# GRAPHIC NOVELS IN ESL:

# A CASE STUDY OF A SECONDARY LITERATURE-BASED CLASSROOM

by

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To my students, who constantly amaze me.

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TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

# CHAPTER ONE: INTRODUCTION

Secondary English as a Second Language (ESL) students are faced with a unique challenge. In U.S. high schools, they take the same coursework and standardized tests as their native English speaking counterparts. Often these ESL students have one or more hours of ESL instruction, as well as varying mainstream content classes. While there are many support systems in place for these students, they are ultimately held to the same academic standards, set by each state, as native-speaking students. ESL students are on a path to graduate from high school, but many of them have only three or four years to complete the journey. Research shows that it takes longer than this to become proficient in academic English (Cummins, 1999). Under these circumstances, the task of succeeding in high school can be daunting.

The challenge of the high school ESL teacher, then, is to teach the structure and complexities of the English language while at the same time helping his or her students succeed in the mainstream. These students are expected to transition to mainstream content classes, which is especially challenging when the critical thinking aspect of academic standards is taken into account. In particular, students are expected to transition to mainstream language arts classes, where they need not only to express themselves in academic English in the context of literature, but also need to be able to

show, orally and in writing, the application of critical thinking skills to get at the more complex concepts in that literature. In some cases, teachers perceive ELLs as incapable of critical thinking because of their still-developing English language skills, and may not be providing ELLs access to the kinds of critical thinking skills practice that other students have available to them. Teachers need to be aware of this phenomenon and explore alternative ways of providing this access to ELLs.

This chapter addresses the issues associated with teaching critical thinking in the literature-based ESL classroom, through the use of visuals, in particular graphic novels, in the classroom. Specifically, the use of graphic novels will be explored as a tool for helping ESL teachers to meet the challenge of teaching English language and critical thinking skills together in a literature context.

## Graphic Novels and the Use of Visuals in the ESL Classroom

What exactly is a graphic novel? Many teachers are not familiar with the format. By historical standards, it is a fairly new arrival on the literary scene, but has received much popular attention in the last decade. Will Eisner, who is considered to be the father of the graphic novel, originally defined comics as sequential art (Cary, 2004; McCloud, 1993). This definition was expanded upon with the growth and broadening of the graphic novel form in the last twenty years (McCloud, 1993). Stephen Cary (2004) describes the graphic novel as the longer cousin of the comic book. Graphic novels span many literary genres and are often full-length books containing many of the literary elements that are found in traditional text-only books such as novels. A more specific definition comes from McCloud: “Juxtaposed pictorial and other images in deliberate

sequence" (1993, p. 9).

As books relevant to the high school classroom, these range from autobiographies of Martin Luther King and firsthand accounts of a Holocaust survivor's experience to fantasy stories and adolescent teen dramas. More than simply text with illustrations, they deal with complicated literary themes and cannot be separated from their sociopolitical context (Cary, 2004). Examples of these complex literary works are Art Speigelman's *Maus*, a chronicle of the author's father's experience during the Holocaust, or *Persepolis*, by Marjane Satrapi, a memoir of the author's experience growing up during the Iranian revolution. These graphic novels present complicated themes and challenges to readers, as do their text-only counterparts in the literature world, with the added depth of the visual medium. Indeed, some graphic novelists have argued that the graphic novel medium increases the novelist's ability to tell stories with greater complexity (Brown, 2004; McGrath 2004, Schwarz, 2002) .

What, then, are the potential benefits of using graphic novels in the ESL classroom, beyond their value as a literary format? Two theories in particular that deal with the use of visuals in reading comprehension are explored in the literature review: Marcus, Cooper, & Sweller's (1996) Mental Model Theory, and Sadoski and Paivio's (Sadoski, M., Goetz, E. & Fritz, J.,1993; Paivio, 1990) dual coding theory of cognition. These theories support the use of graphic novels in the classroom and refute some of the questions or concerns that have been raised about the inclusion of these books in high school curriculum.

## Academic Standards and Critical Thinking

The term *critical thinking* is a popular phrase in the education field, but seems to mean fairly disparate things to different groups of educators. It includes ideas from both philosophical and psychological theoretical frameworks, in both the academic and sociopolitical realms of thought (Kincheloe & Weil, 2004). To some educators, it denotes the reasoning skills and higher-order thinking skills that are an explicit part of school curriculum. To others, it incorporates a critical pedagogical perspective, in which students are encouraged to challenge the power relationships among groups in society (Brown, 2004). There is also some debate in the field of education research as to whether critical thinking *should* be taught and as to whether it *can* be successfully taught at all in the second language classroom.

For the purposes of my study, I am using the term *critical thinking* to mean the thinking skills that are described in the academic standards that my students are accountable to, including both the literature class syllabi at the school and the Minnesota State Academic standards. Specifically, I will focus on the higher-level critical thinking skills as described by Bloom's taxonomy of educational objectives (Bloom, 1956), considered in the American education system to be an effective tool for describing and assessing critical thinking skills (Anderson & Krathwohl, 2001; Brown, 2004). This is not to say that I am ignoring the sociopolitical implications of critical thinking in the ESL classroom; that aspect can be considered an integral part of any critical thinking curriculum, especially in the context of literature. Rather, I am focusing on the aspect of critical thinking skills most relevant to the guiding questions of the present study.

## Role and Background of the Researcher

As a high school ESL teacher, I am interested in not only teaching my students to use and understand the English language, but also in helping them to be successful in their content classes. In the school I teach at, I have heard the frustration many mainstream language arts teachers express about ESL students who have transitioned to their mainstream classes. This indicates that ESL and mainstream teachers need to work together to determine targeted instruction in the specific areas that these teachers feel would help make the transition from ESL to mainstream more successful. If the ability to apply critical thinking skills is central to ESL students' success in the mainstream, then they need to be afforded every opportunity to practice skills in that area, despite the fact that they are not yet proficient English speakers.

