

**MULTIMODAL INSTRUCTION AS A MEANS TO SCAFFOLD LITERARY
INTERPRETATION IN A SECONDARY ENGLISH LANGUAGE ARTS CLASSROOM**

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Submitted to the Graduate Faculty of
University of Pittsburgh in partial fulfillment
of the requirements for the degree of
Doctorate of Education

University of Pittsburgh

2011

UNIVERSITY OF PITTSBURGH

SCHOOL OF EDUCATION

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This descriptive study investigates what happens when an English Language Arts teacher implements multimodal instruction in his senior-level World Literature course. The study is grounded in theories of transmediation and New Literacy Studies and examines the following research questions: 1.) What does multimodal instruction enable students to do and how does it shape and support students' engagement and interpretation with literary texts? 2.) What are the cognitive affordances of students' participation in multimodal tasks? The research site was a private all male high school a few miles outside a medium-sized city in the Northeast. One twelfth-grade World Literature classroom was observed for a nine-week period as students read two literary texts and composed three multimodal representations in response to each text. Data included field notes, videotaped classroom sessions, student-produced multimodal representations, student reaction forms, students' rationales for representation and debriefing sessions with the teacher. Findings of the study reveal there are multiple cognitive and learning strategies that take effect as a result of multimodal instruction and that this type of instruction can be a valuable method for teaching literary interpretation.

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PREFACE

Special thanks goes out to Dr. Amanda Thein for serving as my advisor and my dissertation chair. Dr. Thein provided a great deal of guidance and has helped shaped me as a scholar as I progressed through my years as a doctoral student and worked on the study. Special thanks also goes out to Dr. Linda Kucan and Dr. Richard Donato for providing insight and guidance as well. A very special thanks also goes out to Dr. Jeffrey Kaplan who suggested I take this route many years ago. Thank-you also goes out to Dr. Amanda Godley, and Dr. Anthony Petrosky.

I would also like to thank Dr. James Chisholm, Dr. Michelle Anderson, Dr. Constance DeMore Palmer, Linda Defenbaugh, Veronica Kozar and Lisa Schelbie for the constant support they have provided. I would also like to thank Dr. Erica Schwartz for her support.

Special thanks goes out to Marie Weber and Julie Williams for their continued support, to Michael Oldakowski for his inquiry, belief and support. I would like to thank my father, Al Oldakowski for teaching me to learn something new every day, and my mother, Trina Oldakowski for instilling in me the desire to research and seek information.

A very special thanks also goes out to Chris Sullivan who has been by my side during this entire journey and believing in me even when I didn't believe in myself.

This dissertation is dedicated to the memory of Claudia Ann Sullivan.

1.0 INTRODUCTION

1.1 BACKGROUND

In recent years there has been a great initiative in education to expand educator and student views of literacy due to ever-changing technologies and new methods of communication (Doering et al., 2007; Jewitt, 2008; Kulikowich, 2009; Snyder & Bulfin, 2009). There has been a specific push in the English Language Arts (ELA) classroom to incorporate more than print-texts in the curriculum and to consider non-traditional texts such as films, advertisements, wikis, podcasts and other digital and media texts as a means for learning (Beach, 2007; Hobbs, 2007; Kist, 2005).

Because of the availability and presence of media and digital texts in our everyday lives, the concept of literacy is constantly being redefined. In order to be literate, one must be proficient in a number of practices that move beyond the traditional act of reading print. These practices include listening, viewing and producing texts (NAMLE, 2009) as well as navigating and critiquing sources (Kulikowich, 2009) and understanding ideas of design (New London Group, 2000). To be literate in today's society, students must attend to these multiple practices as they receive information from multiple sources, both inside and outside of school, and consider ways of communicating their own messages and responses.

Evidence from ELA classrooms suggests that instruction incorporating new and digital literacies enables students to engage in practices that expand their understanding of disciplinary content (Hobbs, 2007; Kist, 2010; Ranker, 2008; Stein, 2009). Specifically, expanding the notion of literacy to include a wide array of digital and print has helped students to widen their perspectives on writing (Karchmer, 2001; Swenson et al., 2006), take an inquiry-based approach to content (Albers, 2006), and demonstrate understanding of literary components (Bailey, 2009; Rozema, 2007).

The evidence presented above has required educators to rethink the goals of instruction in the ELA classroom. The National Council of Teachers of English has already responded by incorporating the need for non-print texts in its National Standards (NCTE, 2010). A study by Baker, revealed that in all fifty states at least one of the English Language Arts standards required students to use, identify elements of, or construct texts that are non-print (Media Literacy Clearinghouse, 2010). My study is aligned with the modified standards of NCTE and supports a new representation of literacy that foregrounds critical thinking and the active processes of comprehension and production.

1.2 THE STUDY

My study delves into this new understanding of literacy and how it can be incorporated in the ELA classroom. Specifically, my study addresses multimodal tasks and how they can be an effective means for supporting students in their efforts to engage in literary interpretation. Students in my study will be assigned multimodal tasks that will engage them in a wide array of literacy practices as a means for demonstrating their understanding of a literary text. Students

will read traditional texts and also interact with related media and digital texts. Students, in other words, will have the opportunity to work with multiple types of modes and texts throughout a unit as they create multimodal projects in response to the traditional texts.

While there has been some research on student learning through multimodal practices, much of this research has been in out of school settings (Barton & Hamilton, 1998; Gregory & Williams, 2000; Kress, 1997; Sefton-Green, 2006). Therefore my study is poised to take research on multimodal practice in a promising new direction by focusing on classroom instruction.

My study will take place in a single ELA classroom during a nine-week unit on African Literature. One purpose of my study is to determine how multimodal tasks shape and support students' understanding of literary texts. Another purpose of my study is to contribute to the growing field of literature that seeks to redefine the meaning of literacy and to reconsider how literacy practices are taught and enacted in ELA classrooms.

1.3 RESEARCH QUESTIONS

The two research questions that will address my study are:

- 1.) What does multimodal instruction enable students to do and how does it shape and support students' engagement and interpretation with literary texts?
- 2.) What are the cognitive affordances of students' participation in multimodal tasks?

These research questions will enable me to move beyond the research that focuses on multimodal instruction as engaging for the students and see the educational value of this type of instruction. I specifically want to know how multimodal instruction enables students to interpret literary texts and what types of cognition it elicits.

1.4 THEORETICAL FRAMEWORK

Two major theoretical frameworks inform my study. The first is transmediation, which is the transfer of information from one sign system to another (Suhor, 1984) and the second is New Literacy Studies (NLS), which supports the notion that there are multiple literacies, in which we partake in our everyday lives (Street, 1984; Gee, 1986).

In transmediation an individual transfers key themes and ideas from one text and creates a new text incorporating those key themes and ideas. Transmediation has its roots in semiotic mediation, or the study of signs as meaning. Charles Peirce first examined this notion to deeply examine how signs are used to create meaning and he suggested that a sign simply does not stand for something, rather its meaning is culturally mediated (Siegel, 1995). Signs come to be understood by the individual based on his or her experiences with the world. According to Peirce, a sign is simply not a substitution for an object, rather a sign tells something about the meaning of the relationship between the sign and the object, and therefore requires an interpretant (Short, 2004). Students act both as interpreters and creators while they constructed these multimodal projects.

The second theoretical framework that will inform my study is New Literacy Studies (NLS), which supports the notion that there are multiple literacies, in which we partake in our everyday lives (Street, 1984; Gee, 1986). This is very important to the study because students will have to address multiple literacies as they develop their multimodal projects.

1.5 REVIEW OF LITERATURE

Chapter 2 will present a review of the current literature and expand on my theoretical frameworks that I have described above. In addition to these frameworks, I will review empirical studies that show how both transmediation and NLS are theories that are supported in out-of school settings and how they are supported in education.

My central argument will inform how multimodal education stems from these theories and how it can be used to engage students, support their literary interpretation and engage students in higher-order thinking.

1.6 DESCRIPTION OF METHODS

1.6.1 Context and Participants

The study took place in an all male private school, in a twelfth grade World Literature course. Seventeen students in Mr. Saulle's class consented to participate in the study. The study took place while students read two texts; *Othello* and *Cry, the Beloved Country*, over a nine-week period. After reading *Othello*, students were asked to create three multimodal representations that showed their interpretation of the text and while reading *Cry, the Beloved Country*, students were asked three times to create a digital collage, called a glog, of a character from the text.

1.6.2 Data Sources

Data sources included fieldnotes, videotaped class sessions, student artifacts, response and reaction forms, and audio-recorded debriefing sessions with the instructor. The unit of analysis was the student created artifact and the student written rationale based on the artifact, but the other data sources were used to triangulate the data.

1.6.3 Analysis

Two stages of coding took place; open coding and focused coding. Open coding was first conducted by examining the data for patterns and relationships until 5 key themes emerged. Focused coding was conducted by using the framework of the Core Thinking Skills (Marzano et al., 1988) as a means for analyzing the multimodal projects and rationales, in which I looked for evidence of these twenty-one skills in the data.

From open coding, 5 major themes emerged; a.) students used transmediation to make inferences, b.) , c.) students exceeded task expectations, d.) students acknowledged changing notions of literacy through use of digital tools, and e.) students addressed multiple literary elements.

As a result of focused coding, nineteen of the twenty-one core thinking skills proposed by Marzano et al., (1988) were addressed throughout the project. Meaning that, in the multimodal construction of representations, students addressed multiple cognitive skills, all of which are higher-order thinking skills.

1.7 STRUCTURE OF CHAPTERS

In Chapter 2 of this study, I provide a review of the theoretical approaches I am taking. I also review empirical research related to these frameworks and create the central argument that multimodal instruction can have value in an English Language Arts classroom.

In Chapter 3, I describe my methodology for the study. I explain that one twelfth-grade English Language Arts classroom at an all male-private high school was observed for a nine-week period during a unit on African Literature. I also discuss that students read two texts and that for each, they created three multimodal representations and wrote rationales, which served as my units of analysis. I then share how I used both open coding and focused coding to analyze the data until I saw key themes emerge.

Chapter 4 will present 5 key themes that I found through open coding. I explore the themes in relation to literary analysis through transmediation and NLS. Chapter five addresses the core-thinking skills (Marzano et al., 1988) that were utilized by the students in the creation of their multimodal representations and focuses on the top 4 skills that were used.

I will discuss my findings and my implications, as well as my limitations for the study in Chapter 6. Finally, I close this dissertation with suggestions for future research in the field of multimodal instruction.

2.0 LITERATURE REVIEW

This chapter provides an overview of the theoretical perspectives and research that inform the proposed study.

2.1 THEORETICAL FRAMEWORK

My project is grounded in 2 key theoretical perspectives—transmediation and New Literacy Studies. Both of these frameworks have enabled me to analyze student-created multimodal representations and to determine what academic value there is to multimodal instruction through the creation of these projects.

2.1.1 Transmediation

Transmediation is the “translation of content from one sign system into another” (Suhor, 1984; p. 250). One example of transmediation is when a student reads a piece of literature and creates a poem or play summarizing that work of literature. Transfer of information from one sign system to another relates from Vygotsky’s (1986) theory of semiotic mediation. Vygotsky suggested that it is necessary to use signs in order to communicate. While Vygotsky focused on language as the sign system, Pierce (1934) expanded this theory to incorporate symbols or signs as a means to

create meaning (Siegel, 1995). Both Vygotsky and Pierce's notions of sign systems as a means for communication enable transmediation as a method of sharing knowledge.

While the notion of transmediation is not new to English Language Arts classrooms the idea of multiple sign systems as used in transmediation is not commonly explored, possibly because language is the most common sign system utilized in the classroom (Smagorinsky, 1995). The example above—reading one literary work and then summarizing it as a poem or a play—illustrates transmediation; the transformation is language-based. While there are benefits to student learning through such unimodal transmediation, research also indicates that students engage in rich cognitive processing when they are asked to utilize more than the mode of language or a singular sign system (Suhor, 1984).

An example of transmediation wherein a project is created using multiple sign systems would be a short film adaptation of a story. If a student produces a short film, he or she would have multiple modes from which to choose to re-tell the story. For instance, the dialogue is a verbal mode, the position the characters take are gestural, the shot composition is visual, and the music is aural. These are just a few of the modes that might be found in a transmediation of a story to a play.

One powerful property of transmediation is the fact that when students transmediate, rather than simply restating an idea, they create a new representation (Cowan & Albers, 2006). By composing the new representation, students engage in deeper processing by thinking about the text and demonstrating that they understand the content by expressing key ideas and themes in a new mode or combination of modes. When students transmediate, they take information from one mode and transfer it to another, creating links that do not currently exist between

content and mode (Short et al., 2000; Siegel, 1995), thus transmediation far exceeds memorization or paraphrasing.

Cowan and Albers (2006) point out that when students use transmediation they develop an awareness of how other modes function because they must think about the rhetorical nature of the new text. That is, the specific affordances of a movie, or collage or podcast convey particular kinds of messages to particular audiences. Other research points out that transmediation is necessary because our society is not solely print-based (Semali & Fueyo, 2001; Short et al., 2000) and requires individuals to use more than one sign system at a time in communicating. For example, Internet users refer to visual and auditory images as they click on hyperlinks to see video clips or read news reports.

One of the most recent developments to support transmediation is the availability of new technologies. Students now have an even wider range of ways to express themselves due to new digital technologies, such as Twitter, Facebook, Word Press and Ning. These recently developed programs, along with more accessibility to computers, allow the student to transmediate through a plethora of digital formats. Recent research demonstrates how using digital technology supports students' literacy learning.

By providing a space in the ELA curriculum for students to practice transmediation, teachers are giving students more opportunity to experience the changing notion of literacy and to engage in real world practices. Because there are multiple modes with which to send and receive information, it is necessary for an individual to be able to gain competence with literary practices across these multiple modes. Being able to read print will no longer suffice. Individuals must be able to read, navigate, listen, view and construct words, signs, symbols, sounds and images. New Literacy Theory supports this changing representation of literacy.

2.1.2 New Literacy Studies

Gee (1996) suggested that “literacy is always multiple; there are many literacies, each of which involves control of Discourses” (p.xviii). Discourse contains more than language; to effectively function in a discourse community, one must learn the rules, norms, values and practices of that community. In other words, Gee suggests that to be a literate person is not just to be able to read print texts, but rather it is to be able to fully participate in a discourse community.

For instance, Gee explained that in order to function properly in a biker bar, an individual must use more than the appropriate language and instead must immerse him or herself in the group, using appropriate tone, gestures, dress, attitude and behavior. Biker Bar “literacy” involves proficiency with practices that go far beyond reading a print text. At the heart of Gee’s definition of literacy is the ability to navigate across discourse communities using all forms of literacy practices. New Literacy scholars have begun to imagine the many ways that advances in technology have impacted the array of literacy practices people might navigate (Dalton & Proctor, 2008; Kamil et al., 2000; Kulikowich, 2009).

Leu and Kinzer (2000) suggested that literacy now needs to be shaped by “our ability to adapt to the changing technologies of information and communication and our ability to envision new ways to use these technologies for important purposes” (p. 118). They also asserted that reading in digital environments will require strategies such as problem solving, navigational knowledge, speed, and ability to adapt to particular contexts. Comprehending a text, therefore, requires an understanding of the mode as well as the message.

New literacy studies (NLS) is the ideal framework for supporting the redefinition of literacy because it takes into account literacy as an everyday practice (Street, 1984; Gee, 1996) and not just a discreet set of skills to be acquired in a classroom. As notions of literacy expand to

encompass entire discourses involved in numerous kinds of print and digital practices, the concept of transmediation illuminates the rigor of the intellectual and cognitive work that must be done to navigate across these new literacies. By engaging in practices of transmediation, one directly experiences a movement across discourses. The individual can move from a static or passive stance to a more active and critically aware understanding of content.

2.2 REVIEW OF RELATED RESEARCH

Research has shown how transmediation and work with multiple sign systems engages students in problem-posing and risk taking (Fueyo, 2002), promotes critical literacy (Napoli, 2002) and enables students to generate and construct knowledge (Semali, 2002). This idea of transmediation, whether it is within the sign system of language or whether it is used in multiple sign systems, is a valuable technique for learning in the classroom.

For instance, final projects can be assigned that involve transmediation, but this process is not limited to the after reading stage. Transmediation activities that incorporate drama, art, music and dance can be used to increase the depth of discussion during reading about a text (Chang, 2002; Semali & Fueyo, 2001; Short et al., 2000) because it gives students an opportunity to have time to reflect upon the content and plan what they want to say, write, build or construct.

2.2.1 Transmediation in the ELA classroom

While new literacies and emerging digital technologies enable students to transmediate in many modes, the idea of transmediation is not new in the ELA classroom. While research that

examines transmediation across multiple modes is emerging, there has been a great deal of research that examines the benefits of transmediation within the singular mode of language.

2.2.1.1 Multi-genre Writing

One area of research in ELA that examines transmediation in a singular mode is multi-genre writing. Multi-genre writing is an activity in which students research a topic and write about it in a variety of genres. Based on the work of Romano (1995) multi-genre writing enables students to experience writing in new ways; rather than simply transferring facts from sources to their final papers, students in this practice create original texts across a range of written genres based on their research.

Some examples of multi-genre writing include writing obituaries, writing an e-mail from another's perspective, constructing an interview from research, creating a legal document such as a birth certificate or a parking ticket, or crafting a person or character's resume. When students write in these different genres, they are not only writing in new and creative ways, but they are forced to think about moving beyond the transfer of facts and think about the research in new ways. Because the students are generating new written artifacts, they are moving information from one genre to another, which is a form of transmediation.

