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Visualizing Rhetorical Awareness: Building Critical Digital Literacies Practices With Visual Rhetoric in First-Year College Composition

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VISUALIZING RHETORICAL AWARENESS: BUILDING CRITICAL DIGITAL

LITERACIES PRACTICES WITH VISUAL RHETORIC IN FIRST-YEAR

COLLEGE COMPOSITION

by

Amanda J. Plaizier

A dissertation submitted in partial fulfillment
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ABSTRACT

Visualizing Rhetorical Awareness: Building Critical Digital Literacies Practices with

Visual Rhetoric in First-Year College Composition

by

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First-year college composition (FYC) courses can utilize visual rhetoric assignments to build students' rhetorical awareness of the audience to sharpen their composition processes. Through a framework of user-centered design and critical digital literacies (CDL), this project examined the impact of visual rhetoric assignments on students' CDL practices and subsequent rhetorical awareness to create confident, competent, equitable writers within a concurrent enrollment FYC course.

This study investigated critical digital literacies practices within two first-year composition classrooms taught through the concurrent enrollment program at a high school in the American West. Within the study, students completed a community-based proposal project consisting of both visual assignments (infographic, flyer) and a written essay in examine what the use of critical digital literacies practices revealed about rhetorical awareness.

(243 pages)

PUBLIC ABSTRACT

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Amanda Plaizier

Visual rhetoric assignments allow students a space to practice rhetorical design with a specific audience in mind. When used in concordance with traditional writing assignments, these visual multimedia projects (such as flyers and infographics) can be a useful way for college writing teachers to build rhetorical awareness, which is one of the objectives of first-year college composition courses.

This project examines the use of visual rhetoric assignments within a concurrent enrollment college writing course. Students in the course created a community-based proposal, including flyers, infographics, and a final essay. By examining these assignments for evidence of critical digital literacies (decoding, meaning making, using, analyzing, and persona), the researchers investigated how the visual projects promoted student thinking about their audience in their designs and how composition teachers could use visual assignments, in combination with traditional writing assignments in college composition courses.

DEDICATION

To Daniel for facilitating quiet spaces to write (many times at his own peril), my four

littles and their resolute determinations to climb the hill and shine for others, my best

friend whose laugh still resonates amid her absence. Finally, this is dedicated to a

midwestern third grader who maintained incessant dreams of a PhD and world travel and

her parents because they just smiled and handed her a library card and a map.

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Amanda Plaizier

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Chapter I Introduction

Student rhetorical awareness is central to design of college writing curriculum and part of best teaching practices for first-year college composition instructors. Rhetorical awareness is a product of reframing the paradigm of rhetorical knowledge from a notion of appropriateness to one of dexterity and awareness during composition (Dryer, et al., 2019). Part of the outcomes for first-year composition from the Council of Writing Program Administrators (2019), rhetorical awareness includes "the ability to negotiate purpose, audience, context, and textual conventions because they compose a variety of texts for different rhetorical situations" (as cited in USU, 2020). By being aware of the rhetorical situation in which they produce texts, students better understand the purposes of their writing and for whom they are writing/designing. Students can imagine their audience as stakeholders, making responsible design choices surrounding the needs and expectations of the reader (here a user) and better advocate for accessibility to information (and their writerly role to promote) becomes a matter of social justice.

Additionally, participation in digital design asks writers to "examine the rights, responsibilities, and ethical implications of the use and creation of information" (NCTE, 2019). Students build critical digital literacies because they engage in critical, reflective, and ethical digital design. Critical digital literacies are thus a vital skill to be cultivated alongside the genres of academic writing and composition processes. Because students actively (and critically) interrogate their world through inquiry and subsequent design, they are better prepared to make academic arguments and contribute to the conversations of their future disciplines.

Visual rhetoric projects, which allow students to examine visual meanings in text production (hooks, 2013) in the writing classroom, complement traditional composition pedagogies because students build rhetorical awareness and sharpen composition processes. Through a framework of user-centered design and critical digital literacies, this project examined the impact of visual rhetoric assignments on students' critical digital literacies and rhetorical awareness to create confident, competent, equitable writers within a concurrent enrollment first year college composition course.

Rhetorical Awareness and Purpose

In addition to asking students to externalize thought processes, students must also negotiate a world of multimodal texts, writing on screens, and a plethora of instant access to a broadening world of information (Leu, et al., 2019). This requires students to develop flexibility to writing processes, tasks, and technologies (Rijlaarsdam, et al., 2016) and participate in a collaborative world of New Literacies (new ways to construct, share, and access information) (Jenkins, 2006; Leu, et al., 2019). But without an understanding of the audience, students are left without a way to fully identify the rhetorical situation in which they produce texts—how can students "negotiate purpose, audience, and contexts" towards rhetorical awareness without understanding first how to identify and then design for their audience?

Early undergraduate level writing is not discipline specific, focusing on rhetorical argument-based writing with use of researched evidence and becomes a student's toolbox of general writing skills (Aull & Lancaster, 2014; Gere et al., 2013; Wardle, 2009). Because this writing is frequently considered a set of generalized skills, the potential audience can often seem vague, a silent "Other" listening in with the teacher and/or

classmates. Even if the audience seems partially non-existent, it is nevertheless present, because all language is oriented towards a listener (the student positioned as speaker) (Bakhtin, 1986; Ross 2014). This process of identification can lead to more meaningful understanding and analysis of the audience (Burke, 1969).

Because early undergraduate writing is argument-based (i.e., student writers are asked to take a "stance" on an issue), students may have trouble linking their own interests and experiences (funds of knowledge) and feel inhibited to engage in academic conversation. Rosenblatt (2019) explained, "purposes or ideas that lack the capacity to connect with the writer's funded experience and present concerns cannot fully activate the linguistic reservoir and provide an impetus to thinking and writing… a personally ground purpose develops and impels movement forward" (p. 463). When students are encouraged to inquire/write about issues for which they have interest/experience, writing becomes purposeful; combined with a clear sense of potential audience, writing becomes useful.

Social justice is another important motivation for the use of visual rhetoric and subsequent design instruction in this study. Definitions of social justice are often broad, stemming from discussions of how society can distribute justice and equity in a respectful way to citizens (Rambiritch, 2018). Within the context of education, Young's (cited in Lotter, 1999) concept of social justice as distributive justice aligns with visual design goals of this study given his focus on "ideas of widening participation, the idea of equal distribution" (Rambiritch, 2018). In this study, students used visual design to create products that enabled the stakeholder and audience to participate in solutions. These design considerations allowed equitable public access to their proposed subjects/issues.

In this way, the public (audience), affected by the problem/solution the students proposed, was addressed directly in a flyer and student reflection questions asked students to consider the explicit design choices made on the audience's behalf (again a measure of equity).

Rhetorical awareness is also a matter of equity. Without an understanding of potential users, including the contexts of use, writing/design is done with little consideration of the user's needs, which are essential to a "user design" approach (IDF, 2021). This lack of user design approach is inexcusable within digital literacies. Although students are taught to use the "three appeals" of logos, ethos, and pathos in the evidence utilized in their rhetorical argument, little discussion of design elements for the audience is promoted in the writing classroom. Without rhetorical design considerations of user and context, power dynamics cannot be addressed equitably, and students miss the opportunity to develop their own "distinctive ethos" (McKenna, 2005; Lankshear & Knobel, 2007). The practice of equity through a user-centered design approach is both a necessary and attainable skill.

Background of the Problem

Within first-year composition courses students encounter a world of articulating their own ideas, requiring them to negotiate an entirely new rhetorical situation. Brandt (2015) explained, "writing risks social exposure, political retaliation, legal blame. It requires a level of courage and ethical conviction rarely cultivated in school-based literacy" (p. 133). First-year college students face an entirely new rhetorical situation in finding their own writing voice and negotiating purpose and audience. Reading-based K-12 literacy curriculum discourse encourages textual analysis but does not necessarily

empower students to articulate new ideas externally (Alvermann & Harrison, 2017; Alvermann & Moje, 2014; Brandt, 2015). In the shift from receiver to producer of information, students need the initial bearing of audience and purpose: *who will be reading their writing and for what purpose?*

Many first-year college writing students are unable to clearly articulate audience and purpose leading to a vague sense of rhetorical situation and lack of rhetorical awareness. Additionally, critical digital literacies are underutilized, leaving students underprepared to critically analyze digital tools because discussion of these literacies is often limited to a working knowledge of technology/digital tools. These two missed outcomes present an unrealized opportunity for students to create meaningful multimodal texts that engage the audience through a user-centered design approach and develop more equitable practices to take into their future academic writing endeavors.

Critical Digital Literacies

Within a constant barrage of rhetorical messages, both in formal and informal digital spaces, students need the ability to analyze their world actively and critically through analysis and reflection. These literacies culminate in the creation of texts that can identify injustice and make social change. Luke (2012) defined critical literacy as the "use of technologies of print and other media of communication to analyze, critique, and transform the norms, rule systems, and practices governing the social fields of everyday life" (p. 5). Critical digital literacies (CDL) ask students to explore and collaborate in the creation of digital texts and to interrogate their own technology practices (Ávila & Pandaya, 2013).

College writing instructors who fail to incorporate critical digital literacies within their writing pedagogy are not embracing potential sites of discussion of current inequitable and exclusionary practices that are necessary elements of equitable design. It is imperative to promote CDL practices within student learning to enable students to adapt to changing digital formats (Blevins, 2018) and recognize the sociocultural lenses that inform their current understandings of the world around them.

Although current technologies enhance student learning, it can be exhausting for students to adapt/acquire new technology skills in order to utilize available digital tools. Critical digital literacies allow for critical examination of students' own digital practices and technology use and determine the best tools for specific rhetorical situations within text design and production. A critical digital literacies framework will allow students to think critically about their audience and stakeholders, both of which are vital elements to the rhetorical situation and thus build rhetorical awareness.

Visual texts can allow teachers to model an articulation of "intertwined knowledge" of social/personal/academic contexts and encourage students to see text production as lived experience (Waring & Evans, 2015; Kelchtermans, 2009). Additionally, students utilize rhetorical tools of design such as color, text, and alignment with purpose for a specific audience. Without this element, students are often left in the void of ambiguous, uninquisitive writing to a general audience. Visual and verbal rhetoric combined can lead to user-awareness and a new self-awareness for the writer.

Rhetorical Awareness

Rhetorical awareness includes four elements: purpose, stakeholder, audience, and context (see Figure 1) (Purdue OWL, 2021a). Traditionally connected to professional/persuasive

writing in the workplace, these practices within first-year composition similarly promote student critical thinking about the goals and situations in which they produce texts, blossoming into a knowledge of their writerly roles and responsibilities (Purdue 2021a; DeRosa, 2002). In this model, purpose refers to the "why" and "for what purpose;" audience includes potential readers/users, both intended and unintended; stakeholders are those potentially affected, and context considers the "where" and "how" the document was created and method of access. Here is it useful to distinguish between audience and purpose as the purpose being the reason a document is created and the audience as the receiver of the information (Kent State, 2023).

Figure 1 *Model for Rhetorical Awareness*
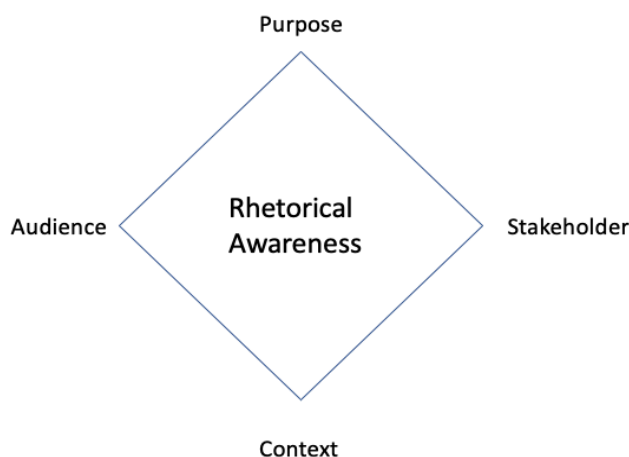
Purpose of the Study

The purpose of this qualitative study was to explore the impact of visual design assignments within a research proposal project on the rhetorical awareness and

development of critical digital literacies of high school seniors enrolled in a first-year

college writing course via concurrent enrollment.

Research Questions

- *How do students use critical digital literacies practices while composing visual rhetoric assignments in first-year composition?*
- *What does examination of these critical digital literacies practices reveal about student rhetorical awareness?*
- *How can a combination of visual rhetoric and traditional writing assignments be used to promote student rhetorical awareness in first-year composition?*

Significance of the Study

The multimodality of both texts and technologies residing within a world of

global information requires adaptability to constantly changing technologies

(Rijlaarsdam, et al., 2016) which have changed social practices surrounding writing

(Alvermann & Sanders, 2019). Visual rhetoric-based assignments can provide

opportunities for students to identify and engage with their audience on a new platform,

using digital tools to design with the audience in mind and provide a deeper

understanding during completion of written research essays.

This user-centered approach promotes critical thinking and advocacy for the

needs and expectations of the audience in a way that traditional writing assignments

typically do not. Instead of a writing for the teacher mindset, twenty-first century

literacies necessitate a dialogic approach to promote critical thinking and ownership of

student texts; texts are created with usability, accessibility, and often collaboratively in

digital spaces (Alvermann & Harrison, 2017; Rijlaarsdam et al., 2016). It is imperative that students develop tools for equitable design and writing relationships to technologies and these relationships should be positive, making students both user-aware and self-aware.

Definition of Terms

Rhetoric: The art of composing effective, persuasive speech or texts; a rhetorician is able to see and utilize persuasiveness in a text (Burke, 2006; Berlin, 1982; Berthoff, 1981).

Rhetorical Awareness*:* A writer's navigation of purpose, audience, context, and genre in determining the rhetorical situation for which a text is produced and consumed (Purdue, 2021a).

Critical Digital Literacies: Skills of critical engagement with and reflective use of digital tools (Ávila & Pandaya, 2013; Watulak & Kinzer, 2013).

User-centered Design: An iterative design process incorporating user research, analysis, feedback, and empathy; the user's needs are central to design and adaptation (Eyman, 2006; Institute of Design at Stanford, 2010).

Visual Literacy: Fluency in reading, rhetorical analysis, and production of images and image-based media (Duke, 2002).

Visual Rhetoric*:* Creation and arrangement of evidence visually for rhetorical effect (Kress, 2003; Brizee, 2003).

Chapter II Literature Review

The focus of this project centered on student development of rhetorical awareness through critical digital literacies practices used in the production of visual rhetoric assignments. It was therefore most useful to begin with an examination of the theoretical foundations of rhetorical and composition theories, including audience, composition-based pedagogies and New Literacies and multimodalities that have emerged in a digital age. Multimodal, digital spaces connect literacies and pedagogies involved in the framework of critical digital literacies used to code the data. This chapter discusses the relationship of critical digital literacies within community-based writing, genre writing, and concurrent enrollment; all were part of the research design and methodology discussed in the next chapter.

Theoretical Framework

The CDL framework constructed by Hinrichsen and Coombs (2013a), promotes students' critical thinking of rhetorical situations, most notably the contexts and purposes by which both author and audience/stakeholder use digital tools and is a useful model to use in examination of how these practices are developed during creation of visual texts. Additionally, these CDL practices evidence student rhetorical awareness in this study as students design for a specific audience/stakeholder/purpose within a social context. Visual rhetoric assignments used within this study allowed me to observe the choices students make in design and how this impacts their final written essay; the community-based writing project capacitates students' imagination of audience and stakeholders in "real life." In short, the critical digital literacies practices in the framework connect to the four areas of rhetorical awareness and will allow for observation of how students

connect with context, purpose, stakeholders, and audience in their written and visual projects.

For this study, I utilized an existing theoretical framework established by Hinrichsen and Coombs (2013a). In in their article "The five resources of critical digital literacy: a framework for curriculum integration," they argued that a functional framing of technology within writing curriculum does not take advantage of opportunities for effective digital engagement. They further explained that the disassociation between academic and personal spheres of technology use is causing disinterest and disconnect for students. It is thus imperative for teachers to "find ways to integrate not only technology into the discipline, but perhaps more importantly, the discipline into technology" (p. 4). Critical digital literacies practices allow for this shift from skills to situated practices, allowing for a critical focus on the social relations inherent in technological practices and how meaning is constructed, power is distributed, and audience and writer are represented in the text. Additionally, critical digital literacies specifically focus on critical analysis within a digital context; this is an essential element within a world in which the screen is the "dominant site of texts" (Kress, 2003) and multimodal production. Multimodal texts differ from print texts to reposition the creator as "designer, mediator, bricoleur and jammer" (Lankshear & Knobel, 2004 as cited in Hinrichsen & Coombs, 2013a). Drawing on the Four Resources Model (Freebody & Luke, 1999) of code breaking, text-participating, text using, and text analyzing, Heinrichsen and Coombs (2013a) formed a new Five Resources Model of critical digital literacy focused on learner actions (see Table 1). The Five Resources Model (Heinrichsen & Coombs, 2013a)

Table 1

Comparison of the Four Resources Model and the Five Resources of Critical Digital

Literacy

Four Resources Model (Luke and Freebody, 1999)	Five Resources of Critical Digital Literacy *(Hinrichsen & Coombs, 2013a).*
code breakers • How do I crack this text? • How does it work?	*Decoding* Understanding of the navigational mechanisms, conventions, operations, stylistics, and modalities of technology use
text participants or *meaning makers* • How do the ideas represented in the text string together? • What are the cultural meanings and possible readings that can be constructed from this text?	*Meaning Making* Understanding and interpretation related to reading, relating, and expressing ideas of the learner
text users • How do the users of this text shape its composition? • What do I do with this text, here and now?	*Using* Finding, applying, problem solving, and creating with digital tools
text analysts • What is this text trying to do to me? In whose interests?	*Analyzing* Deconstructing, selecting, interrogating digital texts
	Persona Building a digital identity, managing reputation, and participating in the digital realm

serves as the theoretical framework for the study and the subsequent coding framework used to code student writing samples. As this was the foundation for data analysis, each of the five resources are explained below.

Critical Digital Literacies Resource #1: Decoding

Code breaking refers to the ability to encode and decipher written language; early literacy examples include the alphabet, vocabulary, syntax, and punctuation (Ludwig & Authority, 2003). Students utilize phonic, morphemic, orthographic, and etymological knowledge to recognize patterns and make inferences in increasingly complex texts. Within a digital context, *decoding* involves navigation and creation of multimodal texts, including "new terminology and sign systems; presentational conventions and stylistic options; navigational mechanism; and operational concepts and protocols" (Hinrichsen & Coombs, 2013a, p. 7). Characteristic dimensions of decoding in this framework include:

- *Navigation:* conceptual and practical navigational skills, locating oneself spatially and operationally.
- *Conventions*: understanding the practices and norms of ICT usage and participation online in communities such as ethics, privacy, sharing, etc.
- *Operations*: knowledge of common procedures and confidence in engaging with digital tools.
- *Stylistics*: ability to use and analyze design and presentational elements of a digital text.
- *Modalities:* distinguishing between modes of digital texts, including characteristics and conventions.

In the process of decoding digital texts, students become familiar with conventions, structures, and characteristics of digital media and can use digital tools with confidence. In this study, *decoding* is coded according to student demonstration of navigation, conventions, operations, stylistics, and modalities within their submitted coursework.

Critical Digital Literacies Resource #2: Meaning Making

The process of becoming a *text participant* or *meaning maker* includes images, symbol systems, oral language, and emergent literacy skills (Wright, 2012) the first two of which are more innate processes in children (Piaget, 1923). Educators can scaffold children's emergent literacy comprehension through experiences that allow for making meaning and written expression. Meaning making systems are rhizomatic; texts contain signs and symbols within a visual, aural, verbal, or written context and require participation, learners must make inferences using clues in the text to and determine meanings by using prior knowledge, visualizing, asking questions, and synthesizing information (Victoria, 2020; Kalantzis et al., 2016; Fellowes & Oakley, 2014).

Within the context of critical digital literacies, *meaning making* centralizes on agency; the learner participates in design of a text, the process of determining content, style, and purpose is both reflexive and dialogic with prior experience and knowledge. Characteristics of meaning making include:

- *Reading:* purposeful, confident acculturation of digital content and creation of narratives across platforms and semantic/structural/visual elements.
- *Relating:* intuitive connection/linkage/adaptation of new and prior knowledge.
- *Expressing*: careful translation of ideas over a range of modes, including social artefacts and potential audience.

Due to a confluence of expanding digital platforms and ever-increasing collaborative

practices, students need to be able to distinguish, reconcile, and analyze changing or

conflicting narratives and meanings (Kress, 2003; Lurie, 2003). These practices include

moral and ethical judgement and awareness of relationships and contexts. In this study,

meaning making is coded according to demonstration of reading, relating, and expressing

within submitted student coursework.

Critical Digital Literacies Resource #3: Using

Text users are concerned with how the text's composition is shaped by users and

appropriate uses for a text for a determined purpose and/or context. Because rhetorical

purposes for a text's creation vary between entertaining, persuading, informing,

reflecting, recording, and instructing, students must recognize the purposes and contexts

in which they write. This is an ongoing process of learned experience:

> Text composition rarely completely conforms to a single model
> standard. Communicative purposes are achieved by means of more interesting and
> dynamic text when compositional flexibility is applied… Over time and with the
> right experiences, children will likely develop a more innate ability to apply
> structure to the texts they write, and a more sophisticated and flexible commands
> of the organizational and language requirements. (Fellows & Oakley, 2014, as
> cited in Victoria, 2020)

In their roles as producers and consumers of text, users must maintain a critical eye while

examining and identifying the rhetorical purposes of text structure, language, and usage.

Within a digital context, *users* produce and consume digital texts with appropriate

digital tools that are selected carefully for a specific context and purpose; critical, flexible

problem solving both individually and collaboratively is required to find solutions to

emerging potential issues that arise amidst rapidly changing digital technologies.

Characteristics of using include:

- *Finding:* Gathering applicable information while recognizing potential for use within communities, which includes asking, searching, filtering, curation, and sharing.

- *Applying:* Utilizing tools for specific purposes and audiences, includes consideration of ethical, legal, and usability criteria.

- *Problem Solving:* Use of digital tools, resources, and networks to solve and analyze problems and find appropriate solutions.

- *Creating:* Developing innovations and approaches.

Using the texts requires a critical responsibility towards usability in design and focus on audience needs within the text. In this study, *using* is coded according to demonstration of finding, applying, problem solving, and creating within submitted student coursework.

Critical Digital Literacies Resource #4: Analyzing

Text analysts are concerned with establishing a perspective and use composition to relate their own viewpoints and ideas rhetorically. While recognizing potential biases, text analysts use elements of style and voice to persuade their audience (Victoria, 2020). Tightly bound to rhetorical principles of audience and purpose, text analysts critically examine language and visual elements and consider the impact upon the reader.

Within digital contexts, analyzing requires active discernment and responsibility; students make informed decisions regarding the production and consumption of digital material within legal, ethical, and moral boundaries, apply critical, aesthetic, and ethical perspectives, and understand the consequences of digital access and publishing. Characteristics of analyzing include:

- *Deconstructing:* discerning elements of meaning, uses, and messages of digital communication.

- *Selecting:* evaluating, choosing, recommending digital content, networks, artefacts

- *Interrogating:* critically analyzing the potential consequences of digital content, affordances, and opportunities.

Analyzing digital texts requires critical awareness and analysis of the text production and consumption process. In this study, *analyzing* is coded according to demonstration of deconstructing, selecting interrogating within submitted student coursework.

Critical Digital Literacies Resource #5: Persona

Digital text production within modern technologies and media is problematized by the issue of self-presentation in digital spaces. Given the multiplicity of potential platforms, audiences, profiles, and modalities, students need to recognize the variety of variation, repurposing, and recombination they may need to appropriately represent both themselves and the information they wish to relay. Hinrichsen and Coombs (2013a) noted that multimodal textual forms can cause students to perceive disconnect between written and digital forms of reading and writing and require "sensitivity to the issues of reputation, identity, and membership within different digital contents" (p. 12). The purposeful management of and calibration of one's online persona, they argue, includes developing a sense of belonging and a confident participant role. Persona therefore refers to the issues of digital reputation, identity, and membership in the global online community. Characteristics of persona include:

- *Identity building: s*ensibly and sensitively developing awareness of roles within digital contexts; understanding of multiplicity of identity within digital worlds.

- *Managing reputation:* awareness of community and personal reputation and how to protect oneself during online activities.

- *Participating:* ability to exchange ideas synchronously and asynchronously, including ethical and cultural connotations of collaboration.

Students manifest their own digital persona through careful navigation of the audience and demonstrating their own understandings of the consequences of expressing themselves online and their level of ability to exchange ideas collaboratively within their groups during the project. In this study, *persona* is coded according to demonstration of identity building, managing reputation, and participating within submitted student coursework.

Literature Review

First-year composition pedagogies have traditionally included a combination of rhetorical and transactional approaches to textual production and analysis. Aristotle's Rhetoric (2004) introduced a rhetorician who recognized all available means of persuasion within grasp and utilized ethos, pathos, and logos to build a relationship between speaker, message, and audience. Although Aristotle's focus on rhetoric was focused on formal and aesthetic features of communication, both written and oral, new rhetoric theory identified as a contemporary response that connects both writer and audience to rhetorical discourse, action, and participation (Burke, 2006; Berlin, 1982;

Berthoff, 1981, 1982). Students identify their own sociocultural contexts through a critical pragmatism lens of "actively questioning appearances, common assumptions and practices…asking why things appear as they do" (Lawrence-Brown, 2014, p. 43).

Subsequent rhetorical models continued to build from the situation created within the confluence of speaker, audience, and subject participation. Bitzer (1968) established the "situation as the source and ground of rhetorical activity" (p. 6); rhetorical discourse exists as a response to a given situation and participation with a situation can change its reality. Thus, the meaning of language is bound to the context and purpose for which the writer is composing a text. Students learn to identify rhetorical discourse situationally and their textual interpretations are informed by a recognition of the author's stylistic responses to exigent historical, cultural, and economic contexts.

Through textual transactions such as reading, writing, design, students both validate their own past "linguistic- and life-experiences," which bring meaning to the text and discern how their transactional meanings align or differentiate from the author's purpose (Rosenblatt, 2019). Student writers reference and analyze their own transactional meanings to formulate their own rhetorical stances, preparatory for argumentative, researched based academic writing.

Audience and Composition Pedagogies

Audience, an elemental component of the rhetorical situation, is central to effectiveness of rhetorical discourse and is often perplexing to first-year composition students; composition instructors traditionally choose to embrace one of two fictionalized constructs of audience-invoked or audience-addressed (Ede & Lunsford, 1984). This is

problematic and overwhelming to students, left to assume their imagined audience's beliefs and expectations and does not motivate students to action.

FYC pedagogies should include technical communication theories of public discourse to incorporate audience and action. Johnson (1997) argued that technical communication (TC) pedagogies evolve within the spectrum of audience, invention, visual meaning, and ethics towards a third taxonomy: audience involved. This model recognized that writing is more than a user's ability to inform and entertain with their product. Instead of being entertained, the audience is a visible participant who influences content and design. Within this model the audience is no longer distanced and imagined but "real" to students. A "real" audience allows students to design with purpose and visualize their rhetorical situation, thus building rhetorical awareness concretely.

Sociocultural Theories and Composition

A participative model of first-year composition instruction is underpinned by a Vygotskian sociocultural perspective into how learners participate and build knowledge through interactions. Vygotsky argued that the social dimensions of consciousness are more valuable than those of individual consciousness; knowledge comes through interactions and collaborative experience (Vygotsky, 1979). Individual development originates within social contexts because learners work together and internally construct meaning from these interactions and develop new strategies for understanding the world; in short, knowledge is constructed socially and these interactions shape broader cultural and historical contexts (Scott & Palinscar, 2013; Wertsch, 1991; Tudge & Scrimsher, 2003).

Within the first-year composition classroom, students should be encouraged to utilize educational and life experiences to bring their own funds of knowledge to the class discussion and production of texts. The community-based writing assignments within this research study focused on students' own interactions with their community's citizens, facilities, and resources and built collaborative solutions to student-identified community issues.

New Literacies and Multimodality

Literacy, according to Freire (2000), is the process of learning to read and write to understand social and cultural constructs and reveal inequalities in opportunities and outcomes. His praxis incorporated both reflection and action expanded literacy pedagogies towards critical analysis and action towards changing social paradigms and new technologies.

With an influx of rapidly changing social paradigms and proliferation of new technologies, it becomes increasingly imperative for students to examine rhetorical situations critically. Critical examination of how digital technology mediates our social interactions and practices, or New Literacies' (Lankshear & Knobel, 2011) includes continuing critical examination of how students produce, distribute, share, and negotiate meaning within their own social contexts. The ethos of new literacies includes an openness to feedback, welcoming of diverse opinions, and reliance on group collaboration over one central expert (Knobel & Lankshear, 2014) reflective of participatory culture (Jenkins, 2006). New literacies go beyond amending written texts to fit on to a digital page. Instead of focusing on students' development of specific technological skills, which occur often in a social space, new literacies seek to examine

how technological skill development and social learning culminate within "contexts of social purpose" (Scribner & Cole, 1981; Lankshear & Knobel, 2011). A pedagogy of new literacies aligns with critical pedagogies when students are valued for their individual funds of social and technological knowledge each brings to a collaborative classroom setting (Gee & Hayes, 2013).

Multimodal design is a foundational element of new literacy pedagogies. The shift from a semiotic system of specified boundaries towards mutual semiotic principles functioning inter- and intra- modally is intrinsic to the discussion of visual rhetoric because it acknowledges that images can encode action and digital formats can offer different platforms for representation and meaning making (Kress & Van Leeuwen, 2001).

Cynthia Selfe (interviewed by Bailie, 2010) asserted that the role of educators in developing rhetorical effectiveness in student writing is to teach students to recognize the affordances, capabilities, and tendencies of multimodality and how each can shape the ways in which texts are designed to enhance their own writing. "We are going to teach them to be good rhetoricians who can deploy any number of modes of expression and media to make meaning. We're going to teach them to use all available means to accomplish responsible rhetorical ends" (p.21). Multimodal design to contextualize and structure arguments in the composition classroom is a move toward "practical communicative action" (Kress & Van Leeuwen, 2001); students will be better prepared to adapt to the demands of future communicative contexts both in their future coursework and workplace writing (Shipka, 2005).

Visual Literacy

According to Felten (2008), visual literacy involves the "ability to understand, produce, and use culturally significant images, objects, and visible actions" (p. 60). Visual literacy can be in many ways analogous to textual, including recognition, interpretation, and employment of distinct syntax and semantics within diverse contexts. Additionally, visual literacy goes beyond "seeing" an image to active construction of meaning.

Multimodality incorporates visual literacy; working within different modes, students negotiate the use of words and images in the design process to analyze, manipulate, and create images. Duke University (2002) defined visual literacy as students' ability to both read and compose images and understanding the messages that images communicate. Visual literacy includes awareness of the rhetorical situation in which an image exists and the potential potency of its message. Although visual elements such as images, typography, and text are included in the discussion of visual formatting within written assignments, words and images can function together rhetorically, "enabling persuasion and fostering identification" (Blakesley & Brook, 2001).

Many schools have traditionally emphasized textual literacy over visual literacy and words/texts as primary sources of knowledge over graphics and images. Instead of multimodal practices of "blending, mixing, and matching knowledge drawn from diverse textual sources and communication media" (Luke, 2003, p. 398) that students need, they are asked to produce "black and white" writing samples. Within higher education, attention to visual literacy is increasing, evidenced by initiatives like the Spatial Perspectives on Analysis for Curriculum Enhancement (SPACE) program (CSISS, 2008),

which provides teacher resources for spatial thinking in the social and environmental

sciences, Georgetown's Visible Knowledge Project (2006), which provides visual

teaching resources for historical teaching content. Frisicaro-Pawlowski and Robert

Monge (2020) advocated for college librarians to work with first-year composition

instructors to decode, research, and compose both visual and textual forms of rhetoric.