A secondary, but perhaps more important goal is to give students the language tools to become knowledgeable, critical thinkers as adults. To this end, the idea of teaching critical thinking becomes a central and necessary part of ESL class, and is relevant across contexts—language arts teachers and ESL teachers share this common objective. I observed and documented, during the course of this study, the effects of using graphic novels as a tool to elicit the literary critical thinking skills that will be required of my students in their mainstream language arts classes and that will benefit them throughout their lives. The data collection in this study took place in my advanced ESL class, which allowed me daily interaction and observation time with the group of student participants.

## Guiding Questions

Through my research, I hope to provide insights into the following questions: Are graphic novels an effective tool for eliciting critical thinking skills in ESL students? Do ESL students reading graphic novels demonstrate more critical thinking skills than ESL students reading text-only equivalents? Additionally, are higher-level critical thinking statements more prevalent in oral or written discourse for graphic or text-only novels?

These questions served as the foundation of my case study exploring the use of graphic novels in my classroom. I am hopeful that my findings and the specific example of my experience with this study will provide insights for other teachers, as well as a basis for further research on the subject.

## Summary

In this study, I explored the use of graphic novels in a literature-based secondary ESL classroom. I explored the use of these novels and their connection to students' ability to apply critical thinking skills to literature within the context of my advanced-level ESL class. In order to support ESL students in becoming successful participants in the academic high school life, ESL teachers may need to explore innovative and non-traditional tools to help these students bridge the gap between their intellectual capacity and their linguistic ability to apply the critical thinking skills required by high school academic standards. I am hopeful that my study will show the positive effects of using graphic novels with ESL students to help close this gap.

## Chapter Overviews

In Chapter One I introduced my study by establishing the purpose of the research, as well as its relevance to my teaching and to teachers of ESL students in general. I briefly introduced the context of the study as well as my role as researcher. In Chapter Two I provide a review of the literature relevant to my research, including studies on teaching critical thinking and using visuals in the classroom. Chapter Three includes an explanation of the research design and methodology that shapes my study. Chapter Four presents the findings and results of the research. Finally, in Chapter Five, I consider the implications of these findings, as well as reflecting on the limitations of the study and recommendations for further research.

# CHAPTER TWO: LITERATURE REVIEW

The purpose of this study was to explore the use of graphic novels in a literature-based secondary ESL classroom. The high school students in this case study were advanced level ESL students; this class is designed to be a transition class to the mainstream language arts class they will take the following year. Students have had a difficult time meeting the standards required of them in their mainstream literature classes, particularly in the area of being able to express critical thinking skills orally and in writing. Beyond these students' obvious struggles with language, I argue that this difficulty is due in part to ESL students' lack of access to the kinds of critical thinking skills practice that will allow them to be successful in the mainstream classroom. Both mainstream and ESL teachers need to be willing to explore alternative methods, such as using graphic novels in place of traditional texts, to allow students access to critical thinking activities in the literature classroom. In this study, I assessed students' oral and written responses to two different text formats using a critical thinking assessment tool. The ultimate goal was to explore the effects using graphic novels could have on students' demonstration of critical thinking skills.

In this chapter I present an overview of the research on using visuals as support for text in the classroom, with a particular focus on graphic novels as visuals. I also discuss critical thinking as defined within the parameters of this study, including a

discussion of Bloom's Taxonomy and its use in both the general education and ESL classroom settings.

## Visuals as Text Support in the Classroom

I previously defined graphic novels as books that span a variety of genres, written with a combination of words and pictures, often (but not always) borrowing a comics-style format. Although this visual format and its potential impact in the ESL classroom is the focus of this study, it is helpful to first review the theoretical background and research on the benefits of using pictures and images in general to support reading comprehension. Relevant research from the brain-based teaching field, including schema theory and dual coding theory, provide a theoretical framework and support from the cognitive perspective. From there, the argument leads specifically to English language learners and the effects of visuals on reading comprehension for these students, with specific focus on the use of graphic novels as visuals in the ESL classroom.

### Schema Theory

Schema theory is based on the idea that the cognitive processes of understanding and recall take place in reference to information stored in the memory (McCrudden, 2004; Nassaji, 2007). Originally proposed by Sweller (1988, as cited in Marcus, et al., 1996), it posits that real world concepts and ideas are stored in the memory in the form of schemata, or cognitive constructs, that allow the mind to group separate concepts into a unifying framework (Marcus, et al., 1996). As applied to reading comprehension, for example, a reader may have a schema for a broad, concrete concept, such as *tree*, which

could appear in text as a more complex description of that tree: “a flowering oak,” for example. The tree schema that exists in the memory helps the reader process the more complex description.

The concept of working memory capacity—the amount of space in our memory and our ability to process the information contained there—is important in this framework as well. The memory can be overloaded with texts that are too complex or dense for the available capacity, which can in turn impede comprehension (Bensoussan, 1998; Marcus, Cooper, & Sweller, 1996; McCrudden, et al., 2004; Nassaji, 2007).

Schema theory comes from a related theory, cognitive load theory, which refers to the same idea of factors within a text that may increase or decrease the cognitive load, or working memory capacity (Marcus, et al., 1996; McCrudden, et al., 2007). Three areas of cognitive load—prior knowledge, the nature of the material (format or medium), and organization of the material (a text, in this case)—influence the load placed on a reader’s working memory. Schemata relate to all three areas, most notably in that readers’ prior knowledge is stored in schema form in the memory, and the nature or organization of a text may be too unfamiliar for a reader to connect with stored schemata (Bensoussan, 1998; Nassaji, 2007; Richgels, 1982).

How, then, does schema theory relate to using images and visuals to support reading? Marcus, Cooper, & Sweller (1996) conducted an experiment designed to test the validity of cognitive load theory on reading comprehension. They gave subjects a set of text-only instructions for a procedure that was unfamiliar to them. They compared the results with a group of subjects who received instructions that included a diagram. In

this experiment, the diagram represented the text as a schema—something that readers could connect in their memory, thus making the textual instructions more comprehensible. Marcus, et al. concluded that cognitive load is lightened when a schema is available, in this case in the form of a diagram.