Moulton (1999) found that students who wrote multi-genre documents were cognizant of their vast research and were able to compare and contrast the information they found in their many resources. While the presentations were indeed more creative, Moulton's students noticed that the research was a valuable aspect of this task. Another aspect she found useful is that students became more aware of the audience as they wrote, giving them a wider purpose for their writing.

While creativity may be a draw for students, having choice and being authentically interested in the research can positively benefit the students' writing. Other research has shown how students produce more detailed artifacts (this is what some call the multi-genre pieces students construct) when they take an inquiry stance towards the individual or topic being researched, as is the case in Allen and Swistack's research (2004). They also found that "initial topic choice is critical to deeper thinking, richer writing, and more powerful performances" (p.226).

Although there is demonstrated value in multi-genre writing a lot of this research is anecdotal and focused on engagement and does not richly examine the possible cognitive consequences students could benefit from by engaging in this practice. A great deal of research on multi-genre writing focuses on the value of creativity in such writing (Moulton, 1999), and on its affordances for exploring multiple genres (Romano, 2000). While Romano, a pioneer in this topic, does discuss how multi-genre works can be analyzed (1995; 2000) a great deal of his discussion tends to focus on the emotive skills that encourage and motivate students to write.

2.2.1.2 Multimodal Tasks

Like the multi-genre tasks explored above, there is some research that investigates students' participation in tasks that allow them to express themselves with more than the single mode of language (Bruce, 2009; Chang, 2002; Jewitt, 2008; Semali, 2002). Unlike unimodal tasks, multimodal tasks encourage the construction of a representation using more than one mode. While language is key to making meaning, it is one of several communicational devices or modes that transmit meaning (Albers & Harste, 2007). Other modes include, but are not limited to; sound, image, gesture, hypertext, symbol, music and design. It was Kress and van Leeuwen

(2001) who first defined multimodality as meaning that is made through multiple representations and communication systems. Studies of multimodality are a strand of the New Literacy Studies; such studies take a broad view of how various modes of communication are navigated in every day society (Barton & Hamilton, 1998; Gee; 1996; Street, 1984).

Research on multimodal tasks in the classroom has added to an understanding of transmediation in several ways. For instance, research suggests that multimodality allows for multiple representations, extended meanings, making meaning of semiotics and sounds, and allows for new ways of communicating (Albers, 2007). For instance a facebook page created by a student about a character in a literary work would show how the student uses a new method of social networking to apply his or her interpretation of that character through various modes.

Moreover, multimodal communication clearly aligns with NLS in extending the concept of literacy beyond reading and writing. The aforementioned facebook page would include images, links, and news feeds that would shape how one interprets the character. This aligns with the recent research that proposes the need for this move to using new literacies because of the changing nature of communication in the digital age of the 21st Century (Albers, 2006; Bailey, 2007; Kress, 2003; Leu & Kinzer, 2003).

There is also research suggesting that student construction of texts that use multiple modes promotes “multiple ways in which to express and demonstrate meaning” (Albers, 2006), and promotes literacy learning (Pahl & Roswell, 2005). Multimodal task evaluation was chosen for this study because it requires the student to move beyond encoding information in one mode; it enables the student to consider the affordance of other modes as they construct a text, and it requires that the student think more deeply about the text as they create multimodal representations related to character, event and theme as well as other literary elements.

2.2.1.3 Digital Composition

Bruce (2009) and Kist (2005) found that students who were typically lower achieving students showed significantly improved gains in their writing after they composed video productions. Bruce specifically noted that when students constructed a video, they engaged in practices of revision as they experimented with a variety of different clips and edits before they completed the video. This recursive process mirrors the act of writing and allows for his video production students to see how video production and writing are similar in that they are both modes of communication that take time and practice to complete.

In another study Bailey (2009) found that students' understanding of literary components, such as metaphors and similes, became much clearer when they were introduced to these concepts through multimodal texts. In her study of a 9th grade English Language Arts classroom, Bailey's students were taught how to analyze songs and music videos and how to specifically look for examples of these literary elements in both. After the students were engaged in a discussion of how both metaphor and simile were represented in these texts, they were asked to produce their own analysis of a poem focusing on these aspects and present their findings in another multimodal format; a Microsoft Power Point presentation. It became evident in the presentations that students had thought deeply about multimodal components as a means for understanding metaphor and simile as they noted how such things as color, music, and image "augment the meaning in the words" in a poem (p. 225) and how they shape these literary elements.

Podcasting, a process in which individuals record content and publish it to the web, is another multimodal activity that shapes a new understanding of literacy. In his study of

secondary students, Rozema (2007) discovered how turning a typical book report into a podcast could support and extend changing notions of literacy. Using a free audio software program called Audacity, a group of four students produced a podcast summarizing and analyzing the text *Feed* (Anderson, 2002). While typical podcasts are unscripted and performed off the cuff, the students' first produced a script, suggesting that communicating takes thought and revision. Rozema found that students paid particular attention to mood and form in their writing. By matching music to the mood of content of the podcast, the students demonstrated that they understood how important the mood of a story is. The same group of students also did a "write-like" in which they interrupted their own podcast with commercial announcements, a feature that takes place in the text. By copying this style, the students clearly showed that they understood how the form of the text is important to the story. Lastly, because the podcast was limited in length of time, the students had to work together to summarize the novel, considering which aspects were most important to include and which could be excluded. Working with this multimodal task, podcasting allowed the students to work collaboratively, and focus on summarizing a text while considering the multiple dimensions of form and mood.

2.2.2 Cognitive Processing and Multimodal Tasks

Although the literature mentioned above provides examples of how multimodal composition can benefit students' learning and how it supports new visions of literacy, the focus of these studies is on the motivational or creative benefits of these tasks. There is limited research that investigates the cognitive benefits of multimodal tasks in the classroom. Leu (2000), however posits that multimodal tasks should elicit deeper processing because they are "open tasks" which unlike "closed tasks," require students to construct rather than replicate

knowledge as the student locates, organizes and analyzes information in the development of the project. There is limited research in multimodal construction to suggest that these types of tasks provide students with opportunities to engage in rich cognitive processing that Leu considers necessary in completing the open tasks.

One of the purposes of my study is to examine whether students are using multiple core thinking skills (Marzano et al., 1988) when they complete multimodal tasks. While some of the research above addresses ways in which students think about literature as they complete multimodal tasks, there is a need to first show how tasks elicit these core-thinking skills from the student.

Some of the disconnect between cognition and multimodal task assignment may be due to the fact that in a typical school setting, students are commonly assessed by unimodal tasks, or tasks that require the student to engage in only one mode; language (Fueyo, 1991). However, prior literature demonstrates that there is a connection between cognition and task assignment as well as cognition and written tasks.

Doyle (1983) noted that tasks are “defined by the answers student are required to produce and the routes that can be used to obtain these answers.” (p. 161). He and Carter (1984) later argued that tasks are “used to designate the situational structures that organize and direct thought and action.” Thus, tasks influence how students think about a particular concept and determine which types of core thinking skills students use to respond to the task. However, when multimodal tasks are not often assigned, or when they are used as a means of motivation as much of the literature demonstrates, their true cognitive potential is not recognized.

Marx and Walsh (1988) further explored classroom tasks and found that there is a relationship between the task conditions, the cognitive plans students use to complete the task,

and the final products students constructed. In their investigation of classroom tasks they concluded that when students complete tasks, the students apply their cognitive skills, which leads to learning. Their findings suggest that more teachers should focus on tasks that require specific methods for completing a task. While preliminary research has been done in a multitude of classrooms, research of carefully constructed tasks is lacking in literacy research (Kucan & Brydon, in press). One exception is Matsumura (2005), whose research provides a framework for measuring the value and strength of classroom assessments.

Producing a multimodal text involves a plethora of skills that move beyond the traditional literary skills involved in reading and writing. In composing a multimodal text, the individual must consider more than the content, he or she must consider design elements such as the materials and affordances of the mode (Albers & Harst, 2007; New London Group, 2000). This is key because meanings may come across differently depending upon which modes and materials are used.

2.2.3 Multimodal Instruction in an ELA Classroom

While both research and theory indicate that multimodal tasks lead to more cognitively sophisticated thinking, there is little evidence that reports that ELA teachers value or even assign multimodal tasks. Most of the research on multimodal tasks in the classroom is concerned with engagement and does not address cognition. The main objective of this study is to determine how multimodal instruction in an ELA classroom provides opportunity for rich cognitive processing, specifically how it scaffolds literary interpretation. This study will analyze multimodal tasks that students construct while they read two ELA texts with specific emphasis on literary interpretation and the cognitive affordances involved in these constructions.

3.0 METHODOLOGY

This goal of this study was to investigate the following research questions:

1.) What does multimodal instruction enable students to do and how does it shape and support students' engagement and interpretation with literary texts?
2.) What are the cognitive affordances of students' participation in multimodal tasks?

A descriptive study of one nine-week unit in an English Language Arts (ELA) classroom was the focus of this study. The descriptive approach was chosen because it allows for the study of multiple data sources to be collected in a natural setting (Marshall & Rossman, 2006) and allows me to analyze and describe in detail exemplar multimodal representations.

3.1 SETTING

The study was an investigation of one teacher's use of multimodal tasks to scaffold literary interpretation in a twelfth-grade World Literature class as students completed a unit on African Literature. The participants for this study were twelfth grade World Literature students in Scott's class at a private school, approximately 5 miles outside a medium sized rust-belt city in the Northeast. Only those students with parent permission participated in the study. The number of participants was seventeen.

Scott, 25, was a second year Language Arts teacher who had previously completed his Master of Arts in Teaching program at the university where I was an instructor and a graduate student. Scott was chosen for this study because of his interest in multimodal instruction and because he assigns at least one multimodal task to his students during a literature unit.

3.2 PARTICIPANTS AND CONTEXT OF THE STUDY

Seventeen male students in a private-Catholic school participated in the study. The institution was a private Catholic school which taught approximately nine-hundred students. All students wore a tie and dress clothes as a part of the dress code. The name of the class in which the study took place was a late-morning, fifty-minute period titled World Literature, which met 5 days a week for the entire school year. Fourteen of the students were Caucasian, with two African American students and one Latino student also making up the class dynamic.

The students represented a mixture of athletes, artists, scholars and musicians. These personalities came out in field notes as students tended to discuss their home and out-of school lives before and after class. Additionally, student personalities shone in class discussion as they made connections to self in their daily class discussions and while they discussed projects on days in which they worked on them. All but one student was able to attend the school via paid tuition by a family member or members. One student was able to attend by academic scholarship.

Scott typically ran his class via lecture or Socratic Seminar. In both cases, the students developed rapport with each other and with the instructor and it was evident that all students felt comfortable voicing his input in the classroom through the tradition of raising his hand. While

there were occasions where students spoke out without raising a hand, this was done as a means to contribute to the conversation and in respect to the discussion. There was never an account of ridicule towards another student.

Students came to class prepared, usually were settled and ready to begin just moments after the bell rang and after Scott took roll. While the range of assignments and grades fluctuated in the class, the majority of the students did their best or at least showed that they tried in the class discussions and group activities. Students stayed on task for the most part during group and independent work. Scott also displayed a variety of student work on his bulletin boards.

Overall Scott's World Literature class was a mix of seventeen students who respected both the instructor and the work. While some of the scores on the multimodal projects, as well as other projects, showed that there were some students who performed at much higher rates than others, this was due to the fact that some students turned in incomplete work, or did not turn in work at all. When students did turn in work, the grades ranged from high A's to low C's. This showed that most of the students wanted to do well in Scott's World Literature course.

3.3 TEXTS

Because the course was titled World Literature, the instructor took a thematic-based- approach, in which students "travel" around the world through units in which literature from a particular part of the world is read. In addition to this "travel," Scott's goal was to also tie texts together by theme and allow students to compare and contrast all aspects of the literature. The study focused on a unit of African literature during the second nine-weeks of the school year.

During the course of the unit students read two texts: *Othello* by William Shakespeare (1992) and *Cry, The Beloved Country* by Alan Paton (1987). In addition to the typical ELA assessments (such as discussion, quizzes and writing assignments) which focus on the single mode of language, the instructor assigned a multimodal task as a form of assessment for each of the two texts. Because there is a lot of action in *Othello*, the task for this text was summative and asked that students take into consideration the entire text. The second multimodal task was a process-based multimodal assessment that students completed as they read the text *Cry, the Beloved Country*.

The first text *Othello*, is William Shakespeare's tragedy, written in the early 17th century. In the play, Shakespeare describes the titular character as a Moor and a general in the Venetian Army whose marriage, and ultimately life are ruined by an envious soldier named Iago. While Shakespeare describes Othello as a Moor, there is evidence in the text to suggest that he is a Black man from Northern-Africa given that Iago and Roderigo- the antagonists- speak in stereotypes regarding Othello and his origin.

In addition to stereotyping, jealousy and lack of trust are also key themes in the text as Iago, jealous of Othello's promotion to general, plots to ruin Othello's marriage to Desdemona by suggesting that she is adulterous. Throughout the play Iago spends his time lying to Othello and planting Desdemona's handkerchief in another man's home, prompting Othello to eventually murder Desdemona for her supposed infidelity. This tragedy was chosen as a part of the African unit because the instructor believed that students could find evidence of stereotyping and that this has been a problem for centuries.

The second text, *Cry, the Beloved Country* is focused on themes of forgiveness and redemption. In the story, a poor African named Stephen Kumalo strikes up an unlikely

relationship with a Caucasian named James Jarvis, whose son was murdered by Kumalo's son Absalom. It's the death of his son that turns Jarvis into a political activist who unselfishly brings aid to Kumalo's poor village of Ndotsheni. Much of the action in the text takes place in South Africa, specifically in the city of Johannesburg, just as apartheid begins to emerge.

Both texts lend themselves to multimodal tasks because they are rich, multi-dimensional and involve taking a complex look at character, action and theme. While the multimodal task for *Othello* was summative and asked for three key moments in the text, the task for *Cry, the Beloved Country* focused more on a character's development and representation throughout the text.

3.4 PROJECT ONE

As students began to read *Othello*, the instructor assigned the first multimodal task, which students worked on both in and outside of class time. Because this was the second unit in the academic year, the students had already been exposed to the idea of multimodality, as they had completed a multimodal task during the prior unit on Middle Eastern literature.

Students chose three key or critical moments in *Othello* and constructed three projects that demonstrated their understandings of these moments and how they related to the themes in the story (Appendix A). Students were able to use any means to create these representations so long as they used at least two modes in their total number of constructions. Students were given about three weeks to work on projects. In addition to the multimodal task for *Othello*, the instructor spent class time discussing the novel with the students and assigned more traditional assessments such as written prompts and quizzes about the text.

The representations were presented in a two-day gallery walk, much like a museum, where next to each representation students posted a display card that explained the interpretation. Half the students set up their representations on the first day and the other half set up their representation on the second day of the gallery walk. With only a forty- minute period students were better able to view and analyze representations with the gallery walk split up over two days.

As students viewed the representations, they filled out three 3-2-1 Reaction and Response Forms (Appendix B). A 3-2-1 Reaction and Response Form asked that students document their thinking about a particular creator's work by recording three observations about a the work, two questions they might have had for the creator of the representations, and one positive comment of piece of feedback. During the last ten minutes of class, the instructor asked students to share some of the comments they recorded so that the class could engage in a discussion about the representations that were created for key moments in *Othello*.

Each student wrote a two-page rationale explaining why he chose certain modes for representation, how his representation supported his understanding of the text and how the mode enabled the student to represent his thinking about the text (Appendix C).

The instructor and I worked together to create a specific assignment and rubric so that students could reflect on the entire text and choose key events that stood out to them. The instructor and I modeled the assignment by presenting students with sample multimodal representations, such as a facebook page for a character, a soundtrack for a novel, and a film based on a short story. It was made clear to students through instruction and modeling that they were to build representations that interpreted key events in the text and that could stand alone with minimal informational display cards, such as a display placard at a museum.

3.5 PROJECT TWO

While the first multimodal project was summative and was constructed after the students read the text, the second multimodal project entitled *An Interpretive Character Representation*, was an ongoing project that students worked on and revised as they read the text (Appendix D).

After reading the first third of the text *Cry, the Beloved Country*, the students were given class time to work on a one page graphics blog, called a glog, using the website www.glogster.com. Using this website, the students created a single electronic scrapbook page of digital artifacts that represented their interpretation of a major character in the text. Students were able to upload images, videos, music, sound effects, as well as type in a variety of fonts on a variety of backgrounds to express how they understood a character. Students also typed a one-to-two page rationale explaining their choices for digital representations, just as they had for the first multimodal project.

This process was repeated after students read the second third of the text and the final third of the text, so that students would be required to revisit and revise their glogs a total of three times. After each revision, students wrote another rationale for a total of three, explaining each time what changes and additions or deletions they might have made to their character glogs. The purpose of this activity was to show how interpretations of characters in a text may change and how students may take tentative stances towards a character as they read a text.

Each student presented his glog to the class via a video projector. The student then shared all three of his glogs and explained many of the choices that were made in the description of the characters through the glog. The students also pointed out differences between glogs and welcomed questions from the class so that they engaged in an authentic dialogue about the character, themes and events in the text.