Visual Rhetoric

The New London Group (Cazden et al., 1996) proposed that multimodality

incorporates the necessary teaching of multiple forms of meaning-making: linguistic,

visual, audio, spatial, and gestural. Visuals should thus be reexamined for design

dynamics. function, and meaning (George, 2002) and recognized for their ability to

communicate messages rhetorically. According to the model modified from Moriarty, "A

Conceptual Map of Visual Communication" (1997), Brizee (2003) categorized visual

literacy into three components: *visual thinking* or use of visuals and the thinking process

including metaphoric thinking, visualization, right/left brain mental node

processes; *visual learning* or acquirement of information through visuals including the

design of materials, research on learning, and reading pictures; and *visual communication*

or visual thinking/learning to create texts such as art, aesthetics, and media. Visual

thinking and visual learning are part of image rhetorical analysis and visual

communication is uniquely part of creation of the texts. Located within visual

communication, visual rhetoric uses images as argument and involves arrangement of

page elements, typography, and image analysis (Purdue, 2021b) and is focused on the

production of texts and is a direct, observable application of visual literacy. This aligns

with the shift towards production and multimodal design (Kress, 2003).

Producing texts in an "age of the image" (Baines, 2012), requires a more inclusive definition of text to include printed words, visual images, and new literacies. In 21st century terms, visual rhetoric is included in the "multimedia language of the screen" (Daley, 2002, p. 34). Yancy (2004) encouraged writing instructors to embrace the new writing spaces created through technologies and to redefine traditional definitions of composition.

Integrating visual literacy into the writing classroom can be problematic due to the lack of both an established framework and funding in large first-year composition programs but remains crucial. Without such visual literacy-based pedagogies within first-year composition, students are underprepared to write in the contexts of future college courses and the eventual workplace. Bernhardt (1993) argued that "classroom practice which ignores the increasingly visual, localized qualities of information exchange can only become increasingly irrelevant" (p. 77). Keeping students focused on traditional academic writing genre production and formal essays in a digital world leaves them unqualified for 21st century literacies (Tebeaux, 1988; Horn, 1998).

Foss (2004) framed visual rhetoric to include both visual objects as products and a study of visual data as perspective in which objects "perform" communication. Wright (2018) included the act of communication that uses images and media to formulate arguments. Frisicaro-Pawlowski and Monge (2020) chastised the traditional text writing model of most writing textbooks due to the hypocritical tenet of teaching students to value and engage with multimedia texts, but not to produce anything beyond only one type of written document. They pointed to writing textbooks' claimed focus on visual literacy that blatantly ignored ways in which students could produce multimedia.

production aspect. As a solution, Friscaro-Pawlowski and Monge advocated for a

text/visual writing model in writing textbooks that incorporates both student discovery of

multimedia information along with multimedia-based texts and visuals that allow for

"critical and productive engagement with visual content" to produce student writing

within 21st century digital literacies.

Dominant communication technologies change not only the messages being

produced but also the mindsets of those producing them (McComisky, 2004). McLuhan

and Fiore (1967) explained:

> The alphabet and print technology fostered and encouraged a fragmenting
> process, a process of specialism and of detachment. Electric technology fosters
> and encourages unification and involvement. It is impossible to understand the
> social and cultural changes without a knowledge of the workings of media. (p. 8)

The new discourse, McComisky (2004) argued, is one of image communication. Because

visual rhetoric has traditionally been associated with capitalism and advertising, there is

an essential need for students to become ethical image producers, consumers, and users.

Creating visual rhetoric in the classroom is thus an important space to discuss distributive

justice, including how to elicit wide participation and equitable distribution of

information from and among users.

Visual rhetoric, according to Foss (2004) is both a communicative artifact and a

perspective. As a communicative artifact, the image must have symbolic action, human

intervention, and presence of an artifact. For an image to be visual rhetoric, it must "go

beyond" being a *sign* to being *symbolic* or indirectly connected to the idea it represents.

Additionally, visual rhetoric must also involve human action and presence. Without an

author or audience there is no rhetorical situation. Foss also described how a rhetorical

perspective can be applied to images:

A rhetorical perspective on visual imagery also is characterized by specific attention to one or more of three aspects of visual images—their nature, function, and evaluation. The study of the nature of visual imagery is primary; to explicate function or to evaluate visual images requires an understanding of the substantive and stylistic nature of those images. (p. 146)

Within the discipline of rhetoric, visual rhetoric is therefore distinguished by a specific approach to studying an image to understand its function within the contexts of culture. Although emerging textbooks address the presence of visual rhetoric analysis within advertising, photography, billboards, bodies, and books (Olson, et al., 2008), explicit instruction is still needed to enable students to create such texts.

Digital Literacy/Literacies

Digital literacy is vital to both inclusion and citizenship because students navigate both formal and informal worlds of information and communication technologies (Chase & Laufenberg, 2011); without an understanding of how to use digital tools, digitally illiterate students can be marginalized and inequality gaps can widen (Lee, 2014; Seale, 2010). Constantly changing technologies make defining a set of static digital literacy practices impossible; the spaces, texts, and tools of digital practice have necessitated emerging digital literacy theories within a set of literacies with implications for pedagogy and praxis (Pangrazio, 2016; Leu, et al., 2019; Kress, 2005). This study is located within the theories of critical digital literacies and user-centered design that both hinge upon an understanding of digital literacy in education.

Among the first to use the term digital literacy was Paul Gilster (1997) who defined digital literacy as a cognitive act, "the ability to understand and use information in multiple formats from a wide range of [digital] sources ….Not only must you acquire the skill of finding things, you must also acquire the ability to use these things in your life

(pp.1–2). Bawden (2008) established four core competencies of digital literacy *internet searching, hypertext navigation, knowledge assembly,* and *content evaluation*, but acknowledged that digital literacy also encompassed practices inherent to digital presentation, evaluation, and organization (Koltay, 2011). Martin and Grudeziecki (2006) expanded these competencies to incorporate critical analysis and social implications of use:

> Digital Literacy is the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process. (p. 19)

Thus, the mindset of digital literacy theories broadened from proficiency-based to include critique of digital tools and understanding of the affordances and constraints of their use (Lankshear & Knobel, 2011; Jones & Hafner, 2012). It is therefore superficial to limit digital literacy to the use of digital tools and technologies because literacy involves multiple competencies (Cope & Kalantzis, 2000; Sefton-Green et al., 2009).

With this expansion came more student agency and discussion/recognition of inherent power dynamics within the context of digital tools usage as a matter of social justice. Patton et al. (2010) warned that social justice and distributive justice are not interchangeable synonyms and that a discussion of social justice within education necessitates examination of "social structures, processes, and institutional contexts that produce these distributions in the first place" (p. 268). This connection to social processes was also addressed by McDougall et al., (2018), who imagined digital literacy as "a conduit for social praxis that has the potential to disrupt educational power relations, give voice and address marginality" (p. 264) These authors challenged schools to identify

socially structured inequalities within the use of mobile technologies for learning a matter of social justice. A 21ˢᵗ century reconceptualization of digital literacy should then include a scaffolding of discourse, ideology, and power within digital contexts (Pangrazio, 2016).

Digital literacy has progressed from a set of digital proficiency skills to include social agency. Thorne (2013) outlined a "socio-technical reality" in semiotics in which students developed digital tool usage skills alongside cognitive authority. Digital literacy skills should also incorporate safety and privacy discussions while encouraging students to mediate use of digital tools creatively, responsibility, and ethically (Meyers, et al., 2013). Digital literacy is therefore part of "new literacies" with implications within both formal spaces of work and informal digital spaces of play negotiated inside and out of the classroom (Lankshear & Knobel, 2003; McDougall, et al,, 2018). Consequently, examination of how students integrate digital practices within their own socio-cultural worlds and narratives are essential (Livingstone & Sefton-Green, 2016). Although a multitude of theories have been generated from digital literacy in the exploration of the use of digital literacy practices in educational settings, two which inform writing pedagogy include digital design literacy and critical digital literacies.

Digital Design Literacy

Digital design is a production because the designer negotiates resources and digital tools to contribute and connect to others (Pangrazio, 2016; Sheridan & Roswell, 2010; Kress, 2005, Jenkins, 2006). Kress (2003) asserted that in today's contemporary digital communication, design is more vital than data acquisition, competence or even critique. In response, Pangrazio (2016) encouraged examination of how digital technologies "manifest and maintain systems of power" (p. 164); the design process

exposes a user's individual beliefs and emotions and demonstrates learning (Gauntlett, 2011).

Within a framework for digital design literacy, a refocus on transcendental critique or "critical distance from digital networks" within a framework for digital design literacy will allow for examination of social and political issues surrounding digital media (Pangrazio, 2016, p. 170). A visualization of digital networks in which the user participates will allow them to "see" the architectures that govern design and make redesign possible. Critical self-reflection becomes a means to explore affective responses and can therefore become a "conduit to the ideological " (p. 172). To this end, critiquing, visualizing, and reflecting on digital architecture would open "interpretation and re-articulation of digital concepts" to engage counter hegemonically within digital contexts. The critical analysis involved in design intersects digital design theory with critical pedagogy and theories supported within critical digital literacies.

Critical Digital Literacies

The National Council of Teachers of English's "Definition of Literacy in a Digital Age" (2019) encouraged teachers to find ways in which students can effectively and critically participate in a digitally networked world and "examine the rights, responsibilities, and ethical implications of the use and creation of information." Critical digital literacies involve critical analysis of the student and teacher use of digital tools in the writing classroom.

Discussion of critical digital literacies first requires a recognition of the diverse myriad of literacies required to "access, interpret, criticize, and participate in the emergent new forms of culture and society" (Durham & Kellner, 2012, p. 163). This

extension of plurality nomenclature also exists in other contexts (i.e., New Literacies, techno literacies) (Kahn & Kellner, 2006). Critical digital literacies position users/students at the intersection of critical literacy in which power structures are investigated and disrupted and digital literacy in which digital tools are used to engage with and create multimodal texts (Gainer, 2010; Ávila & Pandya, 2013). Critical digital literacies thus enable students to create and adapt to new, emerging digital platforms and think critically about how dynamics of power can potentially impact self and society.

Luke (2012) defined critical literacy as the "use of technologies of print and other media of communication to analyze, critique, and transform the norms, rule systems, and practices governing the social fields of everyday life" (p. 5) which suggests inclusion of digital contexts. Critical digital literacies enable learning opportunities for students to interact, critique, and collaborate within their own social worlds and rescript their own social, self, and academic identities (Gainer, 2010; Lankshear, et al., 1996; Doerr-Stevens, 2016). The same is true within teacher education; Watulak and Kinzer (2013) used Technological Pedagogical Content Knowledge, or TPACK (Koehler & Mishra, 2009) to create a critical digital literacy framework for pre-service teacher education. In this model, they recognize the social/cultural/historical contexts of and personal/professional contexts as well as the user practices that reinforce an intertwinement of social and digital practices and contexts (Watulak, 2016).

The power dynamic of teacher and student transforms to one of joint producers of knowledge and textual media (Ávila & Pandaya, 2013). Critical digital literacies practices enable students to adapt to changing digital formats (Blevins, 2018) and

recognize the sociocultural lenses which inform their current understandings of the world around them (Blevins, 2018; Watulak & Kinzer, 2013).

Àvila (2021) encouraged educators to consider critical digital literacies within a "kaleidoscope of praxis," centered on the use of digital tools to create and revise both an interrogative and reflective stance. Visual rhetoric design assignments in first-year composition position students to design/create real solutions to community-based problems, interrogating existing power dynamics and reflecting on how their design will impact stakeholders both major and minor.

To position students within critical digital literacies pedagogy, McDougall, Readman, and Wilkinson (2018) examined how a community "third space" positioned between physical/digital and school/home could facilitate digital literacy of students who are disengaged from traditional school learning environments. This third space reimagines the traditional deficit-based rhetoric in place of a "capability lens" through which to motivate and afford disengaged and marginalized students opportunities to build upon their prior knowledge, cultural backgrounds, and life experiences (Hull & Moje, 2012; Yamada-Rice, 2011; Potter, 2012). Instead of a classroom bounded/limited by constraints of curriculum, educators can create "productive sites for engaging with new media" (McDougal, et al., 2018).

Given the current climate of digital classroom engagement due to COVID-19, more opportunities for this third space are available on personal devices than ever before. Digital literacy and social justice have become interconnected spaces to discuss equitable access. In one diverse, inclusive 5th grade classroom, digital tools were used to make curriculum accessible to everyone; students in "the Hive" used a variety of modalities to

within small classroom groups to share, challenge, and inquire about the text both individually and collaboratively through an app called Corkulous with organized digital color coding to record their thoughts, questions, and ideas (Price-Dennis, et al., 2015). Within this study one "struggling" student, no longer bound by academic placement or intervention schedules, found inclusivity within her group to build on her own digital experience, find her own academic interests, and negotiate/express her ideas for social change. This model identifying student strengths and modeling a wide spectrum of digital platforms allowed the instructor to "bridge overarching literary themes to social change initiatives" and build an inclusive classroom community (Price-Dennis, et al., 2015).

Writing classrooms that implement critical digital literacies practices recognize first the socially situated, discursive practices that inform knowledge construction, which is tied to sociocultural learning theory (Gee 2000). Literacy performances in college writing acknowledge how students are positioned within both formal and informal digital worlds, academically and socially, and multimodally. Multimodal classroom physical/digital spaces, critical digital literacies can reveal inequitable and exclusionary practices that impede student access to academic language and resources (Camilli-Trulio & Romer-Peretti, 2017; Price-Dennis, et al., 2015).

Within English language arts writing classrooms, opportunities for students to develop critical digital literacies can empower students to for the first-time position themselves as a social authority in the creation and presentation of their own multimodal texts. Scmier (2013) observed a secondary classroom in which students within a journalism and digital media studies elective used a digital "PSA announcement" assignment to comment on inequities within their own social worlds including abortion

rights, drug use, and teen pregnancy. The multimodality of writing/video was a "democratizing force," providing a means for repositioning "low-literate" students to be creators and designers (Voss, 2018; Hull & Nelson, 2005).

Smith and Hull (2013) used digital storytelling in their classroom to build critical digital literacies; students participated in the "reciprocal processes of critical authorship and readership" (p. 75). Students created and edited video images and scripts to create a cosmopolitan understanding of a social issue and develop empathy through conversation. Hughes and Morrison (2014) created literary circles in their English classroom, safe spaces for students to discuss contemporary young adult literature texts. The critical analysis done within these literary circles opened a space in which to explore social justice issues like war, media, bullying and produce their own subsequent digital texts.

Legitimizing student knowledge and participation within their own informal worlds for classroom writing and discussion is validating and can model critical reflection in a "non-academic" way. In their college writing classroom, Hutchison and Novotny (2018) used feminist theory within rhetoric and writing in a composition course to initially discuss privacy, surveillance, body image, and the sacrifices inherent to social media participation and digital sharing. Through this dialogue and their self-labeled "care pedagogy," students critically analyzed their own conceptions of consent and user agency and how to resist "ubiquitous, non-consensual surveillance of user's bodies" through their writing (p. 50).

A model for digital literacy in the EU developed by Martin and Grudziecki (2006) outlined the relationship of digital tools used to create products helps determine a solution that instigates social action. Community-based writing projects in composition

could utilize this model in the creation of visual rhetoric projects to examine power dynamics of stakeholders, in this case community leaders and citizens, and focus on the outcomes of social action.

User-Centered Design

Elements of user-centered design theory, with its understanding of user requirements, in this case audience needs, and context for textual design provide necessary insight from which to examine the process of rhetorical awareness considerations within student writing and the construction of persuasive "reasoned academic argument" found in the course objectives. A user-centered framework, according to Eyman (2006), relocates curricular focus from a functional-based system design to one of understanding of the usefulness and appropriate functions in design.

Although user-centered design remains a theory foundational to the field of technical communication, its process model of empathize, ideate prototype, test, and refine (Institute of Design at Stanford, 2010) is useful to building a framework of critical digital literacies, which are described in the next section. This framework recognizes an iterative design process hinged upon the needs of the audience. UCD shares common practices of empathy, problem-solving, iteration, and collaboration, but is focused on the user experience as opposed to new product development or services (Browne, 2021). Within the construct of this project, students followed a similar process of identifying audience and stakeholders' needs and designing to meet those needs with a peer review in place of a user test and negotiated revisions in design (Shivers-McNair, et al., 2018). Thus, I did not formally adopt usability testing in this project, but some elements of usability were present in student writing and design.

The most significant rationale for user-centered design practices in first-year composition is the development of more critical, inclusive, socially conscious pedagogies (Moje, 2007; Fang, 2014). Students who learn to consider the user throughout the design and negotiate spaces of difference are better enabled to recognize and respond in an inclusive way (Lawrence-Brown, 2014) and more discerning of stereotypes and assumptions found within their own digital practices (Quigley, 1997). This inclusivity practice eventually leads to the promulgation of more informed, socially conscious participants of society.

Among the most significant concepts of user-centered design applicable to student rhetorical awareness are a focus on the expectations, characteristics, goals, and contexts of readers (Purdue, 2021a), reminiscent of critical pedagogies. A user-centered design approach demands consideration of what information users will need and due diligence to ensure that information is accessible. user-centered design also requires students to identify elements of design within their own design or others, which make the document "usable" or purposeful for the readers. The "user" within user-centered design in this project is the "audience" or "stakeholder" in the context of the rhetorical awareness model provided in the next chapter.

According to Miller-Cochran and Rodrigo (2009) usability is a process of "anticipating users' needs and expectations while designing texts, documents, systems, platforms, spaces, software with a purpose in mind that is appropriate to and tailored for that audience of users" (p. 1). Within sociocultural contexts, usability remains dynamic and positioned between the local and global (Sun, 2012). Thoughtful, intentional design

with the audience's needs at the forefront transcend technical communication genres and are essential to ethical, critical digital design in first-year composition courses.

Accessibility is a large component of user-centered design; the readers' ability to consume textual information is both a matter of practical, critical, and ethical concern in design. Although students will consider basic measures of accessibility, including language, captions, file formats, and digital access to the document, the scope of the course dictates that students will not have formal instruction in using other accessibility tools. I acknowledge accessibility here an entire field devoted to promoting accessible practices and the tools by which document designers can build ethical, user-centered documents (Huntsman, et al., 2019; Palmer, et al., 2019).

Genre Writing

Genre knowledge is one schema students can utilize to approach new writing contexts and tasks; procedural knowledge within the writing process can be affected by the social particulars of a given writing situation (Beaufort, 2007). To observe the processes by which students develop rhetorical awareness through a framework of critical digital literacies and principles of user-centered design, the researcher selected the genre of a community-based proposal. Students bring their own discursive resources with them to first-year composition classrooms (Reiff & Bawarshi, 2011) and these prior discursive resources can conflict with academic writing expectations in the college classroom. Sommers and Saltz (2004) categorized student writerly identities here into expert and novice roles; students are inherently experts within their own communities in their own observations and individual experiences.

Concurrent Enrollment

Concurrent enrollment (CE) and dual enrollment programs give high school students the opportunity to take college-level courses in a secondary environment to help them transition from high school to college institutions (NACEP, 2021). Pragmatically, students find this a low-cost option that allows for both high school and college credit to be earned simultaneously (USU, 2021); over $62 million was saved in tuition dollars by students taking concurrent courses in the 2019-2020 school year (USBOE, 2021). On a national level, over 1.4 million high school students enroll annually in college-credit courses including these concurrent enrollment programs (Denecker, 2020).

Within the state of Utah, concurrent enrollment has been recognized as an accelerated program since 1987 (Senate Bill 228) and is funded by annual state appropriation and over 35,000 students in Utah participate in this program annually (USBOE, 2020). According to the Utah Board of Higher Education (2020), concurrent enrollment instructors must have a master's degree or higher in the course's academic field and credits for the course are accepted by all in-state public higher education institutions; in essence students receive the same college level of curriculum and quality of teaching they would otherwise receive at an institute of higher education within the state. Student participation in concurrent enrollment courses within the state of Utah has risen 11.4% from 2018-2019 to 2019-2020 school years, with over 43,000 students taking a broad variety of general education courses and of these over one fourth from Utah State University (USBOE, 2021).

Composition concurrent enrollment courses provide a space of academic freedom and a "unique pedagogical space" in which students can use higher-level critical thinking

than in general high school counterpart courses (McWain, 2018). Although composition scholars have been wary of concurrent enrollment and the rise of first-year composition in high school, questioning whether these courses can offer the same robustness and intellectual rigor as college courses, many programs have chosen to focus on the spaces of possibility within the rise of concurrent enrollment composition course offerings (Denecker, 2020). Evidence suggests that concurrent enrollment students perform equivalent to students taking these courses in a traditional college setting. Hansen, et al. (2015) found no statistically significant differences in the writing performance of students in a history course who had completed first-year composition through concurrent enrollment than through a traditional first-year composition course taught on campus. Although the debate between the value of first-year composition taught through concurrent enrollment vs. traditional remains a critical issue of debate within the composition community, it is not the focus of this study.

The increase of composition concurrent enrollment courses is evidence of a trend in which more students will encounter first-year composition in a high school classroom. In 2019, the Conference on College Composition and Communication issued a statement recognizing the "increasingly large number of students earning college credit for first-year composition" that reverberates a sentiment of the composition instruction collectively that concurrent enrollment is here to stay and growing in popularity. The eventuality of first-year composition concurrent enrollment courses eclipsing those taught on campus is a distinct possibility; the standard for 12th grade English will become first-year composition. In the context of this study, concurrent enrollment students are burgeoning adults who are preparing to graduate high school, vote, and live

independently. As such, these students may be novices to the proposal writing process but informed experts as to the needs of their own student citizen community. Thus, more research is needed, and it becomes imperative to examine first-year composition students in the concurrent enrollment classroom setting.

Chapter III Methodology

Study Design

This study utilized a qualitative case study design to examine and analyze data from multiple perspectives (Stake, 1995; Tellis, 1997). Simons (2014) defined case study methods as "in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, or system in a 'real life' context (p. 457). The case study design of this study allowed the observation of the sociocultural learning contexts in which students practice CDL and how participants negotiated factors of critical digital literacies reflected in their visual design.
Subsequently, the case study design created a space for the researcher to make situated generalizations within the contexts of practice (Simons, 2014; Stake, 2010)

This research investigation was contextualized in sociocultural theories of education and acknowledges the social nature of concept development (Vygotsky, 1987; Cole, 1996; Wertsch, 1991; Smagorinsky, 2008). It was thus inherent to the study's context to observe the collaborative writing processes within group visual, written assignments and how these processes impacted students' individual skills and beliefs.

Qualitative data included course assignments submitted digitally as multiple embedded case study data (Yin, 1993) including three visual assignments, three written reflection assignments, and final research-based proposal essay. Student reflections provided insight into the collaborative digital design process and illuminate the development of critical digital literacies and rhetorical awareness among groups and group members (Baghban, 1984; Barone, 2011). Simons (2014) urged that case study research must determine the exact focus of the study to use when framing

questions/issues and examine what "constitutes" the case to maintain a focus on people not policies ("people are paramount") (p. 460). Often, the researchers claim, these steps are "ignored in an enthusiasm to gather data, resulting in a case study that claims to be research but lacks the basic principles required for generation of valid, public knowledge" (p. 460).

In following suit, this study focused on the CDL practices manifest in a proposal using an established theoretical framework and designed to be open-ended to provide flexibility and probing (Simons, 2009; Simons, 2014). Reflection questions for modules 1-2 were taken from the CDL framework (see Figure 2). Appendix G includes a side-by-side comparison of each CDL practice within the framework and corresponding reflection questions to illustrate how reflection questions were designed to elicit critical thinking about each practice. Questions were designed specifically to address critical digital literacies within the framework (Figure 2). As module 1 was focused on defining the problem, questions referred to the Mapping the Problem assignment; module 2 focused on the Solution Infographic and Community Flyer assignments.

Reporting of case study results was also connected to established qualitative methods, making inferences regarding participants use of evidence to promote practices/policies that will most benefit FYC students. Inferences were made within a context of in-depth interpretation that utilized situated understanding to connect students' particular/unique experiences during the course, a process commonly referred to asparticularization (Simons, 2009; Simons et al., 2014; Schuelka & Lapham, 2018). The outcomes for the study are outlined in a logic model (see Figure 2).

As the researcher, I acknowledge my own positionality both as instructor and creator of course curriculum as an integral part of the research study design (Gallas, 2001; Smagorinsky, et al., 2006; Smagorinsky, 2008). Thus, potential bias was mitigated by retrospective data collection and analysis. Two groups were randomly selected from those who gave consent (5 groups) as subjects for case study analysis at the course's end. With over 15 years of experience in teaching this course, no training was needed as I am the both the instructor and data collector.

Figure 2

Logic Model
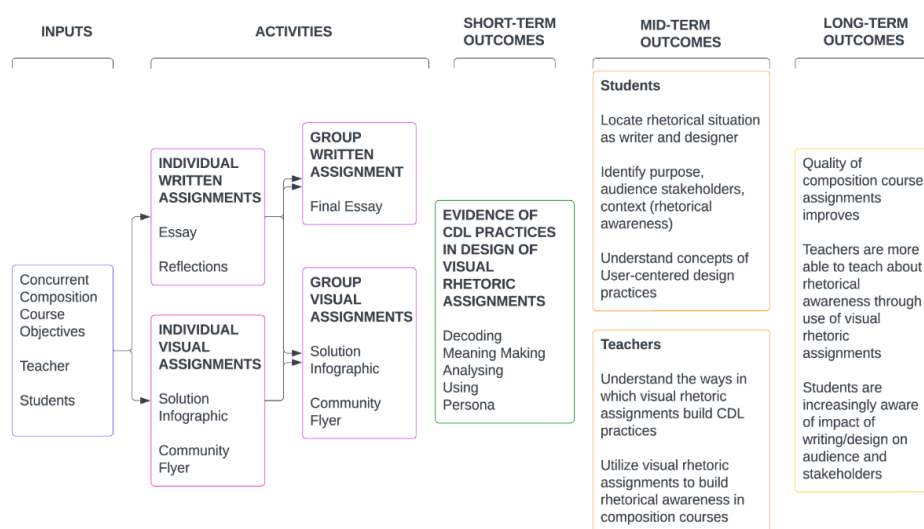
Scope

Within the discussions of user-centered design in this study, I chose to present a generalized discussion of accessibility in this study to focus my examination on other composition processes within this first-year course. It is therefore important to note that

accessibility remains a critical element for pedagogies and practices which utilize user-centered design.

Other pedagogical teaching elements used with brevity due to the project's scope include group collaboration, community-based writing, and composition processes in first-year composition. While I acknowledge these each as important intersections to the project in observing critical digital literacies practices, they are not included in my scope for the project. Additionally, the oral presentation assignment and other group assignments, including peer review and group member evaluations completed in the course were not included within this study.

In my focus on text production, I used student reflections to interpret students' own observations made within their individual and group assignments. Student experience with digital tools and their availability for completion of visual assignments were an initial concern but did not prove to be a limitation in the study.

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Setting and Participants

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The setting for this study was a public, suburban 9-12 grade high school in the American Mountain West, enrolling approximately 18,000 students (US News, 2023). The English 1010 courses met 2-3 times a week on a rotating schedule according to the outlined school district calendar.

The concurrent enrollment program which these students participated in was designed to enable high school seniors who qualified with a 3.0 GPA, no failed concurrent courses, and were approved by counselor to receive college credit before graduation. Participants in English 1010 courses included high school seniors, 17-18 years old, who had completed 11th grade English through their high school (USU, 2021).

Class enrollment for the course sections in this study was determined by the high school and official registration through the university in which students were randomly assigned to one of three class sections. Participants for this study were enrolled in a semester long English 1010, *Introduction to Academic Writing* course. Students enrolled in the course from which participants were selected were primarily white, native English speakers with a minority enrollment of 17% (*US News*, 2023). Within each of the three classes sections, students were separated into groups of 3-4 students each for the proposal project's duration (second half of the course). The unit schedule is found in Table 1. Course materials include *Writing Today* (Johnson-Sheehan & Paine, 2018) and *In Defense of a Liberal Education* (Zakaria, 2015).

Participant selection was done through purposeful sampling (among students enrolled in the course). Within the student groups, five groups had documented consent (both student and parent) by all group members; the researcher randomly selected of these two groups, which resulted in a manageable case study—two groups of three students each (six participants total).

Recruitment

Participants were recruited from three sections of ENGL 1010, *Introduction to Academic Writing* in Fall 2021 through the high school's concurrent enrollment program with Utah State University; all students in these sections were asked to participate. An IRB approved Informed Consent and Assent for Families letter, written by the researcher, was introduced to students during class time by Dr. Amy Piotrowski via synchronous broadcast while I was not present in the classroom. The materials included a parental informed consent and a youth assent form signed by parent and student. A separate

informed consent letter for students who had already reached the age of consent or would

do so by the end of data analysis was also offered but students chose to the former option

of both student/parent consent. All participants completed the parent consent/youth assent

form. Forms were available electronically for students and parents through an online

survey and a letter outlining the process for consent was sent home with students with a

QR code with the survey link. I did not have access to this data until the course ended and

assignment of final grades; this waiting period assured that student participation had no

direct or indirect impact on student grades. See Appendix A for the IRB Letter of

Approval, including the letter of consent for parents and youth. For privacy reasons, all

identifiers of the school and contact information for the investigators were rescinded

within this image.

Data Collection

With the exception of written reflections, final assignments were designed and

submitted collaboratively as a group. Specific information regarding assignments is

included in the following appendices: Appendix A: IRB Letter of Approval; Appendix B:

Course Assignment Description; Appendix C: Online Module; and Appendix D:

Assignment grading rubrics for visual and written assignments.

Although students could conference with me during the project, including class time

spent within their groups, this data was not recorded or collected.

The materials collected consisted of student writing submitted for the course

including Visual assignments (Mapping the Problem, Solution Infographic, Community

Based Flyer); Written reflections (Module #1: Defining the Problem, Module #2:

Solutions) and the Final Proposal Essay assignment. Module #3: Writing the Proposal

Essay, Module #4: Presentations and Revisions were not used in data analysis and reporting.

Data was collected from Canvas, the university's learning management system where students submitted coursework electronically for ENGL 1010. Each participant was given a pseudonym. Upon data collection, student work was only associated with the participant's pseudonym. Data was securely stored in a restricted-access folder on Box.com, an encrypted, cloud-based storage system. Participants' identities were not revealed in any presentation or publication resulting from this research project. Participant work may be quoted in presentations or publications, but any use will only be associated with their pseudonym.

Study Procedures

Two groups of three students each were selected to participate in the study and were given pseudonyms: Group 1 (Kate, Brayden, Sophie) and Group 2 (Jake, Abby, Cami). See Table 2 for a complete weekly schedule; each will be discussed in this section.

Week 8: Unit Introduction

During the first week of the project, students began Module #1 with explicit instruction from their textbook about the elements of the genre of a proposal. The textbook outlined how to invent ideas, explore, and solve problems, and begin defining a problem as the topic for the project. Students learned how to narrow down topics, formulate initial research questions, and begin to craft an effective thesis statement through modeling and use of a mentor text, "A Modest Proposal" by Jonathan Swift (1997) which was written and published in 1729.