As related to graphic novels, the diagrams used in this study provide many of the same functions as illustrations in a graphic novel would present: reducing cognitive load and making connections between concepts more clear. Utilizing the tree schema previously mentioned, Figure 1 presents a possible application of this theory in the context of graphic novels.

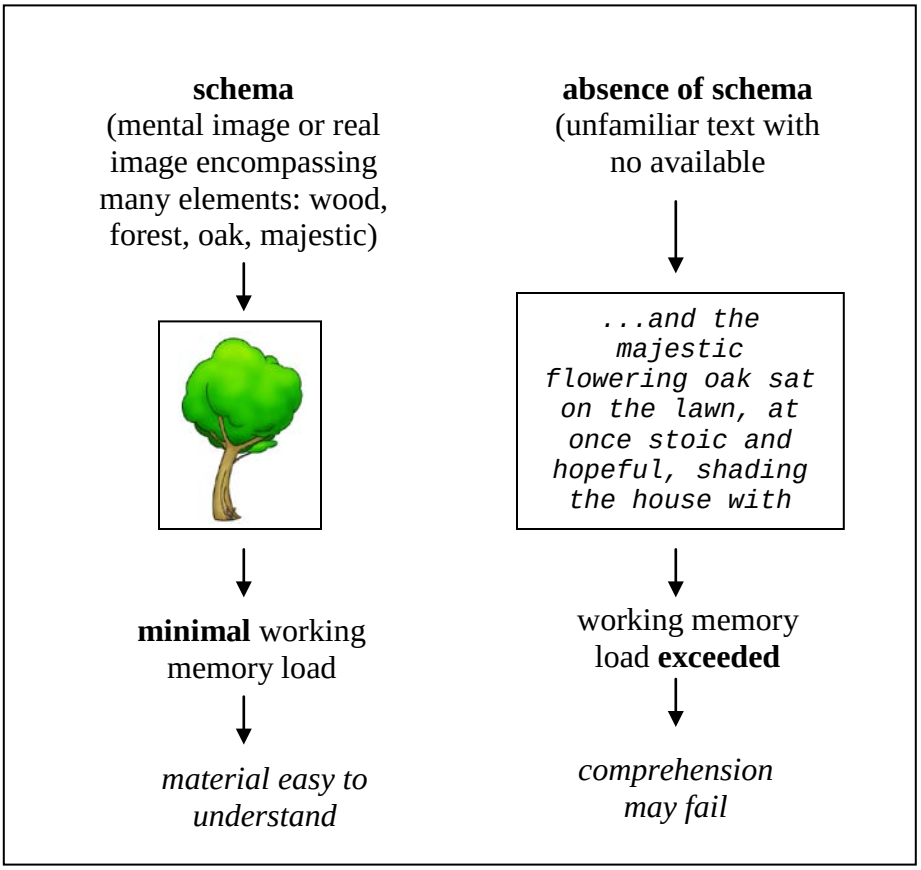


*Figure 1*. Possible schema effect.

Although these studies address the issue of how readers process information in text, including the possible application to visuals with text, another cognitive theory, dual coding theory, addresses more specifically the function of visuals in the cognitive reading process.

Dual Coding Theory

Paivio's (1990) dual coding theory of the cognitive process of reading has been expanded upon by Sadoski (2001) and has interesting implications for this study. Originally evolved from an imagery-based mnemonic technique for literacy, the theory describes how all learners learn to read and write, using two separate but interchangeable systems of cognition: the language system, which is sequential, and the imagery system, which is spatial. Sadoski defines *coding* as "the ways the external world is captured in those internal forms" (p. 43). He argues that we derive meaning and knowledge from the external world by switching between the two systems.

The theory postulates that readers' mental representations, whether verbal (speech or writing, for example) or non-verbal (images of things we have sensed, such as pictures of real objects), become internal forms of information that can be recalled during reading and writing. Furthermore, the interaction between the two systems—what Sadoski terms dual coding—seems to promote greater text recall and reading comprehension. In other words, if information is stored mentally in two codes, verbal and non-verbal, that information is better remembered and comprehended. Sadoski, Goetz, and Fritz (1993) conducted four experiments to test various aspects of dual coding theory assumptions. Their results suggested that dual-coded, concrete

information (words paired with pictures, for example) had much greater recall and comprehensibility than abstract text (unsupported by visuals). These findings were analyzed within the framework of its use in creating educational materials such as textbooks; within the context of the present study, it has clear implications for the use of visuals in the literature classroom.

Levie and Lentz (1982) reviewed 55 separate studies conducted to explore the effect of visuals as text support. Of these, several relevant studies applied the dual coding theory to their experiments with literature text, with results suggesting a positive correlation between illustrations and reading comprehension. For example, three studies by Holliday, Holliday & Harvey, and Holliday & Thursby (1975, 1976, and 1977, as cited in Levie & Lentz, 1982) found significant positive correlations between ninth- and tenth-graders understanding illustrated text better than non-illustrated text. A study by Rasco, Tennyson, & Burtwell (1975, as cited in Levie & Lentz, 1982) found that college students had higher comprehension levels of long texts when the critical ideas in those texts were supported with illustrations.

More recently, the dual coding theory has been applied in a 1991 study by Purnell and Solman, and in a 1999 study by Mayer (both as cited in Liu, 2004). In both instances, one focused on science text and one on a geography article, results suggested that the inclusion of pictures and diagrams supported comprehension, consistent with the principles of dual coding theory.

## Visual Support in the ESL Classroom

The preceding discussion established that there is a clear theoretical basis for the

use of visuals in the reading classroom. These findings can also be applied to the L2 reader in the ESL classroom, and are supported by general research into best teaching practices in the ESL classroom, as well as studies dealing specifically with comprehending text in the ESL classroom. Echevarria, Vogt, & Short (2008) have conducted extensive research on best practices in the ESL classroom, particularly in the area of comprehension and teaching mainstream content. They found that using visuals to increase learners' comprehension is a crucial part of teaching content to English language learners. Visuals can include graphic organizers, pictures, diagrams, mental maps, or illustrations; the key factor is that students with limited language ability can recognize non-linguistic images that tap into their prior knowledge of the material and the world (Echevarria & Graves, 2003; Echevarria, et al., 2008; Hill & Flynn, 2006). In fact, the current ELP standards to which this school is held accountable to, the 2007 WIDA standards for ELLs, contain a list of visual supports, or "anchors," intended to help teachers and students arrive at performance indicators for each level of language proficiency (WIDA, 2010).