3.6 DATA SOURCES

The following six types of data were collected and analyzed as part of my study: field notes, videotaped class sessions, student produced artifacts, 3-2-1 Reaction and Response Forms, rationale for representation, and debriefing sessions with the instructor.

3.6.1 Field Notes

As a participant-observer in the classroom, field notes were a vital part of the research as a means for understanding multiple aspects of the classroom and of the tasks assigned. I attended the fourth period class twice a week for nine weeks, and went on additional days as needed, such as when projects were presented and worked on. I also spent time in the classroom when Scott provided the instructions on the projects and showed students how to create the glogs.

In taking field notes I remained as objective as possible to record data that naturally occurred (Emerson et al, 1995) in order to stay as true to the events that unfolded in the classroom. I took extensive field notes, which included information about the culture of the classroom, the teacher's instruction, class-work and student presentations.

3.6.2 Videotaped Class Sessions

When the teacher assigned the multimodal task (in this study there are two) I videotaped and transcribed that class period so that I could explain the teacher and students' notion of multimodality. These recorded sessions helped to identify features of multimodal instruction that both teacher and students understood, questioned, explored and identified.

Lastly, I videotaped and transcribed on the days where students presented their multimodal representations so that I could document how the artifacts were received and how they are displayed.

3.6.3 Student-Produced Multimodal Representations

Students created a total of six artifacts for my study, which I analyzed; the three multimodal representations for *Othello* and the three glogs created for a character in *Cry, the Beloved Country*. The first project asked students to construct three representations using at least two different modes. I either collected, copied or photographed these three projects, including the display card. In the second project I was able to download all glogs and save them as a web archive.

3.6.4 3-2-1 Reaction and Response Forms

During the gallery and presentations of multimodal projects, the students will filled out 3-2-1 Reaction and Response Forms in which they commented on and questioned other students' work. These 3-2-1 Reaction and Response Forms were collected and used in analysis to triangulate the data.

3.6.5 Rationale for Multimodal Representations

Once the students completed a representation for both *Othello* and for *Cry, the Beloved Country*, they typed a 1-2 page rationale justifying the choices that they made in creating their

representations or their glogs. The students explained their choices and how they related to the text. These rationales were also analyzed closely to support students' interpretation of the literature and also to see what types of cognitive skills were being elicited.

3.6.6 Debriefings with the instructor

Several times throughout the unit I digitally recorded semi-structured interviews with the teacher so that I could discuss his thoughts and my observations. These debriefing sessions were used as a secondary data source so that I could triangulate my initial findings. The instructor also wanted to discuss key multimodal projects so that he could continue to grow as an instructor who implemented multimodal tasks.

3.7 ANALYSIS

Analysis of the data began with open coding (Corbin & Strauss, 2007) as I looked for patterns that emerged in my data. In open coding my goal was to look at larger portions of the data to see if there were any naturally occurring patterns. I started to make a list of codes of all the possible themes and patterns in my data. My units of analysis were instances when students showed any level of cognition, interpretation or understanding. For instance, when a student showed or spoke about reasons for creating the multimodal representation, I marked it or made note of it. I did the same thing when a student showed a skill that one might use in his or her learning, and when he addressed elements of literature. For instance, if a student discussed the plot in a multimodal representation, I coded it LIT-PLT. Then, using constant comparative analysis

(Glaser & Strauss, 1967) I was able to generate two major coding categories: Student addressing of literary elements (Table 1) and Students making the literature accessible (Table 2).

Table 1. Student address of Literary Elements

| Code | Element of Literature | Description |
|---------|-----------------------|---|
| LIT-PLT | Plot | Major events in the novel |
| LIT-CHR | Character | People in the novel, major or minor or tertiary |
| LIT-SET | Setting | Where the story takes place |
| LIT-PTV | Point of View | Who is telling the story, who's perspective is it from? |
| LIT-SYM | Symbolism | Images used to represent key ideas of the story |
| LIT-THM | Theme | Central idea or message of the story |

Table 2. Student address of accessibility of literature

| Code | Accessibility | Description |
|---------|---|--|
| ACC-INT | Intertextual Connection | Connected literature to another text |
| ACC-SEL | Connection to self | Connected literature to student's world |
| ACC-REW | Connection to real world | Connected literature to real world application |
| ACC-EXP | Explicitness | Made an element of the text much more explicit |
| ACC-SCT | Succinctness | Made an element of the text much more succinct |
| ACC-AUT | Authentic artifact | Created a textual artifact that was authentic, much like a real artifact |
| ACC-IMG | Provided imagery | Provided imagery based on the text |
| ACC-TEC | Familiar technologies to represent | Used a familiar technology to construct a representation |
| ACC-FIR | Provided 1 st person account | Created a first person account of a character |

I then used these codes to more closely analyze the data until I came up with five reoccurring themes (Table 3).

Table 3. Re-occurring themes of Open Coding

| | |
|---------|---|
| OPN-INF | Students used transmediation to make inferences |
| OPN-SCT | Student design led to synthesis of literary elements in singular multimodal representations |
| OPN-EXC | Students exceeded expectations of the task |
| OPN-LIT | Students acknowledged changing notions of literacy through use of digital tools |
| OPN-MLE | Students addressed multiple literary elements |

Once I finished with open-coding and I found my five themes, I conducted focused coding using the core thinking skills coding scheme developed by Marzano et al. (1988) to examine how the notions of transmediation and new literacies engaged the students in cognition as they worked on multimodal tasks. Marzano et al., list twenty-one core thinking skills that I draw from (Table 4). I looked closely at student multimodal projects and rationales to determine when students used these skills and I triangulated with the other types of data.

Table 4. Marzano et al. (1988) Core Thinking Skills Framework

| Code Label | Code | Definition | Example |
|-------------------------------------|-------------|--|--|
| Focusing Skills | FOC | Attend to selected pieces of information and ignore others | |
| Defining Problems | FOC-PRB | Asking and answering questions about information that is puzzling or unclear | Determining the reasons for characters' behaviors in a literary text |
| Setting Goals | FOC-GOA | Deciding upon direction, purpose and outcomes | Setting long or short term goals, K-W-L |
| Information Gathering Skills | INF | Bring to consciousness the substance or content to be used for cognitive processing | |
| Observing | INF-OBS | Taking in information via single or multiple senses and "focusing perception on some phenomenon or object" | Previewing a book by examining the title, headings, photos, index, etc. |
| Formulating Questions | INF-QST | Actively applying inquiry to learn more about a concept | Converting titles, heading or subheadings to questions; asking "why" about a concept |
| Remembering Skills | REM | Retaining information for future use | |

| | | | |
|--|------------|--|--|
| Encoding | REM-ENC | “linking bits of information to each other for storage in long-term memory” | Establishing associations or links among learned items, creating mnemonics, repeating associations or linkages (rehearsal) |
| Recalling | REM-REC | Planned or unplanned retrieval of information from long-term memory | Activating prior knowledge |
| Organizing Skills | ORG | arrange information so it can be understood or presented more effectively | |
| Comparing | ORG-COM | identifying similarities and differences between or among entities | Articulating similarities and differences among elements |
| Classifying | ORG-CLS | grouping items into categories on the basis of their attributes | Identifying features of elements, then forming groups based on the similar features |
| Ordering | ORG-ORD | Providing a logical, sequential organization of elements | Putting items or phenomenon in rank |
| Representing | ORG-REP | Putting content in a new form to emphasize relationship of elements; to show linkages | Using a symbol for an item |
| Analyzing Skills | ALZ | Examining parts and relationships of elements | |
| Identifying Attributes and Components | ALZ-CMP | Identifying the components that make up an element | Breaking down a concept into various parts to see how it functions |
| Identifying Relationships and Patterns | ALZ-PAT | Identifying the relationships or patterns between components of an element or concept | Causal, hierarchical, temporal, spatial, correlational or metaphorical |
| Identifying Main Ideas | ALZ-MID | Understanding “the set of superordinate ideas around which a message is organized plus any key details” | A central idea, be it a sentence, paragraph or chapter of a text |
| Identifying Errors | ALZ-ERR | “detecting mistakes in logic, calculations, procedures, and knowledge, and where possible, identifying their causes and making corrections or changes in thinking” | Noticing information which cannot be supported |
| Generating Skills | GEN | “using prior knowledge to add information beyond what is given” | |

| | | | |
|--------------------------|-------------|---|--|
| Inferring | GEN- INF | Using available information to assume what might be true | Making a hypothesis based on observation |
| Predicting | GEN- PRE | “anticipating the outcomes of a situation” | Assuming information based on viewing titles, subheadings, graphs, illustrations, etc. |
| Elaborating | GEN- ELB | Adding information from prior knowledge to extend understanding | Adding details, explanations, etc. to information |
| Integrating Skills | INT | Putting relevant information together | |
| Summarizing | INT- SUM | Selecting, combining and condensing information to a succinct format | Creating shorter versions of a text with main ideas intact, using a graphic organizer, outlining |
| Restructuring | INT- RST | “changing existing knowledge structures to incorporate new information” | Reformatting text |
| Evaluating Skills | EVL | “assessing the reasonableness and quality of ideas” | |
| Establishing Criteria | EVL- CRT | Setting standards to determine value | Making judgments about a text to assign value |
| Verifying | ELV- VER | Confirming validity or truth of a statement | Checking information in a text for accuracy with another source |

Once my data was coded for both open and focused coding, I had a colleague look at approximately 20% of the data and code using both of my code sets. We had an inter rater reliability of approximately 80% which is considered to be a good match in qualitative research.

3.8 SUMMARY

The purpose of my study was to observe and report on what happens when an ELA instructor implemented multimodal instruction as a means for scaffolding literacy instruction. While this is a large question, I analyzed five types of data to determine how this type of instruction enables

students to think about two literary texts. I used both open and focused coding to see what themes emerged drew conclusions about the impact of multimodal instruction in the ELA classroom.

4.0 FINDINGS FROM OPEN CODING

The purpose of this study was to determine how multimodal tasks shape and support students' understandings of literary texts. Specifically, the study aimed to analyze the multimodal tasks students constructed while they read two ELA texts in order to determine the cognitive affordances of the tasks.

This chapter will address themes relative to the question “What does multimodality enable students to do and how does it shape and support the students' engagement with and interpretation of literary texts?”

4.1 OPEN CODING

As I described in chapter three, I began with open coding (Emerson, et al., 1995) and memo writing (Miles and Huberman, 1994) to examine the data. The five data sources analyzed included field notes, videotaped class sessions, student produced artifacts, 3-2-1 Reaction and Response Forms, students' rationales for representation, and debriefing sessions with the instructor. After a close analysis of the data, I found that the multimodal artifacts and students' rationale generated five prominent, reoccurring themes.

The first two themes were relative to the assignment in which students created three multimodal representations based on the play *Othello*:

- 1.) The project enabled students to use transmediation to make inferences
- 2.) The project enabled students to use design as a means of creating representations that synthesized literary elements.

A full table describing student-produced multimodal representations based on *Othello* as well as modes used can be found in Appendix E.

The next theme was specific to the glogs that students created for a character in the text *Cry, the Beloved Country*:

- 3.) The project enabled students to exceed task expectations

The last two themes cut across projects for both texts:

- 4.) Students acknowledged changing notions of literacy through the use of digital tools
- 5.) Students addressed multiple literary elements across projects

All five of these findings demonstrate that students were engaged with and thinking interpretively about the literature they read. Students focused on various literary elements and used multiple modes to demonstrate their understanding of the texts, illustrating the benefits of multimodality in fostering engagement with and interpretation of literary texts in the ELA classroom.

Below, I discuss exemplars from the data that illustrate these five prominent themes generated through open coding. To show the range of interpretation, some of the exemplars are stronger than others. The purpose in providing this range is to show that working with multimodal representations can lead to varying levels of interpretation, and that while some students may have more rich interpretations, the ones that may have missed the mark are still engaging with the literature and making some sort of interpretation.

4.2 CREATING MULTIMODAL REPRESENTATIONS OF *OTHELLO*

After reading the play *Othello* students were asked to create three representations that demonstrated their understanding of the text. At least two of these representations were to be composed in a multimodal format. A description of the play can be found in Chapter 3 and a more detailed description of the assignment can be found in Appendix A. Below I discuss the two themes that emerged through my coding and analysis of multimodal artifacts and rationale related to this assignment.

4.2.1 Students used transmediation to make inferences

One of the benefits of the task in which students were asked to create multimodal representations of the play *Othello* was that transmediation was carried out by the students. According to Suhor (1984), when a student engages in transmediation, he or she constructs knowledge based on a concept, and does not simply repeat or regurgitate information. Students' *Othello* projects were consistent with this idea; they went beyond reproduction of plot or events in the play and moved toward construction of new knowledge. Palmer's first representation provided an example of how constructing a multimodal project about the character Iago allowed him to make new, original inferences about a character.

Palmer illustrated and narrated a short comic strip that presented a first-person account of how Iago came to be such an evil and corrupt character (Figure 1). In the first panel, there is a picture of an adult Iago, holding a dagger while thinking "All my plans are working! How did I get so good?" The subsequent panels are flashbacks that show Iago's childhood. For instance, the second panel shows a baby crying with the narrative "Screaming, crying in the house all

alone.” The next two panels depict a neglected and hungry Iago being taken in by Child Services. In the second to last panel Iago is seen as a teenager, sitting in a TV room, all alone, thinking “Someday people will be as miserable as me! I don’t deserve this!” In the last panel, Iago, as an adult, again stands with a dagger and thinks “Not too shabby if I do say so myself.”

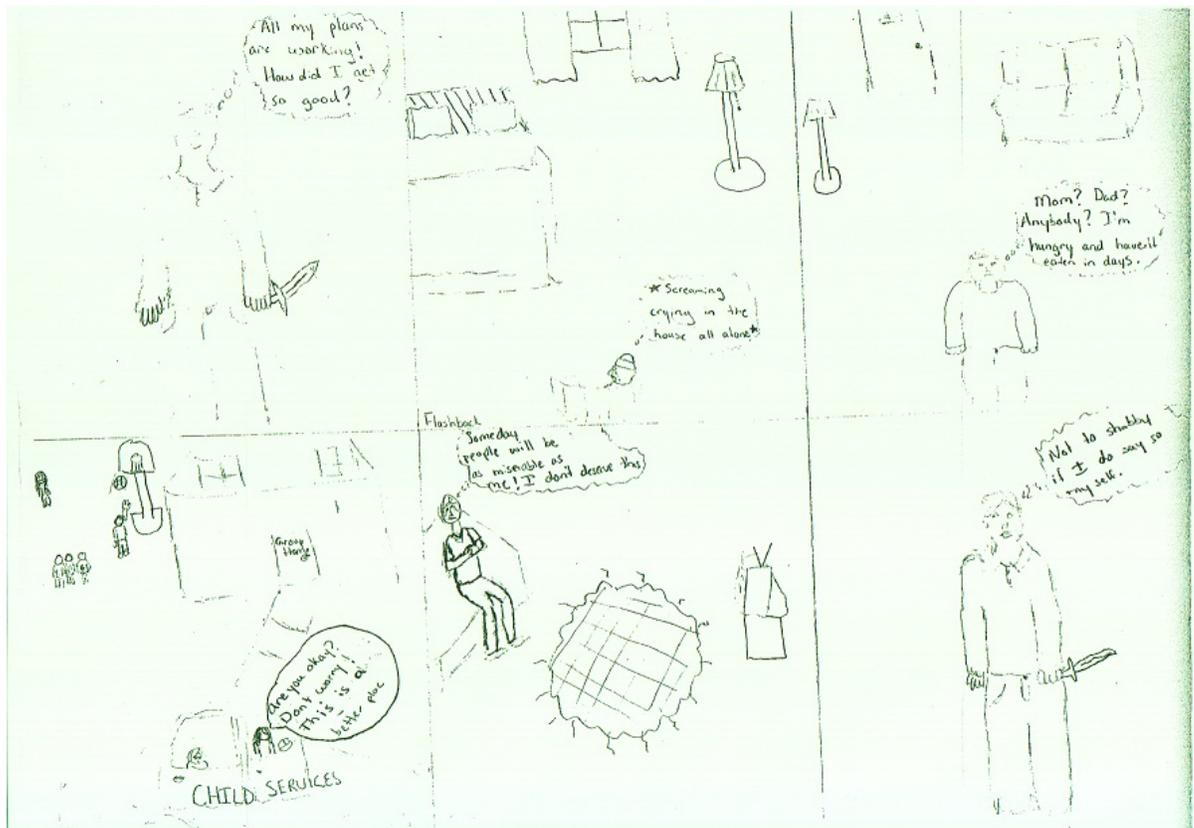


Figure 1. Palmer's Comic depicting Iago's Youth

By creating the comic strip, Palmer was able to provide a scenario in which a character flashed back to his youth. In addition to the narration, there were images to show how the young Iago was abandoned and alone. In several of the panels, Palmer chose to draw Iago in isolation. In the third panel, while the young Iago sits in a car marked Child Services, there is a group of kids playing basketball in the back of the home, yet in the next panel Iago sits alone in a television room crying about being alone. The juxtaposition between these two panels shows that Iago was truly isolated even though he was in a Child Services center with other children.