Table 2

English 1010 Proposal Unit Schedule

Week 8	Class Topics	Assignments
8	Intro to the Proposal Genre Visual Rhetoric and Situation	Group assignment requests
9	Module #1: Defining the Problem Finding Primary and Secondary Sources	Locate a problem
10	Module #2: Solutions and Stakeholders Elements of UCD design- major	Mapping the Problem Module #1 Reflection Solution Infographic (draft)
11	Module #2: Solutions and Stakeholders Elements of UCD design- minor	Community Based Flyer (draft) Module #2 Reflection
12	Module #3: Writing the Proposal Essay Using Sources in Text	Module #3 Reflection
13-14	Class time for Group Work	
15	Module #4: Presentations and Revision Group Presentations	Solution Infographic (final draft) Community-based Flyer (final draft)
16	Module #4: Presentations and Revision Revision Strategies	Proposal Essay (rough draft) Peer Review of Proposal Essay Module #4 Reflection
17	(Work on drafts)	Proposal Essay (final draft)

As part of Week 8, students were introduced to their groups and spent time discussing potential topics and were given by the agency to choose their group proposal topic. The topics they chose were problems they noticed in their own communities including neighborhoods, social groups, school, city, county. In this way students were

encouraged to identify the rhetorical discourse of the problem situationally including

potential audience and stakeholders and the problem's causes and effects on their selected

community. I conferenced with each group during class time digitally (via broadcast) in

which each group member was asked to determine why this would be a feasible problem

to explore, what obstacles they anticipated, and what causes/effects of the problem they

had already observed, building on any prior knowledge. See Table 5 for a list of group

members and their corresponding proposal project topics.

During the second session of the week, students learned about the elements of

visual rhetoric (Purdue, 2021b), including the use and arrangement of images,

typography, colors, and other elements to create an argument. As a class, we discussed

each image and what the image communicated; visual rhetoric was explained here in the

class according to the Purdue OWL (2021a) website as the use/production of images as

argument and the direct, observable application of visual literacy. Students discussed how

each image was effective or not in relaying a message or what they assumed the message

to be. This correlates with the visual communication definitions outlined by the new

literacies in Chapter II.

Week 9: Module #1 Defining the Problem

In Week 9, explicit instruction focused on how to locate or define a problem to

examine for the proposal project. To illustrate this principle of mapping, students

completed a teacher-led mapping exercise in which they mapped out a series of

memories in elementary or secondary school, adding details visually and ultimately

authoring a story about the experience. The teacher then gave an example of a local

traffic intersection, and the class brainstormed the causes/effects of the problem,

including the potential audience—who drivers, pedestrians, passengers might be and how they may feel about the lack of a stoplight and increase in traffic due to a growing population, development, and lack of infrastructure in the area. As a class, students discussed how to locate and distinguish between primary and secondary sources for the project; using the traffic intersection example, they located who would be/a good potential primary source with whom to discuss the problem and gain insight. See Table 3 for a list of participant groups and topics.

Table 3

Participant Groups

Group	Group Members (Pseudonyms)	Proposal Project Topic
1	Kate, Brayden Sophie	County Water Conservation
2	Jake, Abby Cami	School District Curriculum Reform

During formal group work time in class, students worked on mapping the problem to locate and brainstorm about a problem in their own communities for the proposal project. This was valuable time for them to collaborate as a group and make decisions on the required elements of the mapping assignment including the problem, causes, effects, stakeholders, audience, prior knowledge, as well as which digital tools to use and how to visually communicate their ideas, several were modeled through examples in class. This

aligns with the concept that visual rhetoric should involve human action and presence, how a problem functions in context (Foss, 2004).

To promote the use of primary sources for the project, contact information for several community and school district leaders was provided, including a few individuals who had already volunteered to answer student questions via email concerning their topics and potential solutions. The visual format of this assignment was useful to assess and discuss with the group about initial feasibility and narrowness of scope to help students in the foundational stage of the proposal project.

In correlation with the mapping assignment, completed the corresponding Module #1 written reflection questions. See Table 4 for an outline of the proposal project assignments and methods of submission. For a complete list of assignments, see Appendix B; for the LMS assignment descriptions and grading rubrics, see Appendix C and D, respectively.

Table 4

Proposal Project Assignment Phases/Methods of Submission

Project Phase	Planning	Individual Work	Collaboration
Submission Type	Group	Individual	Group
Visual Design	Mapping the Problem	Solution Infographic Community-Based Flyer	Solution Infographic Community-Based Flyer
Written Assignment	N/A	Proposal Essay Draft	Final Proposal Essay
Written Reflections	Module 1 reflection	Module 2 (visual design) Module 3 (essay)	Module 4 (final project)

Weeks 10-11: Module #2 Solutions and Stakeholders

After mapping the problem, students were then asked to shift focus in Weeks 10-11 towards stakeholders and audience. These two groups were separated to align with the rhetorical awareness model; to model the dimensions of the rhetorical situation, they completed a worksheet in class (see Figure 1) to label the purpose, audience (minor stakeholders), stakeholders (major stakeholders), and context for their proposal. This worksheet represented a model for rhetorical awareness (Purdue, 2021a) in which students focused not on reproduction of specific textual genres to instead focus on designing with a goal and awareness of the rhetorical situation.

For the purpose of explicit instruction, the term stakeholders included both audience and stakeholders. This was done in an effort for students to visualize both groups within their community as active participants with a stake because they would be affected directly by both the problems and the solutions they chose to implement. Stakeholders were thus divided into two groups:

Major Stakeholders: community/corporate leadership positioned to implement solutions for the community, including city/county government, school districts)

Minor Stakeholders: public/citizens affected by the problem in the community to solutions would also affect.

It is important to note here that in a project designed to practice and promote equity, these monikers of major, minor were used in lieu of stakeholder/audience or stakeholder group A/B, which would be more equitable, in order to build on existing student understandings of audience; when I introduced both groups to the class initially as stakeholders there was confusion and I wanted a clear denotation between the groups.

These monikers are also indicative of the power dynamics typically present in a community (elected/selected individuals and groups that make decisions on behalf of citizens vs. citizens who are often affected by community issues but without resources or rights to implement their own individual solutions). Often both groups are affected by the issues and so these denotations were the most effective in this case.

During week 11, students were introduced to user-centered design and the class discussed the importance of identifying and understanding the expectations, characteristics, and goals of their potential audience and stakeholders for the project. See Table 6 for an outline of the proposal projects and audience. I met with groups for 10-15 minutes during class time to review their audience/stakeholder profiles and discussed what design choices would make the information most accessible to the stakeholders (infographic) and audience (flyer).

Students were also introduced to additional digital tools with infographic building tools in class. During further class discussion, students were provided several examples of infographics and flyers and together they pointed out what they deemed as effective design techniques. Individually, students worked on their own individual drafts of infographics and flyers outside of class. Additionally, students discussed collectively and in groups why/how power dynamics worked among their stakeholder/audience groups and how digital technologies can make these systems of power manifest, including their own responsibilities as designers to promote accessibility for their intended audience (Pangrazio, 2016). Table 5 lists the proposal project assignment audience for each assignment.

Table 5

Proposal Project Assignment Audience

Assignment	Audience	Focus Area of Rhetorical Awareness
Mapping the Problem	Group Members/Teacher	Context
Solution Infographic	Major Stakeholders	Stakeholders/Purpose
Community-Based Flyer	Minor Stakeholders	Audience/Purpose
Proposal Essay	Major Stakeholders	Context/Stakeholders

Week 12: Module #3 Writing the Proposal Essay

In Week 12, students learned about creating a format outline for the final proposal

essay; as a class we returned to the mentor text ("A Modest Proposal") and outlined

sections in the work that correlated to their own assignment: problem's cause/effects,

detailed plan including steps, deliverables, stakeholders, audience, and cost-benefits

analysis. The class discussed the original rhetorical situation for the text and Swift's use

of satire. The distinction of stakeholder (major stakeholders) vs. audience (minor

stakeholders) enabled a discussion of power dynamics between these groups. Students

were explicitly instructed on how to access the university library for secondary sources

and how to find primary community-based sources. Students also reviewed MLA

documentation and discussed how to avoid bias in writing, including use of gender-

neutral pronouns, people first language, and specificity when referencing people and

groups. This textual analysis/interpretation instruction and subsequent writing explicit

instruction allowed students to make connections regarding the author's stylistic

responses to exigent historical, cultural, and economic contexts. Reflection questions for Modules 2-3 were completed during weeks 12-14.

Weeks 13-14: Group Work

Module #3 focused on drafting and revising the infographic and flyer through collaboration and students received explicit instruction on peer feedback, group collaboration, and visual presentations. As students had received feedback from individual drafts, they worked during designated class time to create one group infographic and flyer using each members' ideas through collaboration. During this week, I conferenced with groups during class time about the collaboration process. In this way, the CDL practices enabled students with a learning opportunity to interact, critique, and collaborate within their own social worlds (Gainer, 2010; Lankshear et al., 1996).

Week 15: Module #4 Presentations and Revisions

During class time, each group gave a 15-20 minute oral presentation using their revised group visuals. They discussed how each would be used to promote their proposed solutions. Each group member participated in group presentations and fellow students asked questions and gave feedback after each presentation. Final drafts of the solution infographic and community-based flyer were due on Canvas before the group presentation so that they could be displayed on the screen.

Upon submission of final proposal essay rough drafts, Canvas automatically assigned peer reviews for students complete individually; because students had already completed peer reviews for other assignments earlier in the course they were well acquainted with the process and did not need further instruction. I then reviewed peer review assignments to assure that every student was reviewing an essay outside of their

group. Students used the Proposal Essay grading rubric (see Appendix D) to complete the peer review adding comments in each area of the rubric and assessing how well the essay addressed each rubric section.

Week 16-17: Final Essay and Reflection

During Week 16, students were given explicit instruction regarding revision strategies and given class time in groups to collaborate, revise, and discuss peer review feedback. Students also completed reflection questions outside of class electronically for Module 3.

Assignments were completed individually first to provide evidence of how students engaged with digital text themselves through the creation of their assignments. This then allowed me to then observe and examine the group collaboration process with visual texts and CDL practices involved with social collaboration as discussed in Chapter III. More about this process is discussed in Chapter V.

Upon completion of the course, data was collected, and data was coded per the outlined methods earlier in Chapter III. (see Appendix E for a coding key and Appendix F for coded examples). The results of coded data are presented in Chapter IV and discussed in Chapter V.

Data Analysis

Student work was coded according to a priori codes established in the critical digital literacies framework developed by Hinrichsen and Coombs (2013a): decoding, meaning making, using, analyzing, and persona. Coding was done on all collected student writing, including visual and written assignments and written reflections. A copy of the

coding key is included in Appendix E and Appendix F includes several examples of coding in the infographic, flyer, essay from groups 1 and 2.

Initial coding was completed by three people including myself, another English 1010 instructor with two years of experience, and a graduate student enrolled in the rhetorical studies MA program at a local university. Upon data collection, each coder received copies of all assignments for each participant by pseudonym and a copy of the coding key with guidelines of evidence for each code in visual assignments, written essays, and written reflections and each reviewer coded all assignments for both groups (see Appendix E). The five codes were used on all student coded work including reflections.

The coding key was taken from the characteristics of each of the five resources in the framework and corresponding actions (see Table 1). In addition to the keywords/actions in the framework, coders were also given a few examples of the actions described to facilitate recognition of codes during coding. For example, under the Decoding section, navigational mechanisms, conventions, operations, stylistics, and modalities are the actions described. Under navigational mechanisms, the two examples are 1) spatial location/organization of elements i.e. problem, solution, costs, benefits) and 2) conceptual navigation, clear transitions between elements. See Appendix E for a complete coding key; coding results are discussed in the next chapter.

Trustworthiness of Results

To help coders recognize evidence of the codes within student work, I used the CDL framework (Heinrichsen & Coombs, 2013a) to create a coding key for each of the 5

codes- decoding, meaning making, using, analyzing, and persona. The Coding Key is included Appendix E.

Upon distribution of student samples, I met with both reviewers together to explain the coding key and procedures for coding, including the student reflection questions and how each reflection module (1-2) contained questions to focus on the five resources as codes. I then verbally modeled the process of coding using a flyer that was posted in the classroom by the university student government and shared on their social media page (*USU Tooele*, 2022) and the first page of Group 1's final essay as a model for coding. To code, coders were instructed to highlight/underline the words, image, or sentence that evidenced the resource and clearly label it on the draft. In the initial coding meeting, I also answered any initial questions, which included creation of a nomenclature for codes Decoding (D), Meaning Making (M), Using (U), Analyzing, (A), and Persona (P). All student work including reflections was coded using the same key. Coders were then instructed to reach out with any questions they had while coding and to complete the process within ten days.

After the first round of coding, the researcher met with each reviewer to discuss coding results and any emerging or nonexistent codes or patterns they observed from the coded drafts both individually and within each of the two groups. Using the student documents, we discussed our results for each group one by one to collaborate. In the event of a discrepancy, we simply used both and discussed why/how. For example, when one coder commented that the structure of the written assignments and use of rhetorical appeals was intuitively in the analyzing code and we agreed that use of rhetorical devices

would be included under analyzing and we discussed why/how this was evidence of student analysis of the format of their argument.

In the post-coding meeting, the coders also discussed any emerging patterns observed during the coding process. One main observation was the use of pronouns in the visuals and how these would be included as part of persona; we discussed the patterns of pronoun use in each group, which will be discussed in the results section. Much of the discussion centered around how the group work reflected individual students' work: what specifically was taken from individual visuals and used in the final group visual? During this collaborative discussion, the researcher took notes of the emerging patterns observed and any applicable coder comments to consider in the context of reporting results

After this discussion, the coders decided that there was enough evidence of sub codes within each larger code as listed on the coding key to differentiate in reporting. As a result, the researcher took the coded results and then separated the coding results into these sub codes for reporting in Chapter IV. Sub codes are defined in the coding appendix. Here is a list of sub codes used:

- Decoding: *Navigational Mechanisms, Conventions, Operations, Stylistics, Modalities*

- Meaning Making: *Reading, Relating, Expressing*

- Using: *Finding, Applying, Problem Solving, Creating*

- Analyzing: *Deconstructing, Selecting, Interrogating*

- Persona: *Identity Building, Managing Reputation, Participating*

Student reflections were coded in the same way; reflection questions for modules 1-2 were geared to focus specifically on each of the 5 resources; we discussed whether

student responses gave evidence of the intended resource. For example, *did asking them about their confidence in using digital tools elicit a response that corresponded with decoding?* In most cases the questions used words directly from the coding key and students answered accordingly allowing us to observe how students reflected on each of the resource areas/codes. See Appendix G for a listing of reflection questions and the targeted CDL practices/areas of rhetorical awareness. It was decided that the reflection questions for modules 3-4, as they did not focus specifically on identifying CDL practices, were not needed for data analysis and reporting.

Limitations

Limitations of this study include the researcher position as instructor and sole implementer of the intervention. The selected high school is in the American West and the student demographic may not be representative of other concurrent enrollment programs in the US. Another limitation is the duration of the assignments over the final six weeks of instruction. Future research design could be changed to maintain a semester-long scope with more assignments and opportunities to practice visual rhetoric design.

Chapter IV Results

Coded results are discussed below according to individual and group; correlating reflection questions (see Ch. 3) are discussed in relation to these assignments. For each student group (1, 2) the mapping assignment is first, followed by individual assignments by group member, and then the final group assignments. Each coding section uses the sub codes in italics as present to differentiate how those practices fit into the larger code. These sub codes are listed here (and discussed in Chapter III):

- Decoding: *Navigational Mechanisms, Conventions, Operations, Stylistics, Modalities*

- Meaning Making: *Reading, Relating, Expressing*

- Using: *Finding, Applying, Problem Solving, Creating*

- Analyzing: *Deconstructing, Selecting, Interrogating*

- Persona: *Identity Building, Managing Reputation, Participating*

Group 1 (Kate, Brayden, Sophie): Mapping the Problem

For the Mapping the Problem assignment, Group 1 examined population increase in their community and the subsequent county water supply decrease. Central to the map was a gray textbox reading "Number of homes being built increases while county water supply decreases" with arrows proceeding in multiple directions, connecting elements of the issue. The title of the group map is "Number of homes being built increases while county water supply decreases" as the center theme. See Figure 3 for the Group #1 mapping the problem assignment.

Figure 3

Mapping the Problem (Group 1)
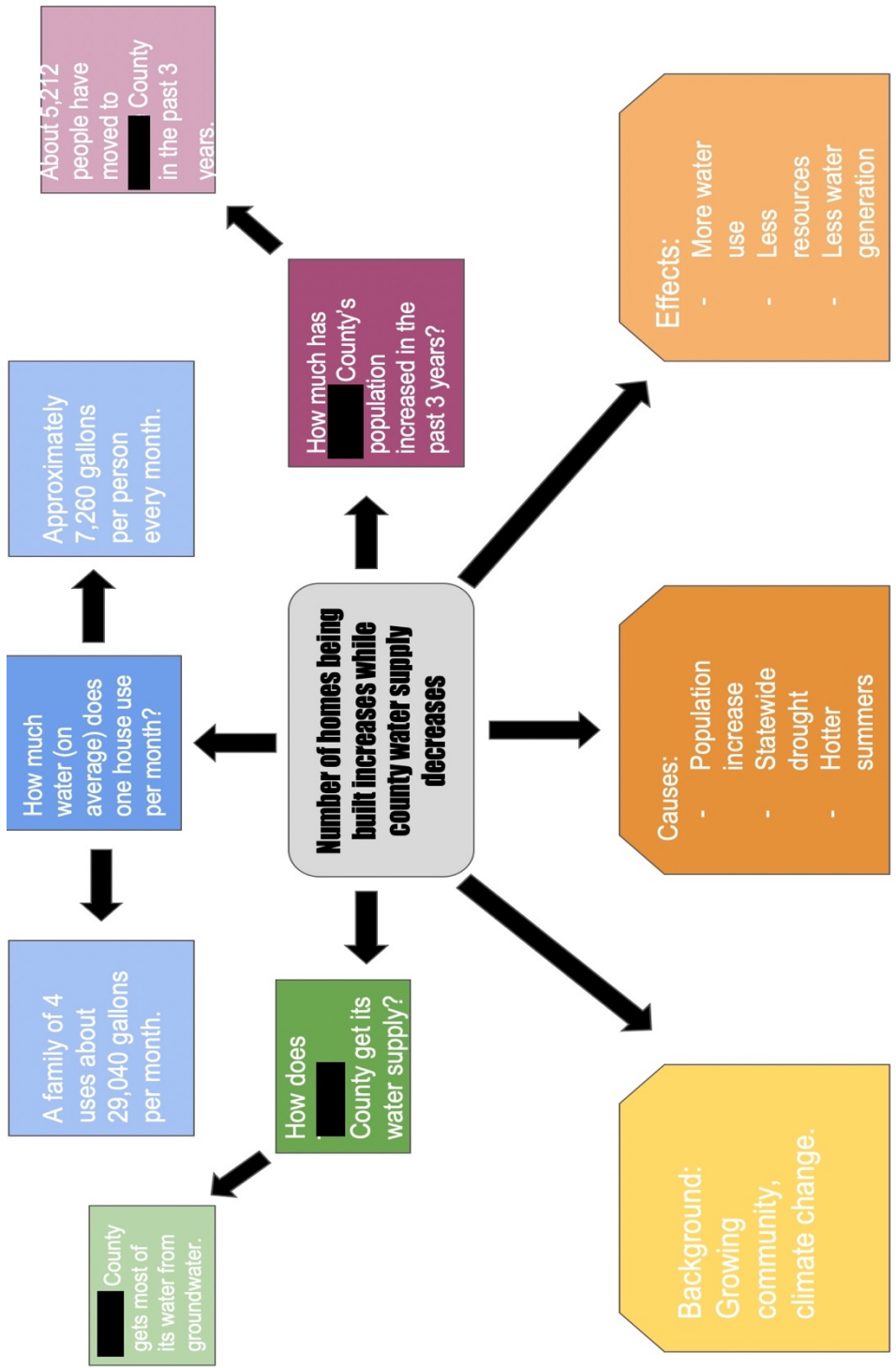
Decoding

The problem's central placement and use of boxes, spatially situated equally from each of the top boxes, were evidence of navigational mechanisms within decoding practices. Additionally, the group evidenced spatial location/organization of elements present within navigational mechanisms in several ways:

- Connections between the textboxes with arrows which denote a flow from question to answer among the three major questions listed, which were edited to remove name of county: *How much water (on average) does one house use per month? How much has our county's population increased in the past 3 years? How does our county get its water supply?*

- Dividing the bottom half of the map into background, causes, and effects, each clearly labeled.

Stylistics were present in the choice of color, font, and text size to separate questions the group asks of the reader and what they already know about the subject, although the visual was void of color (gray).

After completing the mapping assignment, students submitted a module #1 reflection. Group 1 members overall remained confident in their ability to navigate within the program, evidence of *operations* or confidence in using digital tools:

- Kate: "Initially I was a little unsure of how well I would be able to utilize digital tools to create a map. During the design process, I realized how easy it is to use the shape tool on Google Slides to create an aesthetically pleasing map."

- Sophie: "I was pretty confident that my group and I could figure out a good

  format using digital tools [for the map]. As we were working, I realized that

  making the map would be easier than I originally thought."

- Brayden viewed digital tools as an initial barrier for how the group organized

  their ideas on the map: "at first it was hard to come up with an outline… with

  some configuration and the right mindset [it worked] but we needed to come up

  with an idea that work[ed] around our limitations." He did not specify which

  limitations, but these could have included late submission of his assignments.

Meaning Making

Group 1 demonstrated r*eading* within the practice of meaning making in the central

questions asked *("How much water (on average) does one house use per month?")*

answered by using a fact about water usage for a family of four, assuming this was an

average household size. *Relating* was evidenced by organized information in the map as

given to new—using a given. obvious, fact to residents that their county's population had

seen a sharp increase over the past few years to connect their observations of this fact.

The new evidence provided is how much over the past three years about 5,212 people

have moved to the county.

Within the module #1 reflections, Group 1 used *expressing* as they evidenced an

understanding of the context of the problem as participants in a continuation of

connecting prior knowledge to new in a way that validated their experience as members

of the community and gave insight into their collaborative process:

- Kate: "Our map consists of [what] we have seen… around our neighborhood…

  [this problem] was something I have known about for a while and I hear my

family talking about all the time, so I already kind of knew what needed to be addressed."

- Sophie: "We knew a little about our problem, so we all talked about it and put our ideas and what we already knew together."

Using

The group evidenced *problem solving* with digital tools in several ways:

- Using arrow directions on the map to flow information logically from question to answer and then to the solution. For example, if the population increased, then water use would become an ever-increasing problem, although no sources cited.

- Positioning three questions at the top of the map: *"How much water (on average) does one house use per month," "How does [Our] County get its water supply?"* and *"How much has [Our] County's population increased in the past three years?"* Each question extends logically from the center title of the map with an arrow pointing from the center box/title to the question and potential answers to the questions then extend from each in boxes of their own with an arrow indicating sequence logically from question to answer.

As for the *finding*, the sources were general startup sources to get a scope of the problem/background information needed to assess the causes and effects. In their module #1 reflections, group members explained about their process for finding sources:

- Kate: The group "used a Google search of the problem of water shortage and drought in Utah and was going to include local sources [in the next assignment]" and "We looked through multiple websites (including city/county websites) to find the information [we] needed."

- Sophie: Their process as a group had been to "come up with a question that they each could explore online."

- Brayden: Agreed that online sources were their main source of startup information about the problem.

Analyzing

The group selected several questions to focus on for the mapping assignment, as they decided how to define the problem. Two of the questions included on the group mapping assignment were related to the county's water and population: "*How much water (on average) does one house use per month,*" "*How does [Our] County get its water supply?*" and the top center question regards rates of water usage for a general population. "*How much has [Our] County's population increased in the past three years?*" which evidenced that they were considering the context of the problem, but not evidence of *interrogation*.

While the map visual itself did not evidence *interrogation*, it was present in the corresponding reflection questions that showed group members were indeed beginning to consider the exigence/consequences of the problem and potential opportunities of their digital content:

- Kate: "The main message we wanted to convey through the map was the fact that [Our] County does not have the resources to support the amount of development that is occurring."

- Sophie: "I think the most important thing…is we are eventually going to run out of water. If we continue to expand the city, we will run out of resources."

- Brayden: "[We want to examine] how us people in the neighborhoods and around our cities and towns are using it for [their] benefit."

Persona

The textboxes above the center connected to the top half of the map page indicate *identity building* as part of Persona, a developing awareness to communicate the problem:

- Claims that people inherently need and use water to live. The visual design organization (also *navigational mechanisms*) leads the reader logically from claims that: 1) people living in the community all use water, 2) more people are moving to the community, 3) the water shortage will be compounded upon and needs a solution (also *interrogating*).

- No pronouns are used to explicitly include/exclude group members as part of the issue; no direct pronouns used in the map to indicate audience or ownership.

Collaboration was difficult for the group at this point; as *participating*:

- Sophie: "I think the most difficult thing was participation."

- Kate: "I think the hardest thing about working in a group to design the map was getting everyone to participate and pay attention… the other member only wanted to edit our work after we finished."

Infographic: Kate

For her major stakeholders, which were the audience for the infographic, Kate identified homeowners and local business owners and titled the infographic with the same problem listed on the group mapping assignment: "Number of Homes Being Built Increases While County Water Supply Decreases." See Kate's infographic in Figure 4.

Decoding

Kate's infographic had several examples of *navigational mechanisms*:

- Separation of evidence/facts about water usage and dry climate by sentences into the boxes provided in the infographic template.

- Separation of sections with a new color box to the two outlined solutions: water storage, rain barrels, and rock landscaping.

- Benefits were clearly labeled using bullets within parallel boxes in the infographic.

Kate's infographic also showed evidence of *stylistics*:

- Two graphics displayed ergonomic water barrels and a yard that was landscaped with rock and desert plants, which allowed the audience to visualize the ease and feasibility of each solution.

- Graph on the second page was dark in color and lacked any clear labeling, the text box referred to the graph as evidence that if the average person in Utah uses about 242 gallons of water a day, the graph demonstrates how much that adds up.

As part of *operations*, Kate reflected that she was initially hesitant to create the infographic because she used a new digital tool/template:

> I was a bit nervous because I never used any sort of digital tool like that before, but once I started I actually really enjoyed it. The process wasn't as difficult as I thought it was. I can definitely say I am more comfortable now.

Figure 4

Solution Infographic (Kate)

Number Of Homes Being Built Increases While Water Supply Decreases

Population

80000
70000
60000
50000
40000
30000
20000
10000
0

2021   2020   2019

████ County has a continuously growing population, which can be great for our economy, but not for our water supply. The state of ████ as a whole had an extremely dry summer, causing many fires.

The population has had a steady increase of about 3-4% over the past 5 years (refer to the graph for more population increase information).

58,218 people in ████ County are affected by the drought

2021 was the 31st driest year to date in 127 years

We had the 17th driest October in 127 years in 2021

Per Day

Per Week

Per Month

Per Year

0   50000   100000   150000   200000   250000   300000   350000

● Per Person   ● Per Family of Two   ● Per Family of Four

Another solution to ████ County's water usage issue could. be the use of rock landscaping. Requiring that at least 2/3 of a home's landscape be rock and plants would decrease a home's outside water use tremendously.

If ████ County were to implement the use of rain barrels and rock landcaping, the city would be able to avoid implementing watering restrictions.

Rock landscaping benefits:
- Easy to maintain.
- Lasts for a long time.
- There are many different landscape designs/choices.
- Improves drainage.
- Cost efficient.

Meaning Making

Kate focused on a local audience for the infographic demonstrating the practice of *reading,* or acculturation in the visual elements she created information for county residents about the county's population increase and an inevitable rise in the need for water and using data from a local statewide newspaper. The local community surrounding the high school is exclusively non-rock landscaping, (mostly suburban grass lawns with some surrounding farmland), heavily invested in nonindigenous plants, trees to the desert climate). The options she provided used pathos in a focus on maintaining home value, aesthetic, and efficiency before asking community leaders to encourage rain barrel and rock landscaping options. Her cultural understanding or evidence of cultural equality extended to a reference to Native American ethos of honoring the environment and the longstanding practices of rain collection which connected new and prior knowledge for the local audience (*relating*).

Using

In Kate's infographic, evidence of *finding* was present in the ways she gathered outside evidence:

- Graphs that visualized population growth and water usage described later in the essay and although not clearly labeled but described in adjoining boxes.

- Facts about water conservation that fit the boxes of the template and relayed somewhat connecting information about the county's population, for example how many are affected by drought, 2021 being the 31st driest year to date in 127 years, October 2021 was the 17th driest October in 127 years. Although these

facts connected to the problem of water shortage, they did not seem to build upon one another as causes towards an effect.

- As mentioned under Decoding, Native American ethos was present in the infographic.

Kate's use of sources in the infographic was heavily based in logos, as evidence of *problem solving:*

- Causes and effects of water shortage as discussed in the group map.

- Logos-based evidence she expanded on in the infographic contrasting the flyer in complete sentences for her major stakeholders.

- Environmental and homeowner benefits side-by-side on the infographic. Homeowners would benefit from new water sources for gardening and landscaping, saving them money, and lessening your home's environmental impact, appealing to both the logos and pathos of the homeowner audience and major stakeholders.

Interestingly, designing the infographic allowed Kate insight into the scope the reality of implementing solutions such as rock landscaping and rainwater harvesting, before writing the essay as evidence of *creating and applying*: "I definitely think the issue was put into perspective when I was creating the graphic for my infographic" and "it seems like none of the solutions are really solutions."

Analyzing

Evidence of *interrogating* was present in the infographic as she used logos-based evidence, which was discussed under Using to consider consequences of the solution, including the opportunities for stakeholders. In the Reflection #2 response, Kate

discussed the need to prove the costs were worth the benefits, here as avoiding a potential consequence of water restrictions): "I don't think the solution would have any serious impact on the major stakeholders if it failed [but the city] would probably have to set watering restrictions, which no one wants."

Persona

Kate's use of pronouns was evidence of *identity building* in the infographic: "*our* water supply" and she addressed stakeholders as both residents of [Our] County and as homeowners ("lessen *your* home's environmental impact"). This example also demonstrates identity/ethos as an implied member of the community who is potentially also affected by the problem.

Evidence of *managing reputation* was present in her awareness of professionalism as a digital creator. She wrote in her module #2 reflection that "the design for the infographic was much calmer and more professional. There was a monochromatic color scheme and no cute graphics or anything like that."

Flyer: Kate

In her flyer, Kate provided the audience with a list of practical conservation tips for water conservation. See Figure 5 for Kate's flyer.

Figure 5

Community-Based Flyer (Kate)

Decoding

Several features were evidence of *navigational mechanisms*:

- The audience was labeled with a bolded the word homeowners at the top, center of the page and then directed for more specific information or to participate by obtaining a rain barrel to the city's website.

- Kate spatially separated practical solutions for homeowners in a bulleted list, clearly separated into a list of solutions, which included turning the faucet off when water is not in use and being mindful of frequency of lawn watering and using rock landscaping and rain barrel.

Stylistics were present in the tone and fonts of the flyer. Kate chose a blue, water theme; the same blue tones of color present in the infographic and changed to a sans serif font in the flyer resulting in increased scan ability of text. Evidence of *operations* were in the theme/colors of the flyer. Kate chose a waterspout graphic to keep the issue focused on water usage.

Meaning Making

As *reading*, Kate used the structure of the infographic to fit to the shape of the flyer design, circular within the central graphic, and semantically shortened data to quick phrases to fit the shape assigned as part of easy readability for quick reference, which could also fit as *applying* under Using. She used *relating* in a given to new approach of "How can we make a difference?" with simple, directed solutions, such as purchasing a rain barrel as the final item for those wanting to participate at a more involved level than simply turning off the faucet and/or being mindful, which could also be evidence of

expressing or how she made a moral judgement about what is appropriate or responsible water usage.