Several studies have been conducted specifically to explore the effect of visual support, in various forms, on ESL students' reading comprehension. In a 2009 study, Ajayi explored the use of one specific visual format, student-generated drawings, to test the effectiveness of a multimodal pedagogical approach on students' comprehension on text advertisements. She defined her multimodal approach as interpreting texts through "multidirectional points of entry" (p. 3), such as looking at visual aspects of a page before reading the text. She observed ESL learners in the classroom as they created

drawings to represent their understandings of a text, concluding that the observation and creation of visuals to represent text facilitated meaning-making in the case of these middle school students. Her broader conclusions included the assertion that ESL teachers should include multimodal, visual-supported texts in their curriculum to foster a richer literacy in their students.

Tang (1992) conducted a study to test the effect of graphic representation, in this case graphic organizers, on reading comprehension in an academic ESL class. He compared two groups of students: one group was provided graphic support to read a textbook page and the other had no graphic support. After administering recall protocols to both groups, he found that significantly more students in the graphic-support group gained in the amount of information recalled compared to the non-graphic group. He points out that, although teachers have long been aware that graphics and illustrations support ESL students' reading comprehension, this study provides tangible evidence of the positive effects of graphics on ESL students.

Using a different form of graphic representation, in this case visual representations of key literary concepts, Early & Marshall (2008) found similar results in their study. They used teacher-provided drawings to represent key concepts, such as character and theme, in the literature passages read in a junior high ESL class. Students and were asked to reflect on their experiences with the added visual support; the overwhelming majority felt that the graphic support enabled them to understand the story better and improve their essay writing. The teacher reflected that students were able to not only comprehend the passages better, but were able to express a "deeper

reading of literary text" (p. 394). The researchers concluded that using two different modes of understanding text (written text and visual symbols) supported the students' comprehension and interpretation of text.

Although each of these studies explored a different type of visual support—student-generated pictures, visual representations of key literary concepts, and graphic organizers, respectively--the common thread among these studies was that they suggested a significant positive impact of the use of visuals on student comprehension. They argue for the inclusion of visuals in many forms in ESL curricula. Hassett and Schieble support these and other instances of inclusion of visuals in the reading classroom in their 2007 article, making a case for "ways to find space for the visual within existing methods of literacy instruction so that . . . new texts can be used in the classroom without sacrificing curricular goals" (p. 62).

Graphic Novels as Visual Support

If the use of visuals in the classroom is clearly supported by several cognitive research theories, and has also proven effective as a tool in the ESL reading classroom, how do graphic novels fit into the picture? According to the definition of graphic novels—books that span a variety of genres, combining both words and images, often (but not always) presented in a comics-style format—this type of literature contains the kind of visual support that studies have suggested has a positive impact on L2 learners' reading comprehension. In fact, several studies have been conducted that deal specifically with graphic novels as visual support for ESL students.

Liu (2004) conducted a study comparing the effects of comics-style illustrations

on L2 students' reading comprehension. He presented one group of students with a passage of text accompanied by illustrations, and a control group with a text-only version of the story. He found that students with low English proficiency who were shown the text with graphic support scored significantly higher on immediate-recall protocols than the low-proficiency group who were presented with the text-only version. Liu concluded that his findings were consistent with dual coding theory: when readers use both linguistic and visual representations of a text, they are better able to recall and understand what they are reading. He advocates for inclusion of comics-style additions to text in the ESL reading situations based on his success with lower-proficiency level English learners.

In a study of an elementary teacher's use of graphic novels with ESL students, Ranker (2008) concludes that allowing readers access to a text through the visual mode is important to L2 learners, as it can provide non-verbal cues for students who might not otherwise be able to comprehend certain texts. He conducted a case study in an elementary ESL classroom, in which he observed students learning about text structure, dialogue, and critical reading stances--aspects of literature that, without the visual support of the graphic novels, may have seemed beyond these L2 readers' ability. He concluded, through evidence of student engagement and performance on related assignments, that the teacher being observed was successful in her exploration of these complex literary features in part because of the visual support provided by the comics, which provided the students with greater access to the literature through the visual mode.

Hassett & Schieble (2007), in their article exploring the addition of visual aspects

to teaching literature, support the idea that graphic novels can be an effective tool for teaching L2 readers. They reiterate the point that ESL students' reading processes are stimulated and supported by the use of graphic novels, stating that the added visual element in graphic novels causes readers to bring in their own knowledge of the world to the reading process as they relate the pictures and text to make sense of the story as a whole. They argue that the inclusion of new kinds of texts, such as graphic novels, should become a standard part of literature curriculum for English learners.

## Critical Thinking and Bloom's Taxonomy

### Background and Controversy

As related to education, the term *critical thinking* has been used and influenced by scholars from the fields of both psychology and philosophy (Curry, 1999). The philosophical focus on critical thinking has combined with the psychological concept of higher-order thinking to become the basis for critical thinking skills that students are expected to apply within all content areas in the U.S. school system. One particular system, Bloom's taxonomy, is regarded as a well-known approach to categorizing critical thinking skills across many contexts, particularly within the field of education (Anderson & Krathwohl, 2001; Bloom, 1956; Brown, 2004; Carr, 1988). The taxonomy is described as a tool for organizing critical thinking skills, which is helpful in creating ways to assess these skills in education contexts. Bloom delineated critical thinking skills into six levels, providing a framework for classifying the broad spectrum of abstract skills and objectives that make up educational curriculum (see Table 1).