By constructing a comic about how terrible Iago's youth was, Palmer made an inference through his transmediation from play to comic strip. The inference, that Iago was neglected as a child prompted Palmer to consider complex reasons for the character's motivations that are both grounded in the text and extended beyond what is on the page. He suggests that Iago's lonely childhood has shaped him and influenced him in a negative way. Palmer's project served to help him explore multi-dimensional aspects of Iago's character, rather than presenting him as simplistically evil. He provided depth to the character through an inference made in his transmediation and through his construction of new knowledge (Suhor, 1984).

Palmer's comic strip that infers Iago's childhood as a negative influence on the character's adult life is a prime example of how transmediation can support learning. Siegel's definition of transmediation (1995) states "moving across sign systems is a generative process in which new meanings are produced (p. 461)." By making and supporting an inference through his use of a comic strip, Palmer clearly demonstrated how transmediation can be a valuable tool in learning, especially in terms of making inferences based on evidence from the text.

Another student who used transmediation to make inferences was Zachary. For his second representation of the play *Othello*, Zachary created an artifact using text, material and an image that demonstrated his understanding and thinking about the character Iago. The artifact was an authentic-looking box of medicine, called Polypersonal that stated it "cures even the most ambiguous characters." In his rationale Zachary wrote that Polypersonal means "many persons" and that "the medication is meant to cure someone who acts like many persons or has a swaying or multi-personality problem."

The box was designed to look like a real box of medicine and even included a picture of a man in a long, flowing robe on the front, as if the box was created in a much earlier time period

when this traditional form of dress was common. Transmediation came into play with this artifact when Zachary listed side effects consistent with some of Iago's characteristics. On the box, Zachary typed that the side effects are "nausea, headaches, schizophrenia or thoughts of violence and suicide or conspiracy against companions." While it is evident from the text that Iago was a conspirator against others, Zachary made inferences that this is the case because of schizophrenia, a reason for Iago's behavior that is not overtly apparent in the text.

Zachary further clarified his inference when he posted the following disclaimer on the box: "Pill is for typical use only. If you are experiencing any of the above side effects, stop use, and contact a doctor immediately." Here Zachary is inferring that Iago takes the pill because he is aware of his "many personalities" but that Iago does not care enough to follow the warnings and continues to take the pill though he suffers from the side effects. This inference provides an insight into Zachary's understanding of Iago as a character who not only has an agenda against others, but as a character who is possibly unstable. His inference used evidence from the text, but his interpretation extended beyond and shows insight into his way of thinking about the character.

4.2.2 Student design led to synthesis of literary elements in a single multimodal representation

Because the students had to construct at least two multimodal projects based on the text *Othello*, the students all became designers of original projects, many of which included images that synthesized key themes of the text.

In one of his projects, Simpson successfully captured and illuminated the true nature of the antagonist Iago through a drawing he created. His drawing, titled *The Oblivious Hero*,

features an illustration of Othello standing between two men who appear to be identical (Figure 2). Othello shakes the hand of the man in front of him, while turning back to face the man behind him. The man behind Othello is holding a dagger. In his explanation of the picture Simpson describes the men in front of and behind Othello as Iago; “one that is shading his hand and smiling so that Othello will trust that one and not notice the other Iago behind him that is prepared to stab him in the back.”

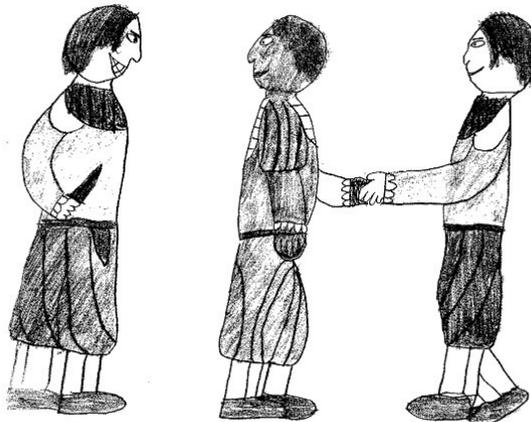


Figure 2. Simpson's *The Oblivious Hero*

Simpson’s image of the 2 Iagos and Othello illustrates synthesis of multiple themes through elements of design. According to the New London Group (2000) forms of meaning are referred to as designs. The picture *The Oblivious Hero* contains two major types of what the New London Group refers to as “available designs,” or elements available to a particular discourse.

The first of these available designs used by Simpson is the visual. By drawing two Iagos, Simpson has made the character’s intentions clear. He literally shows that Iago has two personalities, one smiling and friendly, and one sneering and backstabbing. It becomes very clear, very quickly that Iago is a fake, a double-crosser and hates Othello.

In addition to the visual, Simpson makes use of the gestural mode, another of the available designs. The Iago in front of Othello extends his hand and shakes Othello's, a gesture that generally indicates friendliness or kindness. The Iago behind Othello holds a small dagger in his hand, with the point aimed towards Othello's back. Between the sneer on this Iago's face, and the dagger held as if he were about to stab, Simpson synthesized Othello's stance toward Iago.

Because Simpson used two modes to construct this image, visual and gestural, the project is multimodal. While the title *The Oblivious Hero* would indicate what was occurring in the picture, it was not included on the actual image. Rather it was written on the placard that was accompanied by the image, seen while students did a gallery-walk of the *Othello* representations. By not including the title in his project, Simpson relied on modes that were not linguistic, yet he was able to synthesize several themes through symbolism. Students' reactions on the 3-2-1 Reaction and Response forms showed that they recognized the symbolism by stating comments such as "heavy on symbolism" or that the image "expressed the symbolism well." From this image the students were able to grasp that Iago was a two-faced, evil character.

Another project that was somewhat telling in its synthesis of literary elements was the labeled skeleton created by Lambert. Cleverly titled "Iago's Skeletons in the Closet", Lambert hung a skeleton on the bulletin board and labeled various parts of the skeleton with adjectives that described characteristics of Iago (Image 3). For instance, on the skull Lambert wrote the word "manipulation" and on the chin he wrote the word "jealousy." He also labeled the right shoulder with the word "murder" and the left shoulder with the word "hate."

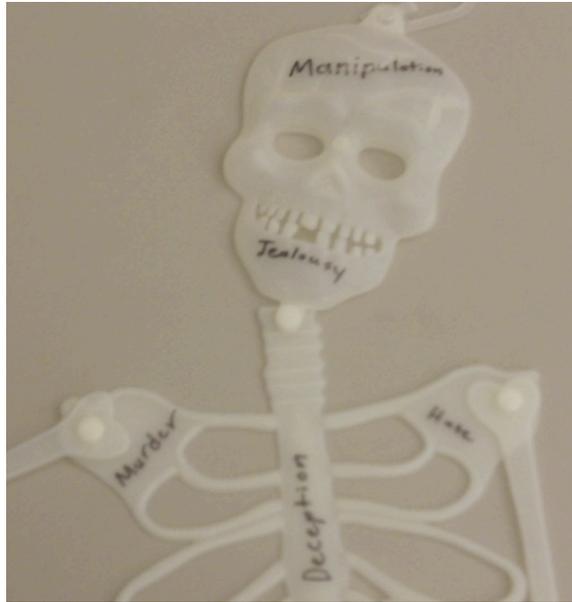


Figure 3. Lambert's Skeleton in the Closet

This project was not as strong as Simpson's because it only described basic characteristics of Iago. While the title is clever, the project does not seem to be much more than a list of adjectives that describe Iago. Using a material to assist in the visualization makes the project multimodal, however. While the project is more limited than Simpson's, it still demonstrates a level of synthesis, as the adjectives used to describe Iago are a synthesis of themes and characterization from the play

While the project does make a strong attempt to synthesize literary elements of the play it would seem that Lambert's multimodal representation could have taken a little more thought and he could have provided more explanation in his rationale for why the words are written on the parts of the skeleton that they are.

The title is actually what makes the project appealing at first sight. By suggesting that Iago has skeletons in his closet, Lambert is showing a minimum level of interpretation, however his explanations do not back up his design as well as they could have. This project is a good

starting off point for interpreting a character and themes, but a little more explanation and detail would make the interpretation richer.

4.2.3 Benefits of the *Othello* projects

The *Othello* projects provided students with opportunities to share their interpretations of the play. Because students created projects that encouraged them to use skills such as making inferences and synthesizing, it is clear that the *Othello* projects required a depth of thinking that went beyond rote memorization. The projects also demonstrated that students were engaged in the literature as they built representations that extended beyond an explanation of the text.

4.3 CREATING GLOGS FOR CHARACTERS IN *CRY, THE BELOVED COUNTRY*

The second multimodal task asked students to read part I of *Cry, the Beloved Country*, and compile a graphic blog, called a glog, for one of the characters in the text. A summary of the text can be found in Chapter three. Students were instructed to add to their character's glog after reading part II and part III of the text. Students were asked to focus on a character and to describe him or her using a variety of digital artifacts in their glogs. Most of the glogs focused on a singular character and used a variety of images combined with text, audio, video or clip art to define character. Below is a detailed discussion of a prominent theme that emerged in the coding of the projects constructed through this assignment.

4.3.1 Students exceeded task expectations

The prominent theme that emerged in the coding of the projects constructed through this assignment was simply that the glog assignment exceeded the teacher's expectations for the task. The glog assignment was created as a means for students to analyze character. The directions stated that each student was to "choose a character and develop a digital collage incorporating images, videos, songs and words to describe a chosen character." In other words students were to create a glog describing a single character. In close analysis, it was evident that students moved beyond the task to not only describe characterization, but they incorporated additional literary elements as they built their glogs.

For instance, while all of Oliver's glogs described the main character, the reverend Stephan Kumalo, in his third glog went beyond this task by summarizing events that occurred in the last portion of the text around this character (Figure 4). One of the most prominent features was a video clip of a rainstorm. In a climactic scene in the text, a rainstorm occurs, providing Kumalo's homeland with much-needed water. Additionally, there is an image of a bottles of milk, which is significant because Arthur Jarvis, the father of the man that Kumalo's son murdered, is forgiving and presents the townspeople with much needed milk. There is also a picture of a wreath, which Oliver stated was important because "Kumalo's people made wreaths for the funeral of Arthur Jarvis' wife."

Rev. Stephen Kumalo



Figure 4. Oliver's glog for Kumalo

While the assignment suggested that students focus on character analysis, Oliver was able to do this through an examination of symbolism. Rather than just posting a set of adjectives and images that describe Stephen Kumalo, Oliver felt that he could best describe the character through symbols in the text. In his rationale Oliver explained how each symbol he posted helped him understand the character of Stephen Kumalo. For instance, he explained the Kumalo “prayed for rain for his tribe” and showed both thanks and remorse towards Jarvis for his good deeds, and for losing his family, respectively.

In creating the character glogs, students’ sense of agency allowed them to move beyond simply describing a character to fully analyzing a character through symbolism and through other key literary elements employed by the author. Oliver’s engagement with the events of the

text permitted him to show that he was using both description and analysis to provide a detailed explanation of the character Stephen Kumalo.

Another glog that demonstrated a deep level of interpretation of character was Keane's third glog. In this, Keane took the opportunity to address more than one character. In his glog, Keane used images, symbols, songs and a bit of text to detail the key events of the story, much like Oliver, however in doing so, he not only described Absalom, but he described Kumalo as well.

For example, one of the prominent images in the glog is a piece of clip art in which a magnifying glass is overlooking a large city to suggest that it's very difficult to find a person in that location. At first this image suggests that Kumalo has trouble finding Absalom in such a large city, as is depicted in the text. However, in his presentation of the glog Keane pointed out that in addition to Kumalo's search for his son, the image also "makes explicit the fact that Johannesburg is full of mystery, even for Absalom who has gone to live there."

By presenting information about two characters, Kumalo and Absalom, Keane has exceeded the expectation of the task, which was to focus on a singular character. While the rest of the glog does focus on Absalom, the fact that Keane took some time to address the impact Absalom's life had on his father showed that he was thinking deeply about the character and how his choices affected others.

4.4 THEMES THAT EMERGED ACROSS BOTH TEXTS

The final two themes that emerged from open coding were found throughout multimodal projects created for both *Othello* and *Cry, the Beloved Country*.

4.4.1 Students acknowledged changing notions of literacy through use of digital tools

According to Leu and Kinzer (2000), literacy must be shaped by “our ability to adapt to the changing technologies of information and communication.” This means that new modalities and technologies constantly affect how we send and receive information. In their multimodal responses to *Othello* and *Cry, the Beloved Country*, students demonstrated competency with new literacies by constructing projects that utilized digital tools. Keane’s second multimodal response to the play *Othello*, provides a useful example of how students drew upon new literacies in interpreting a traditional text.

Keane chose to use Twitter, a popular social networking tool to focus on the character of Iago in the play *Othello*. Twitter allows users to develop an online profile and post status updates called “tweets” of up to 140 characters. Keane titled his Twitter page “Iago_of_Venice” and posted 11 tweets that recounted major events from the play, told from the perspective of Iago (Image 5).

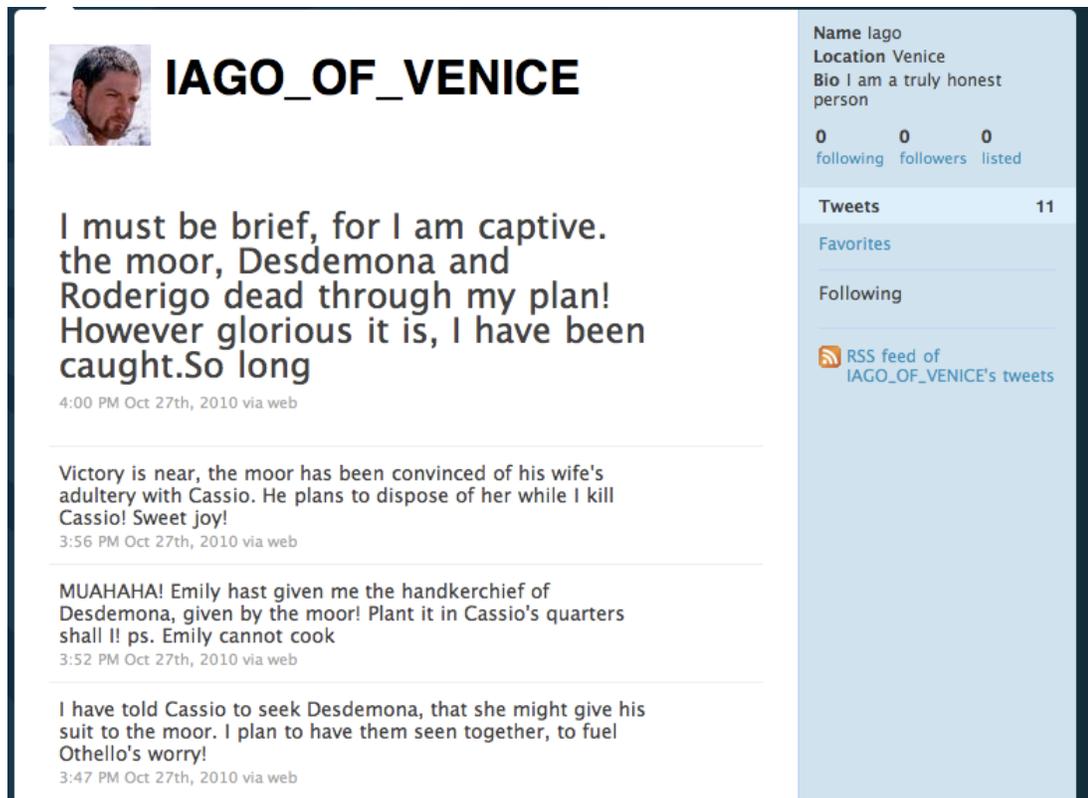


Figure 5. Keane's Twitter page for Iago

Twitter provided a platform where Keane could write like Iago, and Iago could write like a contemporary person, which enabled Keane access to the character's thoughts and motives. While this could have been done in a unimodal format, like a journal, Keane was able to create a brief bio and upload a picture so that his character was more present than he might be in a written journal. Also present in the bio is the quote "I am a truly honest person." Iago is clearly not an honest person and as Keane points out in his rationale, this quote "reinforces the theme of deception in *Othello*."

Twitter also allowed Keane to "write like" a character, an activity that is often valued in ELA classrooms, however he had to follow the rules of the new form of literacy. Because he was limited to 140 characters, and only able to post one tweet at a time, Keane had to best think of ways in which he could sum up Iago's thoughts. Because twitter posts the most recent events

at the top of the page, and because there is not the ability to edit or move posts around, Keane had to do some thinking before he posted his tweets. In order for him to post 11 tweets from the perspective of Iago, Keane clearly had to create a rough draft or an outline so that he could successfully post Iago's thoughts in the order in which they occurred in the text. By using twitter, it becomes evident that Keane engaged in some pre-writing strategies before composing his final multimodal project.

In using Twitter, Keane also showed that he has value in a form of communication that 21st century students are accustomed to using outside of the classroom. Students' increased use of these technologies in their daily lives has pushed ELA teachers to incorporate new technologies into classroom instruction and to recognize how such technologies change communication. No longer is print the dominant mode for sending and receiving messages. Moreover, the form of the message is now as representative as the message itself (Jewitt, 2008). Ever-changing technologies are requiring us to reconsider what it means to be literate in the 21st century. Though his project, Keane modeled how students can use these new literacies in an educational setting in ways that enhance their engagement with and interpretation of literary texts.

Students also demonstrated their proficiency and engagement with new literacies through their character glogs on *Cry, the Beloved Country*. Students used the glogs to intermix images and text, and spent a great deal of time searching for, analyzing and incorporating images, videos and even songs to demonstrate their understanding of a character in the text. Below is an example of how a student used new literacy tools to convey literary meaning in the glog task.