Using

Kate used more information on the infographic, evidence of *finding* by focusing on a list of things the public (minor stakeholders) could do daily to conserve water) and referencing the city website as a place to purchase a rain barrel and get more information appropriate for a flyer in scan ability of information. As evidence of *applying*, Kate's Reflection #2 response revealed how the opportunity to create a second visual focused on minor stakeholders (audience) allowed her to differentiate solutions appropriate/feasible for both major and minor stakeholders (stakeholders and audience): "[The flyer] contained information about what homeowners could do on their own and how they could get more information through the city [website]." The solutions thus changed from the infographic to the flyer and became two different solutions for the two different audiences based on the needs/feasibility of and for each group. Additionally, *applying* is evidenced here by her relay of solutions into a very concise, bolded list to quickly communicate solutions to interested community members, using a chose a blue color scheme with a water theme, directly addressing homeowners as minor stakeholders (audience)

Analyzing

Kate's infographic demonstrated evidence of *selecting* as she chose a concise version of simple steps, scannable and useable for an audience looking at a flyer to present a quick, scannable presentation of solutions the impacted audience and an invitation/instruction on how to participate in solutions. She also considered

consequences (*interrogating*) of the solution, including the problematics of implementing solutions and what would happen if the audience did not act. She wrote in her module #2 reflection that, "the solution could end up failing if homeowners aren't interested in what we came up with, and if businesses don't agree."

Persona

Kate's infographic was evidence of *identity building* as she identifies minor stakeholders as homeowners: "HOMEOWNERS campaign to conserve *our* water supply"—she could be including herself here as the homeowner/audience with the use of the pronoun our. The further use of us and we implied that she too is a homeowner or at least a community citizen able to participate and demonstrates an attempt to build community ethos, an awareness of her role (*identity building*). She also demonstrated *managing reputation* in several ways:

- Was aware of the ways in which she wanted the public to perceive the flyer in her module #2 reflection: "the flyer was aimed towards the minor stakeholders, so it was brief and had more of an unprofessional feel."

- Used sources to make the flyer more fun and appealing with her choice of water faucet graphics and bright colors from her module #2 reflection.

- Used simple font/graphic and addressing of homeowners as the clear, intended audience and local reference to the city website for more information kept it centered for an audience within her own community.

Essay: Kate

Kate focused on the solution of rain barrels and landscaping as solutions to conserve water and used local city/state sources to explain the conditions that warrant her solutions to provide water for a growing community.

Decoding

Kate's essay had several examples of *navigational mechanisms*, including a clearly stated thesis: "to help conserve our water and sustain our population, I propose the utilization of rain barrels and rock landscaping, especially for businesses in the county." Additionally, her solutions were clearly indicated throughout the essay "My first solution is…" and she qualified her solutions as not the best but as the only feasible option because water supplies are dwindling locally.

Meaning Making

Kate made several moral/ethical decisions in the essay as evidence of *expressing*:

- Reminded the local audience about the summer of 2021 when "the governor told us to pray for water as we desperately needed it to fight fires" and reflecting on her own experiences as a local citizen as resulting water restrictions were put into place.

- Asked the audience to be "more conscious about how much water we're using per day, [so] we could potentially save thousands of gallons of water per day."

- Used descriptors such as desperate and extremely troubling to report on water supply conditions.

Using

Evidence of *finding* in Kate's essay included:

- Use of two local news sources and a local rock company's website to price the cost of rock landscaping.

- Use of the local agriculturally based university's extension to measure sustainability of rainwater harvesting in the state.

Although she discussed the issue with a local county council member, she chose not to use the interview as a primary source, which is evidence of *problem solving*. She also used *problem solving* with historical context for the use of rain barrels by groups indigenous to Utah to build ethos for a practice not yet used in most residential communities in the area. She used logos-based evidence several times (*creating, problem solving*):

- Determined the costs for rain barrels and basic rock landscaping for a residential yard, using logos to show major stakeholders that water restrictions would not cost the city anything. (*creating, problem solving*).

- Quoted in the essay within paragraphs, which was paraphrased in the infographic. One example is her use of Laura Haskell, drought coordinator with the Division of Water Resources, and her explanation of Utah's two buckets of water as agricultural use 82% and municipal 18%- commercial, residential outdoor, residential indoor. Kate used the bucket analogy in her essay to then endorse a third bucket for emergencies. When used in the infographic, she mentioned briefly in a box that "*Deseret News* reported the average person in Utah uses about 242 gallons of water per day."

- Included citations in the essay, introducing her sources and provided full MLA citations, which was not present on the infographic.

Analyzing

Kate's discernment of meanings (*deconstructing*) was present in the essay. In her claims of the causes of a diminishing water supply, she argued that "all of these [causes] force us to use more water that we don't have, it's a never-ending cycle of overuse and waste" (p. 1). Her interpretation then, from the evidence she provides indicates an exigence to escape a cycle that seems inevitable and unbearable, one that the community is forced to participate in or endure. Another example of analysis is within her solution to encourage businesses and homeowners to consider rock landscaping: "I would probably require new businesses to have at least 80% rock landscaping, in hopes that we could reduce the amount of municipal water used on watering lawns" (p. 2) giving some evidence to the critical discernment of the meanings of the evidence she found and interpreting this into recommendations for the stakeholder.

Persona

In her essay, Kate identified as part of the minor stakeholders affected by the water shortage, evidence of *identity building:*

- Used we in her descriptions of the weather ("we have experienced a dry landscape"), a need to be more conscious about water usage ("how much water we're using per day").

- Referenced her group's efforts ("we could find a manufacturer to buy bulk [rock] from" to get rock landscaping in the area). This is evidence of an awareness of her

own role to communicate solutions and be involved and creates a tone of

cooperation and a moral/ethical responsibility to do something about the issue.

Interestingly, Kate seemed to switch from minor to a major stakeholder audience when

endorsing solutions. In this example of *identity building*, she indicated

ownership/responsibility (my solution and my second solution) within the essay, noting

an acceptance of her own authority to communicate solutions to stakeholders: "if we put

in the effort to create a system and implement the solution I've come up with, I think we

could conserve a good amount of water and preserve our state's supply," indicating that

she included herself as not only part of the solution, but one potentially affected. This

statement contrasts with the flyer, in which she addresses homeowners as an affected

population, as a high school student, she is not yet a homeowner, but a minor

approaching legal adulthood. While was also an example of managing reputation, it was

coded as *identity building* because the use of pronouns referenced more her awareness of

a role to communicate solutions and less about her personal reputation.

Infographic: Brayden

Brayden used a free digital template for the infographic, which had pre-made

prompts for headings/titles and organization. His focus for solutions to major

stakeholders are titled, "Water Consumption and Population Growth for [Our] County...."

See Figure 6 for Brayden's infographic.

Decoding

Evidence of *navigational mechanisms* included clearly distinguishable overview

of the problem, solution, and conclusion sections. Stylistics were present in his use of

font size of the headings to make clear divisions between problem and solutions for the

audience, although the dark color of the background makes the text difficult to read. Another evidence of *stylistics* is in the water graphic at the bottom of the infographic to thematically return to the lowering level of water supply and question of restrictions. Brayden expressed some frustration in finding digital tools (*operations) from* the list provided by the instructor that would meet his needs in his module #2 reflections; he commented that that after trying out several tools it became easier to use the digital tools to create an infographic.

Meaning Making

Semantically, Brayden listed his solutions as water restrictions for designated towns/households and "city council officials and primarily community resource centers" as those able to use water to help agriculture and assist businesses to potentially curb heavy water consumption (*reading*). Brayden referred to the problem as overwhelming (*expressing*).

Using

The information Brayden gathered for the infographic (*finding*) included:

- Two major facts listed on the graphic, the ten-year population growth and water consumption statewide per resident, are based in the community/state.

- The graph, "[Our] County Population by Source of Growth Estimates 2010-2019" is reiterated from graph to text.

- A main point of evidence was in the center of the infographic that the average resident statewide used 167 gallons per person, although this is not denoted if it is per year, month, etc.

Figure 6

Solution Infographic (Brayden)

In his module #2 reflection, Brayden mentioned that more technical information was needed including more to provide stakeholders with enough convincing evidence to change current practices (*finding*).

Evidence of *applying* was present in his module #2 reflections; Brayden was concerned with how the infographic would make sense to the major stakeholders and focused on finding sources stakeholders would find practical, useful, and understandable which suggests that he was designing for the needs/expectations of the stakeholders. This use of evidence included statistics for the [Our] County's water supply and "information on how our water is controlled." For this, he used some local sources to focus on water use in the county. One of the main themes of the infographic was the threat of water restrictions for businesses, using logos to warn that restrictions would be a consequence for inaction (*problem solving*), but only two facts were listed.

Analyzing

Brayden's list of solutions differed from the original intent of the group map and from other group members' visuals in his inclusion of agriculture. Water restrictions were not part of his planned solution but were listed as a potential consequence (*interrogating*). There was also evidence of *selecting* as Brayden fit the text in the infographic template with full sentences to fill the spaces provided in the template in paragraph form.

Persona

Evidence of *identity building* in the infographic included Brayden's awareness of his role in the group: "we will show and identify some problems with today's usage." He clearly identifies as part of the local community as all examples are local and used we and our to present solutions on behalf of/as part of the community (*managing*

reputation): "one possible solution we can implement" and "how our water consumption will increase over time. In his module #2 reflection, Brayden mentioned that the infographic needed to have more "visual appeal and taste" for business owners (than for the public) (*managing reputation*).

Flyer: Brayden

Brayden's flyer focused on how water consumption affects the audience (minor stakeholders and tips on how to save water in everyday life and reduce consumption; this is a different purpose from the infographic but continues through to the written essay. See Figure 7 for Brayden's flyer.

Decoding

The use of a digital template, originally for infographics, included space for four major headings under the title, "How does water consumption impact us?" and divides the information listed into sections: How much water do we use? What other factors come into our water consumption? What can we do to reduce consumption, and how saving water can help (*navigational mechanisms*). Additionally, Brayden included solutions and recommendations, but these are not labeled, which also is evidence of *navigational mechanisms*. The background color as a dark green again makes the dark text difficult to read (*stylistics*).

Meaning Making

The information on the flyer was more general; the narrative of water conservation did not make connections of the context of the problem/solutions to the

Figure 7

Community-Based Flyer (Brayden)

community (*reading* was not present). Some linkage to prior information (*relating*) was present in the form of topics a general audience might already be aware of as "the everyday person,": agricultural use, restaurant use, and environmental sites for water depletion including drought, groundwater depletion, glacial retreat, ice-sheet loss, and severe surface water loss, and many of these are unrelated to local conditions. Although many people may already know that acts like showering, washing clothes, and flushing the toilet can affect water usage as prior knowledge, there was no connection to new information aside from purchasing water efficient toilets and fixing household leaks, although the bottom graphic seeks to bring awareness visually for the audience that simple acts of doing a load of laundry can compound into a large amount of water waste (*relating*).

Using

Information on the flyer included a pie chart of types of household water usage and picture of laundry loads done on average and the water used (*finding*). If the purpose of the flyer was to bring awareness to water usage, then the chart is a quick way rhetorically as useful and scannable to an audience (*applying*). In his module #2 reflection, he commented that the flyer needed to be less technical for people "not on the business side" of the issue to understand and realize the importance of the solution (*applying*).

Analyzing

Although both the infographic and flyer discussed water consumption and conservation, each recommended different solutions that were unrelated and Brayden did

not explain the differences in his reflection for Module #1. He did use an infographic template for the flyer and used more formal evidence to "fill" the text boxes (*selecting*).

Persona

In the flyer, Brayden seemed to have a more generalized approach not limited to a local community; yet he still identified as a member of the audience: "how much water do we use?" and "our water consumption" with general recommendations that lacked a degree of exigence; "What we can do" is general and nonauthoritative (*identity building*).

Essay: Brayden

Brayden's focus in the essay changed from the visuals' focus on water conservation to the global mismanagement of resources, including water, and called for a general restriction on resources.

Decoding

Brayden's essay concepts were organized (*navigational mechanisms*) into the following sections:

- An introduction of the problem of global resource shortage and thesis that connected the need for restrictions "on how we can manage our resources now until we can find better proposals in the future."
- A body that included evidence of population growth, water conservation or preservation.
- A cost/benefits section that addressed the need for a city council and local government to invest money for a water recycling system and/or time and effort to establish and enforce water restrictions as no costs are outlined.

- The conclusion addressed water conservation and a call to limit daily water usage, which is again vague.

- Transitions used to navigate concepts were absent aside from "another solution" on page 2 without reference to a first solution.

There was evidence in these examples of *stylistics* as well; paragraphs were separated with transitions and the style/font fit the required essay format.

Meaning Making

The context of the problem in this essay started larger/global then to national, and then local, in connection of prior to new knowledge (*relating*). For example, climate change is addressed on page two and explained in relation to higher temperatures in the largest local metropolis and but not discussed in context of the problem of water shortage.

Using

Brayden's essay had evidence of *creating* and *problem solving* as he used community resources that worked elsewhere (Israel) and applied them to a local solution for water recycling. In this case, 80% of water used in Israel is recycled. Another piece of evidence of *problem solving* was the pathos appeal that "we may run out of water" to add exigence to the argument. Both local and national sources were cited in the context of the problem (*finding*).

Analyzing

Much of the logos of solutions in the second half of the essay was presented as personal assumptions with no evidence; for example, Brayden called for "investing in

creating digital information to post…to govern how much water and report misuse of water on specific households" (*interrogating*).

Persona

Brayden explained the value of water conservation to stakeholders as a need for "our modern age" but identified clearly as part of the population responsible for making change (stakeholders) in references to "our population" and "how we manage our resources" (*identity building*).

Infographic: Sophie

Sophie's infographic was titled, "Number of Homes Being Built Increases While County Water Supply Decreases," keeping with the same title as the group mapping visual assignment. See Figure 8 for Sophie's infographic.

Decoding

The infographic was organized using a template (*navigational mechanisms*) in the following ways:

- Separate colored boxes, including two graphics and five boxes of textual information labeled as facts, benefits, solution #1, solution #2, and money.

- Bold, centered title for infographic and the graphic within the infographic.

- Clear organization of facts distinguished background information of the issue from her two proposed solutions and "money" outlined the potential costs involved.

Figure 8

Solution Infographic (Sophie)
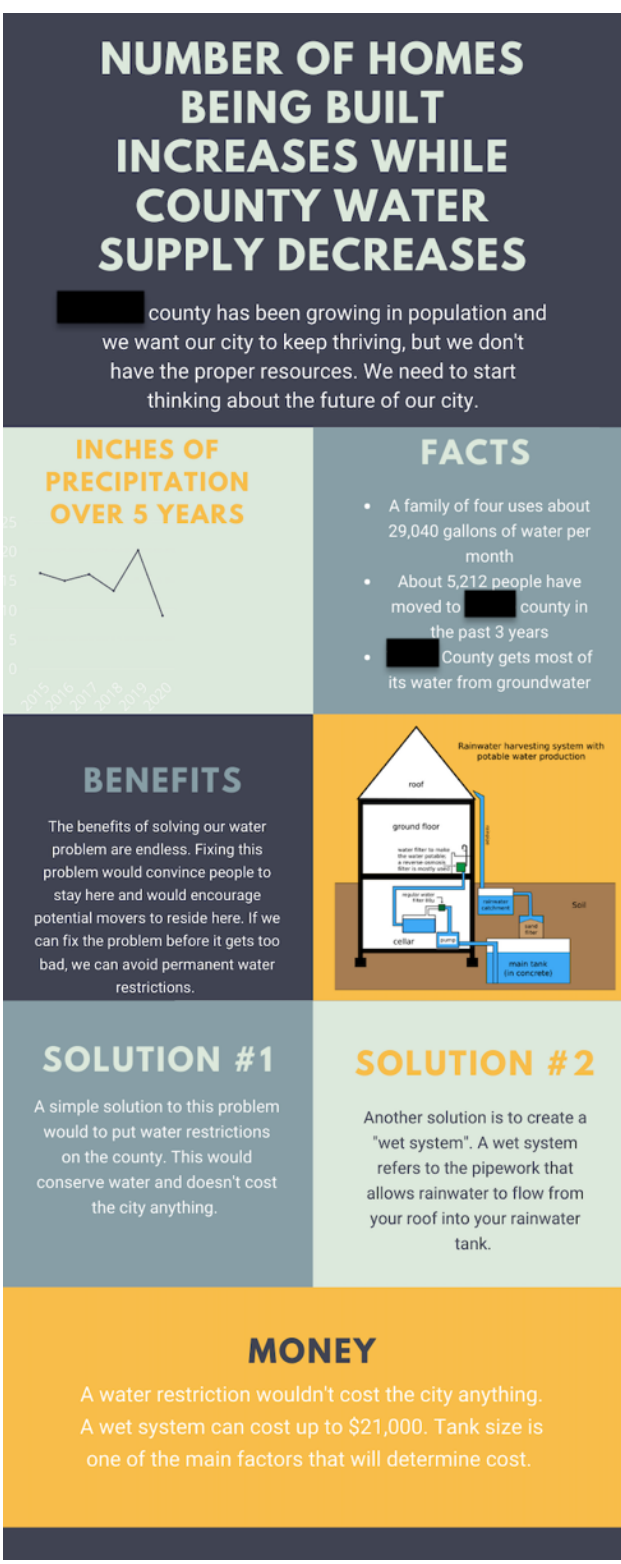
Use of *stylistics* was evidenced in the color scheme in the template, which created a cohesiveness. Her first graph, "Inches of Precipitation Over 5 Years," included a line graph without x or y axis and values which made it difficult to interpret (*stylistics*). In her module #2 reflection, Sophie described her initial confidence in using digital tools for the infographic, but then frustration that her selected program for designing the infographic "didn't have as many tools as I thought it did, so it was harder to do the things I wanted" (*operations*).

Meaning Making

The "Facts" section included information about the average water use of families, local information based in the county, and the source for local water/groundwater, both were prior knowledge. The connected this to new knowledge in the "Benefits" text box: "the benefits of solving our water problem are endless" with a claim that fixing the problem would entice new residents to move to the county and would avoid the use of water restrictions (*relating*).

Using

Sophie used an existing solution of "rainwater harvesting with potable water production" to create a solution for her own community (*creating*). She listed this as solution #2 "a wet system". Sophie claimed that water restrictions could be immediate and costless solutions in the "Money" section. As many local citizens are resistant to water restrictions, she then used logos to provide another option as a wet system with costs of approximately $21,000 for residents (*problem solving*).

Analyzing

Sophie used the infographic template, filling each box with bulleted lists, graphics, and full sentences to create a visual balance of information in each section (*selecting*). Sophie considered the scope of proposed solutions and their consequences in creating the infographic (*interrogating*). She commented in her module #2 reflection that, "creating a solution that is realistic and easy is something that [will] take a lot more researching that I thought."

Persona

The language in the infographic was inclusive of herself as a member: "we want our city to keep thriving" and "our water problem," indicating that Sophie identified as part of the stakeholder population (*identity building*). In her module #2 reflection, Sophie reiterated a desire to look professional: "My design changed simply because I wanted the infographic to look more professional than the flyer… to decide what evidence to use I considered what audience would be looking at my information. I used more professional evidence in the infographic because a more professional audience would be looking at it" (*managing reputation*).

Flyer: Sophie

The title of Sophie's flyer was an imperative/exclamatory statement to minor stakeholders, "HELP US SAVE WATER!" See Figure 9 for Sophie's flyer.

Figure 9

Community-Based Flyer (Sophie)

HELP US SAVE WATER!

As more families are moving ████ county, we are using more and more water everyday. In order to have enough water, we have to change some things.

WAYS TO SAVE WATER

- Keep showers short
- Turn off water when you're not using it
- Limit water use on landscape

Of course these things are not required, at least not yet. No one wants required water restrictions but if we can't save water, it may happen

WHAT YOU CAN DO

If want some home solutions, here are a couple
- Catch rainwater
- Build a home wet system

WHO YOU CAN TALK TO

For more information about ████ water contact ████ Water Services

Decoding

Spatially, Sophie organized the information in the flyer in several ways (*navigational mechanisms*):

- The left column of the flyer presented a large title vertically: "Help us save water!"

- A lighter shaded text box presented a statement of purpose for the flyer: "As more families are moving to [our] county, we are using more water every day. In order to have enough water, we have to change some things."

- Two vertical lists of instructions for participation: ways to save water, what you can do, and who you can talk to.

In the flyer's design, Sophie expressed a desire to be clear/simple for the audience (stylistics). In her module #2 reflection she wrote, "I used a [simpler] template for the flyer because I knew the flyer had to be easier to read [as opposed to] the infographic I made [that] used more basic colors and more graphs and statistics."

Meaning Making

Sophie used prior knowledge of the problem as population and water usage is increasing in the first text box to then moved towards more specific/new knowledge about how to save water: "ways to save water" and "what you can do" (*relating*).

Using

Sophie used logos as an "if then" claim-- if population increases then the need for water conservation increases. (*problem solving*). Although no citations are included, a local source is listed for city water services (*finding*). She used a pathos-based claim in

the opening statement that more families are moving to the county and the solutions are labeled as "home solutions." (*problem solving*).

Analyzing

Sophie modified the information from the infographic to flyer in include less information relating to water use in the infographic to practical, simple solutions to implement at home (*deconstruction*). Only two areas of the flyer contain complete sentences, instead relying on bulleted lists and shorter action statements such as "catch rainwater" and "build a home wet system," which is evidence of *selecting* as she chose how to present information based on the digital content. There is also evidence of *interrogation* as she relayed consequences: "no one wants required water restrictions but if we can't save water, it might happen."

Persona

The language of the flyer demonstrates again that Sophie identifies as part of the group, "help us save water" and "we have to change some things" However, the rest of the language of the flyer is in third person and directed at public stakeholders assumed as residents who live in the county. These are evidence of *identity building*. In contrast to wanting to be more professional in the infographic, Sophie mentions in her module #2 reflection that she wanted the flyer to have more pop and be attention-getting (*managing reputation*).

Essay- Sophie

In her essay, Sophie framed the issue of water conservation and presented solutions of a wet system and water restrictions as a secondary option. a topic not included on the group mapping assignment.

Decoding

Navigational mechanisms identified in Sophie's essay included her thesis statement at the end of the introductory paragraph, which introduced the two solutions that were discussed: "The solution is a more sophisticated than water restrictions, but it would stop the need for water restrictions." This indicated that her focus would be avoidance of water restrictions and using the wet system. Throughout the remainder of the essay, Sophie clearly defines sections of the essay using topic sentences for the solutions and benefits sections (*stylistics* and *navigational mechanisms*).

Meaning Making

Although Sophie does not explicitly relate personal experience (*reading*), she assumes a level of consensus in several places of moral judgment (*expressing*): "once again, we need to act before it is too late. No matter how we fix the problem, it needs to be fixed" and then again later on page three, "as a society we need to come together and help one another so we can all continue to live in a place we love."

Using

Several examples of *problem solving* were identified in the appeals used to present her argument:

- Logos-based appeal to connect the rhetorical purpose; in the first sentence she begins with the correlation that a population increase would affect water supply to evidence a need to act now: "if we don't do something about our problem now, it will be harder to fix."

- Logos-based appeal that the community is in a desert climate where groundwater is limited and "as the main source then water use would be limited."

- Pathos appeal as "if a farmer doesn't have enough water to water his crops, he loses his food which could lead them to losing income or not being able to feed his family."

Sophie tried to present a useable solution (*applying*), evident in her explanation of costs; the wet system ($21,000 per house) could be problematic, so she included an expensive option of rain barrel collection. This is a new solution that does not appear in her visuals or the group map (*creating*). Additionally, she weighed the wet system solution to water restrictions even less costly but "would be harder to implement," which signified that she considered the needs/expectations of her audience who would be potentially resistant to restrictions (*applying*). Among sources used for the essay, three sources are used and cited on the Works Cited page—all general web sources and no primary sources were used.

Analyzing

The essay represented less of an analysis of source evidence, but of the application of facts to the perceived real needs of the community. Sophie predicted potential consequences for the public about water use by taking the amount of water used to irrigate a half-acre of farmland and a household of 4 by multiplying an individual's use

by 4 to calculate 14, 545 gallons of water used by one family (*interrogating*). She also considered potential consequences for the community if the wet system was a mandated solution: "Citizens may get mad because they don't have free will on how and when to use their water… people may go against the water restrictions and not cooperate with the city… even with requiring businesses to have a wet system we are rushing the owner to say no and relocate their business" (*interrogating*).

Persona

Sophie's flyer evidenced *identity building* in several ways:

- Pronoun references of we in the essay as a member of the community/audience: "if we continue to build houses we will run out of water" …"we should encourage people to watch how much water they are wasting… they would have to have some type of enforcement to make sure people are following the restrictions. We should make it a requirement that all big business buildings in the county that have a wet system."

- A reiteration of responsibility: "it may not seem like we have any power as citizen to fix these problems but if we all speak as one, someone has to listen."

- In leading stakeholders to solutions, she shifted the audience to a city developer: "as a city developer, you want your city to succeed."

Final Group Infographic: Group 1

In the first mapping assignment, Group 1 titled their problem as "Number of homes being built increase while county water supply decreases" and Kate and Sophie kept this title also on the infographic. Their final group solution infographic was titled "Increasing population is leading to decrease in water supply" (see Figure 10).

Figure 10

Final Solution Infographic (Group 1)

INCREASING POPULATION IS LEADING TO DECREASE IN WATER SUPPLY

███ County has a continuously growing population, which can be great for our economy, but not for our water supply. We need to start thinking about the future of our city.

Approximately 15,000 people have moved to ███ County in the past five years. Refer to the graph for the annual growth rate percentages.

The average person in ███ uses 242 gallons of water per day. With the growing population (shown in the graph to the right), the amount of our water resources being used per day is increasing.

The graph to the left illustrates the amount of water (in gallons) used per day per family of two, four, and six.

One solution to our problem is to implement a rain harvesting system. We could give citizens the options to purchase a wet system from the county for their property. We also should require large businesses to have a wet system for their building if they choose to have grass landscaping.

Example of a rain barrel system

If a rain harvesting system is not something the city wants to do, we could implement water restrictions. Although this solution would work well, it should be considered a last resort.

One last solution would be to encourage different types of landscaping. Businesses should be required to have a rock landscape. We should encourage households to look into rock landscaping if a lawn is not a necessity.

If the city were to provide homeowners with a rain harvesting system, the only cost would include the barrels and installation. We estimate this would cost $200 per system. Rock landscaping costs range from $250 to $1,500 depending on the size of the area. Although these solutions seem expensive, the benefits will ultimately outweigh the cost. Rock landscaping is easy to maintain, long lasting, and there are many unique design choices. Rain harvesting systems can improve water quality in lakes/streams, create a new source of water for gardening, and lessen your home's environmental impact.

Decoding

Evidence of *navigational mechanisms* were present as the infographic was spatially divided into boxes and complete sentences in each box with no headings or titles as in the individual infographics to divide problems from solutions. *Stylistics* were evidenced in the use of black text on white with no color except for graphs, using white with colored lines and graphics. The title was bolded and then the first half focused on the problems of population growth and increasing water usage.

Meaning Making

The infographic built on prior knowledge of continuously growing population and subsequent statistics as the context of the issue, and then moved to solutions of rock landscaping and rain harvesting (*relating*). Some evidence of *reading* is present in references to residential, a rain barrel system that is residential, but also mentions the wet system for large businesses with no graphics. Some ethical judgment (*expressing*) is also present as the group warns that restrictions would be a "last resort."

Using

Sources used to establish the problem on the two bar graphs although untitled and uncited, were explained in the text box next to each graph: "shown in the graph to the right" and "the graph to the left illustrates…" (*finding*). *Problem solving* is present in several ways in the infographic:

- A logical structure establishing the problem's causes/effects and leading the audience to understand it needs addressing.

- Outline of several solutions, using pathos to warn that water restrictions are the alternative as a last resort.

- Outline of costs and long-term benefits of both systems, implying the benefits are "worth" the initial costs of implementing either system although it is not defined whether this includes residential and business locations.

Analyzing

Selecting was evidenced as the group filled the text boxes in the template with information, evidence included was in complete sentence, paragraph form—the last box includes an entire paragraph of text from the essay. *Interrogating* is also evident as the infographic warns that water restrictions will come without their solution of rain collection.

Persona

Identity Building was manifest in the infographic, but these examples conflict one another:

- The group refers to itself several times ("we estimate this could cost…" and "one solution to our problem") as the responsible party that will communicate solutions.

- We is also used to include both the group AND stakeholders, seeming to imply a joint power/responsibility to implement solutions (italics added):

  We could give citizens the option to purchase a wet system.. *We* also should require large businesses to have a wet system for their building if *they* choose to have grass landscaping…*We* could implement water restrictions (as a last resort)…*We* should encourage households to look into rock landscaping…

- Another statement removes the group members from being a major stakeholder:

  "Lessen your home's environmental impact"

- In the last half, the city is the directed major stakeholder audience. "The City" is directed to provide homeowners with a wet system, require businesses to have rock landscaping, and provide homeowners with a rain harvesting system. References to the city can also be evidence of *managing reputation* as students demonstrate awareness for their community's reputation.

Final Group Flyer: Group 1

Group 1 used the same blue background as Kate and Sophie and a water theme for their final community-based flyer. Whereas Kate addressed homeowners in her flyer and Sophie addressed citizens who use water in her flyer, the group now clearly calls county residents as the minor stakeholder audience for their final group flyer: "[EVERYONE IN OUR] COUNTY! HELP US SAVE WATER!" See Figure 11 for the Final Community-Based Group Flyer for Group 1.

Figure 11

Final Community-Based Flyer (Group 1)

Decoding

Evidence of *stylistics* was present in the use of color- the alternating use of black and white font color separate each section of information, including the recommendations and further information, along with the water theme background and raindrop graphics. This fits a color scheme previously used on Kate and Sophie's flyers. The flyer also uses capital letters throughout to promote importance/exigence.

Navigational mechanisms are evident in several ways:

- A clearly stated title as "[Our] county! Help us save water!" Solutions are separated on the flyer in a bulleted list.

- The graphics on the top and bottom of the template frame the text box information and logically lead the eye from top to bottom, from the topic, through recommendations and how to participate.

- The more information text box aligns with the pie chart to horizontally take up the space (also *selecting*) as the text seems to intentionally fit the space of the infographic.

Meaning Making

The design and use of a title that called directly to the audience with the title of "[Our] county! Help us save water!" is evidence of *reading*, an acculturation of the ideas from students' own experiences and desire to connect in the use of semantics that unify them with the audience. Solutions are separated on the flyer in a bulleted list. The list of things assumed prior knowledge included limiting water use on landscape, turning water off when it is not in use) and built in the list to current information as purchasing rock landscaping or a rain harvesting barrel (*relating*).

Using

Use of Brayden's pie chart from his flyer was the main graphic/evidence used from an outside source and the citation was included below the graphic. The pie chart provides background for ways to conserve water at home (*finding*). Logically then, the flyer directs the audience to the city website on how to participate (*problem solving*).

Analyzing

The information on the flyer corresponded to the solutions listed on the infographic, although still in complete sentences are put into individual bullet points instead of paragraph format from the infographic (selecting). Evidence of *deconstructing* in the flyer was the use of instructions in the bulleted list, which was simplified into imperatives: "Limit water use…Turn water off… Consider rock landscaping…. Consider purchasing a rain harvesting barrel" and are direct but not criticizing.

Persona

The flyer had evidence of *identity building*, as the group establishes from the title that the audience includes all county residents: "[Our] county! Help us save water!" This identity in the third line and title of the pie chart, respectively: "How can *we* make a difference?" and as part of the pie chart title, "How much water do *we* use?" (italics added) (*identity building*). Then in the solution at the bottom of the flyer, the pronouns change "For more information on how to conserve water in your home or business" included both home and business owners, evidence of the group's awareness of responsibility in communicating solutions (*identity building*).

Final Group Essay: Group 1

Decoding

Evidence of *navigational mechanisms* in the essay included:

- A clear thesis statement at the end of the first paragraph: "To help conserve our water and sustain our population, we propose the utilization of rain barrels and rock landscaping, especially for businesses in the county."