Table 2.1

*Bloom's taxonomy of educational objectives and the skills that accompany them*

1. Basic knowledge: memorizing facts, figures, and basic processes.
2. Secondary comprehension: understanding and illustrating the facts.
3. Application: generalizing the facts to other contexts and situations.
4. Analysis: understanding why the facts are the way they are; breaking problems down.
5. Synthesis: making connections between different elements on one's own.
6. Evaluation: critically using one's knowledge to ascertain the quality of information.

*Note*. Adapted from Anderson & Krathwohl, 2001; Bissell & Lemons, 2006; and Bloom, 1956.

Although Bloom's original taxonomy has been reworked and modified over the past fifty years, researchers and educators have used his basic structure to understand and assess critical thinking in the classroom (Brown, 2004; Zemelman, et al., 2002). Anderson and Krathwohl (2001), for example, have taken Bloom's six stages of critical thinking and expanded upon the idea, exploring the idea of a two-dimensional taxonomy that includes both knowledge and cognitive domains. The underlying principle remains the same, however: there are some types of responses to learning that are considered higher-level, or which display higher levels of critical thinking, than others. Although framing this idea within a number scale of one to six can be seen as an oversimplification, the method is useful for educators who are looking to elicit and assess critical thinking skills in their students.

The use of Bloom's taxonomy in education has not been without controversy. One among several criticisms is that it seems to leave the *critical*, sociopolitical part out

of critical thinking, focusing instead only on reasoning skills and logic (Kincheloe & Weil, 2004). Another criticism is that it often fails to acknowledge the differences among students (Brown, 2004), which could include previous educational background or learning style. Yet another criticism, perhaps most relevant to his study, is that Bloom's work is too vague, and doesn't provide enough guidance for teachers in shaping their objectives (Ennis, 1985). A term like *analysis*, Ennis argues, is not sufficient to define the skill a teacher is trying to build. It for this reason that the taxonomy has been modified by others in the education field. What has remained consistent is a general acknowledgement in the education field that Bloom's classification system can be a useful tool in the area of assessing critical thinking (Anderson & Krathwohl, 2001).

Despite criticism from some regarding the teaching of critical thinking, Curry points out that some general agreement exists: most educators, regardless of their perspective on the matter, would agree that critical thinking as a tool for exploration of social themes in the classroom has merit. She cites the example of using the reasoning of critical thinking to "combat prejudice by demonstrating its illogical nature" (2001, p. 13). Often, this aspect of critical thinking arises in literature classes, as students are asked not only to assess logical aspects of plot and style in a literary work, but also issues of class, character motivation, and author's purpose, elements which reside well within the social aspect of critical thinking.

The Taxonomy and Academic Standards

Although there is some diversity of thought about the nature of critical thinking in education, the fact remains that students are expected to be able to demonstrate they can

apply these skills in school. Indeed, critical thinking can be seen as a tool crucial to academic success, a skill set and language in itself that students need to be fluent in if they want to succeed in the school system (Curry, 1999). The ability to apply critical thinking skills has become part of the academic standards students are held to. It could be argued that they are among the most important standards in U.S. schools, since they span across content areas and are part of standards language from kindergarten through twelfth grade.

The benefit of a tool like this taxonomy, despite its evolution in educational thought, is that it remains an effective way to give structure to abstract ideas of what students are expected to be able to do in the classroom. Each level of the taxonomy contains verbs that describe concrete student objectives. The terms analyze, synthesize, and evaluate, for example, are commonly seen across content areas in state standards as well as class syllabi (Anderson & Krathwohl, 2001; Brown, 2004,). The items in Table 2 illustrate the upper taxonomy levels and examples of evidence of each skill, as relevant to a literature class context and the present study. Verbs that commonly appear to signify evidence of a particular critical thinking skill in the taxonomy are in bold.

Table 2.2

*Bloom's objectives and relevant examples of evidence from academic standards (language arts)*

| Taxonomy level | | Academic Standard |
|---|---|---|
| 2 | Comprehension | Students will be able to **interpret** the meaning of story events |
| 3 | Application | Students will be able to **apply** various reading strategies to a novel |
| 4 | Analysis | Students will be able to **distinguish** between characters' motivations |
| 5 | Synthesis | Students will be able to **generate** an alternative story ending |
| 6 | Evaluation | Students will be able to **critique** an author's choice of literary devices |

Note. Adapted from A Taxonomy for Learning, Teaching, and Assessing: A revision of Bloom's Taxonomy of Educational Objectives, by L. Anderson and D. Krathwohl, eds., 2001, New York, Longman, and "Applying Bloom's Taxonomy in writing reading guides for literature," by A. Lindquist, 1982, *Journal of Reading, 25*, p.

The terms included in the taxonomy could be interpreted differently, of course, depending on each teacher, school, and district's definition, but the thread of one consistent idea connects the disparate ideas within the critical thinking trend in schools: *learning* in schools is no longer defined as simply possessing and retaining information, but rather as the ability to take information and examine it from different perspectives (Brown, 2004). The classroom is a place where students can not only practice these critical thinking skills, but where they are increasingly assessed on their ability to do so. As can be seen in the test items in the mandated state exams for this particular school, all students, regardless of language ability, are required to pass written tests that, among other things, include specific assessment of critical thinking skills (Minnesota Department of Education, 2010).

Regardless of the origins or intentions of the critical thinking movement, academic

standards in most U.S. schools contain critical thinking objectives that are reflected (or in many cases, derived from) Bloom's taxonomy (Anderson & Krathwohl, 2001).

Critical Thinking in the ESL Classroom

In high school, ESL students are held to the same standards as native-English speaking students; they should be provided with an educational pathway that accounts for their language difficulties while at the same time addressing the need to focus on critical thinking skills. Including aspects of teaching and assessing critical thinking in any school curriculum is daunting for several reasons--disagreement about what exactly constitutes critical thinking and difficulty in finding an effective assessment tool are two of these (Ennis, 1985; Garrison, et al, 2001; Marzano, et al, 1988). Inclusion of critical thinking in school curriculum may also be impeded by the current focus on standardized tests that may not reflect or assess critical thinking (Carr, 1988; Corich, 2007; Facione, 1990). When these factors are taken in light of the typical difficulties English language learners experience in meeting academic standards, it becomes clear that the task of teaching and assessing critical thinking for these students, while necessary, is not easy.