Eddie's final glog titled "Reverend Stephan Kumalo- The Man, The Myth, The Legend" served as a chronological summary of all events that happened to Kumalo in the text. Eddie's

glog stands out as one that affectively relied not on text, but instead multiple images, clip art and links to songs to describe the character and events that shaped his being.

When a student incorporates a song into glogster, it is represented as a pink circle with a white triangle inside it that indicates the title of the song that begins to play when clicked on. In his glog on Kumalo, Eddie included 14 songs to help define the multidimensional character of Othello. He explained in his presentation that thinking in terms of songs “helped [him] think about the character.”

At the top of the page there is a picture of the character Kumalo taken from the film *Cry, the Beloved Country*. Next to that is an icon, that when clicked on, plays the song *Three Little Birds* by Bob Marley. In his presentation, Eddie first pointed out this song to share that “everything is gonna be all right.” This is a direct quote from the song, and it is also what Eddie believes Kumalo believes. By incorporating this song, and specifically this quote, Eddie used a new literacy tool to shape his understanding of Kumalo and to show that he understood Kumalo as a character who knows he will overcome any adversity.

Toward the bottom of his glog, Eddie has clip art of an adult farmer surrounded by children. On top of this image is an icon that when clicked on plays the song *Teach Your Children* by Crosby, Stills and Nash. Combined, the image and song powerfully symbolize a key moment near the end of the text when the character Jarvis, father of the man that Kumalo’s son killed, comes to Kumalo’s poor village to teach about how the people can harvest the land. Once again, Eddie uses the digital tool of song, combined with clip art to show that he understands the importance of the event and how it relates to Kumalo. Not only will the farming affect Kumalo, but it is meant to teach the next generation how to provide upkeep to the land so that the village can prosper.

In both of these examples, Eddie used imagery that he found on the Internet and combined them with songs to further explicate key moments from the text. In both instances he did not include any text and relied only on these two tools of digital literacy. This instance demonstrates how Eddie was successful in creating meaning by moving beyond the unimodal tool of writing to create meaning. It also provides insight into his engagement with the text because he had to make multiple connections between textual elements, such as character and events, and popular songs. Eddie's engagement with popular culture and imagery led to his deeper interpretation of the character Stephen Kumalo.

4.4.2 Students addressed multiple literary elements

Another theme that emerged in the study was that students drew upon multiple literary elements in a single multimodal project. Considering that students created six projects in the unit, this reveals that students were addressing multiple literary elements to shape and share their interpretation of the texts.

One example of a multimodal project that incorporated analysis of multiple literary elements was Saul's project on *Othello*. In this project Saul decided to show the contents of Iago's trash (Image 7). In his rationale he states "what better way than going through all his personal items he does not want anyone to see?"

One of the most unique items found in Iago's trash is a decapitated African doll, most likely a football player. While the doll is actually an action figure of an NFL player, Saul took the time to write "Othello" on the back of the jersey where the player's name had previously been. This shows Saul's understanding that Iago clearly wants Othello dead. By placing the doll and its head in the trash, Saul is demonstrating his understanding of Iago's truly evil nature. In

his rationale, Saul states that this artifact is in the trash because Iago “plays with Othello like a doll” and that Saul understands Iago’s stance towards Othello—that he manipulates him and treats him as a pawn. This artifact demonstrates a deeper understanding of Iago’s character because it shows him not only as hateful towards Othello, but manipulative as well.

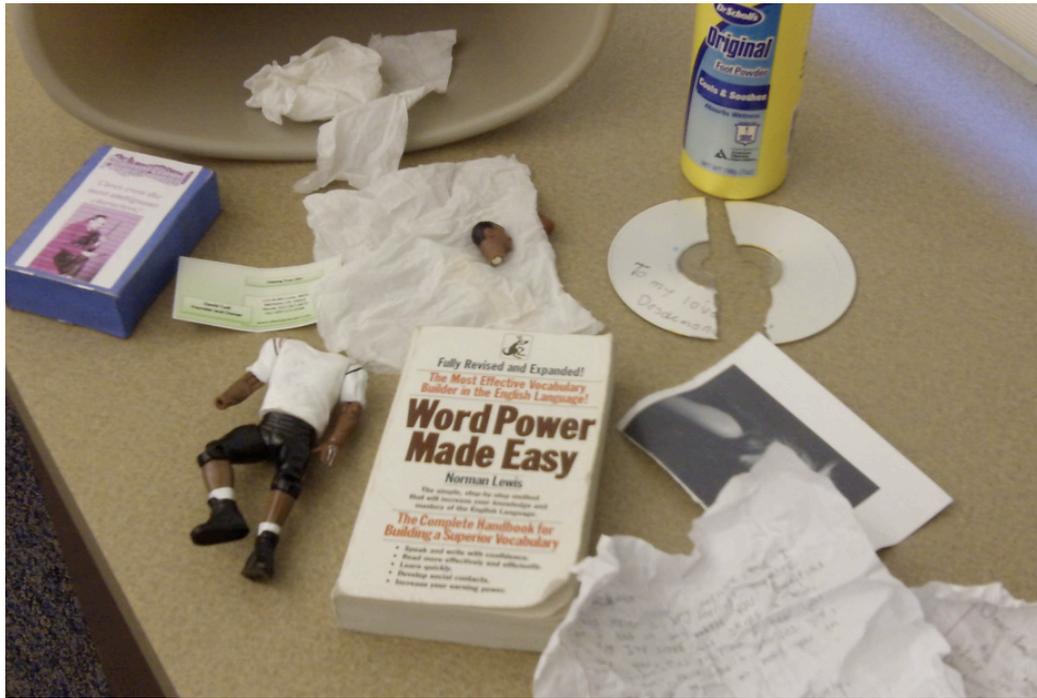


Figure 6. Saul's representation of Iago's trash

In addition to character, Saul’s project demonstrates his understanding of power, one of the themes in the play *Othello*. One of the other artifacts in the trash is a copy of Norman Lewis’ *Word Power Made Easy*. Saul described this as a book Iago would value, but one that he wouldn’t want anyone to know he owned. He describes the book as “important to Iago for gaining control.” In the play, Iago’s hatred towards Othello begins when Othello is promoted and Iago is not. This artifact not only symbolizes the theme of power that Iago wants, but it also alludes to a key event in the plot. Through this artifact, Saul was able to show his interpretation of a key moment in the play and one of the themes.

Another student who produced a singular multimodal representation that included interpretation of multiple literary elements was Lambert. Lambert's creation of *The Venice Times'* front page allowed him to attend to multiple elements of literature at once. He authored a news article that took place once the play ended and described the "horrific scene" where the bodies of Roderigo, Desdemona, Emilia and Roderigo were found. By writing about events that occurred, he summarized parts of the plot. Here is one of his excerpts from the article:

"Heartbroken and infuriated, Othello murdered his wife, making her pay for her supposed infidelity. He did this by way of suffocation, smothering her with a pillow."

Lambert's eyewitness account not only addresses a part of the plot, but his quote from an interview with a minor character also allowed for his exploration into a character's point-of-view. He writes:

"Police spoke to a man known as Lodovico, who described the grizzly scene from a first-hand perspective. 'There is blood everywhere! Blood has unnecessarily been shed today. This is all Iago's fault! His jealousy and greed led to the death of all!'"

Because he quoted Lodovico, Lambert was able to incorporate a minor character's point-of-view. He did not take a direct quote from the play, rather he projected what the character might have said, which shows how he has an understanding of that character's place in the text.

Lambert was also able to provide a sense of the setting by including a picture of the crime scene on the front page. Bodies are strewn about near an open gate. He also includes an image of the dagger and Iago's mug shot. By creating a news story with images, and writing as a reporter would, Lambert was able to demonstrate his understanding of the text by addressing multiple literary elements.

The multimodal projects created in response to assignments for both texts reveal that students were deeply engaged in the literature as they described multiple literary elements of their choice. Because students were able to choose elements of the text that they found compelling, they were then able to interpret more than one component of the text as described above.

4.5 SUMMARY

Open coding and memo taking enabled me to sort through the data and discover emerging themes in students' work. Analysis of this data demonstrates that these multimodal projects provided students with opportunities for high levels of engagement with the literature, as well as opportunities to interpret literature and construct new knowledge. While chapter four provided evidence of engagement and interpretive thinking, chapter five further investigates the cognitive capabilities that multimodality provided to students based on the projects they created in response to *Othello* and *Cry, the Beloved Country*.

5.0 FINDINGS FROM FOCUSED CODING

In addition to examining how students engage with and interpret literature via multimodal tasks, a second purpose of the study was to see what cognitive skills were elicited when students created multimodal representations. Cognition in response to multimodal instruction is a field that has not yet been explored and I wanted to show that there is cognitive value in multimodal instruction.

This chapter will address findings relative to the second research question: What are the cognitive affordances of students' participation in multimodal tasks?

5.1 FOCUSED CODING

After open coding was completed, the data were analyzed through Marzano et al.'s (1988) framework for curriculum and instruction. In their landmark text *Dimensions of Thinking: A Framework for Curriculum and Instruction* the authors provide five dimensions of thinking; Metacognition, Critical and Creative Thinking, Thinking Processes, Core Thinking Skills, and the relationship of Content-Area Knowledge to Thinking. These dimensions address growth of thinking and are not represented hierarchically, but rather are often performed concurrently.

The fourth dimension, Core Thinking Skills, was utilized as a framework for this chapter. Multimodal work has traditionally been forwarded by teachers and scholars because it is thought to engage students and it incorporates new literacies (Bailey, 2009; Doering, et al, 2007; Whitin, 2005). However, the cognitive affordances that this type of work elicits, has not been researched. The core thinking skills discussed by Marzano et al., (1988) provide a rich view of cognition because they include an extensive amount of and variety of higher order thinking skills (Brophy, J., 1991; Earl, M.L., 2003). By analyzing the core thinking skills students used in multimodal constructions, I was able to investigate the cognitive benefit of multimodal learning—a topic for which there is no empirical research.

Marzano et al. (1988) list eight categories of core thinking skills that are essential to student learning. Each of the eight categories is further sub-divided into specific skills that contribute to student learning for a total of twenty-one core thinking skills. This framework was chosen to analyze multimodal work because these twenty-one skills represent the “repertoire of skills and strategies that characterize skilled thinkers (113).” This framework enabled me to answer my second research question: What are the cognitive affordances of students’ participation in multimodal tasks?

All data was coded via these twenty-one core-thinking skills. (See Chapter 3 for a detailed description of this coding). Beginning with the students’ multimodal projects and rationales, I began to code data by looking for evidence for each of the twenty-one core thinking skills in the student work. All but 2 of the twenty-one core thinking skills were addressed by at least one student in the multimodal constructions. The core thinking skills that were never addressed through the multimodal projects were identifying errors, and verifying. In other words, nineteen of the twenty-one core thinking skills were addressed at least once in the total number

of projects and many were utilized multiple times. Table 5 provides a more detailed look at each core thinking skills and provides an example of a student project in which the skill was utilized.

Table 5. Examples and Frequency of Core Thinking Skills used across projects

| Code Label | Code | Definition | Student Example from Data | Frequency used across projects |
|-------------------------------------|-------------|--|---|---------------------------------------|
| Focusing Skills | FOC | “Attend to selected pieces of information and ignore others” | | |
| Defining Problems | FOC-PRB | Asking and answering questions about information that is puzzling or unclear | <i>Othello</i> : A student-written version of the play that takes place in contemporary times | 34 |
| Setting Goals | FOC-GOA | Deciding upon direction, purpose and outcomes | <i>Cry</i> : A glog that focuses on Kumalo as a strong religious figure, even though he is in the midst of a tragic situation | 6 |
| Information Gathering Skills | INF | “Bring to consciousness the substance or content to be used for cognitive processing” | | |
| Observing | INF-OBS | Taking in information via single or multiple senses and “focusing perception on some phenomenon or object” | <i>Cry</i> : A glog that focuses on Kumalo’s religious background | 42 |
| Formulating Questions | INF-QST | Actively applying inquiry to learn more about a concept | <i>Othello</i> : physical garbage that would be found outside Iago’s home | 16 |
| Remembering Skills | REM | Retaining information for future use | | |
| Encoding | REM-ENC | “linking bits of information to each other for storage in long-term memory” | <i>Othello</i> : A skeleton labeled to represent the despicable characteristics of Iago | 14 |
| Recalling | REM-REC | Planned or unplanned retrieval of information | <i>Cry</i> : A glog that incorporates multiple | 24 |

| | | | | |
|--|------------|--|---|----|
| | | from long-term memory | contemporary songs to define the character | |
| Organizing Skills | ORG | “arrange information so it can be understood or presented more effectively” | | |
| Comparing | ORG-COM | “identifying similarities and differences between or among entities” | <i>Othello</i> : A rap soundtrack produced for the play <i>Othello</i> | 64 |
| Classifying | ORG-CLS | “grouping items into categories on the basis of their attributes” | <i>Othello</i> : A police report on the character Iago | 30 |
| Ordering | ORG-ORD | Providing a logical, sequential organization of elements | <i>Cry</i> : A glog that re-tells the story of particular chapters | 22 |
| Representing | ORG-REP | Putting content in a new form to emphasize relationship of elements; to show linkages | <i>Othello</i> : A collage of the trash found outside Iago’s home | 94 |
| Analyzing Skills | ALZ | Examining parts and relationships of elements | | |
| Identifying Attributes and Components | ALZ-CMP | Identifying the components that make up an element | <i>Cry</i> : A glog that demonstrates through images and texts how Kumalo is multi-faceted and multi-dimensional | 68 |
| Identifying Relationships and Patterns | ALZ-PAT | Identifying the relationships or patterns between components of an element or concept | <i>Cry</i> : A glog that describes the self-destruction of the main character’s sister, Gertrude and traces her bad decisions | 40 |
| Identifying Main Ideas | ALZ-MID | Understanding “the set of superordinate ideas around which a message is organized plus any key details” | <i>Othello</i> : Constructing a Twitter page for Iago | 49 |
| Identifying Errors | ALZ-ERR | “detecting mistakes in logic, calculations, procedures, and knowledge, and where possible, identifying their causes and making corrections or changes in thinking” | This skill was not addressed in the construction of the multimodal representations | 0 |
| Generating Skills | GEN | “using prior knowledge to add information beyond what is given” | | |

| | | | | |
|---------------------------|------------|---|--|----|
| Inferring | GEN-INF | Using available information to assume what might be true | <i>Othello</i> : A comic that describes Iago's youth as an abandoned, lonely orphan | 38 |
| Predicting | GEN-PRE | "anticipating the outcomes of a situation" | <i>Othello</i> : A glog that symbolizes Gertrude as a burning bridge | 9 |
| Elaborating | GEN-ELB | Adding information from prior knowledge to extend understanding | <i>Othello</i> : A newspaper titled <i>The Venice Times</i> that includes images and a story about the murders/death that took place at the end of the tragedy | 25 |
| Integrating Skills | INT | Putting relevant information together | | |
| Summarizing | INT-SUM | Selecting, combining and condensing information to a succinct format | <i>Cry</i> : A glog that contains images that summarizes the plot of the text | 79 |
| Restructuring | INT-RST | "changing existing knowledge structures to incorporate new information" | <i>Cry</i> : A glog on a minor character that describes the person and the setting within which she dwells | 42 |
| Evaluating Skills | EVL | "assessing the reasonableness and quality of ideas" | | |
| Establishing Criteria | EVL-CRT | Setting standards to determine value | <i>Cry</i> : Stating that a glog will be about a minor character | 3 |
| Verifying | ELV-VER | Confirming validity or truth of a statement | | 0 |

5.2 UTILIZATION OF CORE THINKING SKILLS

The sections below hi-light the four skills used most frequently in the students' multimodal representations. Not only are these the top four skills utilized by students, but there was a natural drop-off in frequency of usage between these and the other 16 skills that were used. Seeing

which skills are used most often is quite telling about the value of multimodal tasks because it provides insight into how students think about the task at hand. While all 19 of the skills addressed in the projects highlight cognitive abilities, it would just not be feasible to describe all 19 in a study of this size, hence the four most frequently used were chosen. Table 5 above provides a look at all the core thinking skills and their usage.

Overall, all projects in the study required the students to represent their interpretation of the literature by presenting it in a new format. Most of the projects were multimodal and included the mode of language in addition to other modes. Aside from linguistics, the visual mode was frequently used in student work, whether the students drew pictures, added images to their work or designed or assigned symbols. All projects created for *Cry, the Beloved Country* required the students to use the visual mode since they asked students to create glogs, however, students also used other modes such as sound, gesture and hypertext. While projects created for *Othello* used these same modes, the visual mode was used a bit less often as it was not a required mode for the response to the text as students could choose from any mode(s) they preferred.

In constructing new projects, students were automatically using more than one core thinking skill at a time. For instance, in order to build a representation based on the text, the students must observe and recall. According to Marzano et al. (1988), observing is an information-gathering skill that requires the student to focus on an aspect of content. Students had to observe the text in order to decide how to create representations. Another skill that was highly utilized was recall, which is a remembering skill that activates students' prior knowledge. Recall was utilized as students made their representations, suggesting that information from the text was already stored in their long-term memory.