- Clear statements regarding the problem as population growth and decreasing water supply and solutions such as rock landscaping and rainwater collection in several forms.

- In their outline of solutions, the group used transitions clearly to present two separate solutions: "Our first solution to this problem is the utilization of rainwater harvesting" (p. 2) and "Our second solution is encouraging businesses and homeowners to consider rock landscaping" (p. 3).

- Costs and benefits were also clearly labeled in the essay as a section with transitions and after relaying the initial costs of purchasing rain barrels and installing wet systems, which are a large up-front cost, and then they explained that if one wanted a cost-free option, water restrictions were also an option. Although water restrictions are easier to implement, it is an unpopular option "but show what could happen if solutions are not presented." (p. 5).

Meaning Making

Evidence of *relating* was in the group's use of logos to build on prior information: "if it is a dry season, we get less groundwater for municipal use because the environment

needs it to sustain life (p. 1). Group members used an array of ethical and moral judgment regarding the beliefs of the audience and their own personal shared beliefs. They built on common frustration from the community regarding the events of the previous year "the devastating mismanagement of our resources" in which it is implied that the county was under fire for lack of water rights planning and resultant disputes over water rights and zoning (*expressing*).

Another example of expressing was the references to morality/prayer: the state was called upon to focus on water usage: "This summer, the Governor told us to pray for water… [due to lack of rain the year before] water restrictions were put in place and citizens were not pleased" (p. 1). They referred again to the unpopular water restrictions to promote their solutions: "It would be in the best interest of the county as a whole" (p. 5).

Using

The group used source evidence to provide logos to the need for solutions causally, including statistics of increasing water use and population growth: "Because of [rising temperatures] we have experiences dry landscape, which leads to an increase in fires statewide and a decrease in resources" (p. 1), which is evidence of *problem solving*.

Under *finding*, the group also used secondary sources detailing the costs of wet systems, and inductive reasoning to show how water recycling in Israel has worked there and could subsequently work in their own community (also *creating*). In their assessment of costs for rain barrels, they searched Home Depot's website as the local place to purchased rain barrels to see what the costs would be for citizens in the valley. Currently, other stores that would sell barrels are 30 miles or more from where the school is. This

strategy also is evidence of *problem solving* as the information was not readily available on a local level and the group tried to find it specific for the community. Further evidence of problem *solving* and *creating* was in the discussion of posting printed flyers to use the visuals they had created as "more simple ways we can get the citizens of [Our] County involved" (p. 6).

Another instance of *problem solving* was the use of the local news source which outlined the differences in agricultural and municipal water as "buckets," the latter being used for commercial, residential outdoor, and residential indoor use: "if we could lower that 6% for residential outdoor uses…we think we could save that water and put it into a bucket for emergencies like wildfire season" (p. 4). This extends the scope of water conservation's effects to those not initially considered on the mapping assignment including wildfires as they are a growing problem in the area.

The group also used state and local sources in their research, using a news story from by a local news station to discuss state water usage and considered how people indigenous to the region had traditionally used water collection as they lived in the desert (*finding*). An example of *problem solving* was the use of a sense of community: "As a community we need to come together and help one another so we can continue to live in a place we love… if we all speak as one, someone has to listen" (p. 6).

Analyzing

In *deconstructing* the evidence for the audience, the group applied national statistics locally to approximate how much water agriculture locally was using because of a growing lack of rainfall and need for irrigation:

For example, let's say a farmer has an acre of land. It would take around

27,154 gallons of water to irrigate that land. Combined with the household water use of a family of four [from a previously stated statistic], the total water usage ends up being around 28,122 gallons of water. That is a lot of water being used, especially since it is recommended that fields be watered once a week during the growing season. (p. 2)

Although the source for recommendations for weekly irrigation are not cited, the students discerned the information and created a scenario to interpret the exigence of the subject to their major stakeholder audience.

Persona

Group 1 demonstrated an awareness of their role/responsibility to communicate the problem to major stakeholders to get them to "buy in" to solutions as general citizens and water users (*identity building*):

Help conserve *our* water and sustain *our* population…water that *we* gain… because of these issues *we* have experiences dry landscape… how *we* can learn from this *ourselves*…having these limitations [water restrictions] will mean that *we* can better fulfill needs and wants while managing our resources to an extent…*we* think *we* could save that water…[water conservation] also helps *us* create a new way to categorize the way *we* manage our resources until *we* can find better solutions for the future. (p. 1-4, italics added)

Interestingly at times the "we" references in the flyer included a separation from homeowners, even as the stakeholders: "*We* understand that homeowners need to have a nice lawn area for *their* pets and children, but it would be in the best interest of the community for *them* to implement a more environmentally friendly landscape" (p. 3, italics added) (*identity building*). But when referring to the community, the final lines of the essay use a "we" very inclusive of not only the group members, but of major and minor stakeholders as well:

As a community, we need to come together and help one another so we can all continue to live in a place we love. It may not seem like we have any power as citizens to fix these problems but if we all speak as one, someone has to listen. If we put in the effort to create a system and implement the solutions we can come

up with, we could conserve a good amount of water and preserve our county's supply. (p. 6-7)

Evidence of *managing reputation* occurred end of the essay as the group explained their awareness of the realities of these solutions to major stakeholders and acknowledged this as a new cost and complication for some: "while this may seem like a lot of information for home and business owners to digest…" (p. 6) although accepting potential consequences: "even with requiring businesses to have a wet system, we are risking the owner to say no and relocate their business." (p. 5).

Group 2 (Jake, Abby, Cami): Mapping the Problem

Group 2 examined educational reform for their project; although the parameters were to examine this issue locally within the school or district, it was consistently a larger scope and did not always meet the requirements of remaining local (the school/school district). See Figure 12 for Group #2 Mapping the Problem assignment.

Decoding

Navigational Mechanisms present in the map included the use of textboxes and arrows extending from boxes including problem to causes, causes to urgency, already tried solutions to solutions to cost to benefits, which indicated several directional connections that indicate potential sequential, consequential, or progressive relationships spatially within the map. The boxes labeled background, causes, and effects are the same color indicating a connection or parallel relationship to the problem before the map progresses left to right past the problem, which was the scope of assignment.

Figure 12

Mapping the Problem (Group 2)

Solutions:
- updating school system to modern times
- require an amount of credits that spark interest but don't take over a whole schedule
- put less stress on grades/tests
- make it more student driven

Stakeholders:
Major: Students, School district, Teachers
Minor: Parents

Cost:
$ - People to make a new curriculum
$ - Teaching and paying the teachers
$ - Testing the new curriculum

Benefits:
- Overall communities future
- Better attitude about school
- Students have more interest and therefore better learning

Already tried solutions:
- hiring teachers: teachers aren't applying, lack of qualified teachers
- faculty try and make school interesting but kids find it repulsive
- teaching through technology: kids find ways to cheat to get classes/assignments over quicker

Urgency: We are going into a new age of innovation and the school system is not teaching students to be innovative and come up with ideas, in fact it is very much the opposite.

Deliverables: More kids will be interested in going to school, Learning about what they care about and having a better future

Background: The Industrial Revolution gave a need for hundreds of workers that could do simple jobs quickly. Even Though we have machines to do thos jobs now we haven't reorganized the education system.

Causes:
- required graduation credits (such as tooele's 34)
- not enough schools
- lack of teachers and supplies
- outdated education system
- students lack interest in anything to do with schools and grades

Effects:
- make it so students fill classes with easy A's rather than interests
- To much credits means kids not enough kids graduating
- over populated : not enough 1 on 1
- Students aren't learning effectively with today's norms
- No motivation

Problem:
In the American Education system, kids go to school to fill academic responsibility rather than going to learn

Stylistics were evident on the map in the use of headings. The group labeled their problem as "In the American Education system, kids go to school to fill academic responsibility rather than going to learn" in the textbox on their map. They included colored boxes of text labeled as background, causes, effects, already tried solutions, urgency, deliverables, solutions, stakeholders, cost, and benefit, which extended the "problem" scope of the assignment but were a result of group discussion of potential solutions to pursue.

The group map had some evidence of the group's confidence in using digital tools (*operations*) in the module #1 reflection:

- Cami commented on her initial hesitation of creating a map, but that the process made more sense as the group completed the map together.

- Abby responded that she was initially confident to create the map with digital tools, but it was an obstacle; the design process for her was "more difficult [in accomplishing] my vision of what I wanted it to look like because it took more time and effort to figure out how to organize everything digitally."

- Jake wrote about their choice to use Google Slides as the digital tool for the map which he found "limiting" because it was not "photo editing software" like he had wanted to use—but that it "looked good enough to serve its purpose."

Meaning Making

The map had evidence of *relating* in the use of prior knowledge; the visual map of the problem includes prior knowledge in the form of observations group members have due to their experience as students in the K-12 system. The dissatisfaction expressed through the causes such as "outdated education system" and "students lack interest in

anything to do with schools and grades" and effects such as "students aren't learning effectively with today's norms" and "no motivation" reflect a frustration with the problem and allowed group members to draw from experience to frame the problem's causes and effects.

Reading occurred as several students relayed their own experiences with the problem and use of digital tools in their module #1 reflection:

- Cami: "Being a student and experiencing the education system firsthand I know there's a problem and it needs to be fixed. It was easy to point out the causes and effects of the problem."

- Abby: "I used a lot of prior knowledge and experience in both the prompt of the map and how I designed the map. I've made a couple of digital maps before, so I already had a basic understanding of how to make a digital map and what I wanted it to look like."

Using

Although no formal sources were cited in the map, logos is used in the design with arrows leading towards solutions and eventually to benefits and in the evidence as the group anticipated counterarguments as "already tried solutions" before moving to their proposed solutions, stakeholders, costs, and benefits (*finding*). In describing his group's collaboration about how to make sense of and frame the problem (*problem solving*), Jake relayed that the process of creating the map was pretty straightforward. In his module #1 reflection, he wrote, "we just talked about it…when we [then] came up with our own ideas… [we] put them in the slide." In this way the map became a collaborative space where each group member added their own ideas. Abby also

mentioned that the group chose not to use outside sources; in her module #2 reflection she mentioned that "the information used came from things our parents, teachers, or we ourselves talked about."

Analyzing

The group members decided to include information about their planned solutions, costs, and benefits as part of mapping the problem (*selecting*). A final textbox of benefits was also included for both the community as "overall communities future" and students "better attitude about school" and "students have more interest and therefore better learning" (*interrogating*).

More evidence of *interrogating* was in the outline of real/potential consequences of the problem in their own experiences. In their module #2 reflections, each commented on the importance of fixing the problem or reforming the system now. Jake mentioned that the US educational system is "outdated and is having detrimental effects [on] the students in our country. It was made for a[n] industrial era that we are no longer in." Cami wrote that "education is a very important part [of] my life and to see how other students [are impacted] is worrisome for the future." Abby outlined their prime motivations in selecting the problem for the project in her reflection:

> We were trying to convey that the education system needs to change in order for kids to want to learn rather than to just go to school to fulfill academic responsibility according to the law… we want to strongly show why we want to change the education system and what will happen if we do.

Persona

Evidence of *identity building* in the map included:

- Motivations to relay the urgency of the problem demonstrating their responsibility to communicate with a red box marked urgency.

- A consensus that it was the school's responsibility to provide a more innovative approach that will interest students and lead to success: "we are going into a new age of innovation and the school system is not teaching students to be innovative and come up with ideas, in fact it is very much the opposite."

- Authority to communicate this problem on behalf of students is implied with statements such as "students lack interest in anything to do with schools and grades" and "[the current system] make[s] it so students fill classes with easy A's rather than interests"

- The only use of "we" is implied for all readers, "we have machines to do those jobs [simple industrial jobs] now we haven't reorganized the education system."

As evidence of *participating*, the group members seemed to struggle with collaboration. Cami wrote, "having different opinions about the problem and agreeing on a solution was pretty difficult." And Abby agreed that "the only challenge we [had] was to change something we wanted so we could all agree."

Infographic: Abby

The infographic title, "Change the American Education and Curriculum to Improve Student Enrollment and Attendance" was still a broad scope (American Education Curriculum), but the deliverables are more specific from the group map in Abby's infographic including improvement of student enrollment and attendance. See Figure 15 for Abby's Solution Infographic assignment.

Figure 13

Solution Infographic (Abby)

CHANGE THE AMERICAN EDUCATION CURRICULUM TO IMPROVE STUDENT ENROLLMENT AND ATTENDANCE

——————— restore students desire to learn ———————

Skills Based Learning

Goal: find different forms of teaching to help improve learning, improve quality of lessons, improve desire to go to school, make learning fun and interactive

- will make education more relevant, impact leadership development, and assess the students abilities and strengths
- Students who attend, will be provided with access to various important resources (technology and books), help from teachers, and relationships will peers
- will lead to a positive impact on the student and their knowledge
- Attendance can improve performance and help with motivational and learning strategies

Solutions/result:
Disclaimer: It will cost time and effort but will result in a better future for students

- Put an active learning, skill based curriculum that will change how students view school and improve attendance
- Develop attendance policies but do not be harsh on punishments of absences
- Foster a culture of active learning, activities, and technology (studies have shown that attendance will improve 10% if these strategies are put in motion (Skenazy)).
- Teachers need to connect with students to provide a safe and supportive environment for the students

Assign less Homework

solutions/results:
- Change what homework looks like
  - more manageable, learning activities (museums, reading, grocery shopping, etc)
- Abolishing homework will result in students feeling less stressed, less sleep deprived, and more motivated to attend school

(many schools around the US have already abolished homework and have found time in class to complete individual or group study and practice work. This may take more effort, but will result in less stress for students and teachers)

- Skenazy said "homework kills the natural desire to learn"
- Studies from stanford said "research clearly shows... that there is no correlation between academic achievement and homework, especially in lower grades" (Skenazy).
- A cycle of sleep deprivation within students is created because homework is added to their after school work and activity load, so they have to stay up to finish homework

Mental Health Matters

- If students mental health is better, attendance will improve
- According to the cdc, schools need to help improve students mental health
  - providing students with a safe and supporting school environment will improve students well-being

solutions/results:
- If students felt happy in school and felt that the school and teachers actually cared about their health, more students would attend.
- Suicide and bullying rates would drop
- School can become a safe haven for at risk students
- Todays community and the future leaders of the next generation will be stronger, happier, and healthier

(cdc.gov)

"We need to recognize that we will not improve student outcomes without building the capacity of the adults who work with them, supporting them with high-quality resources and meaningful opportunities for collaboration and professional growth. We need to promote stronger connections between K–12, higher education, and employment so that all students are prepared for lifelong success." -Carnegie Corporation

Decoding

Evidence of *navigational mechanisms* included:

- The infographic is divided into three sections: Skills Based Learning, Assign Less Homework, Mental Health Matters, and a block quote from the Carnegie Corporation at the bottom of the page.

- Each of these sections has two parts including descriptive information and an arrow leading to the other section horizontally parallel labelled as solutions/results.

Stylistics were evidenced in the choices of font:

- In the first section, "Skill-based learning," a central, larger font title in all capitals contrasted with the remainder of the learning strategy, each is a slightly larger font size, "improve desire to go to school," the only one in the list to be underlined and signifed that student motivation and attendance remain from the map one of the most important to the outcomes to their proposal. As evidence of operations, Abby wrote in her module #1 reflection: "I was confident using digital tools to create the infographic and flyer. I had to try out a couple [of] different digital tools."

Meaning Making

Abby used two sources (CDC and a commercial-based website article by Skenazy), of which were used purposefully to give evidence to a claim (*relating*). The CDC source addressed how schools have a responsibility to improve student mental health building on prior knowledge that student mental health is an element of wellness and learning "according to the CDC, schools need to help improve students' mental

health" (*relating*). Several examples by the outside articles she used build on prior knowledge/assumption that homework can be stressful and time consuming for students, which reflects the attitude of group members, but it is unclear if major stakeholders would feel the same and are also evidence of *relating*.

She reflected in module #2 about the feasibility of solutions. In her module #2 reflection and demonstrated a contemplation about the acculturation of ideas from her own experience (*reading*):

> "creating the infographic and flyer has helped me [not only] understand how needed the solutions [are], but how long it might actually take. Although we could change the curriculum right now, I have realized that it might take months to years to take effect in every single school in the US."

Using

Abby used several rhetorical appeals to lead stakeholders towards solutions of active learning, less homework, mental health awareness (*problem solving*). One of the goals listed was to "make learning fun and interactive" and not to be "harsh" in punishments for nonattendance, asking teachers to provide a "safe and supportive environment for students" -- pathos is being used to promote this ideal learning environment (*problem solving*). Additionally, Abby used logos to lead stakeholders to invest in solutions: 1) if active learning is implemented then attendance will improve; 2) if homework is abolished, then students would be less stressed and more motivated to attend; 3) if students have improved mental health, then attendance would improve. The visual design of the infographic including arrows, bulleted lists promoted the flow of logical reasoning as it led the reader visually to read the evidence first and then the solution/result (*problem solving*).

Abby's motivations, according to her module #2 reflection, were to "appeal to stakeholders like school districts and the board of education" and she wanted the information and "wording" to be formalized, "using detail to describe the evidence." As this is related to the needs/expectations of the audience, it is evidence of *applying*. She used Skenazy's article in the infographic to support active learning: "studies have shown that attendance will improve 10% if these [active learning] strategies are put in motion" and used the same source as evidence for the removal of homework: "homework kills the natural desire to learn…research clearly shoes that there is no correlation between academic achievement and homework, especially in the lower grades" (*finding*).

Analyzing

Abby used the space provided by the infographic design for bulleted lists with full sentences and outside evidence as discussed in the decoding paragraph. A longer quote from the Carnegie Corporation at the bottom as the infographic format allows more space for text. No tables or figures were included in the infographic and terms such as "skill-based learning" and "active learning" were not explained for the reader, expertise is implied (both are evidence of *selecting*).

In considering the potential consequences of the solutions she presented in the infographic, one of Abby's main realizations was money. In her module #2 reflection, she commented that "stakeholders would have to take into account how many schools there are in the US" in considering the costs. Again, if this was kept community-based, this may have been a more manageable concern (*interrogating*).

Persona

Student needs are referenced such as technology and books, less harsh punishments for absences, safe and supportive environment, less/more manageable homework and learning opportunities, more sleep, improved mental health, care from teachers, safety from bullying as evidence of Abby's awareness of her role to communicate these needs to stakeholders (*identity building*).

She also based her design on appeal to stakeholders: "The infographic and flyer's design[s] changed based on what appeal I wanted to portray [for the audience]. The infographic had more information, so I organized it in a formal way" (*managing reputation*).

Flyer: Abby

Abby's flyer was titled, "CHANGE THE CURRICULUM… learning should be fun!" with a school theme that addressed students: "students, YOU can be happy!!" and invited participation of students in making changes to the curriculum. See Figure 16 for Abby's Community-Based Flyer assignment.

Decoding

Spatially, the information is not separated clearly into problems and solutions, but the main solutions listed are central in the flyer in a smaller font size than the rest, "help start the change by donating, petitioning, or telling a friend." The main title font is large in capital letters and the rest of the flyer has another font and has for the exception of two instances, no capital letters at all in the text (*stylistics*).

Figure 14

Community-Based Flyer (Abby)

She wrote in her reflection that the purpose of the flyer was "to appeal to students, teacher, and parents so although the evidence was the same, I made it [simpler], used less wording and detail, and organized it on the flyer so students would be attracted to it" (*stylistics*). She selected the wording from the same evidence according to the space available and design (*stylistics*).

Meaning Making

The flyer included three rhetorical questions: "don't feel like going to school? Is there a need for homework? no. Why?" and relied on prior knowledge and/or consensus as assumed common student experience that students are unmotivated, disconnected, poor mental health, unhappy, against homework, stressed, sleep deprived, and have poor mental health (*relating*). No added terms or ideas are introduced as solutions aside from the call to donate, petition, and tell friends, but no place to donate or what to tell friends was specified.

Some ethical judgment present in the module #2 reflection included that creating the flyer helped her to "understand how need[ed] the change is for the students." Her focus in the flyer, although it included a mantra of "learning should be fun" was mainly on student mental health. "As soon as the student mental health change[s] then that will affect attendance records, the environment of school, parent[s'] opinions and even student[s'] opinions on school," which are all examples of *expressing*.

Using

Abby's choice of font, largely void of capitalization appeared less formal for an audience of younger students and was conversational to include students and elicit agreement in the top paragraph: "help change the way you learn so you will WANT to

come. Let's make education relevant, impactful, and active," which is evidence of *applying.* In the middle text boxes: "students' mental health will get better! begin change. begin a better future for students and their mental health…. students, YOU can be happy!" She used ethos here as both a student and as someone who wanted students to be happy (*problem solving*). Abby also relied on the pathos of student feelings described above to be enough to motivate participation. The main claims used are that homework "increases stress and sleep deprivation." One quote is listed as a "student" speaking on behalf of all students, "we're too busy anyway" which is just generic (*problem solving*).

Analyzing

Abby did not include the same formal evidence in the flyer that she included in the infographic and essay; no formal quotes were used, and language was more general. Instead of describing the benefits of skills based or active learning, she asked students to join her in making [their] education relevant, impactful, and active (*deconstructing*). Her sense of consequences for the solution were once again affected by the national scope, which is too large for the assignment. In her reflection for module #2, she wrote that the reality of implementation of reform "would affect how long it will take to put the solutions in effect in every single school. Other audiences may not like how long it will take and not everyone might agree with the solution" (*interrogating*).

Persona

In the first paragraph she addressed students directly as an authority in statements like "don't feel like going to school?" and then shifted to "let students connect with teachers and peers…" which implied that others are involved (*identity building*). In her module #2 reflection, she clarified that the flyer is meant to appeal to students, teachers,

and parents: "I have realized the problem is big so the solution is important" and the flyer reflects a desire to appease minor stakeholders that may view "schooling" and "reform" in intrinsically diverse ways (*managing reputation*).

Essay: Abby

Abby's essay is titled, "Change the American Education Curriculum," consistent with the titles of the infographic and flyer she created. She also continued to address a nationwide audience of administrators, parents, students, and teachers in her proposed solutions.

Decoding

Her thesis, "Changing the American school curriculum will increase student attendance records by restoring the desire to learn through skill-based learning, improving student mental health, and even reducing the amount of homework and tests" (p. 1) was clearly stated at the end of the introductory paragraph (*navigational mechanisms*). Abby used clear transitions with topic sentences at the beginning of each body paragraph: "In order to change the students' view of school…America must change the curriculum. First… Additionally…." (p. 2) and "this process will include multiple costs, as well as many adequate benefits… (p. 3) to transition to and discuss the problem, solutions, and cost/benefits (*navigational mechanisms, operations*).

Meaning Making

A few general statements about student behavior include her own observations: "It is widely known that many students that attend American schools, especially public schools, skip classes whether they have guardian permission or not…to some students,

learning does not seem intriguing or fun" (*reading*). Abby made a judgement about attitudes towards her solution: "communities will improve… kids will be better" and "for the benefit of future generations" (p. 4) (*expressing*).

Using

Abby used evidence from the California Department of Education (*finding*) to provide logos to the claim that communities wanted students to attend school (*problem solving*):

> Communities are also impacted because they help fund the schools through taxes and donations. However, if students are not attending schools, and teachers don't have to use these resources, people may feel their money is being wasted…. (p. 2)

Another source she uses is John King and his argument that curriculum should teach students to be critical readers and critical thinkers and promote "thoughtful leadership" (*finding*).

Analyzing

After using evidence from John King, Abby provides a plan for implementation, which is evidence of *deconstructing*:

> After the curriculum is changed and approved by officials, it will be mandatory for every school in America to install this new curriculum. Teachers in every state will first need to be hired to teach districts and other teachers the new curriculum, either during summer or during the last three months of the school year. (p. 4)

Persona

Abby's language was directed very broadly: "America must change the curriculum" which denoted that she wants to see nationwide, universal reform (*identity building*). In her essay, she promises the stakeholders that "overall the students, their guardians, and the community around them will have tremendously improved because the

schools will have changed for the better" which places her in the role of speaking on behalf of students (*identity building*).

Infographic: Jake

Jake's infographic was titled "Improving the American Education System." See Figure 15 for Jake's Solution Infographic assignment. He also addressed educational reform on a national scale as "American" and solutions go outside of the community scope.

Decoding

The infographic was clearly divided into three sections: major stakeholders, deliverables, and pertinent information (*navigational mechanisms*). He used a simple template for the infographic that included a set color scheme and graphics; he did not add any other graphics as evidence or to relay the theme of education (*stylistics*).

Jake remained confident in his digital design capabilities for the infographic. In his module #2 reflection, he replied that "I get computers well and I'm a fast learner. I might not be the best when it comes to aesthetic design, but I felt that I could [create] something good" (*operations*).

Figure 15

Solution Infographic (Jake)
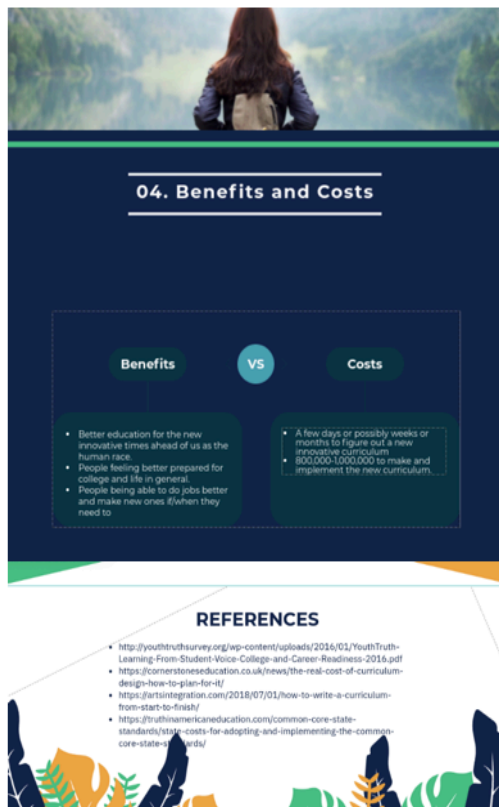
Meaning Making

Information was assimilated to fit the concluding section as a list of claims, but there was little prior knowledge included preceding these claims to connect for the stakeholders and the first two sections have little information to provide context (*relating*). In his module #2 reflection, Jake relied on his ideas (*relating*); "I didn't really decide from a group of ideas. It was just if I had an idea for something then I put it on in some way."

Using

Jake did not use evidence to support the claims made on the third slide but implies a logical need for reform as "87% of students feel unprepared for college" (*problem solving*), but he did include a references list on the last slide of some website addresses (*finding*). The next claim seemed suspicious (no citations); "it only takes 10 days to make a long-term curriculum, so it doesn't have to alter the normal flow of school" which is perhaps a lack of *finding*. He also included the cost of $800,000 for educational reform, but the scope of reform to which this cost applies is not illustrated (*finding*).

Evidence of how he found sources (*finding*) was in his module #2 reflections: "It wasn't the easiest task to find evidence on the subject we chose… the infographic needed much more information and statistics [than the flyer] as it would be presented to the people that we need to actually do what we want to do."

Analyzing

Each section of the infographic contained 1-2 sentences worth of information and small graphics were used in each section to fit the template (*selecting*). As there was little

information in the infographic about the intended stakeholders, it was difficult to define any evidence of *deconstructing* or *interrogating*.

Persona

Jake referred to the school district stakeholders as "they" and "us" for the students, which includes the group members with any other stakeholders (*identity building*). In his module #2 reflection, when asked about the stakeholders, his response did not address who they could be: "I have needed to…figure out why we have the problem and how we could fix it. That is pretty much it though" (*identity building*). His role to communicate solutions does not appear to have a recipient.

Flyer: Jake

Jake's flyer was titled "A Change for Change" with no connections to American Education as in the other visuals and essay. See Figure 16 for Jake's Community-based Flyer assignment.

Decoding

The flyer had three main text boxes each containing a few sentences of small text; each section is labelled: "about," "what we know," and "our solution." (*navigational mechanisms*). He also provided contact information as a phone and website link at the bottom of the flyer to elicit participation (*operations*). The template is clearly organized visually with colors and clear headings and the book icon at the top indicates the topic is related to knowledge (*stylistics*).

Figure 16

Community-Based Flyer (Jake)

Meaning Making

In the text box labeled, "About," Jake builds upon prior knowledge of the subject and then connects to a current need for innovation (*relating*):

> The education system we know today was made during the first industrial revolution. That was when they needed a lot of workers of average intelligence to do the same menial tasks over and over again all day. Nowadays, we have machine to the menial tasks and we are running into new problems that education system as a result.

Although no citations were used, it implied a common historical context and need for reform. The lengthy sentences could have composed a paragraph in the text box, but this was an ethical judgement to make sense of the history for the audience (*expressing*).

Using

In the section, "Our Solution," Jake used no outside source evidence, but logically connected the need for innovation to a curriculum: "organizing and implementing a new curriculum in most if not all USA school districts that fosters creativity and ingenuity, also teaching them the basics for living in an innovative world as an adult and parent" (*problem solving*).

Analyzing

In the "What We Know" section, Jake restated the need for innovation: "the current education system is not adequate for the coming times where people will need to be innovative and critical thinkers. There is massive need for a change" (*deconstructing*). In consideration of the consequences for minor stakeholders, Jake wrote in his module #2 reflection that this information could motivate "the public and get them on board with our case" (*interrogating*).

Persona

The stakeholders are not addressed directly in the flyer, but Jake did identify as an authority to convey the solution in his inclusive pronoun usage: "what *we* know" and "*our* solution" (italics added) (*identity building*). In his reflections in module #2, the only clues for his relationship to minor stakeholders here is that they are the "public" and this vagueness restricted the communication of concrete solutions based on the needs of the audience.

Essay: Jake

In his individual essay, the title changed from "Improving the American Education System" in the infographic to "Changing the Education System." In his essay, Jake focused on reform due to outdated curriculum.

Decoding

Jake's essay thesis was clearly stated, even if it remains vague: "The US education system needs to change because it is outdated, and students need to learn new things in order to live in the new times ahead of us" (p. 1). (*navigational mechanisms*). He transitioned from the thesis in the body paragraphs from problem, solution, to benefits: "Now we get to topic of how this change will come around" and "the benefits of this change and "there are some negative takeaways from this transition" (*navigational mechanisms*).

Meaning Making

Some prior knowledge and assumed consensus were present in the first line of the essay with a moral judgement statement that: "There can't be only one person that can

plainly see that the education system of the United States of America has much to be desired" (*relating*). Jake also gave context to the ways students might be feeling frustrated: "If things like grades and scores didn't have such a weight on students' future, then they would have more brain space to work on actually learning" (*expressing*).

Using

Jake used an article by Alison Schrager to distinguish the origins of obedience in our educational system (*finding*):

> While obedience is a good trait for employees to have, we no longer need to do what we are told… We [have] machines to do repetitive tasks. We now need creative and thoughtful people… to lead and come up with ideas and solutions the world will need.

In doing so, Jake connected the concept of manufacturing to current outputs of students in an economical model of education and implies a logical shift in the classroom from obedient sitting to action and innovation (*applying, problem solving*).

Analyzing

Jake applied the list cited from an online article to a potential solution to "let districts all of the US make their own new curriculum and pass it through a system to check if it follows the correct specifications" (*deconstructing*).

Persona

Jake's tone in the essay was informal and sarcastic from the first line: "There can't be only one person that can plainly see the education system, of the United States of America has much to be desired" (*identity building*). Jake referenced specific stakeholders as school districts in third person but does use several references to indicate

himself with others as those able to implement solutions: "*we* need to get rid of…" and "*we* haven't changed how we teach *our* children" (p. 2, italics added) (*identity building*).

Infographic- Cami

Cami's solution infographic was titled, "Improving the Education System" with the first heading directed towards the duty of the major stakeholders to "make students enjoy school." See Figure 17 for Cami's Solution Infographic assignment.