Several studies have attempted to begin the task of teaching critical thinking in the ESL classroom. Davidson & Dunham (1996) found success in focusing on critical thinking skills in the ESL classroom, with the particular objective of meeting academic standards in mind. The impetus for their study was based on their assertion that teaching critical thinking in the ESL classroom is a crucial, but previously under-documented, aspect of second-language learning in the U.S. school system. They used the Ennis-Weir Critical Thinking Essay Test (based on Bloom's Taxonomy) to assess the critical

thinking skills of postsecondary ESL students after a year of targeted instruction in critical thinking. They found that teaching critical thinking skills, while challenging, is possible as part of academic ESL instruction.

Wolfe (2004) studied the application of critical thinking skills in reading literature that successfully dealt with abstract literary concepts, such as character, plot, and symbolism, in her secondary ESL classroom. Based on her observations that ESL students are often given truncated, oversimplified texts to read, thus preventing them from accessing more abstract, critical literary concepts, she experimented with specific methods of teaching students to read a novel that targeted developing their critical thinking skills. She found that, despite the students' lack of some language skills, it was possible--and, she argued, imperative--for them to think critically in the language classroom, in order to access the same academic success as their native English-speaking peers.

If ESL students are required to react critically across content areas, potentially working within varied definitions of critical thinking, then ESL literacy programs need to reflect a broad definition of critical thinking in their content and teaching focus (Shih, 1992). Curry addressed the absence of critical thinking aspects in secondary ESL students' educational experiences by stating that "the most alarming aspect of the critical thinking trend in ESL . . . is the often insidious way in which the addition of critical thinking to the curriculum constructs ESL students as incapable of thought because their English is not perfect" (1999, p. 2). Curry's statement brings to light some of the unique challenges that ESL students face in meeting these academic critical thinking standards.

Not only are these students struggling to learn a new language, which in turn often impedes their ability to keep up academically with their peers (Echevarría, et al. 2008), but they may be perceived by teachers and other students as incapable of applying critical thinking skills simply because of their language proficiency. It is even more important, therefore, that critical thinking activities and assessments become part of ESL curriculum. She argues that, apart from the aspects of critical thinking that teach reasoning skills, it is imperative that ESL students in particular experience critical thinking in terms of a pedagogy that explores "*why* arguments and claims are made as well as *how* they construct and affect the students and their worlds" (p. 18, italics in original).

## The Gap: Critical Thinking and Graphic Novels

There is ample research in both areas of focus for my study: the use of visuals as text support, and the inclusion of critical thinking in school curricula for ELLs. Researchers have explored the effects of visuals support on reading comprehension for the general reading population and for ESL students, and have found that visual support has a strong positive effect on reading comprehension in both groups (Marcus, Cooper, & Sweller, 1996; Paivio, 1990; Sadoski, 2001). Much work has also been done in the field of education regarding teaching critical thinking in the classroom; research shows that not only is it possible, but it is an integral part of the American education system; therefore its inclusion, as defined by American schools, is necessary for the continuing success of all students, including ELLs (Carr, 1988; Curry, 1999). Taking these two matters into account, I was interested in exploring their intersection. My research focused on three

specific questions related to the issues. Do graphic novels elicit critical thinking in ESL students' oral and written responses to literature? Do ESL students reading graphic novels demonstrate more critical thinking skills than ESL students reading text-only equivalents? Are evidence-supported critical thinking statements more prevalent in oral or written discourse for graphic or text-only novels?

## Summary

In this chapter, I have provided an overview of the basis for my study. Beginning with an overview of visuals as text support in the classroom, I introduced the ideas of schema theory and dual coding theory and explained how they form the theoretical backbone for my study. Several researchers have used these and other theories to illustrate that using visuals to support text has a positive effect on learners' reading comprehension and understanding of literature. In particular, there is solid support for the inclusion of alternative visual texts such as graphic novels in the ESL classroom. I then explained critical thinking as it relates to my study, including an overview of the background of Bloom's taxonomy and its influence on current academic standards. Although this framework has been criticized for its limitations, it remains a useful starting point for teachers to assess critical thinking in their students. Since students' ability to apply critical thinking is a central measure of academic success in the U.S., I argued that, despite the difficulty of teaching language and critical thinking simultaneously, it is imperative that L2 learners are provided access to thinking critically. My study attempts to explore the intersection of using graphic novels as visuals in the ESL classroom to foster the application of critical thinking skills. In the following

chapter, I will describe the methodologies used in my study.

# CHAPTER THREE: METHODOLOGY

This study was designed to explore the use of graphic novels in a literature-based ESL class. Specifically, I was interested in exploring how graphic novels support critical thinking compared to text-only novels. In addition, I wanted to know if students are better able express critical thinking orally or in writing. My research questions are as follows:

1. Do graphic novels elicit critical thinking in ESL students' oral and written responses to literature?
2. Do ESL students reading graphic novels demonstrate more critical thinking skills than ESL students reading text-only equivalents?
3. Are higher-level critical thinking statements more prevalent in oral or written discourse for graphic or text-only novels?

This was a case study that involved reading a novel in my advanced-level ESL class. Based on information I gathered from several mainstream language arts teachers at my school about the course objectives of the American literature class (which my students will transition to in the next two years), I developed discussion questions to assess the oral and written critical thinking skills that my students need to be able to apply. In my classroom, I then collected data on the students' application of critical

thinking skills as related to the novel we are reading. Students were divided into two groups: half read a graphic novel and half read the text-only version of that same novel. I recorded structured classroom discussions of both groups, which were analyzed using a limited categorical coding system.