While many of these core-thinking skills work in conjunction with each other, the purpose of this chapter is to show how the multimodality of the tasks fostered the use of these cognitive skills, which allowed students to construct high level interpretations. While most of the core thinking skills were utilized in some capacity, this chapter provides a detailed in-depth look at exemplars of the four core thinking skills that were most frequently used in multimodal representations.

5.2.1 Representing

Because the assignments instructed students to compose multimodal representations based on both texts, all projects used the core thinking skill of representing. When a student represents, he or she presents the original content in a new format while displaying key elements of the content. The most common types of representation include “visual, verbal and symbolic” (Marzano et al., p.85), though the student work collected projects extend beyond these modes.

Because multimodality requires that students use transmediation, it is not a surprise that the core thinking skill utilized the most in this study is representation, and that it is not limited to a particular text.

There is great value in representation, as it allows an individual to generate new thinking about a concept, or in this case, a text. A common form of representation in schooling is the use of graphic organizers. According to Marzano et al., (1988) graphic organizers elicit new meaning in three ways (p.86):

- 1.) They permit, and often encourage, non-linear thinking

- 2.) They can be used to synthesize complex information from diverse sources efficiently, helping students to identify patterns and relationships that are otherwise difficult to apprehend.
- 3.) They help the user to generate information about the structure and relationships among parts that may not have been clear in the original, non-graphic information.

While the students did not use graphic organizers in their projects many of them did construct representations that like graphic organizers relied on the visual mode, and that engaged them in one or more of the activities listed above.

An exemplar of representation is Frank's project titled "Iago's Trash Findings" where he presented pictures of items Iago may have discarded. Above each of these items was a brief description of the item. While there were only six items in the trash, each one was described in a rationale as an integral part of Iago's identity.

One of the first items in Frank's collage was a bottle of Grey Goose Vodka. In his rationale Frank stated the reason for the bottle is because it is "based on Iago's hate for others...it would make sense for him to be an alcoholic." This rationale sheds light on Frank's interpretation of Iago because it reveals that Frank sees Iago as suffering for his hate. This student suggests that Iago's hate is so strong that it drives him to self-loathing and alcoholism. This interpretation shows depth in its consideration of emotions that drive Iago's actions.

Another item in Iago's trash collage is a picture of the box for Grand Theft Auto, a violent video game, the purpose of which is to steal a car and rise as a hero in the world of street-racing and crime. Frank again uses the phrase "it makes sense" in his analysis of why Iago would play this game. He is suggesting not only that Iago has a tendency toward all things violent, but that perhaps he likes the role of rising as a leader or a hero in a criminal manner. It's

possible that Frank thinks that Iago identifies with the theme of the game and that it's something that he models his life after.

A third item that Frank presents in Iago's trash collage is a drawing, constructed by Iago, of four dead stick figures in a bloodshed room. Each of the figures is lying down, and though the image is in black and white, there are splatters on the wall and floor around the horizontal stick figures, so one can assume that they have been massacred. Frank states in his rationale "it would not be surprising that [Iago] would want to express his violent feelings through art." Again, violence plays a key role in Iago's identity and his motives according to Frank. The fact that this item is in the trash reveals Frank imagines that Iago might use art as an outlet for his feelings, and that he would not want anyone to see his drawing.

Through constructing a representation of Iago through these three multimodal artifacts Frank has shown a unique interpretation of the character. He uses imagery and brief explanations to delve deeper into the character of Iago and construct a logical yet unique interpretation of the character that extends beyond the description of Iago in the text. His interpretation also considers Iago's intentions and motivations.

Frank's collage of Iago's trash also enabled him to construct a multidimensional perspective of Iago by using non-linear thinking, as the items were not listed in any specific order, say, as mentioned in the text. In fact, many of these items described by Frank were not even a part of the text, which showed that Frank was thinking interpretively and intertextually about how these items might relate to the character.

By connecting the text to a current video game, Frank made intertextual connections, suggesting that he could infer how the game was representative of Iago's personality. Frank was

successful in creating a representation that showed he had investment in and understanding of the character Iago in the text *Othello*.

A second prime example in which a student used representation was Simpson's drawing *The Oblivious Hero*. This example was illustrated in chapter four as a model of succinctness, however, it is also an example of how a student used the cognitive skill of representation. As previously described, the picture depicts two Iagos, one in front of Othello, offering to shake his hand, and one behind Othello, about to stab him in the back.

This drawing uses visual and gestural modes to demonstrate Iago's true nature, that he is a deceptive and untrue character who hates and deceives Othello. By constructing a representation of Iago as literally two-sided, Simpson is able to explore Iago's character as multi-faceted and complex. Clearly there are not two Iagos in the play, however Towers chose to draw a "good" Iago and a "bad" Iago as a means for showing that Iago takes on these two personas in the play. Though the play *Othello* is filled with multiple events, characters and themes, Simpson was successful in representing one of the most important themes of the play- deception, through a multimodal representation. This representation demonstrates that Simpson understood not only that Iago was an evil character, but that his actions were central to the theme of the play.

In addition to the types of meaning described above, representation is a skill that is highly utilized in mathematics and in problem solving (Marzano et al., 1988). By using this skill, students show that they are able to go beyond surface level interpretations of the text, and generate new thinking about the text, a skill that is very valuable. When students represent, they move beyond description or repeating of information from the text to developing a unique interpretation of meaning making. Because all projects required the students to use this core-thinking skill, the value for representation is deemed important in learning because it requires

students to utilize multiple core thinking skills, that is a variety of higher-order thinking skills to construct meaning.

5.2.2 Summarization

Both multimodal projects engaged students in the core thinking skill of summarization, a valuable learning strategy (Marzano et al., 1988). In this section I discuss two exemplars.

For one of his multimodal projects based on *Othello*, Oliver chose to create an artifact that summarized key events from the text. For this, Oliver adopted a first-person perspective of the character Iago and created a scroll titled “My Plan.” The scroll appeared warped, with burned edges to suggest it was an ancient artifact, produced in the 17th Century, when the play takes place. The text was also written in calligraphy. Because of his investment in the project’s authenticity, Oliver was careful in selecting key events in the play, and wrote them as if he were Iago concocting a plan. Below are the excerpts from Persinski’s scroll:

- Recruit Roderigo as an ally against Othello
- Find a way to get Othello to dismiss Cassio from his service to be with Desdemona more
- Put lies of Desdemona committing adultery with Cassio into Othello’s head
- Get my hands on that handkerchief so I can place it in Cassio’s room
- Tell Othello to look at Cassio’s facial expressions while I talk to him about Bianca, but tell him about Desdemona.
- Tell Rodrigo to stab Cassio to cause Othello to kill Desdemona

In his multimodal project Oliver summarized multiple key events in the play from the perspective of Iago. In doing so, he accessed the higher level processing skill of summarization (Kragler, 2005) to decide what elements of the play were important. To do this, Oliver had to

consider not only what was most important in the text related to the event and the characters, but he also had to determine what he could leave out from the text. Oliver did this by following the lead of Anderson and Hidi (1988/1989) who state that “students have to analyze information at a deep level in order to decide what information to delete, what to substitute, and what to keep when they are asked to give a summary.”

While much of Oliver’s scroll is in linguistic form, he also used other modes to construct the project. According to Albers (2006) the materiality, or materials used in construction of a project, have meaning. Because his artifact was authentic looking with the faded paper, burned edges and calligraphy, Oliver’s use of material demonstrated his desire to produce an artifact that might have actually belonged to a person in the 17th Century. Because of the authenticity of the scroll it is very possible that Oliver’s mode influenced his desire to summarize. Oliver’s scroll enabled him to use multimodal learning to summarize key events from the text.

Like Oliver, Rick constructed a multimodal project that enabled him to summarize key events from the text. For his third character glog titled “Kumalo,” Rick constructed a digital collage that chronicled main events in the story *Cry, the Beloved Country* (Figure 7). The images begin with an African man standing next to a church in a barren land. This represents the beginning of the story as Kumalo is introduced as a priest in a poor community. Subsequent images show a train, a large city and a picture of a person in a ski mask holding a gun. Very quickly, Rick is able to take the viewer chapters ahead to share that Kumalo went on a journey to Johannesburg, a city with a lot of crime, a city that he feared.



Figure 7. Rick's glog on Kumalo

Rick was very explicit in his summarization and was able to cover multiple events from several chapters with just four images. Like Oliver he is made careful choices to consider what to leave in and what to delete from the story, and like Oliver he used analysis to summarize the text (Anderson & Hidi, 1988/1989). In other words, he chose key images to symbolize what was happening and left out unimportant or trivial events in his representation.

Because he used multiple images to summarize key events of the story, Rick engaged in a powerful thinking process. Nye et. al., (1984) suggest that using both linguistic and non-linguistic notes aid in the learning process. However, Rick moved beyond taking notes by presenting a final project. Therefore he has demonstrated that his visuals have shaped his thinking. Because we don't know if Rick had a rough draft or a written list of images, we can't assume *how* he thought as he created the glog. What we can assume is that the visuals he chose helped support his thinking about the text and shaped how he chose to summarize the story.

Both Oliver and Rick summarized texts by leaving in pertinent information and by leaving out trivial or redundant information. While Oliver summarized using mostly linguistics, his project was multimodal in that it represented an authentic scroll of the time period in which *Othello* took place. More interestingly, Rick's summarization relied on images that engaged the viewer in critical-thinking, as he or she had to decipher each image to determine how it related to the character and to the text.

In summarizing, the students had to use multiple strategies and make judgments (Brown & Day, 1983) to consider how to relay the information in a succinct and multimodal manner. In his case, Oliver had to consider which were the most relevant events caused by Iago, then paraphrase and even write about these events in a future tense. Rick also had to consider which events were most relevant, but he had to make judgments about how to represent these through imagery. In both of these cases the students had to not only choose information to summarize, but they had to consider appropriate signs, symbols and structures that would lend itself to the summarization.

In these two cases, the students were involved in re-telling the story, a skill that Morrow (1985) finds valuable to comprehension. Through the rhetorical choices these students made in their projects, they moved beyond retelling the information to thinking multimodally, which enhanced their interpretation of the texts. Summarizing, therefore, led to the use of multiple cognitive and multimodal skills, and aided in students' interpretation of the literature.

5.2.3 Identifying components

Identifying the components or parts of a whole is another core thinking skill that students utilized in their construction of the multimodal projects. Breaking something down in order to identify

individual components that make that whole requires students to use analysis to determine patterns and relationships among components (Marzano et al., 1988). Breaking something down to analyze parts or components is a means of making sense of that phenomenon. This close analysis of parts is key to interpreting literature because students must closely analyze what he or she considers important. According to Marzano et al. (1988) relationships may be causal, hierarchical, temporal, spatial, correlational or metaphorical, each requiring a different set of skills for analysis.

In the exemplars below, the students used this skill to break down the texts and to analyze the literature. Whether they were exploring the text as a whole, or closely examining a theme or character, students used analysis to break down the larger concept and to identify its components. In other words, the multimodal projects required the students to break down the literature and encouraged them to look at components, identify patterns or look for themes, each of which helped them with their interpretation.

Brian's glog on Kumalo in *Cry, the Beloved Country*, allowed him to deconstruct the main character and understand how he had conflicting emotions due to the events of the text. This allowed Brian to use imagery to recognize and define the complexity of the main character.

In this glog, Brian described characteristics of Kumalo, the main character in the text *Cry, the Beloved Country*. He did this by posting several powerful images, on top of which he listed qualities that Kumalo possessed (Figure 8). The first image is an extreme close-up of person with closed eyes, with his or her hand covering the side of the face. To the bottom-right of this image the word "ashamed" has been posted. Because this is a close-up, Brian wants the viewer to intimately see how Kumalo has shame because his son killed Arthur Jarvis, a white-

man in Johannesburg. The closeness enables the viewer to see that the person in the image looks deeply saddened and ashamed, and that is it a very large part of who Kumalo is.

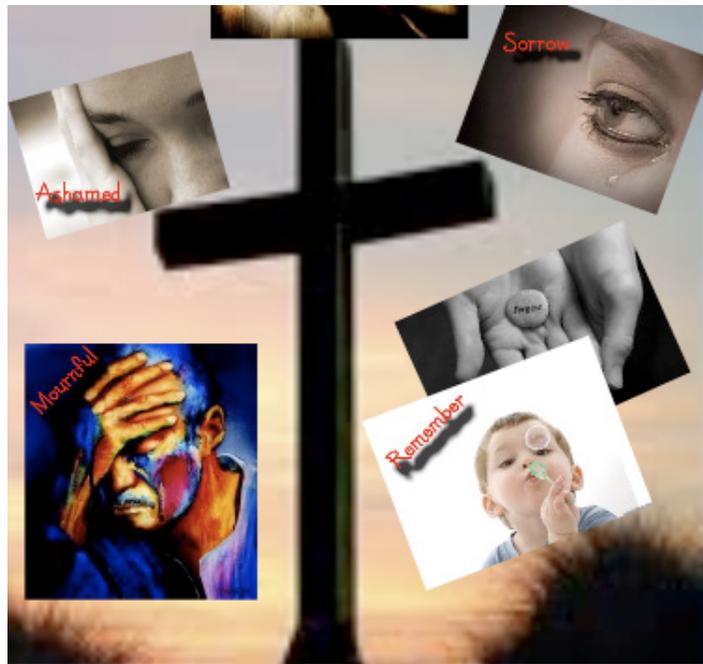


Figure 8. Brian's glog on Kumalo

Across from the image labeled “ashamed” is an extreme close-up of a tearful eye, labeled “sorrow.” According to Brian, this is another feeling that Kumalo has and he has once again chosen to use an extreme close-up of a face to strongly and intimately express Kumalo’s feelings.

While these two posts are rich examples of types of feelings that Brian suggested forms Kumalo’s identity, there is one more feeling that he posts that is not related to devastation. In the bottom-right side of the glog, there is an image of a young boy pleasantly blowing bubbles. At the top-left of this image, Brian has posted the term “remember,” suggesting a more innocent time when Kumalo’s son was young and innocent, and perhaps expressing hope for today’s children. It is evident that while most of the feelings that Brian thinks define Kumalo are negative, there is also some hope for Kumalo moving past this tragedy. By breaking down the

character and showing contrasting emotions, Brian demonstrated his understanding of the complexity of Kumalo's identity, linking these elements of the character together to interpret Kumalo's motivation. While Brian does see a pattern, he posts the contrasting term "remember," through synthesizing multiple components, even contrasting ones, he creates a multidimensional view of Kumalo. These intimate and personable images aid in Brian's suggestion that Kumalo is made up of many conflicting emotions. The use of imagery and the affordances of the language of photography enable Brian to make clear his understanding of the character Kumalo as both affected by tragedy as well as hopeful for a brighter future.

Brian's glog on Kumalo showed how he broke down a character and explored and analyzed his many characteristics. In this case he showed how contrasting themes could show the complexity of a character. Identifying components of a larger part enabled him to closely analyze the character.

5.2.4 Comparing

Another core thinking skill that students heavily utilized in the study was the skill of comparing. While comparing two or more phenomena may seem like an unsophisticated skill, Marzano et al. (1988) consider it a higher-order thinking skill, because it requires students to use multiple cognitive operations such as precision, discrimination and judgment of similarities and differences (Marzano et al., 1988). When comparing, students must move beyond surface-level interpretations to look more deeply at the text and make decisions about what is not only similar, but what is different. Comparison is complementary to analyzing components or parts of a concept because the student often must deconstruct something to get a complete look at it before

he or she makes a comparison or a contrast. It's no wonder then, that this skill was also highly used.

Students not only made comparisons within the text, they also made comparisons between characters and events in the text with their own experiences, images they found on the web, and most notably popular culture. While many of the projects enabled students to compare elements of the texts to current films or television programs, the most popular comparison was between elements of the texts and music. Below I'll discuss two exemplar projects on *Othello*; in both cases students compared characters and events in the play with current music as they developed soundtracks for the play and playlists for the characters.

Keane created a soundtrack for the play *Othello*, in which he burned music to a CD and provided an accompanying placard that briefly explained why each song was appropriate for the play. These modern-day music choices were further explained in his rationale.

Keane's first choice was the song *Jessie's Girl* sung by Rick Springfield in which the singer boasts, "I wish that I had Jessie's Girl." The song describes a man's desire to be with his best friend Jessie's girlfriend. Keane compared the song to the character of Roderigo, because Roderigo was in love with Othello's wife Desdemona.

In his rationale Keane writes that "in terms of *Othello*, [it] can be re-written as "Roderigo wishes he had Othello's girl (Desdemona)." While this may seem like an obvious comparison, it is a key moment in analyzing the themes of jealousy and deception in the play as Iago, who has proven to hate Othello, promises Roderigo that he can make sure that Othello falls out of love with Desdemona by proving her adulterous. By comparing the song to what seems like a minor relationship in the play, Keane has actually addressing one of the key themes of the play and further examining how it was set into motion.

Something, by the Beatles is another song that Keane included in the soundtrack. He explained that it is a love song that “represents Othello’s deep feelings for Desdemona.” Keane points out how in the beginning of the play Othello is so in love with his wife Desdemona that he believes her to be honest and faithful even when evidence is presented to the contrary. Because Othello is truly in love with Desdemona almost any love song could have been used, however Keane shares that *Something* was the best song to use because it was one of “*Rolling Stone Magazine’s* greatest love songs.” Keane wanted to use this popular and powerful love song because he felt that it best embodied the love that Othello had for his wife Desdemona. He explains “the song is deemed fit to represent Othello, for his love was so great that he was forced to kill his wife.” According to Keane, *Something* is such a powerful love song that it encompasses Othello even while Iago seeks to destroy him and his relationship with Desdemona.