Decoding

Evidence of *navigational mechanisms* include:

- Top heading in bold font "HOW TO MAKE STUDENTS ENJOY SCHOOL" with a concise explanation: "Schools are struggling to get students to participate in school. There are some essential changes that can help the school system and the students succeed academically and better the future."

- The main title is centered below this section using a larger font, "Improving the Education System" with a short explanation below the title before presenting evidence of problem and solutions: "Three are a lot of key factors that go in to improving the education system, from changing the classes that are required to how the students are dealing with [their] mental health."

Figure 17

Solution Infographic (Cami)
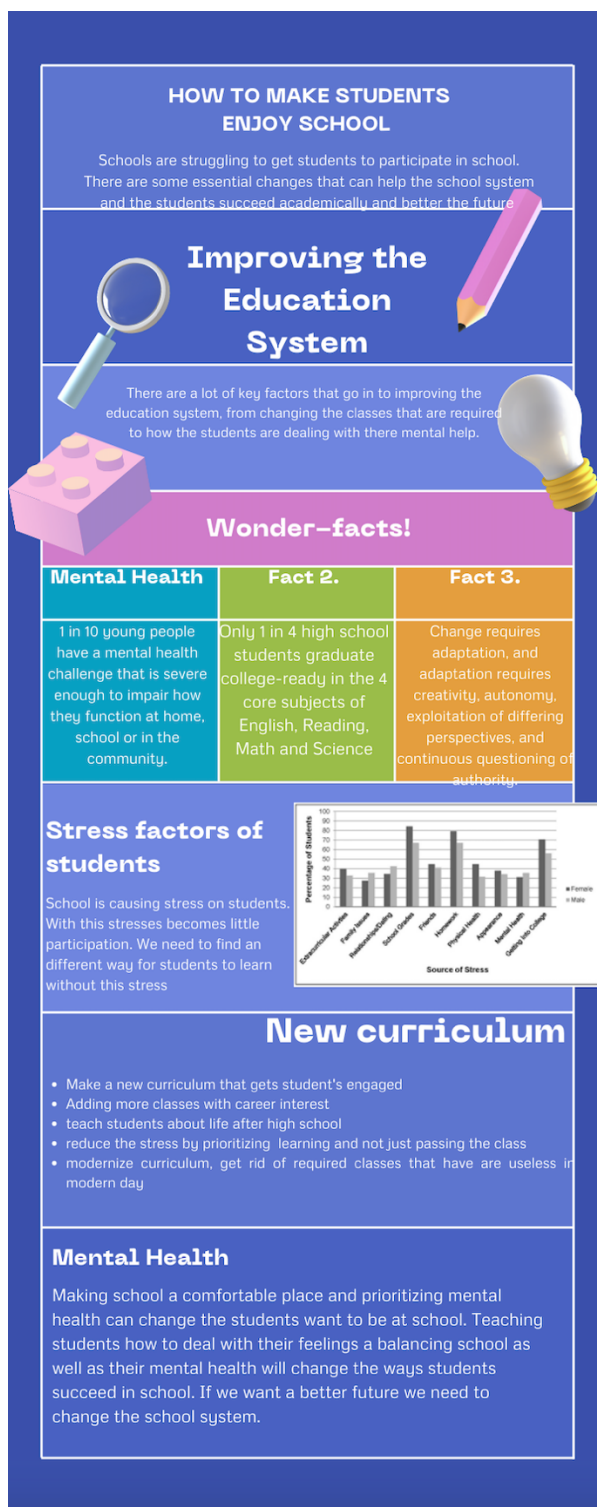
Several evidences of *stylistics* are also present in the infographic:

- Sections of the infographic were separated by clear lines vertically and the "Wonder-facts!" section of evidence uses brighter colors side by side horizontally. Four pictures were used around the title section with icons like a magnifying glass, pencil, Lego, bulb.

- A solid blue background for the infographic with shaded sections and white font.

In her module #2 reflection she pointed out that this is due to looking at several infographics for examples: "At first I wasn't sure what an infographic was before this assignment, so I didn't even know where to start. After doing some research and what websites to use, I [knew] what to do" (*operations*).

Meaning Making

Cami's graph had logos for her claim alongside the graph that if school caused stress for students, then it could have led to less desire for participation: "We need to find a different way for students to learn without the stress" to connect new and prior knowledge (*relating*). In her module #2 reflection, Cami responded that her choice to select information for the stakeholders had to include a focus on "what the problem was and what was causing it" as stakeholders might not be as aware as the audience (*reading*).

Using

Cami used a graph as evidence in the section "stress factors of students" and to report the percentage of students who experience each type of stress including extracurricular activities, family issues, relationships/dating, school grades, friends, homework, physical health, appearance, mental health, and getting into college divided

up by male/female students (*finding*). In addition to the graph, Cami used factual

evidence in the list of "wonder-facts!" under the headings of Mental Health as "1 in 10

young people have a mental health challenge that is severe enough to impair how they

function at home, school or in the community" Fact 2 is listed as "Only 1 in 4 high school

students graduate college-ready in the 4 core subjects of English, Reading, Math and

Science". The final category Fact 3 connects to change as "change requires adaptation,

and adaptation requires creativity, autonomy, [exploration] of differing perspectives, and

continuous questioning of authority" (*finding*).

Regarding how much evidence to include from sources in the infographic, Cami

wrote in her reflection: "I personally put more information in my infographic [than in the

flyer] because the major stakeholders needed more convincing that there was a problem

that needed to be fixed" (*applying*).

Analyzing

Cami provided a bulleted list of suggestions/recommendations for solution and

then some explanation for these suggestions is provided in the following section "Mental

Health" as evidence of *deconstructing*:

> Making school a comfortable place and prioritizing mental health can change
> [that] students want to be at school… Teaching students how to deal with their
> feelings at school as well as their mental health will change the ways students
> succeed in school… If we want a better future we need to change the school
> system.

Overall, in the design, Cami filled each section with a few sentences of text, the sections

fit the text and were not uniform in size, the specific size for the text, and used more

complete sentences than she did in the flyer (*selecting*).

In discussion of the consequences for her solution, she relayed a level of concern, even fear, that stakeholders would even care. She wrote in the module #2 reflection as evidence of *interrogating*:

> Potentially some consequences could be that the problem wasn't big enough for anyone to care about including minor and major stakeholders. Even though this problem is important to us as students, it doesn't really affect the stakeholders, so they could think to themselves, "why should I care? It worked for us, why won't it work for them?"

Persona

Both students and schools are referred to in third person throughout the infographic. Examples of this include "make students enjoy school" and "schools are struggling" and the audience of stakeholders is not directly addressed in the text of the infographic (*identity building*). Cami felt a growing exigency for the problem to be solved from her standpoint as a student. She wrote in her module #2 reflection that: "making these visuals helped you understand the bigger picture to the actual problem. It makes you realize that if this problem doesn't get solve it could really affect our generation and future generations" (*identity building*).

Flyer: Cami

Cami titled her flyer, "Help your students get the education they need!" which clearly positions the minor stakeholders as parents and teachers. See Figure 18 for Cami's Community-Based Flyer assignment.

Figure 18

Community-Based Flyer (Cami)

Decoding

Evidence of *stylistics* were in the theme of the flyer: Cami's flyer is landscape

with an educational theme with a graphic pattern on bottom, pen/paper A+ graphic, and

lined notebook paper background. Three bright colored squares organized the highlighted

facts of the problem (also *navigational mechanisms*). Other evidence of *stylistics*

included the title, "Help your students get the education they need," was bold and in a

larger font, followed by "new curriculum means better education."   Another evidence of

stylistics was in the solution, in a regular font below the three, bright colored boxes by

itself: "fight for you[r] students future by donating, telling friends and family, and

checking up on your kids."

Meaning Making

She also recognized a lack of student motivation: "kids should want to go to

school" and need for change: "education needs to get with the modern times." This prior

knowledge, not new for the parent/teacher minor stakeholder audience, is the center of

the flyer before solutions as added information is given and is evidence of *relating*.

In her assessment of what information to include on the flyer, Cami wrote in her

module #2 reflections that "the real difference [in knowing what information to include]

was who the audience was to use what information… for minor [stakeholders it] is more

of what needed to happen and what we need from them to make the solution happen"

(*expressing, reading*).

Using

Rhetorically the claims had pathos addressing parental concerns for their

children's mental health and logos implying that if learning were fun, attendance would

no longer be an issue (*problem solving*). Another appeal to parents was the need for a "modern education" implying preparation for the world after school. The language "checkin' up on your kids" and "get with the modern times" are more causal for the flyer that would be distributed for personal use in the community (*problem solving, applying*). Cami wrote in her module #2 reflection that "in the flyer here was still enough information for the minor [stakeholders] to know what was happening… [and] for them to get asking what else they could do" (*finding*).

Analyzing

Cami simplified her main points into shorter sentences and phrases in the highlighted boxes on the flyer without formal evidence using observable facts that address common parental concerns of the audience (*deconstructing*). This simplification of evidence was appropriate given the flyer's purpose to quickly convey concise information as a scannable flyer (*selecting*).

Persona

The minor stakeholder audience for the flyer could be parents or educators in the statements "help your students" and "fight for your students" (*identity building*). Cami positions herself outside of the audience in the role of designer/presenter as no personal pronouns, such as we, are used (*managing reputation*). Solutions are not a major part of the flyer and were not bolded or colored and had no directions for participation such as how/where to donate, what to tell friends/family, or what to do when checking up on kids (lack of *participating*).

Essay: Cami

Cami's essay has no specific title ("Proposal Essay") and centers around

academic success through curriculum changes that will improve students' mental health.

Decoding

Cami's thesis at the end of the introductory paragraph attempted to address the

solutions she would then discuss in the essay (*navigational mechanisms*):

> There are some key factors that go into improving the education system, from changing the classes that are required for graduation, to how students are dealing with mental health. If we want to make our students succeed academically and have a better future these are the steps we need to make it happen. (p. 1)

Cami used transitions in the body paragraph to discuss the problems and

recommendations for each with statements such as: "The problem we are finding…to fix

these problems…another problem… and the last problem." (p. 1-3), which are evidence

of *navigational mechanisms*.

Meaning Making

Cami acculturated her group's experiences as students as discussed in the

mapping assignment (*reading*):

> The problem we are finding with the education system is that students are going to [fulfill] the academic responsibility rather than going to learn.. in this age there are a lot of things people are going through, especially teens. Family problems, money, friend drama, and school all play a part in teens' mental health.

She made several moral judgements within the body of the essay: "bad mental health

makes them [teens] feel worthless…it seems reasonable that teachers can teach how…."

(*expressing*) and in the final paragraph on behalf of students (*relating, expressing*):

> Our students are struggling and we need to take notice of it, and do something about it. Figuring a way to require classes that will prepare our students for their life after high school, make a grading system that is more focused on what is

learned and not off a letter schools being more involved with their students' mental health, and overall making school more comfortable and enjoyable for students. (p. 1)

Using

Cami included outside evidence in several places in the essay to support claims (*finding*); in the third paragraph she used a source to rationalize logically that students are not learning basic life financial skills in school. She used logos in her reasoning (second paragraph) in a chain of cause/effect claims—student stress leads to less student motivation, which then leads to failing grades and worthlessness (*problem solving*). She used pathos to appeal to her audience in making school a **"**comfortable place for students to go if they ever need help" and "all in all students should be able to feel safe at school… could help them feel more comfortable" (*problem solving*).

Analyzing

Cami suggested that if depression is rising, school counselors should be trained to deal with mental health and educate others on how students are depressed and would benefit from school counselors (*interrogating*). Interestingly, Cami addressed mental health here, but still maintains in her module #2 reflections that "nobody would care" about solutions. This statement reflects an underlying believe that major stakeholder districts, policymakers do not care about the needs of students and a power dynamic exists that is resistant to making changes (*interrogating*).

Persona

Cami shifted from a group perspective: "[the] problem we are finding is" to individual: "another problem I see" and "the last problem that I think should be

addressed" (*identity building*). Cami spoke as part of the major stakeholders that would implement the solution: "we should have to train people" and as a community member "our students are struggling… prepare our students for life… if we want our students to be successful" (*participating, managing reputation*). Cami wrote in her module #2 reflection that "I really think this is a big problem in modern [times] and something should be done about it" (*identity building*).

Final Infographic: Group 2

The final infographic for Group 2 was titled, "Improving the American Education System" and narrowed the scope from education generally to the USA's public education system. See Figure 19 for the Final Solution Infographic by Group 2.

Decoding

The infographic had clear spatial organization within the template of text boxes with clear headings of causes, effects, solutions, cost, and benefits (*navigational mechanisms*). Additionally, the white, sans serf fonts was clear for readers and text readers and provides a uniform, balanced effect (*stylistics*). The title is in a chalkboard font alluding to the subject of education. The bullet points in each text box, including three causes/three effects and an equal length of lines from costs/benefits, created a balance of information, with solutions in a paragraph in the center box between them (*navigational mechanisms*).

Figure 19

Final Solution Infographic (Group 2)
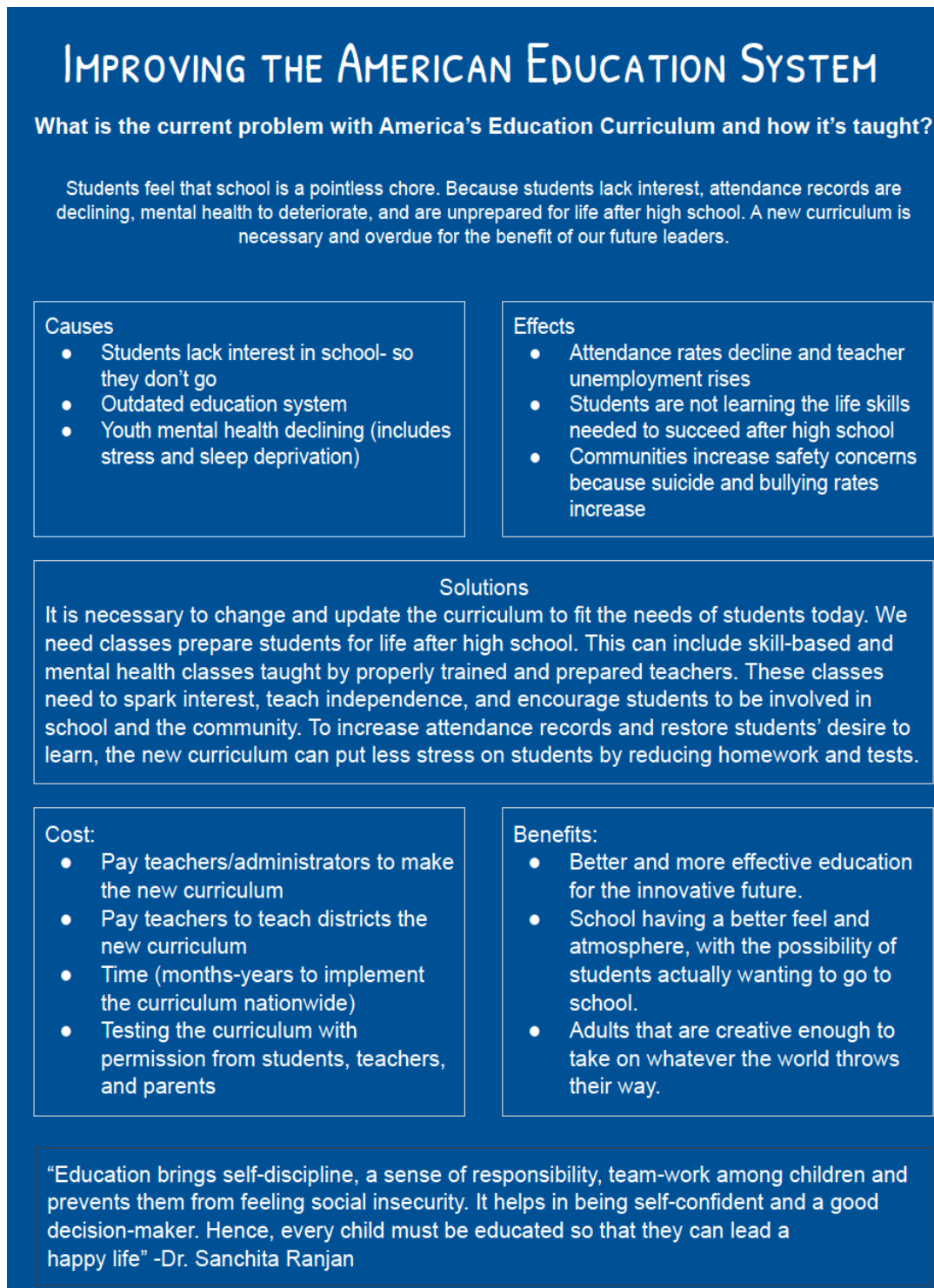
Meaning Making

The bottom section included a quote from Dr. Sanchita Ranjan regarding the importance of education (*expressing*):

> Education brings self-discipline, a sense of responsibility, teamwork among children and prevents them from feeling social insecurity. It helps in being self-confident and a good decision-maker. Hence, every child must be educated so that they can lead a happy life.

In a brief description after the title, Group 2 connected the prior information of the "current situation" of their own student perspective (*relating*):

> Students feel that school is a pointless chore. Because students lack interest, attendance records are declining, mental health [is deteriorating], and [students] are underprepared for life after high school. A new curriculum is necessary and overdue for the benefit of our future leaders.

This list of effects overlapped with the list of effects in the text box below it, but summarized the main points of Abby's infographic, including mental health, low attendance, lack of interest/relevance and Cami's as well with mental health (*relating*). Although the top half outlined prior information that major stakeholders may well be aware, the second half then focused on new information regarding solutions, although all outside research has been removed in this final group effort in place of lists that summarize a wide variety of rather vague without facts in the causes, effects, costs, benefits, and a paragraph of several ways in which to reform educational curriculum (*relating*).

Using

The opening statement (cited previously) did entail logos to the argument of the necessity of reform—students lack interest in curriculum, are disengaged, stop attending class, and are underprepared when exiting high school (*problem solving*). Other areas of

logos in the infographic are combination of causes and effects—students lack interest and do not attend school, outdated curriculum does not prepare students in a modern world, student mental health declines lead to suicide and bullying behaviors (*problem solving*). Additionally, the overall logos of solutions entails that with a reformed curriculum was unspecific as to what/when/how, but claimed that students would be more interested, independent, involved, and attendance rates would improve, which suggested a pathos appeal of desired outcomes (*problem solving, applying*).

The text filled the page equally to each margin and textboxes were full of an equal margin border around each. The template used for the infographic was like Abby's infographic in format but used the same blue color scheme as Cami's infographic (*applying*).

Analyzing

Among the information selected by group members to use for the infographic, much more context was given to making the major stakeholders aware of current conditions before moving to solutions (*deconstructing*). Interestingly, the solutions took a different direction from the mapping assignment in updating school system, requiring less credits, less stress of grades, more student driven towards changing the curriculum to include more skill-based and mental health classes, (requiring teacher training, sparking interest in students. With still a national focus to "implement the curriculum nationwide" it was still vague as to the specifics of what would fit their own school's needs (lack of *interrogating*).

Persona

The infographic language was third person, exclusive of students, but representing their needs and desires: "students feel… students lack interest in school- so *they* don't go… students are not learning…" (italics added) (*identity building*).

The language remains formal, addressing major stakeholders indirectly as an audience, but never addressing them as a group or by name. The group's voice is inclusive of themselves as the agent group several times in the infographic, including the introduction: "A new curriculum is necessary and overdue for the benefit of *our* future leaders" and in the solutions: "*We* need classes [to] prepare students for life after high school" (italics added) (*identity building*). As students themselves, it was interesting that the group positioned themselves as outside of the group, referring to "students" and when personal pronouns are used it is in a place to change the system for/on behalf of future students as solutions take time, the group explains in their essay (*identity building*).

Final Flyer: Group 2

The community-based flyer created by Group 2 is titled, "CHANGE THE CURRICULUM" and was designed to appeal to minor stakeholders of students and parents. See Figure 20 to view the final flyer submitted by Group 2.

Figure 20

Final Community-Based Flyer (Group 2)

Decoding

The flyer included a "new" color scheme and design that was not seen in the individual drafts, with a background of shapes and school related images- trophies, pencils, backpacks, computers, etc. (*stylistics*). The font was sans serif and is larger than the previous documents—the textual information was less in amount than the other flyers and larger in font size (*stylistic and applying*). Under the title in all capital letters are three bullet points, using a pencil icon for the bullets) of making learning more interesting, active, relevant, impactful, and relevant as "skills needed to succeed" (*navigational mechanisms and stylistics*).

The main imperative in the center of the flyer was "The new curriculum is necessary for YOU." Although the flyer does not explicitly label problems or solutions, the bullets are more statements of what the effects of reform will be. The middle text also lists the benefits of reform such as better learning environments, less stress, and a better future. The call is to "prioritize the students' success and mental health in school" and then to "take action by donating, petitioning, and telling friends and family!" Details on how to do each of these actions are not given, but the tone of the flyer remains hopeful and optimistic to "do something" about the issue (*navigational mechanisms* and *stylistics*).

Meaning Making

The flyer's tone implied to students and parents as the audience of the flyer that current schooling is uninteresting, inactive, irrelevant, not impactful, and that teachers are not currently teaching needed skills and that students are stressed (*expressing*). There is

an ethical judgment that the results of disinterested and stressed students stem from curriculum.

Using

The solutions presented in the flyer remain general, instructions/sources on how to "prioritize the students' success and mental health" and how to "take action" through donations, petitions, and spreading the news about reform are not clear (*finding*). The main rhetorical appeal then was pathos in a desire to make students' lives better and an excitement to do something about it, however unspecified (*problem solving*).

Analyzing

The information included on the infographic outlined the "prior" information of the problems facing students and the effects before moving to solutions, but the flyer implied that the minor stakeholders (parents and students) already experienced these issues of poor motivation, attendance, engagement, mental health and did not require a reminder (*interrogating* and *relating*).

Persona

Although the minor stakeholder audience changed a bit through the individual flyers (teachers, students, parents), it became clearer that the audience was conceived as parents and students. This assumption of a student is based on the flyer's instructions to "help change the way *you* learn so *you* will be interested… the new curriculum is necessary for *YOU*" (italics added) (*identity building*). The flyer audience also included parents in statements such as: "a new curriculum will give students… this can only happen if we prioritize students' success and mental health in school" (italics added)

(*identity building*). Teachers did not seem to be the audience for this flyer with the only mention that "teachers should teach students the skills needed to succeed" (*identity building*).

Final Essay: Group 2

Decoding

The essay has a clearly stated thesis statement in the introductory paragraph: "It is necessary to change the American Education curriculum so more students will willingly go to school and have the opportunity to brighten their future through education" (*navigational mechanisms*). The group uses several transitions to discuss the problems' causes and effects on behalf of students (*navigational mechanisms*). The costs are general as "time, money, and effort" and although several examples are given, none are specific to a plan to implement reform.

Meaning Making

Several instances of ethical judgment were present in the essay including a continuing assumption that the current learning environment is not beneficial to learning or engaging: "for example grading students on if they actually learned the material and not how they perform on tests, will help obtain this goal [of students engagement]" (*expressing*). Group members assimilated their own experiences implicitly that schools do not do enough to help students' mental health: "All these changes to classes and how schools deal with mental health will ultimately update the current education curriculum" and that the impact of reform "will benefit future generations of schools, communities, and more" (*reading*). The tone of assumption extended from the problem to who should

be involved in reform: "clearly, this plan takes much effort from committees, teachers, board of education members, and even students" (*expressing*).

Using

The logos of cause and effect wais used several times to demonstrate the ways the problem is happening in schools—students skip school because of mental health, including lack of sleep, stress, and school problems and this student stress comes from grades, pressure and "unhealthy mental habits" (*problem solving*). Another point of logos was that if our educational system was originally intended to teach factory worker skills of "docile, agreeable workers" from an outside source in the essay, then it will not fit the needs of an innovate 21st century society (*problem solving*).

Several other evidences of *problem solving* were present in the pathos-based appeals made in the essay:

- "These classes should consist not only of STEM, but also classes that teach students how to grow emotionally."

- "Students will have restored their desire to learn because not only are the school's goals to appeal to every student, but also to improve their mental health."

- [with reforms, students will] "have a desire to come to school and be actively engaged."

The group used several outside secondary sources for evidence, which were not coincidentally used in any of their visuals. They cited the California DOE to show how enrollment was lower but did not provide any data for the local district (*finding*). They also cited the CEO of the Education Trust, John King, looking beyond test scores to

encourage "thoughtful leadership" (p. 3) and the Education Development Center- to show how a new curriculum would "roll out" (*finding*).

Analyzing

At several points in the essay the students demonstrated discernment of the meanings and consequences of both the problem and their solution: "Furthermore these students, and even the kids who attend but are not engaged, are missing out on learning the life skills necessary to succeed" and "Instead [of docile workers], America now needs creative employees and critical thinkers to manufacture these machines…" (*interrogating*). Another claim they made was for an eventual consequence if nothing is done: "America will be dysfunctional because people will not know how to manage new technology" (*interrogating*).

Persona

The group continued to speak on behalf of students, but without reference to "us" that was different from Group 1; they include themselves as students at times, but overall are removed as authorities seeking to implement reform (*identity building*). This speaking on behalf of students is evident in the thesis: "It is necessary to change the American Education curriculum so more students will willingly go to school to have the opportunity to brighten their future through education" and "these students…to make sure students learn…" (*identity building*).

In several instances, the students took a voice of authority as "we/our" when referring to major stakeholders and "their" when referring to students (italics added) (*identity building*):

- "…if *we* do not teach students modern skills in school…"

- "…restore *[their]* desire to learn…"

- *"We* can start this process through proposing ideas…"

- "schools should help students find careers that spark *the[ir]* interests."

- "…preparing *these* students for life in high school…"

- "*our s*tudents are struggling and *we* need to take notice of it."

- "prepare *our* students for *their* life after high school…"

- "…*their* future business leaders…"

The last line of the essay attempted to connect this topic to a community level: "Not to mention, these changes will positively affect [Our] District's students, teachers, and future leaders." The audience then is effectively stated as exclusive of teacher, just unnamed district administrators both in their own district and nationwide (*managing reputation*).

Patterns of Critical Digital Literacies Practices

This section describes several observations within the coded CDL practices of students during the project; this process allowed me to categorize some of my observations and make some connections regarding how CDL practices developed within individuals and groups.

Decoding- Observations

While evidence of *navigational mechanisms*, *operations*, and *stylistics* was present in student work, no evidence of conventions or modalities was found in these assignments. Evidence of *navigational mechanisms* and *stylistics* were present in all documents students created in both individual and groups. Evidence of operations were

present in all individual assignments and the group mapping, but not in any group final assignments (infographic, essay, flyer).

Overall, students seemed confident and comfortable with using digital tools to create visual assignments (*operations*). In every module #1 reflection, students responded that they were confident in using digital tools; two students were hesitant and then later responded that once they had started designing, it became easier than anticipated to complete the assignment.

Meaning Making- Observations

Evidence of all three (*reading, relating, expressing*) practices within meaning making were present in student work. *Relating* was present in almost all assignments, more than any other meaning-making practice; students incorporated their own experiences into the problem's context in almost every assignment. *Reading* was the most present in the infographic and mapping assignments. Evidence of *expressing* was in Group 2's final group documents whereas Group 1 only evidenced expressing in their final infographic.

Results suggested that the process of visual design was a space for students to "make sense" of the context of the problem and solution. Although two groups depended heavily on prior knowledge and experience when creating the map, Group 1 used the space to determine what information they "didn't know yet" and needed to find with research. Also, whether their solutions were explicit. Group 2 struggled to provide an explicit set of solutions but remained confident with statements such as: "I know what my stakeholders need." More about this observation is discussed in Chapter V.

Using- Observations

Evidence of all four areas of using (*finding, applying, problem solving, and creating)* was found in student work for this project. Apart from two assignments (Abby's essay and Cami's infographic)*, problem solving* was present in every assignment coded for this project; every group assignment demonstrated that students were designing with rhetorical appeals to solve and analyze problems and find appropriate solutions.

The results also suggested that visual design promoted logos in placement and proportioning of information. The templates used by students for infographics provided a space for parallel textboxes and flow of information for the reader. Both groups used these boxes and space to promote movement logically from problem to solution to cost/benefits, and the separation of these elements also resulted in proportioning of information. For example, when one list had 2-3 bullets and 5 lines of text, the other box parallel would have 2-3 bullets and 5 lines of text (see group 2 infographic). Because of this balance, students demonstrated several cause/effect and problem/solution relationships visually; both also used an if/then logic on the flyers (if you want X to happen, we must do Y).

Finding was present in all student work, including all of Group 1's final assignments including the map; the group used outside evidence both generally and locally to apply solutions, which also coincided with their use of *applying*. Group 2 however did not use much of their outside research in the infographic and flyer, perhaps because the scope of their topic remained broad, and they chose not to locate/pursue more primary sources (this is discussed more in Chapter 5). While Group 1 had more evidence

of *creating* in using community resources), both made some effort to create a usable solution (*applying*).

Analyzing- Observations

All three areas of analyzing (*deconstructing, selecting, interrogating*) were found in the coded student assignments. *Interrogating* was the most present; all students demonstrated this practice on one or more assignments. Except for Jake's infographic and Group 2's final infographic, evidence of interrogating was present in every infographic to demonstrate that in general, students consciously considered the consequences for stakeholders in their designs. *Deconstructing* was present; interestingly it was found in Group 1's essay and flyer, but in Group 2's infographic.

Use of this CDL practice indicated that visual design provided an opportunity for some students to differentiate between audience and stakeholders in interrogation of consequences for each group. Both groups mentioned in reflection responses that minor stakeholders were important as being the "most affected" by the problem. In this way, the visual design process, having to design two visuals for two separate groups (stakeholders, audience) allowed group members to not only recognize them as two separate entities, but to determine what consequences would motivate each one to action- and how each group could participate. In Group 1, although both groups were affected by water shortages and population increases, the public could conserve water at home, use rock landscaping, and even purchase rain barrels—and so essentially could major stakeholders of business owners. The main difference being that major stakeholders could decide to purchase for the public and/or mandate restrictions. In Group 2's project, the ambiguous administrators determined parameters of curriculum reform, whereas the public of

students and parents could only petition for changes to be made despite suffering the effects of mental health and disinterest. In short, visual design made these processes more explicit as students were creating two visuals for two audiences.

Analyzing practices also indicated that visual design provided an opportunity for some students to consider the viability of solutions for major stakeholders. In their presentation of water conservation solutions, group members each related a concern that their solutions may not be viable due to the cost, appeal, or desire of major stakeholders to invest in changes. As Kate commented, "I think it [making visuals] helped me understand how difficult it actually would be to make a difference in the water situation in [Our] County." Group 2 also commented that they needed to "convince" major stakeholders and the visuals gave some space due to the templates, for students to consider what information, as it was limited space, would be the most likely to serve that rhetorical purpose.

The process of *interrogating*, as located in student work, also indicated that visual design provided some students a space to qualify claims and consider alternatives as needed. Upon completing the mapping assignment and moving to the visual drafts, several students changed the scope of the original problem and solutions changed as well. One way this manifest was in Group 1 and their views on water restrictions. Initially the plan seemed to be to mandate rock landscaping and rainwater collection systems. Even in the final infographic there is mention of the city paying the cost. In the individual flyers, the message changed to at home things the public could do with less cost/effort. After completing the visuals, the essay language changed to "utilize rainwater harvesting" and "encourage businesses and homeowners to consider rock landscaping" in the final essay,

infographic, and flyer, which still included the simple tips to save water at home. This response could also be included in the discussion of viability of solutions but is evidence of the qualification of claims more explicitly.