A case study format was chosen for this study in light of the existing research on using comics and graphic novels in the classroom. Building on the findings of studies that have proven the effectiveness of visual support with second language learners (Levie & Lentz, 1982; Liu, 2004; Sadoski, 2001), I chose to look at a unique group of students—in this case, the students in my literature-based ESL class—to further explore how lessons based on graphic novels might be used to target and elicit the specific critical thinking skills that are required of these L2 learners in their mainstream language arts classes. These students will ideally be transitioning to mainstream language arts classes within two years; I hope that the findings of my study will have real relevance for the students and teachers at my school, and that they will illuminate some of the factors involved in using graphic novels with ESL students.

## Overview of the Chapter

This chapter describes the methodologies used in this study. First, the qualitative research paradigm and rationale for case study research is described. Second, data collection protocols are presented, including a description of the participants, setting, and data collection techniques used. Third, a description of the actual data collection procedures is included. Fourth, a description of the methods used for data analysis is presented, including a review of data verification methods. Finally, ethical

considerations as related to the study are covered.

## Qualitative Research Paradigm

I chose a qualitative research paradigm for this study, due to the specific nature of my inquiry and the type of classroom research I conducted. In accordance with the qualitative research framework, my study is focused on understanding the process involved in a phenomenon—in this case, the phenomenon of how ESL students reach critical thinking objectives in a literature class and the effect that graphic novels might have in achieving those objectives in that setting (Merriam, 2009). Another important aspect of qualitative research is that it is inductive; it builds from ideas and experience towards more concrete theory. Working from the body of research that supports certain aspects of my study, I built my hypothesis from my observations in the field, using a variety of methods common to the qualitative paradigm, to inductively build towards a working theory (Merriam, 2009; Creswell, 2007). In addition, the knowledge I sought to gain from this study—a rich description of my students' experience with graphic novels in my classroom—is best supported by a qualitative paradigm that can describe the phenomena in terms that might not be able to be described within another framework (Hoepfl, 1997; Merriam, 2009).

### Qualitative Case Study

Within the qualitative research framework, I conducted an instrumental case study, one that is based on the specific concern I have about a particular group of students (Creswell, 2007). My research questions were well suited to the qualitative

case study framework in that they focus on an issue that may not lead to clear-cut conclusions. Rather, I attempted to describe in rich detail the specific experience of my students, with the goal being to understand the complexity of the case rather than to generalize beyond the case (Creswell, 2007; Merriam, 2009).

The students in my class represent a bounded system, a central characteristic of the qualitative case study (Merriam, 2009; McKay, 2006). The bounded system in this study was the unique group of student participants in my ESL 4 class. The study was limited to only these students, only within the context of my classroom and the literature we were studying. These students and their experiences with expressing critical thinking skills, while reading either a graphic or text-only novel, were the unit of analysis in this case study.

Merriam (2009) defines the *instrumental* case study as one that offers insight into an issue or phenomenon, and is studied mainly to better understand the issue at hand. She states that, in this type of case study, the case itself (in the present study, the group of ESL students being observed) is less the point of focus to the issue being explored. In my study, although the student participants were chosen deliberately and were central to the research questions, I was more interested in understanding the phenomenon of students' interaction with graphic novels and critical thinking skills.

One common criticism of the case study method is that results cannot be generalized from a single case, implying that findings from case study research don't contribute much to the body of research in a particular field. Merriam (2009) argues that, in this context, "formal generalization is overvalued as a source of scientific

development; the force of a single example is underestimated" (p. 53). In this case, the kind of data and results I was hoping to find may be helpful to other teachers *because* of their case-specific, descriptive nature; other teachers may be able to integrate my results into study and practice in their own context. The value of case study research to the larger field, in this case L2 teaching and learning, is also affirmed, in that it serves as initial study in a particular area, paving the way for further research. Rather than scientifically generalizing results to a larger system, the research I conducted within my bounded system can provide important insights that may inspire further inquiry in the field.

## Data Collection

### Participants

The 11 students in the participant group were all members of my ESL 4 class. Since these classes are split by language proficiency and not grade, as traditional high school classes are, the students in this class ranged in age from 14 – 18. There were two 9th graders, two 10th graders, four 11th graders, and three 12th grade students; eight were male and two were female. The majority of the students were native Spanish-speakers from Latin America; five from Mexico and two from El Salvador. One student was from Somalia, and one student, whose native languages included Gujrati and Hindi, was from India. Most of these students had been in the U.S. for at least three years, and had been receiving ESL services during that time. Almost all of the students, with the exception of two, were taking a normal load of mainstream classes and were on track to graduate

after 12th grade. None of the students had yet taken a mainstream language arts class during high school due to their limited English proficiency levels.

This group of students was chosen because of their advanced-intermediate level of language proficiency. The ESL classes at this school are levels 1 through 5; students are placed in a certain class based on reading, writing, and speaking abilities as evidenced by placement tests and teacher recommendations. While there was diversity in the range of the reading and writing abilities of these particular students, in general they were able to handle the basic essay writing and treatment of literary themes present in an advanced ESL class such as the class in this study. In addition, these students need to become proficient in the reading, writing, and oral skills they will need for mainstream language arts classes; most of them displayed difficulty in that area but will be required to transition to the mainstream within two years. They were at a critical point in their high school education because of this, which made them uniquely suited to participate in this study.

Setting

This study took place at a high school located in a large suburb of a metropolitan area in the Midwest; the student demographic was a unique mix of affluent white students, a significant number of African-American students, and a fairly large population of Latino students, both native and non-native English speakers. ESL students made up about 3% of the school, which has a student population of approximately 1,400. The school has provided ESL services for over 20 years, and had experienced a major

shift in the ethnic background of its immigrant and second language students, with a sharp increase in the number of Latino students in the last 5 years.

The ESL program at the school had also experienced change, in both program model and staffing, in the recent years previous to this study. The program had shifted away from a separate, grammar-and-pronunciation focus to a more content-integrated, collaborative model that included increased partnership between ESL and mainstream teachers.

Data Collection Technique 1: Recorded Classroom Discussions

Structured classroom discussions in which the teacher-researcher and all students are participants were recorded and later transcribed for analysis. The recording of discussions is an effective observation tool, as it allows a firsthand and natural description of the responses in a discussion (Merriam, 2009, McKay, 2006). Since I was examining students' responses to novel-related questions that pinpoint critical thinking skills in the classroom setting (see Appendix A), using recorded discussion as an observation tool allowed me to code the student responses later while permitting me to be a full participant and guide in the discussion as it happened during class time.