As the play continues, Iago is successful in convincing Othello that his wife Desdemona is unfaithful to him. Othello begins to fill with rage and for this moment in the play Keane chose to add the song *Run for your life*, also by the Beatles. In his rationale Keane states “Othello’s vow to murder Desdemona is represented by the lyrics ‘You better run for your life if you can little girl...catch you with another man, that’s the end of little girl.’ Once again Keane has compared the play with a contemporary song that truly captures Othello’s feelings. Because some of his soliloquies and dialogue state that he will murder his wife for her infidelity, *Run for your life* almost serves as Othello’s inner thoughts. According to Keane, the lyrics specifically “express the fierce emotions Othello undergoes as he realizes Desdemona’s unfaithfulness.”

Keane used comparisons to define key moments in the play *Othello* and to further examine characters’ thoughts. Through these three songs, Keane not only provided insight into the minds of Roderigo and Othello, but he also described motives behind Iago’s actions. By

comparing Iago and Othello's emotion to those expressed in contemporary songs, Keane was able to consider and address their point-of-view in a way he may not have, had the project been unimodal. By engaging with and producing a multimodal text, specifically music, Keane was able to further engage with the play as well as dive deeper into character analysis and literary interpretation.

Another student, Kyle, also described key moments in the text through the development of a soundtrack for the play *Othello*, however he relied on his "recent obsession with old school hip-hop and rap" to serve as a metaphor for events in the play. His choice of genre helped him think through events by comparing lyrics from the songs to moments in the text. Kyle created his soundtrack on his I-phone and titled the playlist "Old School Hip-Hop Soundtrack."

When the play begins, Othello and his wife Desdemona are in love. Kyle chose to use the "world's first hip-hop ballad," L.L. Cool J's classic hit *I Need Love* to highlight this moment. The song talks about a formerly lonely man who receives an abundance of love from his current girlfriend. Kyle sees the parallels between the singer and Othello because the love between Othello and Desdemona is addressed in Act I.

According to Kyle, later in the play Roderigo expresses his love to the married Desdemona who responds by stating that they are friends. Kyle states that this is an excuse that is used "too frequently" and chose to highlight this moment with Biz Markie's song *Just a Friend*. He refers to this song as the "all time stuck in the friend zone jam" and sees how Roderigo, like the singer, is impacted by this excuse.

When the play ends, Iago is detained for murder and all of his lies have been revealed. Because he does not get away with his deception and murder, Kyle understands that Iago deserves any punishment that he receives. He chooses to play the song *What Goes Around* by

NaS to represent this final scene because it alludes to the idea of karma. In his rationale Kyle discusses how the song defines wrong-doers when it proclaims “Never to worry, all the wrong doers go it coming back to ‘em/A thousand times over/Every dog has its day and everything flips around.” Through this song Kyle has identified Iago as a wrong-doer, as someone who is punished for his lies and his deception.

Because of his penchant for old school hip-hop and rap, Kyle became more deeply engaged with the text by making comparisons between events in the text and the songs with which he was familiar. By engaging more deeply with the text, Kyle was able to make connections that he might not have made had he not compared events to lyrics from songs that he was familiar with. In this instance, comparison of text to music was a valuable tool for literary interpretation.

Both Keane and Kyle used the higher-order thinking skill of comparison to show their understanding of character, plot and theme in the play *Othello*. By comparing elements of literature in the play with contemporary music, these two students were able to make intertextual connections that bridged across texts. Their comparisons enabled them to show their understanding of plot, character and theme in ways they might not have had the project been unimodal.

5.3 ANALYSIS OF *OTHELLO*-BASED MULTIMODAL SCORES

Each *Othello* multimodal project was worth a total of 45 points and was broken down as follows: a.) the presentation of the project was worth 5 points, b.) the multimodal representation was worth 30 points and c.) the rationale was worth 10 points. Thus, the bulk of the project was the

multimodal representation itself. The average score on the multimodal representations was an 89% or a B+. The average score of the student rationales was a 73% or a C. This suggests that students were thinking multimodally, by creating projects that represented their thinking through several modes, yet they were finding it slightly difficult to articulate their thinking in writing.

However, one of the strengths of the multimodal scores is that they demonstrated that the students think and reflect multimodally. That is, the students provided evidence to suggest that they were able to express their interpretations across modes. The feedback that the instructor provided was thorough and suggested that he valued the multimodal projects as his scores and comments showed that students were interpreting the literature.

As findings in this chapter demonstrate, each of the projects showed that students were using the core thinking skill of representation. This is the core thinking skill that Scott, the instructor, commented on the most. He provided feedback that directly tied to the students' interpretations of the literature and pointed out both strengths and shortcomings related to the representations.

Unfortunately there wasn't a strong correlation between the students' representations and their written rationales. As mentioned above, the scores for the rationales were somewhat lower in average than the scores for the multimodal representations. The reason for this difference is because several students did not include rationales, or did not turn in all rationales for projects. This difference in score was not due to the inability of students to rationalize their thinking about the texts, rather it was due to the fact that several students, for whatever reason, did not complete all rationales.

This finding may suggest that students don't see the necessary connection between constructing a multimodal representation and providing a rationale for their choices. Perhaps

student think that their representation is self-sufficient and that multimodal work does not need the support of a written rationale or that students did not feel like writing a rationale. Nonetheless, when students did turn in rationales, they were able to support their choices in multimodal construction and show a deep level of interpretation from the text. It is evident from this finding that students possibly needed stronger guidelines to show them the importance between creating the multimodal representation and writing a rationale to support it.

5.4 SUMMARY

While the discussion of open coding in the previous chapter enabled me to see how students engaged with and interpreted the literary texts, focused coding gave me a perspective of the cognitive value of multimodality. The core-thinking skills framework provided a lens for multimodal learning that has previously been unexplored.

The most important skill in multimodal construction is representation, which was evidently the most frequently used skill in this study. Representation is important because it requires the student to create an original construction based on their interpretation of the text, hence students create knowledge rather than replicate it. Summarization, identification of components and comparing are the other skills most frequently used in the study, which support the students' thinking about the literature. These are skills that are useful in the interpretation and analysis of literature as they engage the students in deep processing and thinking.

One analysis skill that was not utilized as much as expected was discussing main idea. Because main idea is a skill of analysis it was expected to occur more often than it did. In the future, this skill could become more useful perhaps if it were addressed in the instructions as a

point to reference. While main idea was not one of the top four utilized types of thinking, it was the fifth most often used skill, which shows that students were keeping the main ideas of the literature in mind.

The findings in this chapter hi-light the most often used cognitive tools in multimodal construction, however they are not the only ones utilized. The purpose of this chapter was to identify how cognition is shaped when students construct multimodal representations. Based upon the findings, it is evident that education that involves more than one modality benefits cognition and literary interpretation.

6.0 CONCLUSION

In this final chapter, I address each research question for this study by drawing on the findings discussed in the previous chapters. Then, I return to the problem areas related to theory, research, and practice in literacy studies that were identified in chapters 1-2, discussing how my project informs this body of scholarship and suggesting new directions for research and recommendations for practice.

6.1 RESEARCH QUESTION 1

6.1.1 What did multimodal instruction enable students to do and how did it shape and support students' engagement and interpretation with literary texts?

This bulk of this research question was examined through open coding of several data sources, mainly the students' multimodal representations and their rationales while other data sources such as field notes and videotaped class sessions were used in triangulation of the data.

Five themes emerged from the data, two in response to the text *Othello*, one in response to the text *Cry, the Beloved Country* and three that were in response to both texts.

6.1.1.1 Transmediation as a means for making inferences

Students used transmediation not only to take information from the text and make a new representation, but they went a step beyond the traditional task of transmediation to make inferences about characters in the text. Typically when a student transmediates he or she constructs a new representation, but in the case of Palmer and Zachary, they made inferences about the character through their multimodal representations. Both students created artifacts which provided information about the character Iago that was not found in the text *Othello*. Palmer's cartoon of Iago's childhood, and Zachary's medicine for schizophrenia used evidence from the text to show that Iago was evil, however they added details about his childhood and state of mental health to further promote Iago's evil nature.

6.1.1.2 Design enabled synthesis of literary elements

Using features of Design (New London Group, 2000) the students synthesized elements of literature rather than creating representations that focused on a singular element, such as character. Because students created a total of six projects, this increased the amount of access and attention students paid to the literary elements enabling them to engage in higher levels of literary interpretation.

In Simpson's drawing, for instance, he created a representation with two Iagos, to show that the character had false intentions. His design included multiple modes, gestural and visual, which helped to show elements of characterization as well as symbolism.

When students created multimodal representations that enabled them to synthesize literary elements they showed that they had high levels of interpretation because they were able to focus on more than one literary element at a time.

6.1.1.3 Students exceeded task expectations

After reading portions of *Cry, the Beloved Country* students were expected to create, maintain and revise digital collages of a main character from the text. Instructions requested that students build a glog that uses images, sounds, videos and text to describe a character.

Many students went above and beyond the instructions by creating glogs that addressed more than a single character. In some cases the students described multiple characters and in other cases students described theme, plot and symbolism in addition to the character. By engaging with the glogs, the students were able to move beyond the instructions to think more interpretively about the literature.

6.1.1.4 Students acknowledged changing notions of literacy

New technologies in the 21st century are requiring individuals to take a new approach to literacy. While many schools still take a traditional approach to literacy, focusing solely on the written word, it's necessary for today's students to be digitally literate.

Because all students created glogs in which they posted digital images, videos, songs and a variety of texts, they all demonstrated that they had a clear understanding of how to use digital tools.

Besides the glogs, one example that stood out was Keane's Twitter page for the character Iago. Keane used the social networking site to take on the role of Iago, and was able to summarize the text and examine the character, both while following the rules and affordances of the popular digital tool.

The students expressed interest in class for using digital tools and many of the projects created in response to *Othello* also required that students use digital tools such as word processing, CD burning technologies, the Internet and Search Engines, and Photoshop. In other

words, the students were comfortable with creating projects that required them to move beyond the written word and use 21st Century technologies.

6.1.1.5 Students addressed multiple literary elements

While some projects enabled students to synthesize literary elements, not all of the students did. However, in the creation of six projects, most of the students addressed at least three literary elements, meaning that they showed a high level of interpretation because the projects enabled them to focus on more than one element.

Students had a choice for how to represent their interpretation of the text, which means that if they only wanted to focus on a particular literary element such as plot or character, they were able to. But because most of the students addressed at least three literary elements, this shows that not only were they engaged with the literature, but they had a high level of interpretation.

One of the outstanding multimodal representations in response to the character Iago in the text *Othello* was a spilled trash can with contents of Iago's that he would "not want anyone to see." Saul placed many artifacts in this trash can, such as literature, love letters to Desdemona, a beheaded doll of Iago and a broken CD of love songs. These artifacts represented characteristics of Iago, as well as symbolized themes and even supported plot points from the play.

While this was only one of Saul's projects, it addressed three literary elements. His other projects also addressed some of these literary elements, meaning that Saul is thinking very highly about the literature as he is able to interpret it and represent it across projects.

6.2 RESEARCH QUESTION 2

6.2.1 How were students cognitive abilities shaped by multimodal tasks?

I used the Marzano et al.'s (1988) framework of Core Thinking Skills to analyze multimodal tasks and students' rationale for this study because I wanted to see how much cognition was elicited by the students as they created multimodal projects. In the field of multimodality and English Language Arts there is currently no literature that describes the cognitive affordances of multimodal instruction.

Marzano et al., (1988) list 21 higher-order thinking skills that they call "core thinking skills" that they suggest students need in order to succeed academically. They also suggest that these skills are interwoven and not necessarily used in isolation. My study supports their notion, as many of the core thinking skills were used in conjunction with each other.

Across projects, nineteen of these twenty-one core thinking skills were addressed by the students, however my study focuses on the top four for several reasons. First, there was a natural drop off between usage of the top four and the remaining core thinking skills, suggesting that the top four were most often used in response to multimodal instruction. Secondly, a study of this size would be unable to accommodate exemplars for each skill. Therefore the four most frequently used core thinking skills are addressed in this study.

6.2.1.1 Representing

Because the multimodal projects required the students to transmediate, the students all used the core thinking skill called representation. When a student transmediates he or she is required to make a representation wherein they choose how to present their understanding of the

content. In the case of this study, all the projects were multimodal and required students to use more than one mode. Projects ranged from the required digital collages to illustrations and fictional newspaper articles.

One of the most exemplar examples of representation was Simpson's drawing titled *The Oblivious Hero* discussed in chapters 4 and 5. In this drawing Simpson used gesture and visual modes to portray the key theme of the text *Othello*. From his drawing of two Iagos, it is instantly clear to the viewer that the text is about a double-crosser.

All of the character glogs were representations of character, however the means through which the students chose to describe the characters were different. Some used images to literally show what was happening in the novel, such as an image of train to represent a journey, or an image of South Africa to depict setting. Other representations of the glogs used additional digital tools, such as songs, to depict themes. One hundred percent of the projects used the skill of representation because the students had to create knowledge, and show what they learned in multiple modes.

6.2.1.2 Summarization

Summary is an important tool for learning because it requires that the student make decisions about how to share their thinking about a text. Skills such as paraphrasing are key to summarization because the student must use their own words to describe what happened in a text while including key details and eliminating trivial ones. This was the core thinking skill that was used the second most in the study.

Projects ranged from summarization of the plot of *Othello* scribed out on a scroll to a Twitter account for the character Iago. Both the projects enabled opportunities for students to summarize whether they summarized the entire text or a small portion of the text, or even a

chapter or an act. Because reading and interpreting literature is a large part of the ELA classroom summarization is a very valuable skill to use.

6.2.1.3 Identifying Components

Identifying components of a whole was the third most often utilized skill in the study. When a student breaks down a concept, he or she uses analytical skills to look at smaller parts in detail. This enables the individual to gain a better understanding of the whole concept.

Students in this study broke down the texts by sometimes closely examining elements of literature. Some projects focused on characterization, like the glogs on the main character Kumalo in *Cry, the Beloved Country*, while others examined plot structure such as Iago's Twitter account. While several of the projects examined multiple literary elements, the students used the rationale as a space to describe individual elements and how they impacted each other in the stories.

6.2.1.4 Comparing

As outlined in Chapter 5, comparing is a technique that requires several skills such as analysis, judgment and precision (Marzano et al, 1988). Making comparisons also requires the student to make contrasts to see not only what is similar, but to rule out what is different. This was the fourth most utilized core thinking skill in the study.

Many comparisons were made within the text, such as traits that characters had, or events that took place, but what was most prevalent in the study were the comparisons that the students made to popular culture. Several students made soundtracks for the play *Othello* while others used symbolism to compare elements of literature to images they found. Whether the student

was making a comparison to current pop culture or recognizing symbolism in the text, this skill was highly used to interpret the literature.

6.3 IMPLICATIONS

6.3.1 Theory

I will use the following sections to describe the implications of my study in relation to the following theories: Transmediation, New Literacy Studies, and Core Thinking Skills.

6.3.1.1 Transmediation

Transmediation is significant to the study because students had to transmediate both of their projects. Suhor (1984) called transmediation the “translation of content from one sign system into another” (p.250) and its use in this classroom was valuable as it allowed for original textual production by students. By composing the new text, or the representation, the student engaged in deeper cognitive processing because he demonstrated understanding of the content’s key ideas and themes when they translated the content.

Whitin (2005) refers to the creation of text as an invention because the student creates content that does not exist. Her study, steeped in semiotic mediation, investigated how knowledge is mediated through signs, notably sketches that students created in response to a literary text. She found transmediation to be a valuable tool, which led to evidence that sketching in response to a text is a form of mediating thinking. In other words, students thought about the text as they moved beyond sketching to constructing representations in multiple modes.

In the construction of the multimodal projects, it became evident that the students were using multiple signs and modes to design meaning. Across projects, the students created meaning based on their interpretation of the text. While some of the projects summarize one key idea, such as Iago's evil nature, other projects tend to summarize the entire text. The projects allowed students to transmediate and to construct knowledge, a skill that is very valuable in learning.

6.3.1.2 New Literacy Studies

Several of the students produced multimodal projects that required them to use digital tools, such as the glogs or Twitter. In doing so, the students had to become familiar with using these technologies, because literacy practices have dramatically changed to include more than reading and writing as ways to communicate. Advances in technology have enabled new digital literacies (Dalton & Proctor, 2008; Kamil et al., 2000; Kulikowich, 2009) to become a major part of how we communicate expanding the notion of literacy from a print-based literacy to a practice which includes deconstructing more than language. It was evident in all the glogs that the students already understood new literacies as they were able to search for and find appropriate images, songs, and clip art and assemble them digitally in a way that expressed their thoughts about the text. The same is true of Linden's Twitter project.

It's probable that students already understood the concept of new literacies because they use them in their daily lives both in and out of school. Dubbed "digital natives," Prensky (2001) shares that because today's students have been immersed in technology for most of their lives, its use has become second nature to them. Students effortlessly use digital tools such as the Internet, I-Tunes, YouTube, Facebook, Flickr, Twitter and I-Movie to construct original materials. It is the schools that are lagging behind in understanding how these tools can be valuable for students.