Persona- Observations

All three of the areas of persona (*identity building, managing reputation, participating*) were in the student work; *participating* was found in the mapping assignments exclusively and *identity building* was in every student assignment as the only area evidenced in every assignment within any of the CDL practices.

Identity building as evidenced by students' awareness of their roles to communicate solutions to the audience (stakeholders/audience in this case); although Group 2 struggled to narrow their audience locally and remained general, but they nonetheless expressed an exigency to communicate solutions. Cami felt a growing exigency for the problem to be solved from her standpoint as a student. She writes in her module #2 reflection that: "making these visuals helped you understand the bigger picture to the actual problem. It makes you realize that if this problem does not get solve it could really affect our generation and future generations."

Students tended to include themselves as part of the major stakeholder in the visuals, even though they were more likely minor stakeholders. Group 1 denoted major stakeholders as "the city" in the final group assignments and used "our" throughout the infographic and essay, denoting that they identified as part of that group even though they are minors. They referred to business and homeowners in third person and this pattern continued in module reflections. In contrast, they include themselves in the minor stakeholder audience on the flyer as a joint effort to save water as home/business owners

and citizens. "How can we make a difference?" and "How much water do we use?" This suggests an overlap of stakeholder groups based on the context as all are water users. Although students are not home or business owners, they can still relate to minor stakeholders in the citizen/water user context.

Some students were explicitly concerned with appearing "professional" in the infographic for major stakeholders. Kate and Sophie were concerned with the professional appearance of their infographics for major stakeholders. Kate commented that it was "harder to make an infographic look professional than I thought" and designed the infographic to be "calm and professional. Sophie mentioned several times in her reflections that she sought to have an infographic that was "calm and professional" using a monochromatic color scheme and "no cute graphics or anything." This also affected her choice of evidence: "To decide what evidence to use I considered what audience would be looking at my information. I used more professional evidence in the infographic because a more professional audience would be looking at it."

Visuals gave the students an additional opportunity to speak directly to and for minor stakeholders. Overall, the groups positioned themselves as co-agents with major stakeholders in the implementation of solutions as "we" in referring to what needs to be done to combat their community problems. In reference to minor stakeholders in the flyers, the list of how to participate was imperative, "we" being used to join with the public audience as a guide towards making a change for them. Because many formal first-year composition academic writing assignments limit addressing the audience directly with instructions to avoid you, we, us/them, this was a unique space for students to address the public: "the new curriculum is necessary for YOU." and the public directly

as a whole: "Citizens of our] County! Help Us Save Water!" Additionally, positioning themselves explicitly in the visuals as directors/experts of their own solutions allowed students to speak as citizens and not children, telling parents and administrators how to act and what to think, instead of the other way around.

Chapter V Discussion

Discussion

The project focused on composition and design strategies employed by students in a first-year college concurrent enrollment composition course in completion of several visual rhetoric assignments. The study was designed to determine how visual rhetoric assignments, used in conjunction with a traditional written essay would facilitate student development of CDL practices to build their rhetorical awareness of context, purpose, audience, and stakeholder.

The CDL practices examined in the study (*decoding, meaning making, using, analyzing*, and *persona*) were valuable evidence that visual rhetoric design gives students an opportunity to visually organize, assess, and use information specific to their audiences with a rhetorical purpose. As students embraced the role of visual designer in their own projects, they realized their responsibility to communicate solutions ethically to their specific audiences. Thus, visual rhetoric assignments in first-year composition are a useful tool for developing rhetorical awareness in student writers and can be a powerful addition for curriculum when used with traditional writing assignments. The use of visual assignments, as demonstrated in this study, promotes the development of CDL practices that promote rhetorical awareness; students in this study designed visuals explicitly for stakeholders and audience for a specific purpose.

Students can build CDL practices in the classroom through visual assignments as a vehicle to build rhetorical awareness. As rhetorical awareness is a composition program objective in my own setting as well as many other university composition programs

nationwide, it is imperative that composition studies explore spaces in which students can

develop and evidence CDL practices.

Although it would be possible to create visuals without the use of digital tools, a

digital context was an intrinsic element for students in the creation of documents as this

will be the major point of interface in future coursework and in the workplace. The

observation of CDL practices during their visual design process was significant because it

focused on ways students organized and made sense of information, built on their prior

knowledge, and related the consequences of their solutions. Perhaps most unique to the

digital context, which necessitated the connections of visual rhetoric and CDL practices,

were the ways students managed their reputations or persona within their groups and to

audience/stakeholders. Students made explicit design choices for each of the two

different audiences (stakeholders/audience) during the creation of the infographic and

flyer. Given the context of the assignment in the community proposal, digital documents

were most appropriate for students to create professional documents that would represent

themselves to the public and to major stakeholders. Thus, the use of CDL practices in this

study promotes the use of technology in the writing classroom outside of a functional

perspective, connecting contexts and practices of technology use with use of digital tools

(Hinrichsen & Coombs, 2013a).

These practices as outlined in the study connect to the four elements of rhetorical

awareness (context, purpose, audience, stakeholders) as they each encourage students to

identify with and design for audience/stakeholders through the process of text production.

Visual rhetoric was an essential element to the study as a place in which students could

develop, exercise, and demonstrate these CDL practices, thus evidencing that they were aware of "who" their designs would benefit.

The five CDL practices observed in this study are inherently user centric. Decoding includes navigating, operating, and stylistic, intentional design for users. Meaning making includes the acculturation of students' experiences, relating new/prior knowledge, and making judgements for the user. The practice of using involves finding and creating information for users, solving problems, and utilizing tools for specific audiences to make a useable product that fits the user's needs and expectations. Analyzing includes discerning, deconstruction, evaluating the meanings and messages for digital communication and interrogating potential consequences for the user. Finally, persona involves the ways in which students as creators develop awareness for their role to communicate to the audience in digital worlds, manage their community/personal reputations within digital space, and collaborate in the production of digital texts. These behaviors inherently engage students in identifying stakeholders and audience, understanding the contexts in which they create, and designing with a purpose to meet the needs and expectations of the audience.

As compositional studies embrace visual rhetoric as a viable way to build rhetorical awareness, it is imperative include these CDL practices as valuable strategies to locate these skills and enhance composition research and instruction. The following research questions guided the study: *How do students use critical digital literacies practices while composing visual rhetoric assignments in first-year composition? What does examination of critical digital literacies practices reveal about student rhetorical*

awareness? How can a combination of visual rhetoric and traditional writing

assignments be used to promote student rhetorical awareness in first-year composition?

How do students use CDL practices while composing visual rhetoric assignments in

FYC?

In mapping the problem, students made choices about how to spatially

separate/represent problems/solutions for the major stakeholder on the infographic,

provided a title and headings for each visual that addressed the topic and major/minor

stakeholders, used graphics, including pictures and graphs and descriptor, and organized

information by aligning/adjoining textboxes to balance cause/effect,

graphics/descriptions, cost/benefits, etc. to show visual relationships (*decoding*). The

digital templates they chose influenced organization in the visual assignments for both

groups, especially the infographic. At the same time, the template also provided some

balance with the space provided, suggesting that students were prompted to make

transitions/titles for differing elements such as problems, solutions, and cost/benefits.

Teaching writing through use of digital design templates has been explored recently in

Hadu et al. (2021) and their use of Canva applications and they confirmed that while

these templates provide scope for students in design, they can also provide limitations. In

the end, both groups seemed to "fill" the boxes with text; Group 1 had information from

sources and used graphs, but Group 2 used sentences/paragraphs in each box instead of

using graphics, graphs, pictures, etc.

Meaning making practices were evident in the use of prior knowledge to build on

what groups and audiences already knew about the problem based on their own

experiences and observations. Group 1 chose to discuss water shortages in their

community and how they had seen the population continue to increase. Group 2 identified disinterested, disengaged, depressed students they observed in their school. Students used meaning making in their visual assignments as they outlined ideas visually in the mapping assignment to brainstorm what they knew and needed to know about the context of the problem and possible solutions, negotiated how to best represent information in a specific visual space, and determined the logical flow of information from top to bottom to guide stakeholders from problem to solutions in the infographic and solutions/instructions in the flyer. Martix & Hoodson (2014) found that infographics were useful in helping students to organize information and utilize students' visual design literacies, but also presented challenges as students must display information in a way that makes sense to readers, connecting ideas from different sections of the infographic in a logical way, which was confirmed by this study.

Within meaning making, an interesting observation of how students expressed moral/ethical judgement and evidence of cultural equality. Group 1 used pathos to relay how the governor had urged citizens to "pray for water" and urged water conservation as an ethical responsibility; They addressed audience members directly to save water on the visual assignments. Group 2 remained unfocused on their topic, which was not a narrow, community-based topic, and kept it at a national focus; this led to a confusion of stakeholders and audience. Group 2 was never clear about who would enact a solution to change school curriculum and was subsequently not able to "make sense" of this for either stakeholder group.

Visual design allowed students to use digital tools for a specific audience and to consider the needs and expectations of each audience in the choices made during the

process of creating the infographic and flyer (*using*). Students demonstrated the practice

of using when using logos to guide the audience from problems to solutions; if water

supply is decreasing, then we need to conserve water. The need to decide on appropriate

information caused them to differentiate on what to include on each visual/written

assignment. In general, the infographic contained more technical information (and

outside sources) and the flyer was more general/practical. In the student reflections,

students concerned themselves with viability of solutions: Would they work? Would their

solutions make stakeholders care enough to participate? One aspect that allowed for this

problem solving was the social engagement through groups; students were given time to

discuss and collaborate on the final set of assignments. This social engagement element

is crucial to the ways in which students chose to differentiate information appropriate to

each audience; Matrix et al. (2014) found that peer to peer engagement (even in their

online course format) was tied to a higher quality of work and resulted in increased

student self-efficacy.

   Analyzing practices were evident in students' decisions about what information to

use depending on stakeholder audience. When a designated design space is available

through a template or on a one-page flyer, students made explicit decisions about what

and how much information to include and how to "lay out the problem," as Kate

mentioned. The format of visual assignments elicited judgements om what was relevant

and/or necessary to include in the space provided. The decision making process in

writing, whether in written or visual texts, is rhetorical; students differentiate which

information is important enough to include for a rhetorical purpose and this varied

between assignments (see Ch. 4) (Baake, 2007).

Persona was evident as students became aware of similarities/differences between each stakeholder group whereas traditional writing assignments may have one central audience, the infographic and flyer had two specific sets of stakeholders who would be the intended audience. Hinrichsen and Coombs (2013a) asserted that "the disembodiment of virtual spaces can render a decontextualized identity whilst, paradoxically, choice in presentation, locality, and juxtaposition act to recontextualize, and hence change, the identity (p. 11). Thus, the use of digital tools allowed them to exercise their digital identities, which in everyday use for them may be very decontextualized, in a space where students craft their own professional personas including a new skillset of presentation management. Students evidenced persona as they referred to themselves and stakeholders inclusively ("we") or exclusively ("them") with pronouns demonstrating the level they were part of as a group, attempted to appear "calm and professional" for major stakeholders and "practical" for minor stakeholders in the information and language used, and took ownership/authority to convey and communicate solutions to the stakeholder groups.

What does examination of critical digital literacies practices reveal about student rhetorical awareness in a first-year composition project consisting of both visual and written assignments?

Examination of CDL practices identified several takeaways in the ways in which students engaged with context, purpose, stakeholders, and audience. The mapping project was a valuable prewriting tool for students to understand the context of the project, the problem/issue they wanted to explore, visual organization of prior and needed information, which were examples of decoding (see the Coding Key in Appendix E for

more detail). In mapping their ideas, students had to decide who was most affected by their selected community problem and who would need to invest in solutions, which was evidence of meaning making. Additionally, the students' reflections (upon completion of the mapping assignment) revealed evidence that during visually mapping the problem, they were actively considering how they themselves as students were situated in the context of the issue, evidence of persona.

Students' level of confidence in using digital tools despite admitted initial apprehension evidenced by the mention of this confidence several times during the project. Confidence seemed to increase as they understood the purposes of each visual assignment in their completion, which are both evidence of decoding and meaning making. The mapping assignment explored the context of the problem/issue and outline stakeholders. Students mentioned in their reflections that it was useful to them to visually organize elements of the problem's causes and effects as well as prior/new knowledge because they could then picture then who it would affect, evidence of both decoding and meaning making.

In turn, the solution infographic provided students a space to determine what information visually and explicitly was most applicable and suitable for stakeholders and organize within the template to get them to buy in to solutions, which reflects practices of using and analyzing. Students mentioned several times a desire to appear "professional" and more evidence-based in their reflections. The community-based flyer's purpose was to involve minor stakeholders (public audience) in solutions and this visual assignment gave them space to make design choices to appeal to a whole new audience (make it "pop" as Cami said) and consider design with different purposes. Self-efficacy, both in

writing and in the use of digital tools, was an intersect here; writing self-efficacy can

create writing apprehension and anxiety (Mascle, 2013). This was evident in continued

concern expressed in reflections to be professional enough in the infographic to convince

the audience of their authority; in short, would stakeholders care enough to invest in

solutions based on how the documents were designed?

 Interestingly, due to analysis of persona (*identity building*), a disconnect between

high confidence and mixed performance of the groups. This could be attributed to the use

of local resources and determination to narrow the scope of the project (which was

required). Group 1 had a strong level of confidence and decided to focus locally on water

conservation. Although their individual drafts (completed first) were broad, they kept

focused on one or two solutions in the group final assignments, evidence of collaboration

(members' ideas reflected in the final drafts).

Conversely, Group 2 did not follow the basic requirements of keeping their scope

to a local level but still maintained an elevated level of confidence in their written

reflections. As a result of a broad scope and lack of local sources, they struggled to

identify their stakeholders and audience—it remained a broad, national level solution and

students became frustrated in finding viable solutions. Interestingly, this group identified

themselves as major stakeholders ("we/our") as district administrators (as if group

members were also able to implement reform). In the flyer, as parents were the audience,

were referred to as a "we" ("we must prioritize the students' success"). Students are

consistently referred to in third person ("they") although group members themselves are

students. This disconnect is confirmed as group members do not reference any personal

experience (as students) and are detached; Group 2 is speaking for the group and not as

part of the group. Although research has been done regarding pronoun use in student writing, more research is needed into the use of pronouns and persona as represented in this study.

Regarding stakeholders, students were instructed to organize their infographics explicitly for major stakeholders. This instruction led in some cases to students making explicit choices as to what type of visual information would appeal most to this group including data in the form of graphics, charts, and/or quotations. These decisions are evidence for both meaning making and using. The format of an infographic (encouraged by the examples and templates students selected) encouraged an organized flow of information (Mubarok & Asri, 2020). For example, most students worked directionally from problems to solutions in the infographic (top to bottom or left to right) in both group examples which is evidence of decoding. Additionally, Group 1 members wrote in two of their reflections that in visually laying out their evidence they had to consider whether their solutions were viable or attractive to stakeholders which involved analyzing and persons. In other words, they had to think about whether stakeholders would care enough to invest in their solutions and what consequences would come if they chose not to invest. As part of the revision process, this group revised the options for solutions in the final essay.

The flyer was a space for students to visualize who was affected by their issue and determine in design how to elicit participation and awareness, which were evidence of analyzing and decoding. Given the initial stakeholder audience of the essay, the flyer gave students a way to address a group that would have been otherwise overlooked or ignored allowing them to develop persona. The visual design process of the flyer enabled

students to then determine what would motivate the audience, what information was usable in a quickly scanned document and be appealing. For example, several students mentioned that the flyer needed pop or simplicity compared to the infographic. These decisions reflect meaning making, using, and persona. The same process of evidence selection and organization for the flyer was based on audience need/usability for the audience (*using*). This correlates with many traditional writing instruction pedagogies that the writer is responsible for selecting information and relaying it to the audience; the readers make meaning so it is imperative the writer learns about the needs of the audience in order to determine how best to craft the argument to lead the reader to an intended meaning (Johnson-Sheehan, 2012; Anderson, 2013).

How can a combination of visual rhetoric and traditional writing assignments be used to promote student rhetorical awareness in first-year composition?

Based on results of this study, one major way to use visual writing assignments in first-year composition is in the discussion of how to use graphics explicitly in text design in both written and visual rhetoric. This correlates with arguments made by Vie (2008) for compositionists to use CDL pedagogies to engage with students' technological skills, interest in communication technologies, and facilitate discussions of social and political issues within technology use (Beck et al., 2021). As confirmed by observations made in this study, students learn to navigate writing infrastructures and will thus be able to incorporate their ideas into new, emerging technologies (DeVoss, et al., 2005).

Visual rhetoric assignments, as used in this project, were assigned separately from the accompanying written essay to allow for critical digital literacies practices to be observed. Due to this explicit instruction, graphics were used only in the visual rhetoric

assignments (mapping, infographic, flyer). Although space in the infographic was limited, students had to present and provide interpretation for the stakeholders concisely. In the essay, students were more descriptive about the information in the graphic and how it related to the main argument. One student even described this process as a matter of deciding which information to include in each (infographic, essay) as completely separate; she wanted to select different evidence for each, although most used the source information between the two and used the written essay as a space to explain in greater detail why the chart/graphic's information added to the main point. For example, the charts of water usage in group 1 were not described in detail on the flyer and limited in the infographic (see Ch. 4). Digital design should be explicitly modeled within visual rhetoric instruction. For example, students could include a graph with quantitative data evidence within a research essay or an image that supports an emotive response to build sympathy in an audience.

Visual and written assignments can also be used to address language and audience, whether the audience for the document addresses stakeholders directly or not. Regarding persona, students made decisions between what they intrinsically did in the written essay, based on their experience as writers, in addressing the audience, but had to be more overt, explicit in the choices to address the stakeholders in the infographic and audience in the flyer. This consciousness of language was evidence of a conversation between students and two separate groups, although there was overlap for Group 1 because all involved used water and were part of the audience (even stakeholders) and in Group 2 because there was a seeming confusion regarding stakeholders as sometimes the school district and sometimes parents.

The multimodality of practices in the composition of visual and written assignments within one project, including various presentational modes, asks students to engage with their contexts/purpose/audience/stakeholders in differing yet complimenting ways, and digital tools allow students options in design and layout to compose visual and written work simultaneously (Hinrichsen and Coombs, 2013a). The recombination and repurposing of information within visual assignments and the written essay further evidences the awareness students have of the differing purposes and contexts for their stakeholders and audience.

The two groups who participated in the study selected problems within their own scope of experience; Group 1 wanted to mitigate the rise in population, water usage, and drought they saw whereas Group 2 advocated reforming education. The two approaches demonstrated the value of using community-based writing as a context for the assignment. Although the first group kept the problem/solutions localized and the second group had trouble with concretely identifying stakeholders and specific solutions because they maintained a nationwide focus. The result was that Group 1 was able to identify and address their stakeholder groups in the visuals whereas Group 2 was not. It is important to see how a community-based focus (or another explicit effort to narrow the scope of the assignment) supported these students' rhetorical awareness of stakeholder groups.

Although several studies have examined critical digital literacies in student visual work done largely online and in online spaces (Hutchison et al., 2018; Watt, 2019; Bilki et al, 2023) , this study's scope was the combination of written and visual assignments, all completed with digital tools (including word processing for the written assignments). The rapidly changing digital landscape necessitates a need for students to learn how to

design digitally in a myriad of creative and practice ways as both a user and for potential users and the critical aspect of CDL includes the scope of interrogating those practices during the design process (Pangrazio , 2014).

Mun and Luu (2023) utilized the same CDL framework in a computing course. Students wrote about the connotations of digital communication, including identifying bias and substantiating arguments, in an effort to facilitate critical discussions in which students defended their positions in written and oral form. This correlates with the multimodal use of the framework in this study, which used written and visual projects, but the findings were much the same; critical thinking and academic literacy can usefully integrated within digital writing tasks to observe how students articulate their ideas for a specific audience and express their views for a specific rhetorical purpose.

Implications for Research

Multimodality of visual and verbal texts has been a topic of discussion in first-year composition for over three decades (Dryer, et al., 2019). A growing consciousness among composition instructors supports genres of texts to be flexible and multimodal. The current Council of Writing Program Administrators Outcomes Statement for First-Year Composition 3.0 (2014) denotes that rhetorical knowledge is "the ability to analyze contexts and audiences and then to act on that analysis in comprehending and creating texts." This definition incorporates a level of flexibility in modality and reveals ultimately that an understanding of the context/audience should guide design. This includes, according to the standards, the capability to match the environment to rhetorical situations and technologies. Although these standards are being widely embraced, much discussion of multimodality remains "separate but equal" (Gatta, 2013); discussions of

rhetoric in the writing classroom are often separate from learning to use technologies to produce writing.

An implication of this study for the field of composition studies, a field devoted to preparing students to communicate in a "complex, multiple, and intersecting historical, social, cultural, and social contexts" (Gatta, 2013, p. 81), is how a focus on written rhetoric is underserving students. When composition instructors ignore the interconnectivity of multimodality, the potential to examine intersections of visual and verbal contexts remains unrealized; critical consumption and production of digital texts is a necessary skill for meeting the demands of future communication; students need to comprehend how visual/digital textual components converge to create rhetorically effective documents (Covington, 2019). Examination of students' use of CDL practices within their visual rhetoric projects identified several areas of focus needed for future research to enlarge the scope of using visual rhetoric projects within college composition courses and beyond to other settings within college-level writing.

Implications for Practice

As this study demonstrated, confidence in using digital tools necessitates explicit instruction built on students' experience and a CDL-based pedagogy requires a shift in mindset for educators (Gouseti et al, 2023). One implication for general education is the necessary inclusion of digital design tool pedagogies. These pedagogies, as evidenced by this study, are needed to negotiate students' access to and knowledge of digital tools. Additionally, exploration of equity within access to digital tools and designing for distributive equity are important spaces for needed research, including how to mitigate

available options between and within digital tools, considering which tools are available and accessibility options.

Textbooks for FYC, along with higher education writing-based courses, should incorporate multimodal approaches for written and visual design projects. Archer (2010) argues the confluence of writing and graphical materials in academic texts within a range of disciplines necessitates explicit instruction in how to incorporate images into student writing, or multimodal social semiotics. She examines the use of multimodal projects within an engineering course, including visual productions and written reflections. This, she believes will promote student understanding of the conventions and functions of images; the findings in this study correlate as students need explicit instruction on ways incorporate images and mindfully organize information in a visual text for a rhetorical purpose.

Questions for instructors to consider when implementing visual rhetoric project used infographics, visual maps, and flyers; other types of multimodal visuals could work in this setting of college writing including advertisements, political rhetoric, visual communications, web designs, photography, etc. to enhance community-based writing in the context of first-year writing as well as other types of writing the instructor may choose for student engagement in the classroom. The community-based scope of this project aimed to enable students to recognize local, primary, and secondary sources. Future research into the use of visual rhetoric projects in composition courses to promote use of primary sources would be valuable.

Another contribution of this study is to confirm that user-centered design elements should be situated/implemented into FYC courses. As part of user-centered

design, visual assignments give students a place to work with accessibility tools and provide a space for students to learn about building accessibility into their documents as good practice as well as exploration of how these design processes build graphical literacy. Further discussions of accessibility are necessary; one potential space for this is using exercises in crafting alternative-text for images (Huntsman, 2022).

In this project, collaboration and oral presentation were elements not discussed at length; research into design collaboration of visual rhetoric in first-year composition would be valuable to determine how the group setting affects design processes. Additionally, it would also be valuable to explore how oral presentations within visual rhetoric projects illuminate rhetorical awareness when speaking to a direct audience.

One aspect for future practice is more explicit instruction in identifying stakeholder and audience groups within the community and primary sources. This instruction was explored by Warschauer (2010), argued that due to new forms of multimedia, primary sources are now more readily accessible for students in a writing classroom. This use of primary sources could be facilitated through public examples, inviting community leaders into the classroom, and discussing civics of a group in which students are working (such as the school district, city council, or county administration). Additionally, students would benefit from more feedback in the beginning stages of the project to keep the scope of their projects narrow enough to be manageable. Future work will include how students manage these digital identities through the citation of sources and digital pedagogies that include/incorporate primary sources.

Conclusion

In conclusion, this study illustrated how CDL practices developed within visual rhetoric assignments during first-year composition projects build student rhetorical awareness. Student work, as coded according to a framework of CDL, provided evidence of CDL practices (*decoding, meaning making, using, analyzing*, and *persona*) within the course of both designing visuals and writing assignments in this space of first-year college writing in a concurrent high school classroom. Additionally, connections were made between these critical digital literacies practices and the four areas of rhetorical awareness, including context, purpose, audience, stakeholders, suggesting that students become more aware of the rhetorical situation during the process of visual rhetoric design in first-year composition including the users for whom they are designing, the contexts in which they design, and their emerging roles/identities as designers themselves.

Students in this study began to develop their own distinctive ethos (McKenna, 2005) in their roles as communicators of solutions for a specific audience. Within this project, students explored and collaborated in the creation of digital texts, interrogating their own technology practices (Ávila & Pandaya, 2013) through written reflection. The process of digital design extended student conceptions of audience towards rhetorical awareness to the minor stakeholder (audience) in many cases, a group often not visualize-able for students when composing written documents. Although visuals can enhance the essay when used in a written assignment (formatted with captions, etc.) in line with text, independent use of graphics in the infographic and flyer allowed students to consider the purpose of their use more overtly.

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Appendices

Appendix A: Letter of Approval

Visualizing Rhetoric: A Proposal for Critical Digital Literacies and Rhetorical Awareness in First-Year College Composition

Introduction

Your child is invited to participate in a research study conducted by Dr. Amy Piotrowski, an Assistant Professor and Amanda Plaizier, a PhD student, both in the School of Teacher Education and Leadership at Utah State University. This study will be part of Amanda Plaizier's dissertation project; the purpose of this research is to examine how visual assignments build audience awareness in a first-year college composition course. Your child's participation is entirely voluntary.

Procedures

Your child's participation will involve completion of coursework during the Fall 2021 semester; all students will complete the same writing assignments during the duration of the course. The materials collected will include assignments included in the final group proposal project (three group visual assignments, four individual written reflections, and a group proposal essay). If you agree to your child's participation, the researchers will collect coursework after final grades are determined. Participation will require no extra effort/work from your child. We anticipate that 9-12 people will participate in this research study between the three concurrent enrollment English 1010 courses taught by the instructor at ███████████ during the Fall 2021 semester.

Risks

This is a minimal risk research study. That means that the risks of participating are no more likely or serious than those your child encounters in everyday activities.

Benefits

Although your child will not directly benefit from this study, it has been designed to learn more about the use of visual assignments within a first-year college writing course.

Confidentiality

The researchers will make every effort to ensure that the information about your child in this study remains confidential. Your child's identity will not be revealed in any publications, presentations, or reports resulting from this research study. However, it may be possible for someone to recognize your particular story, situation, or response. While we will ask all group members to keep the information they hear in the group confidential, we cannot guarantee that everyone will do so.

We will collect your child's information through electronically submitted coursework on Canvas after the conclusion of the course and assignment of final grades. Online activities always carry a risk of a data breach, but we will use systems and processes that minimize breach opportunities. Student work will be securely stored in a restricted-access folder on Box.com, an encrypted, cloud-based storage system. We will maintain a list of names matched to pseudonyms; this list will be destroyed at the conclusion of research.

It is unlikely, but possible, that others (Utah State University, or state or federal officials) may require us to share the information your child gives us from the study to ensure that the research was conducted safely and appropriately. We will only share your family's information if law or policy requires us to do so. If the researchers learn about suspected abuse/neglect of a vulnerable individual, state law requires that the researchers report this suspicion to the authorities. Similarly, if researchers learn about specific, imminent harm to self or others, they may need to break confidentiality to report that information to the appropriate authorities or care providers.

Voluntary Participation & Withdrawal

Your child's participation in this research is completely voluntary. If you agree to have your child participate now and change your mind later, you may withdraw your child at any time by sending an email to ███████████████████ If you or your child choose to withdraw after we have already collected information about them, the data will be destroyed. We will not be able to destroy data after the list linking pseudonyms to names is destroyed at the completion of the project. If you decide not to have your child participate, the services you receive from the School of Teacher Education and Leadership will not be affected in any way.

Compensation

There is no compensation for participating in this project.

Findings & Future Participation

Identifiers may be removed from your child's information. These de-identified data can be used or distributed for future research without additional consent from you, as the parent/legal guardian, or your child. If you do not wish for us to use your child's information in this way, please state so below.

IRB Review

The Institutional Review Board (IRB) for the protection of human research participants at Utah State University has reviewed and approved this study. If you or your child has questions about the research study itself, please contact the Student Investigator at ███████████████████████████ you or your child have questions about your child's rights or would simply like to speak with someone other than the research team about questions or concerns, please contact the IRB Director at ██████████████████████████

_____   _____

Dr. Amy Piotrowski   Amanda Plaizier
Principal Investigator   Student Investigator
███████████████████   ███████████████████

Permission to Participate

By signing below, you agree to allow your child to participate in this study. You indicate that you understand the risks and benefits of your child's participation, and that you know what your child will be asked to do. You also agree that you have asked any questions you might have, and are clear on how to stop your family's participation in the study if anyone would like. Please be sure to retain a copy of this form for your records.

_____   _____   _____

Parent/Legal Guardian's Signature   Parent/Legal Guardian's Name, Printed   Date

_____

Child's Name, Printed

☐ I do **not** agree to allow my child's de-identified information to be used or shared for future research.

Youth Assent

Hi, we are Dr. Amy Piotrowski, assistant professor, and Amanda Plaizier, your English 1010 instructor-- we both work in the school of Teacher Education and Leadership at Utah State University. We are doing a research study about the use of visual projects in English 1010. Research studies help us learn more about people. If you would like to be a part of this research study, you will just need to have parental consent to allow us to collect your submitted English 1010 group proposal project assignments and written reflections. These won't be collected until after class is over and you have received your final grade.

When the researchers do things like collecting your coursework, some other things could happen. For example, we could use your writing in a published work, and it could be possible for someone to recognize your particular writing. We will do everything we can to prevent this from happening, but there is still a chance, so we want you to know that first.

Not everyone who is a part of research studies receives a something good from it. In this study, nothing directly good will happen to you, but you will help us learn more about people like you. Also, we will tell other people about what we learned from doing this study with you and the ▮▮▮ other people who are in the study, but we won't tell anyone your name or that you were in the study.

If this sounds like something you would like to do, we will ask you to say that you understand what we talked about, and that you do want to participate. You do not have to be in this study if you do not want to be. If you decide to stop after we begin that's okay, too. Just let us know by emailing ▮▮▮▮▮▮▮▮▮▮▮ No one will be upset if you don't want to do this, or change your mind later.

You can ask any questions you have, now or later. Your parents know about this research study, and they have said you can participate, if you want.

If you would like to be in this study, please sign your name and write the date.

_____   _____

Name   Date

Appendix B: Course Assignment Descriptions (taken from LMS)

Visual #1- Mapping the Problem (Final draft) ⤶ ✓ Published   ✎ Edit   ⋮

Get started by watching the following video as a guide: "Mapping your Research Ideas" from UCLA Libraries (https://www.youtube.com/watch?v=jj-F6YVtsxI). ↗

(UCLA, 2014)

For this assignment you will create a "map" of your proposal problem including definitions, causes, and effects within your community. You may choose to use a traditional concept map (like the one in the video) or use digital tools we outline in class and to create something new! Your map should reflect critical thinking about aspects of your problem. Remember- purposeful, concise detail is good, clutter is not.

This will be a one page (PDF or other file) submission-- not a slide show. Just seek to create one "map" to define a problem that is currently impacting your community and illustrate the relationships between causes and effects and impacts upon citizens where you live (including yourself). Utilize colors, graphics, typeface, or any other design features in a creative way-- no MLA formatting needed here so have fun!

