogs, comic strip, posters, collage, PPT with video/audio, etc.) for a grade?
- 2) At this point in time, would you rather write out your assignments or compose a multimodal version of your work (video, PowerPoint, comic strip, poster, collage, etc.)? Why? Explain.
- 3) How would you describe your classroom experience using multimodal practices as communication tool?
- 4) If you did take advantage of the multimodal options, please explain why you did.
- 5) If you did not take advantage of the multimodal options, please explain why you did not.
- 6) What do you feel would have induced you to submit more multimodal assignments this semester?
- 7) Describe your experience in designing multimodal designs for your responses.
- 8) Did engaging with multimodal practices change how you view technology or writing traditional texts?
- 9) Did selecting multimodal practices over traditional writing practices make you feel included and represented in the classroom curriculum? Explain your response.
- 10) If you would like to contribute your voice and perspective, please let me know you would like to be interviewed by leaving your email address here.

APPENDIX B

Semi-Structured Interview Framework and Procedure

1. I will follow these procedures for the interview part of the Qualitative strand of my study:
 - a. I will provide individual students with a Zoom link, day and time for the interview.
 - b. I will introduce myself and explain the aim of the interview.
 - c. I will note that their responses will be recorded but their names and all personal identifiers will be omitted from the research.
 - d. I will explain that the interview will be recorded for two reasons: 1) so that I can be present during the interview and not worry about taking notes; 2) so that I can later on transcribe and generate themes from the interview.
 - e. I will also record the interview with the Otter app, which will transcribe the interview for me.
 - f. I will then ask the interviewees if they have any questions or concerns for me and address them.
 - g. When they are ready to begin, I will begin asking questions, which will be grouped in themes and pause to give students time to think about their answers and respond.
 - h. If needed, I will ask follow-up questions when there needs to be more elaboration or if the responses need more clarity.
 - i. I will make sure not to ask any leading questions and avoid yes/no questions.
 - j. After each question and response, I will pause and ask if they can think of anything more they want to say about the theme or topic. If not, I will move on to the next question.
 - k. I will keep a notepad near and make marginal notes for follow-up questions or of something I deem interesting to the study or the comment.
 - l. When we are finished with the interview, I will ask if they have anything more to add about the process, the course, and the topic of our interview.
 - m. I will end the meeting by thanking students for their time and also ask if they are interested in having access to the research and findings when I complete the study.

- n. If they are, I will make a note of this on my notepad and write down their email address.

Semi-Structured Interview Questions:

- 1) How did you like being offered multimodal assignments in this course?
- 2) How would you describe the choices you made when opting to compose text-based vs. multimodal texts?
- 3) Was having the option of submitting multimodal assignments helpful or stressful? Why?
- 4) Do you think multimodal assignments are a good classroom practice? Explain
- 5) Describe your experience in composing a multimodal assignment? How different was it from submitting a text-based assignment?
- 6) Did this project make you think of using any other modes of composition that were not listed as options?
- 7) How did submitting multimodal assignments over written assignments contribute to your agency? Autonomy? Confidence with the content? Confidence with technology? Critical thinking skills? Motivation? Creativity?

APPENDIX C

Thematic Analysis

Turning Codes into Themes

Codes	Themes
<ul style="list-style-type: none">• Access for all students• Dependent on the type of assignment• Easy and effortless mode	Preferences
<ul style="list-style-type: none">• Fun, new, and interesting• Dependent on Learning Style	Enjoyment
<ul style="list-style-type: none">• Learned new technology• Lacked skills in digital tools• Too stressful to try something new	Confidence
<ul style="list-style-type: none">• Allows for individuality• Allows for self-expression	Creativity
<ul style="list-style-type: none">• Allows for individuality• Allows for self-expression	Social Power

APPENDIX D

Participant Permission Form



Dear Participant:

You have been invited to take part in a research study to learn more about student perceptions related to multimodal vs. traditional text-based assignments. This study will be conducted by Marina DelVecchio, Department of Education Specialties and Literacy, St. John's University, as part of her doctoral dissertation work. Her faculty sponsor is Dr. Stewart, Department of Education Specialties and Literacy.

If you agree to participate in this study, you will be given a survey to complete mid-semester through Sakai that will ask about their preferences between multimodal vs. traditional text-based assignments in our online course. There will also be a virtual interview to gain qualitative information, if you opt for the interview. There are no known risks associated with your child participating in this research beyond those of everyday life. Your survey answers will be recorded in writing. Participation in this survey will involve a minimum of twenty minutes of your time to complete. If you opt for the interview, it will involve thirty minutes of your time.