The need for students to experience their digital world in schools is the idea behind New

Literacy Studies. New Literacy Studies (Street, 1985; Gee 1996) takes into account literacy as an everyday practice and includes all discourses and modalities. While print is a large and important part of literacy, it is but one mode used in communication. Messages have always consisted of additional modes, such as gestural, or spatial, but due to new technologies, there are even more ways to create meaning today, demonstrating the growing need to recognize additional literacies in educational settings.

6.3.1.3 Core Thinking Skills

While Marzano et al, (1988) list twenty-one core thinking skills that are most prominent in learning, chapter 5 focused on the top four that were used the most by the students in their multimodal representations of the texts. The intention of the study is to determine the students' interpretation of the literature and cognitive affordances that multimodal instruction allowed. By presenting the four most frequently used cognitive operations, the study provides insight into the value of multimodal tasks in several ways.

First and most importantly are the variety of cognitive operations the students used. Representation, the skill used most often, is an organizing skill, as is comparing, which is the fourth-highest used skill in the study. The second-highest used skill, summarizing, is an integrating skill, and the third-highest used skill, identifying attributes and components, is a skill of analysis. All of these skills, organizing, analyzing and integrating, are considered higher-order thinking skills (Moore & Stanley, 2010) and require students to use multiple skills at once, as evidenced in the student examples described in chapter 5.

Secondly, these four skills all assisted in multimodal learning, a pedagogy that can be enhanced through additional cognition. Because multimodal learning requires students to construct knowledge, the level of comprehension must be increased so that students can generate

thinking and build and construct their representations. Several cognitive architectures support multimodal learning.

For instance, Paivio (1986) proposes a dual-coding theory, which suggests that all information is received via either a visual or a verbal channel, requiring the individual to create separate mental representations in meaning making. Further research suggests that the visual channel is better able to process information in long-term memory because mental representations are visually embedded (Clark & Paivio, 1991). This architecture lends itself to multimodal learning because information must be thought of both visually and linguistically in order for students to construct a representation in more than one mode.

Like Paivio, Englekamp (1988) suggests a verbal and a visual input system, but also suggests two modality output systems: enactment and speaking/writing. Englekamp extends prior theories of dual channel processing and considers the actions an individual takes to demonstrate that semantic processing has taken place. His theory suggests that enactment or writing elicits deeper processing (Steffens, Buchner, & Wender, 2003). If this is the case, then output systems that include additional modalities must also enable deeper processing.

These four core thinking skills were the most often used by the students in their development of multimodal representations. There was a natural drop off point between these four and the other fifteen. This suggests that multimodal instruction heavily engages students in these four higher order thinking skills.

While the other fifteen skills are valuable, a study of this size could not accommodate a discussion and evaluation on all nineteen of the core thinking skills. However, table X in Chapter 5 shows all the skills that were addressed and provides an example of a multimodal project that used them.

6.3.2 Research

My research demonstrates that students already possess an understanding of the changing notion of literacy. Prensky (2010) suggests that students today are digital natives familiar with the usage of digital tools and my research supports this theory. It extends this theory by bridging student knowledge of digital tools to schools, a place where digital composition can be practiced in educational settings. Students can use these tools to improve their literacy skills and when supported by schools, instruction can work as a means bridging students' skills to improving literacy skills. My study showed how student use of digital tools enabled them to think interpretively and critically about the literary texts they were reading. More connections between students' digital worlds and schools must be made so that more of this type of learning can occur. In other words, there is great educational value in enabling students to bring their outside digital experiences into the classroom.

My research includes information on students' motivation, however my research more importantly focuses on learning strategies that students apply, such as making inferences, being digitally literate and summarizing texts. Much of the body of research on multimodality discusses engagement or provides anecdotal evidence of how students engaged with the text. There is a limited amount of research on instructional devices that students can use in response to multimodal learning. My research provides several example where students addressed multiple literary elements, something that may not always occur when students produce a summary of a text, such as a written book-report. Additionally, skills such as breaking down concepts to examine individual parts and representation are skills that my study fostered that could be further examined in multimodal instruction.

This study also shows the cognitive affordances of multimodal instruction and transmediation. It suggests that multimodal tasks enable students to think deeply about literary texts and address multiple literary elements as opposed to focusing on a singular element of literature like plot or character. Because students engaged in multimodal production they were able to work with and create texts that were non-traditional. As I mentioned in my Introduction the National Council of Teachers of English is pushing for recognition of texts that are digital, multimodal and non-traditional (NCTE).

6.3.3 Instruction

The largest implication for the study is the fact that ELA instructors needs to be further informed on cognitive affordances on multimodal instruction so that more educators can come to understand how these projects enable students to think. The student perspective must also be taken into consideration. Think-alouds would enable students to share their thinking, as would interviews.

Another implication for instruction is that multimodal instruction and transmediation can lead to students to practice their writing. Much of the current research on transmediation discusses work with unimodal formats, like the multi-genre writing research. My study showed how transmediation is a beneficial tool for learning across many modes that extend beyond writing, though this is a great place to start as it engages student thinking out. Transmediation extends the value of multi-genre writing because students are still doing writing, however they extend in that the move across multiple modes.

Smagorinsky (2005) and Rozema (2009) showed how students who composed digital video projects were doing writing as a process. They were recursive as they wrote, but then they

extended their writing. They used writing as a process to think through their responses to the text. In other words, they did a lot of pre-writing or writing as a means for thinking (Vygotsky, 1978) before they completed final projects. It is evident by looking at the projects in this study that students engaged in process writing though the final representations weren't written. Process writing is an extremely valuable approach to writing as it allows students to focus on the purpose and audience of writing and not just the finished product.

Multimodal assessment would make a logical next step, as this study did not focus on this work. While the work is rigorous, it does take time to develop rubrics and to provide feedback to students. One of Scott's concerns was assessing the multimodal projects, so he and I worked carefully to craft rubrics that would appropriately and evenly evaluate the important components of the student work. Future studies on interpretation and cognition in response to multimodal projects would benefit from both an instructor perspective and a student perspective in terms of assessment because as discussed in the lit review tasks are often evaluated by their purposes, not just the outcomes (Doyle, 1983).

The study also serves as a valuable learning tool in an environment where print is the privileged mode of instruction. By being multimodally literate, students are ahead of the game. Schools will eventually be forced to catch up and prepare students for a digital world. While some schools are working towards this, there is a great divide between what counts as literate in students' daily lives and in our schools. However, as this study suggests, students are prepared for this changing environment.

6.4 LIMITATIONS

There are several limitations to the study, most notably the context of the setting. A private school was the location of the study, chosen because the instructor already utilized multimodal instruction in his classroom. By conducting the study in a four-year, private high school, the study is indeed limited to students who do not attend public schools. Also, the students were all males and in the twelfth grade which further limits the study. No input from the female perspective was taken into account during this study, which is a huge limitation.

Lastly, the study was only a nine-week unit on two literary texts. It would be interesting to see what would happen if this type of study was to expand in time. Also, literary texts were the only texts that were interpreted by the students. Because non-fiction texts were not taken into account the study does not have the generalizability that it may have had the study looked at both literary and informational texts.

6.5 CONCLUSION

This project demonstrates that multimodal instruction has great value in the ELA classroom. What some may consider to be “fun” projects, actually engage students in deep interpretation of the literature and requires the student to refer back to the text to make and support their representations. This work also elicits multiple core thinking skills, or multiple cognitive tools. In order to produce a multimodal representation, one has to use a variety of these skills, and these skills are used in context. This study serves as a starting point for more investigation into multimodal instruction and how it can benefit learning in the ELA classroom.

APPENDIX A

MULTIMODAL REPRESENTATIONS IN *OTHELLO*

Directions: Pick three key or critical moments in the play Othello that demonstrate your understanding of the themes in the novel. Create **3 representations**, one for each key moment and **use at least two modes** in your construction of these three representations. (For instance, one representation might be a poem (the mode of language) while another might be a digital video of a Public Service Announcement about the dangers of gossip (the modes of film, gesture, voice, music, etc.).

After you have created your mode, you will write type up an **explanation card** that describes your representation. On the day the projects are due, you will display your representation with your explanation card. The class will then take a Gallery Walk, looking at each other's multimodal representations. You will be encouraged to ask each other questions and engage in dialogue about each other's representations by filling out a **3-2-1 Reaching and Response Form**.

You will also turn in a two page (double spaced) rationale for **each representation**, explaining why you chose the modes you did, how each representation furthers an interpretation and how your representation shaped your thinking about the play.

Scoring Rubric:

| | | |
|----------------------------------|--|---|
| <p>Preliminary Submissions</p> | <ul style="list-style-type: none"> • Topic Summary (What and Why)—5 points • Tentative List of Modes (<i>at least</i> two separate kinds)—5 points • Initial Rationale for each Piece—5 points | <hr/> <p style="text-align: center;">15</p> |
| <p>Presentation of Materials</p> | <ul style="list-style-type: none"> • Each piece must be displayed in an appropriate and orderly manner • Each piece must be accompanied by a “Museum Label” that includes a title a brief description the respective piece • Each piece must have a clear relevance to the text (<i>Othello</i>) and be working to create a more thorough understanding of the text | <hr/> <p style="text-align: center;">15</p> |

| | | |
|----------------|--|--|
| Project Pieces | <ul style="list-style-type: none"> • Three different pieces must adhere to at least TWO different communicative modes (writing, visual presentation, video production, studio arts, graphic design, other creative interpretations, and so on). • Each piece and mode chosen should be thoughtful, original and intellectually stimulating. <ul style="list-style-type: none"> • First of all, this means that it is obvious that much thought went into each piece. • In addition, the project should display your creativity and ability to come up with an original idea. This process is easier if you are familiar with the material and begin the project as soon as possible. If you do this, it will allow you time to make mistakes and figure out if a piece and/or mode is worthwhile and working out effectively. • Lastly, you want your project to be intellectually stimulating so it will make your audience think about the text in a different or interesting way. Creating discussion through a creative or controversial interpretation is what literature is all about. As obvious as this sounds, the more time, thought and energy that you put into the project, the better the reception will be towards your work. • Each piece must be working closely with a specific aspect of the literature. Some acceptable examples include but are not limited to; an important excerpt from the play, a major theme, a character, or a relationship between characters. Regardless of what the focal point is, it must be made clear to the audience (stating this in the “Museum Label” would work well). | <p>30</p> <p>points each</p> <p>90</p> <p>points total</p> |
| | | <p>90</p> |

| | | |
|-----------|---|-------------------------------|
| Rationale | <ul style="list-style-type: none"> • The rationale must work to bring the piece and mode together so that the instructor knows exactly what your thought process was as you worked through the project. • The rationale should also reflect on why you made certain decisions in regards to the mode (i.e. picking a specific mode over another, choosing a specific mode in general, a decision for colors, images, words, shapes, designs, or whatever aspects of your project that seem most appropriate to discuss). • Finally the rationale should also explain why you chose a particular aspect of the text to focus on over another. Explain why you thought this aspect was important and lent itself to further examination. For example, let's say you wanted to do something comical in nature and you found one aspect of the text more potentially comical than any other part. This is something that you would want to shed light on in the rationale. • The rationale must be TWO pages double spaced. | <hr style="width: 100%;"/> 30 |
|-----------|---|-------------------------------|

APPENDIX B

3-2-1 REACTION AND RESPONSE FORMS

As you walk through the Museum Gallery looking at the Representations of Othello, you will each fill out *three* 3-2-1 Reaction and Response Forms. You will choose three students and complete one Reaction and Response form for each, for a total of three. For each you should write down the following:

3- Three observations about the representations....things you noticed, things that stood out to you, etc.

2—two questions you have for that person

1—comment or piece of feedback to the student

YourName:

Student whose work you are responding to:

THREE OBSERVATIONS:

TWO QUESTIONS YOU HAVE FOR THE STUDENT:

ONE COMMENT OR PIECE OF FEEDBACK:

APPENDIX C

STUDENT RATIONALE FOR MULTIMODAL REPRESENTATIONS

Instructions: After you have created your multimodal representations in response to the text, you will be required to type a two-page (double-spaced) rationale explaining:

- the key moment from the text that you chose to represent
- the modality or modalities that you chose to use in your representation
- how the representation supports your understanding of key moments and themes in the text
- how the mode enables you to shape your representation of a key moment and theme in the text
- why you chose to use the modes you did in your representation

APPENDIX D

CRY, THE BELOVED COUNTRY: A CHARACTER ANALYSIS

As you read this text, you will compile a glogster (graphic blog) for one of the characters in this text. The goal of your page is to find digital artifacts that help you define the chosen character. You may use a variety of images, videos, songs, and text and compile them in a digital collage to explain your character's emotions, actions, changes, and relationship with others.

Book I (pp. 1-157)

As you read this portion of the text, choose one of the characters and construct their glog using as many types of digital artifacts that you would like.

After you have completed this glog, you will type a one-to-two page double-spaced rationale, justifying all of your digital artifacts, why you chose them, how they shape, define and relate to your character. This may be as literal or as symbolic as you would like, so long as your rationale connects these aspects with your chosen character.

Book II (pp. 161-250)

As you read this portion of the text, once again, choose one of the characters and construct their glog using as many types of digital artifacts that you would like.

If you choose the same character, you may add and delete digital artifacts as you see fit for your character, so long as you explain in your rationale why and how your character has changed. Explain why you chose to represent these changes. Be sure to explain how your perception of the character is similar or different than it was in the first book.

If you would like, you may choose a different character for Book II, and rather than updating your glog, you will create a new glog for the chosen character. Once again, you will type a one-to-two page, double-spaced rationale explaining why you chose to change characters and why you chose to represent this character in this particular way.

Book III (pp.253-312)

For your final glog, you will update the same character that you chose for Book II, and once again you will type a one-to-two page, double-spaced rationale for your glog, explaining changes that you did or did not make and how your final glog defines your character.

APPENDIX E

**TABLE OF MULTIMODAL REPRESENTATIONS AND MODES IN RESPONSE TO
*OTHELLO***

| Student | Description of Project | Modes Utilized |
|----------------|--|---|
| Bart | A personal comparison between Bart's life and Act 4, Scene 1 | Linguistic, materiality, visual |
| Bart | An e-harmony personal profile for Iago | Linguistic, materiality, visual |
| Bart | A visual timeline of events in the play | Linguistic, materiality, visual |
| Brian | Soundtrack for three scenes from the play | Linguistic, materiality, aural |
| Brian | The Othello Rap Video | Linguistic, materiality, aural, gestural, video |
| Brian | Othello in Three Minutes Summary Video | Linguistic, materiality, aural, gestural, video |
| Eddie | Magazine interview with Iago | Linguistic, materiality, visual |

| | | |
|--------|--|--|
| Eddie | Othello's journal | Linguistic, materiality |
| Eddie | Soundtrack to the play | Linguistic, materiality, aural |
| Frank | Comparison to clip from Family guy wherein Lois' father disapproves of Peter | Linguistic, visual, aural |
| Frank | Transcript of a televised interview with Othello | Linguistic, visual, materiality |
| Frank | A collage of Iago's trash | Linguistic, materiality, visual, digital |
| Jordan | Roderigo's Facebook page | Linguistic, materiality, visual, digital |
| Jordan | Poem about Othello | Linguistic, materiality |
| Jordan | Poem about Iago | Linguistic, materiality |
| Keane | Iago's Twitter page | Linguistic, materiality, visual, digital |
| Keane | Soundtrack to the play | Linguistic, materiality, aural |
| Kyle | Poem about Iago | Linguistic, materiality |
| Kyle | Poster representing the symbolism of Othello's handkerchief | Materiality, visual, digital |

| | | |
|---------|--|--|
| Lambert | The front page of <i>The Venice Times</i> with an article about the deaths in the play | Linguistic, materiality, visual, digital, gestural |
| Lambert | A labeled skeleton describing characteristics of Iago | Linguistic, materiality, visual, gestural |
| Lambert | Othello's journal | Linguistic, materiality |
| Oliver | Display of Othello's handkerchief | Linguistic, materiality, visual |
| Oliver | A scroll describing Iago's plan | Linguistic, materiality, visual |
| Oliver | A drawing of a sword with themes of the play written around it | Linguistic, materiality, visual |
| Palmer | A comic strip describing Iago's youth | Linguistic, materiality, visual |
| Palmer | Desdemona's journal | Linguistic, materiality |
| Palmer | Contents of Iago's dresser | Linguistic, materiality, visual |
| Rick | A drawing of Desdemona | Linguistic, materiality, visual |
| Rick | A drawing of the storm in the play | Linguistic, materiality, visual |
| Saul | A pile of Iago's trash | Linguistic, materiality, visual |

| | | |
|---------|---|---|
| Saul | A business card for a company called “Dissing your Girl” for which Iago is the spokesperson | Linguistic, materiality, aural, digital |
| Saul | Top five most played songs on Iago’s I-pod | Linguistic, materiality, aural, digital |
| Simpson | A drawing of Othello with two Iagos, one in front of him and one stabbing him in the back | Linguistic, materiality, visual, gestural |
| Simpson | A drawing of Othello, Desdemona and Iago during the storm | Linguistic, materiality, visual, gestural |
| Zachary | An outline of Iago’s plan | Linguistic, materiality, visual |
| Zachary | Iago’s medication, titled Polypersonal | Linguistic, materiality, visual, digital |
| Zachary | Iago’s job application for a company that provides inceptions | Linguistic, materiality, visual |

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