Consider the following:

- What do you already know about this issue?
- What is interesting/important/urgent about the issue/problem?
- What is causing this problem in your community?
- What, if anything, has already been done to try to fix this? Why hasn't it worked?
- What are the effects/impacts (real or potential) to your community?

Ideas for digital tools: Lucidchart, Powerpoint, Google Slides, WordCloud, Jamboard

Points	25
Submitting	a file upload
Turnitin	Turnitin has been enabled for this assignment.

Visual #2- Solution Infographic (Final draft) ⤵

Visual Assignment #2: Solution Infographic

For this assignment, you will create an infographic of your proposal solution to "present" to an audience of decision makers or MAJOR stakeholders. Begin by identifying your major stakeholders-- *who in your community would be able to make the decision to implement your solution?* Perhaps it is the city council, county commission, police department, community resource center, city officials, the TCSD board, business owners, or other policymakers? (It might be more than one entity or individual). The audience for this graphic will be those stakeholders.

Using digital tools outlined in class (or teacher approved tools you find on your own), create an infographic that will "sell" your solution--

- **Identify major stakeholders**-- who has the power/resources to implement your solution?
- **Include pertinent information**-- what will major stakeholders NEED and/or EXPECT to find in your infographic to make an informed decision to invest in your solution?
- **Be clear about deliverables**-- What can you promise stakeholders that will make your solution attractive to your intended audience?
- **Be transparent about costs and benefits**-- what costs and benefits are involved in implementing your solution (and show how benefits outweigh costs).

Your infographic should be easy to access, read, and decipher. It will accompany your group presentation. Have fun and be creative-- you may use an established template but have the equivalent of 2-3 pages of content/evidence within the graphic (see the list above).

Some ideas for digital tools: Canva, Venngage, Piktochart, easel.ly, Visme, Infogram, Visualize.me, Snappa.

Points	40
Submitting	a file upload
Turnitin	Turnitin has been enabled for this assignment.

Visual #3- Community Based Flyer (Final draft) ↗↓

✓ Published   ✎ Edit   ⋮

Visual Assignment #3: Community Based Flyer

For this assignment, turn your focus to minor stakeholders-- those who may not be in place to implement your solution but are nevertheless impacted. Using digital tools outlined in class (or teacher approved tools you find on your own), create a one page flyer (portrait or landscape) that could be mass distributed to members of your community to publicize your proposed solution.

- Remember to consider the needs and expectations of your audience--what information do they need and expect to know in order to be involved or take advantage of your solution?
- What design considerations would help your document get attention from your audience?
- What accessibility factors do you need to consider in design?
- Is it clear from your flyer what benefits your audience would receive and how to become involved?

Some ideas for digital tools: Word, PPT, PDF, Jamboard

Points	40
Submitting	a file upload
Turnitin	Turnitin has been enabled for this assignment.

Final Proposal Essay A+

✓ Published   ✎ Edit   ⋮

Assignment: Proposal Essay

One of the largest benefits of a liberal education is for students to learn creativity, communication, and the ability to learn. As technology and commerce work with the liberal arts, America will continue to produce innovators. Zakaria cites several of these innovators in his book, including Mark Zuckerberg and Bill Gates. " A liberal education," Zakaria writes, "gives us a greater capacity to be good workers, but it will also give us the capacity to be good partners, friends, parents, and citizens" (151). As a recipient of this type of education here at USU, you will take classes that give you this liberal education base; so now turn to being a good citizen.

- *Choose a problem that you see in your community, an issue narrow enough to discuss in a shorter proposal.*
- *Use a concept map to explore what you already know about the problem, its causes, and effects.*
- *Conduct research on the subject by collecting online, empirical, and print sources.*
- *Draft a **6-8 page** proposal in which you*
  - *Introduction: Introduce the problem, stress its importance and offer a thesis (proposed solution)*
  - *Body:*
    - *Provide an analysis of the **problem**;*
    - *Outline a detailed plan, a **step-by-step solution**,*
    - *Account for a **cost-benefits analysis** of your proposed solution*
  - *Conclusion:*
    - *Recommend and stress the importance of taking action.*
  - *Works Cited: **Include at least 6 credible sources, cited in MLA format in text and on a Works Cited page.***

See page 209 for guidelines.

Points	125
Submitting	a file upload
File Types	doc and docx
Turnitin	Turnitin has been enabled for this assignment.

Appendix C: LMS Modules

Proposal Module #1: Defining the Problem (Weeks 8-9)

- Lecture Notes Week 8
- Group Member Requests
  Oct 20 | 0 pts
- Lecture Notes Week 9
- Visual #1- Mapping the Problem (Final draft)
  Oct 27 | 25 pts
- Module #1 Reflection
  Oct 29 | 25 pts

Proposal Module #2- Solutions (Weeks 10-11)

- Lecture Notes Week 10
- Visual #2- Solution Infographic (Rough Draft)
  Nov 5 | 10 pts
- Lecture Notes Week 11
- Visual #3- Community Based Flyer (Rough Draft)
  Nov 11 | 10 pts
- Module #2 Reflection
  Nov 5 | 25 pts

Proposal Module #3: Writing the Proposal Essay (Weeks 12-14)

- Lecture Notes Week 12
- Peer Review #4- Proposal Essay Rough Draft
  Dec 3 | 25 pts
- Module #3 Reflection
  Nov 19 | 25 pts

Proposal Module #4: Presentations and Revision (Weeks 15-17)

- Lecture Notes Week 15
- Lecture Notes Week 16
- Final Group Proposal Presentation
  Dec 7 | 25 pts
- Module #4 Reflection
  Dec 9 | 25 pts
- Final Proposal Essay
  Dec 13 | 125 pts

Appendix D: Written and Visual Assignment Grading Rubrics

Mapping the Problem

Criteria	Ratings	Pts
Completion: A visual "map" (one page digital document) that identifies your problem and stakeholders associated with your problem.	This area will be used by the assessor to leave comments related to this criterion.	10 pts
Problem Analysis: The problem boundaries/scope are defined, background information included, connections are made regarding what is interesting/important/urgent about the problem as well as the causes and effects.	This area will be used by the assessor to leave comments related to this criterion.	5 pts
Stakeholder Analysis: Stakeholders (major and minor) are identified and connections are made as to their potential needs/expectations.	This area will be used by the assessor to leave comments related to this criterion.	5 pts
Design- Document uses digital tools to create a visual that is easy to interpret; design aspects of typography, color, and visuals are utilized.	This area will be used by the assessor to leave comments related to this criterion.	5 pts

Total Points: 25

Solution Infographic

Criteria	Ratings	Pts
Completion- A one page infographic clearly identifying your proposed solution geared to an audience of major stakeholders.	This area will be used by the assessor to leave comments related to this criterion.	5 pts
Evidence- thoughtful inclusion of logos based evidence for the major stakeholder is included.	This area will be used by the assessor to leave comments related to this criterion.	5 pts
Solution- steps (major and minor) are clearly stated and feasible. Deliverables and costs/benefits are included as appropriate.	This area will be used by the assessor to leave comments related to this criterion.	5 pts
Design- makes use of digital tools and design elements of typography, graphics, and colors to present as visual rhetoric. Document is designed with the needs/expectations of the stakeholders in mind.	This area will be used by the assessor to leave comments related to this criterion.	10 pts

Total Points: 25

Community-Based Flyer

Criteria	Ratings	Pts
Completion- a one page digital flyer that provides appropriate information to the minor stakeholders (audience) regarding your proposed solution.	This area will be used by the assessor to leave comments related to this criterion.	5 pts
Evidence- flyer contains all appropriate information to enable an audience of minor stakeholders to participate and/or benefit from the solution.	This area will be used by the assessor to leave comments related to this criterion.	5 pts
Solution- deliverables and costs/benefits are included as they are appropriate.	This area will be used by the assessor to leave comments related to this criterion.	5 pts
Design- makes use of digital tools and design elements of typography, graphics and colors to present as visual rhetoric. Document is designed with the stakeholders' needs/expectations in mind.	This area will be used by the assessor to leave comments related to this criterion.	10 pts
	Total Points: 25	

Proposal Essay

Criteria	Ratings	Pts
Completion: Essay outlines a problem and proposes a solution in MLA format. Essay is well organized and appropriate page length.	This area will be used by the assessor to leave comments related to this criterion.	15 pts
Introduction: problem is defined and importance is clear. Thesis is clearly stated.	This area will be used by the assessor to leave comments related to this criterion.	15 pts
Analysis: problem's causes and effects are identified and discussed.	This area will be used by the assessor to leave comments related to this criterion.	25 pts
Detailed Plan: shows step by step how to solve the problem.	This area will be used by the assessor to leave comments related to this criterion.	25 pts
Costs-Benefits Analysis: measures the benefits of the plan against the costs.	This area will be used by the assessor to leave comments related to this criterion.	25 pts
Conclusion: looks ahead and stresses importance of taking action.	This area will be used by the assessor to leave comments related to this criterion.	15 pts
Grammar/Mechanics: essay is well polished and source are cited correctly in text and on a separate Works Cited page.	This area will be used by the assessor to leave comments related to this criterion.	30 pts
	Total Points: 150	

Appendix E: Coding Key

Decoding (D)

Navigational Mechanisms: Conceptual and practical navigational skills, locating oneself spatially and operationally.

- Spatial location/organization of elements (i.e. problem, solutions, costs, benefits)

- Conceptual navigation, clear transitions between elements

*Conventions***:** Understanding the practices and norms of ICT usage and participation online in communities (ethics, privacy, sharing, etc.).

- Implications of privacy, ethics, sensitivity, and/or sharing

- References to their own digital participation

Operations: Knowledge of common procedures, confidence with digital tools.

- Ability to use and analyze design and presentational elements of a digital text.

- Confidence in using digital tools, discussion of ability/challenges to design (reflection)

Stylistics: Ability to use and analyze design and presentational elements of a digital text.

- Use of digital design elements (images, font, color, size) for rhetorical effect

- Intentionality in design (arrangement, etc.) and utilizing features of digital tools

Modalities: Distinguishing between modes of digital texts, including characteristics and conventions.

- Presentation of evidence reflects the modality (appropriateness)

- Use of design elements to promote clarity within modality

Meaning Making (M)

*Reading***:** Purposeful, confident acculturation of digital content and creation of narratives across platforms and semantic/structural/visual elements.

- Acculturation of ideas from students' own experiences within the context of the problem and their proposed solutions

- Evidence of cultural equality (merging/mingling of cultures) in the use of semantics, structural and/or visual elements

*Relating***:** Intuitive connection/linkage/adaptation of new and prior knowledge.

- Connection of new terms and ideas for audience to what they may already know

- Connection of (assumed) prior knowledge to new ideas presented in the text

*Expressing***:** Careful translation of ideas over a range of modes, including social artefacts and potential audience.

- Demonstration of moral and/or ethical judgement

- Determination to "make sense" of the context for themselves or user (within or between modalities)

Using (U)

Finding: Gathering applicable information while recognizing potential for use within communities-- includes asking, searching, filtering, curation, and sharing.

- Gathering primary and secondary research to use as evidence for user/audience

- Sharing outside evidence within the text, including citations and filtering (ethos)

Applying: Utilizing tools for specific purposes and audiences-- includes consideration of ethical, legal, and usability criteria.

- Designing for specific users/audience (needs/expectations), especially to make a useable product

- Consideration of the ethical, legal criteria of digital design

Problem Solving: Use of digital tools, resources, and networks to solve and analyze problems and find appropriate solutions.

- Use of digital design to lead stakeholders/audience towards solutions

- Use of rhetorical appeals (logos, pathos)

Creating: Developing innovations and approaches.

- Use/recognition of innovative approaches to solve problems

- Using community resources and what has worked elsewhere to create innovative solutions for their own community

Analyzing (A)

*Deconstructing***:** Discerning elements of meaning, uses, and messages of digital communication.

- Discernment of meanings, uses, and messages from outside sources/research

- Interpretation of evidence for the audience/stakeholder

*Selecting***:** Evaluating, choosing, recommending digital content, networks, artefacts.

- Selection of evidence to include based on digital content (between assignments)

- Evaluation of digital networks, use of electronic artefacts

*Interrogating***:** Critically analyzing the potential consequences of digital content, affordances, and opportunities.

- Discussion of potential consequences of digital content, affordances, opportunities, how stakeholders/audience will use

- Exploration of consequences for audience, empowerment

<u>Persona (P)</u>

Identity building: Sensibly and sensitively developing awareness of roles within digital contexts; understanding of multiplicity of identity within digital worlds.

- Awareness of role (responsibility, authority) to communicate solutions to specific audience (stakeholders, audience)

- Discussion of digital identity or digital contexts (self or audience/stakeholders)

Managing reputation: Awareness of community and personal reputation and how to protect oneself during online activities.

- Awareness of personal reputation as digital creators

- Awareness of implication of community (or digital community) reputation

Participating: Ability to exchange ideas synchronously and asynchronously, including ethical and cultural connotations of collaboration.

- Collaboration of ideas in creation of texts

- Connotations of digital participation and text production, including ethics and/or culture/community/self

Appendix F: Coding Examples

Group 1- Coded Map

Group 2- Coded Map

Group 2 - Map

P- less spontaneous only identified issues here

"WHAT THIS IS" → problem

Problem: In the American Education system, kids go to school to fill academic responsibility rather than going to learn

M- is this an immediate observation?

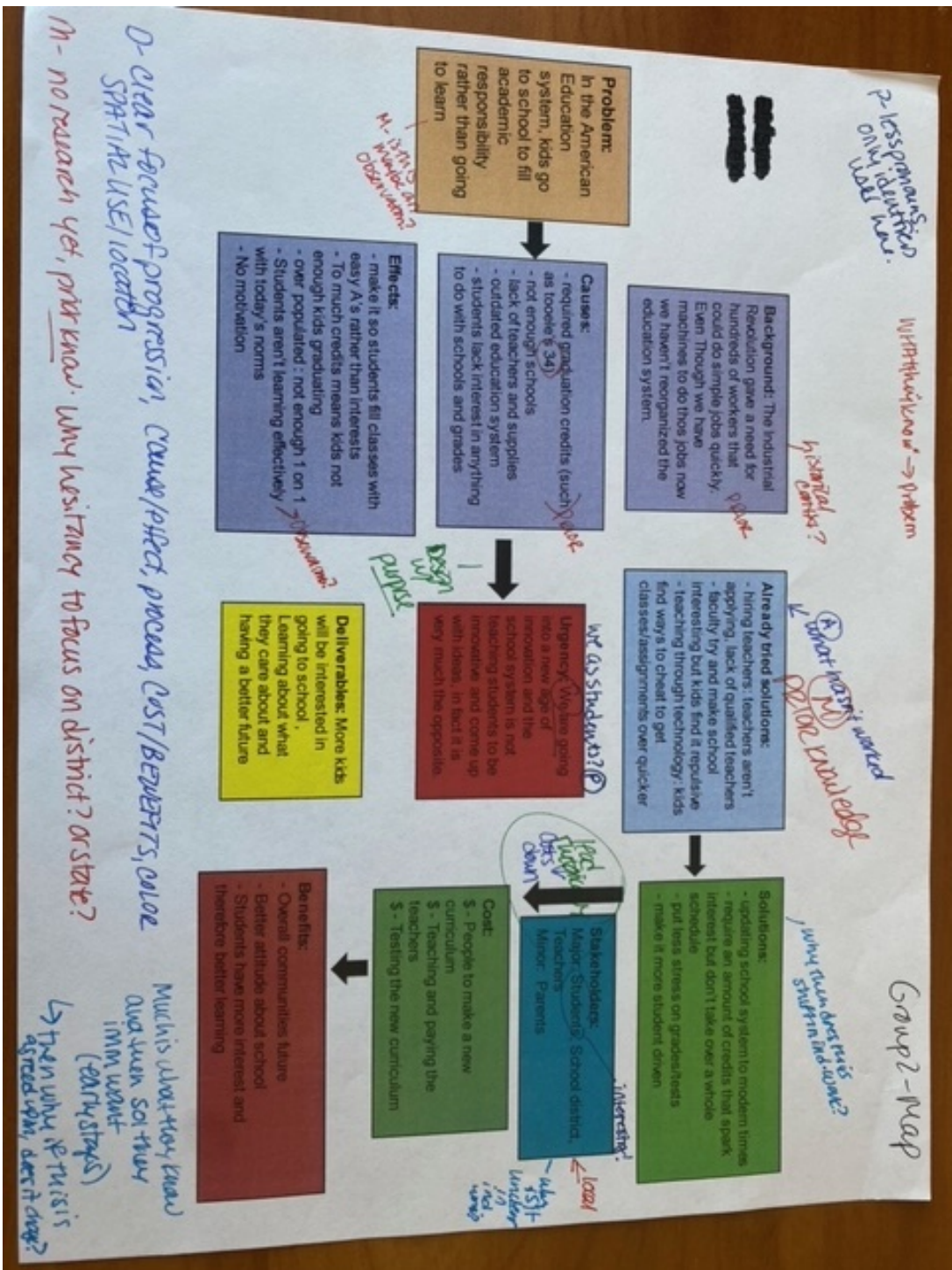**Background:** The Industrial Revolution gave a need for hundreds of workers that could do simple jobs quickly. Even Though we have machines to do those jobs now we haven't reorganized the education system

historical context? / past

(A) what hasn't worked / prior knowledge

Causes:
- required graduation credits (such as toole's 34)
- not enough schools
- lack of teachers and supplies
- outdated education system
- students lack interest in anything to do with schools and grades

past

Effects:
- make it so students fill classes with easy A's rather than interests
- To much credits means kids not enough kids graduating
- over populated: not enough 1 on 1
- Students aren't learning effectively with today's norms
- No motivation

observation?

Design w/ purpose

Already tried solutions:
- hiring teachers: teachers aren't applying. lack of qualified teachers
- faculty try and make school interesting but kids find it repulsive
- teaching through technology: kids find ways to cheat to get classes/assignments over quicker

w as a shadow to? (P)

Urgency: We are going into a new age of innovation and the school system is not teaching students to be innovative and come up with ideas, in fact it is very much the opposite

Deliverables: More kids will be interested in going to school, they care about what they care about and having a better future

Solutions:
- updating school system to modern times
- require an amount of credits that spark interest but don't take over a whole schedule
- put less stress on grades/tests
- make it more student driven

why then does this stuff in this alone?

Stakeholders:
Major: Students, School district, Teachers
Minor: Parents

interesting! local 1st consider in of ways

feel free to class down

Cost:
$ - People to make a new curriculum
$ - Teaching and paying the teachers
$ - Testing the new curriculum

Benefits:
- Overall communities future
- Better attitude about school
- Students have more interest and therefore better learning

Much is what they know) Aval when say they imm want (early stages)
↳ then why if this is agreed upon, does it drag?

O- clear focus of progression! cause/effect, process, cost/benefits, value SPATIAL USE/location

M- no research yet, prior know: why hesitancy to focus on district? or state?

Group 1- Coded Infographic (page 1 of 2)

Group 1- Coded Infographic (page 2 of 2)

One solution to our problem is to implement a rain harvesting system. We could give citizens the options to purchase a wet system from the county for their property. We also should require large businesses to have a wet system for their building if they choose to have grass landscaping.

P- we as both major stakeholders

Example of a rain barrel system

If a rain harvesting system is not something the city wants to do, we could implement water restrictions. Although this solution would work well, it should be considered a last resort.

Business names!
pathos

One last solution would be to encourage different types of landscaping. Businesses should be required to have a rock landscape. We should encourage households to look into rock landscaping if a lawn is not a necessity.

Disavow! Still business owners?

④ would a text here, less concise than paper

If the city were to provide homeowners with a rain harvesting system, the only cost would include the barrels and installation. We estimate this would cost $200 per system. Rock landscaping costs range from $250 to $1,500 depending on the size of the area. Although these solutions seem expensive, the benefits will ultimately outweigh the cost. Rock landscaping is easy to maintain, long lasting, and there are many unique design choices. Rain harvesting systems can improve water quality in lakes/streams, create a new source of water for gardening, and lessen your home's environmental impact.

Cost justified
use

D- all text filled notes w/ less organization / heading than individual IG

Group 1- Coded Flyer

Appendix G: Reflection Questions and Corresponding CDL Practices

CDL Practice	Characteristics of Practice	Question (Module)
Decoding	Navigation, Conventions, Operations, Stylistics, Modalities	How confident were you initially in using digital tools to create a "map" of your problem? How did that change during the design process? (Module 1) How confident were you initially in using digital tools to create an infographic and flyer of your solutions? How did that change during the design process? (Module 2)
Meaning Making	Reading, Relating, Expressing	How did you incorporate prior knowledge/experience of the problem into your design (or what you included in the map)? (Module 1) How did you decide which evidence to include in each visual (infographic, flyer)? Perhaps the same information was relayed a bit differently in each visual and give an example/defend a choice you made. (Module 2)
Using	Finding, Applying, Problem Solving	How did you go about finding ideas/sources for your map? (Module 1) How did your design choices change between the infographic (stakeholders) and flyer (audience)? Give one example of a design choice your group made based on the needs or expectations of audience/stakeholder. (Module 2)
Analyzing	Deconstructing, Selecting, Interrogating	What main message are you trying to convey through your map (i.e. what is most important thing you want me to know about your problem? (Module 1) What are some potential consequences of your solution and/or design on your audience and stakeholders? (Module 2)
Persona	Identity Building, Managing Reputation, Participating	What challenges did you face in working as a group in designing your map? (Module 1) How has creating visual rhetoric helped you to understand the scope of your problem/solution? If not, explain. (Module 2)

CURRICULUM VITAE
Amanda Plaizier

CURRENT POSITIONS

Concurrent Enrollment Faculty Mentor, 2023-present
Utah State University, Tooele
-Develop CE faculty orientation and training materials, liaison with school district and university, develop CE faculty resources and recruitment.

Concurrent Enrollment Instructor, Jan 2020-present
Utah State University, Tooele
Tooele High School, Stansbury High School, Grantsville High School (TCSD)
-Develop course materials, build curriculum and LMS for synchronous broadcast to high schools within the school district:
English 1010: *Introduction to Academic Writing*
English 2200: *Introduction to Literature*
USU 1320: *History and Civilization*

EDUCATION

Ph.D. in Education, School of Teacher Education and Leadership, Utah State University, (anticipated graduation date: May 2023)
Concentration: Literacy Curriculum and Development
Dissertation: *Visualizing Rhetoric: A Proposal for Rhetorical Awareness and Critical Digital Literacies in First-year College Composition*
Advisor: Dr. Amy Piotrowski

M.A. in American Studies, Utah State University, 2006
Cumulative GPA: 4.0, Sigma Tau Delta
Thesis: *Finding Eden: The Paradise Project in Toni Morrison's* Paradise
Advisor: Dr. Melody Graulich

B.A. in English, Brigham Young University, 2003
Concentrations: Postmodern American literature, history

Study Abroad, BYU Jerusalem Center for Near Eastern Studies, 1999

UNIVERSITY TEACHING EXPERIENCE

Instructor, 2006- present
Utah State University, Tooele (2006-2008; 2011-present)
> School of Teacher Education and Leadership Courses: TEAL 6380: *Effective Writing Instruction* (Summer 2022)
> Department of English Courses: English 2010: *Intermediate Academic Writing*; English 1010: *Introduction to Academic Writing*; English 2200: *Introduction to Literature*; USU 1320: *History and Civilization*

Eastern Arizona College
> Department of English (2008-2009) Courses: English 101: *Writing Communications I;* English 102: *Writing Communications II*

Graduate Instructor, 2004-2006
Utah State University, Logan
> Department of English Courses: English 1010: *Introduction to Academic Writing;* English 2010: *Intermediate Academic Writing*

Writing Center Tutor, 2004-2005
Utah State University, Logan

K-12 TEACHING EXPERIENCE

Concurrent Enrollment Instructor, 2017-current
> Utah State University (Tooele/Stansbury/Grantsville High School)
> Courses: English 1010: *Introduction to Academic Writing*; English 2200: *Introduction to Literature;* USU 1320: *History and Civilization*

Concurrent Enrollment Instructor, Weber State University, 2018
> Weber State University (Tooele High School)
> Courses: *English 201: Academic Writing*

RESEARCH EXPERIENCE

Research Assistant/Apprenticeship, Oct 2018-Aug 2019
> Dr. Amy Piotrowski
> - Annotated research for projects, compose required IRB documents, wrote project results for conference presentations and publication

PROFESSIONAL PUBLICATIONS

Piotrowski, A., Garcia, M., **Plaizier, A.** and Greenwood, M. (July 2021). Humanizing Online English Teacher Education Through Critical Digital Pedagogy. *English Education. (to be published spring 2023)*

Piotrowski, A. and **Plaizier, A.** (2020). Utilizing young adult literature to develop preservice English teachers' CDL-based pedagogical practices. In J. Avila (Ed.) Critical Digital Literacies: Boundary-Crossing Practices*. 123-144.
this volume won 2023 Divergent Award for Excellent in Literacy in a Digital Age Research Book Award honoree, given by the Initiative for Literacy in a Digital Age Research.

PROFESSIONAL PRESENTATIONS

Piotrowski, A. Garcia, M., **Plaizier, A.**, and Greenwood, M. (2021-2022, November). Humanizing Online English Teacher Education Through Critical Digital Pedagogy
 Panel discussion at the annual conference of the National Council of Teachers of English (NCTE), Louisville, KY. (Digital)

Piotrowski, A. and **Plaizier, A.** (2020, November). Teaching English Education across Modalities through Digital Literacies. Panel discussion at the annual conference of the National Council of Teachers of English (NCTE), Denver, CO. (Digital)

Plaizier, A., Greenwood, M., and Bunnell, G. (2020, November). Supporting the Young Adolescent Writer: Strategies for Success in 21st Century Writing Spaces
Panel Presentation at the annual conference of the National Council of Teachers of English (NCTE), Denver, CO. (Accepted and then cancelled due to COVID-19).

Plaizier, A. (2020, October). [Panel Chair and Presentation] Encouraging Critical Thinking and Writing Self-Efficacy: A Proposal for Using Question-Based Online Feedback Intervention in Post-Secondary Writing Instruction. Presentation at the annual conference of the Rocky Mountain Modern Language Association (RMMLA), Boulder, CO. (Accepted and then cancelled due to COVID-19).

Piotrowski, A. & **Plaizier, A.** (2019, November). Sparking inquiry with students and teachers through digital literacies. Panel discussion at the annual conference of the National Council of Teachers of English (NCTE), Baltimore, MD.

Plaizier, A. (2019, October). Digitally situated: Authentic learning opportunities for students in an online environment. Presentation the annual conference of the Rocky Mountain Modern Language Association (RMMLA), El Paso, TX.

Piotrowski, A. & **Plaizier A.** (2019, July). Community and activism in ELA teacher education. Presentation at the annual summer conference of English Language Arts Teacher Educators (ELATE), Fayetteville, AR.

Plaizier, A. (2015). Transitioning the Traditional Classroom: Building Authentic Inclusion for the Digital Student. Panel discussion at the annual ASU Southwest English Symposium, Phoenix, AZ.

Plaizier, A. (2006). O: Oprah and the Everyday Woman. Paper presented at the IGS Annual Conference. Logan, UT.

Plaizier, A. (2005). Cowboy Love: Reinventing Masculinity in the West. Paper presented at the Western Literature Association Annual Conference. Los Angeles, CA.

Plaizier, A. (2005). Nat Love: Representations of Self in the American West. Paper presented at Sightlines: The New England American Studies Annual Conference. Worcester, MA.

Plaizier, A. (2005). African-American Cowboys in the American West Landscape: A Photographic Journey. Paper presented at Shaping the American West: A New Western Ethic for the 21st Century: An International Interdisciplinary Conference. Utah Valley State College, Snowbird Resort, UT. June 9-12, 2005.

Plaizier, A. (2005). William Henry Jackson and the Constructing Tourist Spaces in Victorian America in Photography. Paper presented at College English of the Purple Sage conference, Idaho State University, Pocatello, ID.

Plaizier, A. (2005). Resisting Yet Accommodating Patriarchy: Effects of the Occupation on the Gender Identity of Palestinian Women in Jerusalem and the West Bank. Paper presented at the Art of Gender in Everyday Life II conference, Idaho State University, Pocatello, ID.

PROFESSIONAL WRITING EXPERIENCE

Data Specialist III, 2006-2007
Tandem Labs, Salt Lake City, UT
- Compiled scientific data for pharmaceutical clients, wrote reports concerning drug stability and testing and documented lab work and standard operating procedures.

HONORS AND AWARDS

Instructor of the Year, Tooele Regional Campus, Utah State University, 2018

Member, Sigma Tau Delta, English Honor Society, Utah State University Chapter, 2005

$800. Professional Development Travel Grant, Utah State University Graduate School/Senate, 2005

$2000. Brigham Young University Alumni Scholarship, 2003, merit based

$1500. Brigham Young University Jerusalem Center, 1999, merit based

PROFESSIONAL/ACADEMIC SERVICE

Graduate student portfolio reviewer, 2022-current
Boise State University English Department

-Review graduate portfolios for master's program in technical communication candidates taught (Dr. Robert Munger and Dr. Sherena Huntsman)

Teaching mentorship, 2020-current
Utah State University Statewide
 - Sponsored clinical hours for undergraduate student teachers (Jodi Christensen) and provided mentorship (Dr. Amy Piotrowski) in Fall 2020
- Collaborated for new instructor training and curriculum (Maren Petersen)
Southern Utah University
- Sponsored clinical hours and MA thesis project (Hayley West) in Fall 2023

Concurrent Enrollment Continuous Improvement Committee member, 2020-2021
Utah State University English Department
- Collaborated with USU Concurrent Enrollment English Director to revise CE program standards for first-year writing and literature courses and organize the 2021 training conference for USU CE English instructors.

Writing Center consultant, 2011- 2018
Utah State University Statewide Campus
-Assist in the creation and revision of writing workshops to teach APA and MLA format to broadcast students taking general education English courses

Reviewer, 2007
Pearson Longman Education

Editorial Intern, Aug-Dec 2005
Western American Literature Journal
-Verified and copyedited manuscripts for publication and selected artwork images, obtained permissions for publication use

Curriculum Developer, 2005.
Utah State University English Department
-Chose texts, developed, and presented an English 1010 Curriculum for the Utah State University Concurrent Enrollment courses

Publicist, 2004-2006
Utah State University English Department
-Book Club, USU English Dept., Authored press releases to be published in the *Herald-Journal*, *Statesman*, Utah State University English Department Website and prepared mass media publications for community distribution in Logan, UT

Writing Assessment Rater, 2005
Utah State University Writing Assessment Project
-Trained in writing assessment and assessed 200 writing samples as part of the University Writing Assessment Project for the state of Utah

Committee Member, 2005-2006
 Library and Special Projects Committee, USU English department

Undergraduate Student Editor, *Insight*: *BYU Honors Nonfiction Journal*, 2003.
 Brigham Young University Press

PUBLIC AND COMMUNITY SERVICE

Tooele City Library Board Member, 2017- present
 (Mayoral Appointment) Represent library agenda at Tooele City Council
 meetings and participate in the development of library programs for community
 enrichment and public involvement

Community Council Chair, West Elementary, 2022-2023
 Coordinate and conduct regular meetings with the principal and school
 community council; manage federal land grant money allocation, address school
 community concerns.

DLI Volunteer, German Dual Immersion Program, West Elementary, Tooele, UT
 Assist 1st-4th grade students with German language skills and instructor with
 classroom activities in English and German; evaluate student work in
 writing, math, speech in German and substitute in language classroom

Auction Chair, Anything for a Friend, Jones Event, Oct 2015, Layton, UT
 Solicited donations from local and state businesses, arranged committees for
 event and assisted with publicity, raising 50K

Volunteer LDS Mission Service, Munich Germany, Fluency in German, 2000-2002

English/German Teacher. Regensburg and Nuremburg Germany, 2001-2002

LANGUAGES

Fluent in English and German (speaking, reading, writing)