Federal regulations require that all subjects be informed of the availability of medical treatment or financial compensation in the event of physical injury resulting from participation in the research. St. John's University cannot provide either medical treatment or financial compensation for any physical injury resulting from your participation in this research project. Inquiries regarding this policy may be made to the principal investigator or, alternatively, the Human Subjects Review Board (718-990-1440).

Although you will receive no direct benefits, this research may help the investigator understand the effects of the iPad on literacy instruction for children with autism and it may benefit teaching procedures used with your child.

Confidentiality of your research records and your child's records will be strictly maintained by removing your name and any identifiers will be replaced with a number. Consent forms will be stored in a separate location from the interview documentation and will be stored in a locked file. Your responses will be kept confidential with the following exception: the researcher is required by law to report to the appropriate authorities, suspicion of harm to yourself, to children, or to others. Your responses will be kept confidential by the researcher, but the researcher cannot guarantee that others in the group will do the same.

Participation in this study is voluntary. You may refuse to participate or withdraw at any time without penalty. For interviews, questionnaires or surveys, you have the right

to skip or not answer any questions you prefer not to answer. Nonparticipation or withdrawal will not affect your grades or academic standing.

If there is anything about the study or your participation that is unclear or that you do not understand, if you have questions or wish to report a research-related problem, you may contact Marina DelVecchio, marina.delvecchio01@my.stjohns.edu, St. John's University, 8000 Utopia Parkway, Queens NY, 11439 or the faculty sponsor, Dr. Olivia Stewart, at stewarto@stjohns.edu, St. John's University, 8000 Utopia Parkway, Queens NY, 11439.

For questions about your rights as a research participant, you may contact the University's Institutional Review Board, St. John's University, Dr. Raymond DiGiuseppe, Chair digiuser@stjohns.edu 718-990-1955 or Marie Nitopi, IRB Coordinator, nitopim@stjohns.edu 718-990-1440.

You have received a copy of this consent document to keep.

Agreement to Participate

Yes, I agree to participate in the study described above.

Subject's Signature

Date

APPENDIX E

Parental Consent Form for High School Students



Dear Parent of Participant:

Your son/daughter has been selected to participate in a study to learn more about the student perceptions related to multimodal vs. traditional text-based assignments. This study will be conducted by Marina DelVecchio, Department of Education Specialties and Literacy, St. John's University, as part of her doctoral dissertation work. Her faculty sponsor is Dr. Stewart, Department of Education Specialties and Literacy.

If you agree to allow your child to participate in this study, your child will be given a survey to complete mid-semester through Sakai that will ask about their preferences between multimodal vs. traditional text-based assignments in our online course. There will also be a virtual interview to gain qualitative information, if your child opts for the interview. There are no known risks associated with your child participating in this research beyond those of everyday life.

Federal regulations require that all subjects be informed of the availability of medical treatment or financial compensation in the event of physical injury resulting from participation in the research. St. John's University cannot provide either medical treatment or financial compensation for any physical injury resulting from your participation in this research project. Inquiries regarding this policy may be made to the principal investigator or, alternatively, the Human Subjects Review Board (718-990-1440).

Although you will receive no direct benefits, this research may help the investigator understand the student perceptions in using digital media in writing-intensive courses and how this pertains to the choices they make in how they submit their assignments.

Confidentiality of your child's records will be strictly maintained by removing your name and any identifiers will be replaced with a pseudonym. Consent forms will be stored in a separate location from the interview documentation and will be stored in a locked file. Your responses will be kept confidential with the following exception: the researcher is required by law to report to the appropriate authorities, suspicion of harm to yourself, to children, or to others. Your responses will be kept confidential by the researcher, but the researcher cannot guarantee that others in the group will do the same.

Participation in this study is voluntary. You may refuse to participate or withdraw your child at any time without penalty. Nonparticipation or withdrawal will not affect your child's grades or academic standing.

If there is anything about the study or your participation that is unclear or that you do not understand, if you have questions or wish to report a research-related problem, you may contact Marina DeVecchio, marina.delvecchio01@my.stjohns.edu, St. John's University, 8000 Utopia Parkway, Queens NY, 11439 or the faculty sponsor, Dr. Olivia Stewart, at stewarto@stjohns.edu, St. John's University, 8000 Utopia Parkway, Queens NY, 11439.

For questions about your rights as a research participant, you may contact the University's Institutional Review Board, St. John's University, Dr. Raymond DiGiuseppe, Chair digiuser@stjohns.edu 718-990-1955 or Marie Nitopi, IRB Coordinator, nitopim@stjohns.edu 718-990-1440.
You have received a copy of this consent document to keep.

Agreement to Participate

Yes, I agree to have my **son/daughter** participate in the study described above.

Parent's Signature	Date
--------------------	------

Yes, I agree to allow the researcher permission to **interview** my child.

Parent's Signature	Date
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