Recorded discussions also allow for authentic language data collection. They are an effective method for collecting data that participants might not include or be able to express in writing, or that they may not be able to produce in a higher-stress interview situation (Merriam, 2009). In this study, the data collected from class discussions allowed me to specifically explore students' oral expression of critical thinking skills in a class-discussion format, rather than in a more formal oral interview situation. Despite

the possible open-endedness of the class discussion format, and the potential difficulties in analyzing the data, I was convinced that this kind of rich, descriptive data would provide the information related to both critical thinking skills application and student response to graphic novels that I was looking for. In addition, these discussions took place in the normal class context; students had a chance to contribute to the discussion and respond to each other, which encouraged the production of data that was not only rich, but authentic as well.

Data Collection Technique 2: Student Journals

Daily student journal responses were collected as another method of assessing students' critical thinking skills as related to the novel. Student journal responses consist of researcher-generated prompts (see Appendix B), followed by students' written responses to the prompt. As such, they provide another form of observation data (Merriam, 2009). This type of data follows the same guidelines for any observation data: it is systematic and guided by questions. In the case of my study, it also provided the added function of triangulating students' responses; I was able to gather a broader picture of students' critical thinking responses by including their writing in addition to the oral responses from the recorded classroom discussions. The collection of this type of data in addition to oral class discussion data addressed a contextual factor present in my case study: students' varying abilities to express themselves either orally or in writing in English.

One advantage to including the written journals as data is that they can be a less-intrusive form of observation (Freeman, 1998; Merriam, 2009); students may express

thoughts in their written journal responses that they are either unable to or reluctant to express during the classroom discussions. Additionally, since these documents were generated specifically for this study, the usual challenges of relevancy and authenticity in collecting data from documents were not an issue.

A challenge in mining student-generated texts for data is the complex nature of written texts themselves; finding and using an analysis tool that isolates the element of text being studied can be difficult (McKay, 2006). Since I focused on the presence of specific critical thinking language, my analysis of the student texts was similar in nature to the analysis of the oral discussions—I used the same analysis tool for both types of data (see Appendix C).

## Procedure

### Participants

This group of students was chosen because they were all members of my ESL 4 class, a literature-focused transitional ESL class. The class met every day; the data collected for this study took place exclusively during that time; and the recorded class discussions were part of the curriculum of the class. There were 11 students in the class; it was my intention that at least nine of the students would be present during the class discussions. These discussions were structured as assessments of the students' ability to apply critical thinking skills to the literature orally, as well as to explore whether students were better able to express critical thinking through oral or written responses. Permission to take part in the study was obtained from the parents of all participants.

The eleven students in the class were split into two groups, in order to provide for

the comparison of the use of the graphic novel to its text-only counterpart. Students were placed into each group using a two-step process designed to balance the groups in terms of reading ability and also to randomize the sample. First, students were divided into two groups based on reading proficiency: low-intermediate readers and intermediate high readers. This determination was based on my knowledge of their reading ability as well as on their most recent Test of Emerging Academic English (TEAE) reading scores. Then, these groups will each be split in half and mixed randomly, resulting in two groups which are balanced in terms of strong and weak readers, but are otherwise random. This is a sample of convenience, yet this sampling methodology is consistent with qualitative critical case sampling; I used my knowledge of the participants and the context as a basis for choosing the student groups, in order to lend validity and reliability to the study (Hoepfl, 1997; Marshall, 1996).

The written student journal entries were collected on a daily basis as part of assessment for the class. Students answered a prompt question in their journals at the end of each week, and turned in the journals weekly over the four-week course of the unit. Students from both groups—those reading the graphic novel and those reading the text-only version--responded to the same journal prompts. For example, during the first week of the novel unit, both groups responded to the prompt "Do you think there could ever be a perfect society? If you do, what would it be like? If you don't, why not?". This prompt was followed the next week by the prompt, "What aspects of the world in Fahrenheit 451 remind you of our world today? How do you feel about these similarities?" These journal prompts were designed to prepare students for the weekly

class discussion, which were based on similar questions.

Pilot Study

A pilot study was conducted to test the efficacy of the discussion questions and coding categories, as well as the recording equipment used in the classroom discussions. A class discussion was recorded from a preceding novel unit, and the recording transcribed and analyzed using an adapted Bloom's taxonomy table (see Appendix 1) to create possible coding categories. Relevant student responses were initially highlighted in the pilot transcription to eliminate unnecessary data. For example, portions of the transcript that included teacher restatements, student comments unrelated to the discussion questions, and extraneous utterances ("mm-hmm;" "yeah") were not highlighted. What remained were individual student responses, varying in length, that addressed the discussion questions. From there, I created a table of the specific questions with the student responses listed below. I then coded each response with a number, 1-5, which represented the initial coding category. I coded each response by comparing it to the types of sample responses listed in the Bloom's Taxonomy. A response was given a code of 3, for example, if I felt that the response fell into the category of "apply."

The pilot study was valuable in terms of honing the specificity of the questions given to students, and in streamlining the methods used to organize and analyze the data. It became clear, after working with the oral responses from the pilot, that a more complex coding model would be needed in order to address my specific research questions and correspond to the specific type of data I was collecting. Based on the pilot

study, I was able to develop a coding model based on several other researchers' coding practices within studies assessing critical thinking (Garrison, et al., 2001; Gunawardena et al., 1997; Jeong, 2003; Murphy, 2004). I chose the model that best fit my questions and data (Gunawardena et al., 1997) and modified it by adding characteristics found in other models in an attempt to better target my research questions. I then added the cognitive process terms from Bloom's taxonomy that best corresponded to the descriptors and indicators in the new coding table (see Appendix C).

Materials

Reading selections. Each student group read a version of *Fahrenheit 451*, by Ray Bradbury, which is a part of the mainstream American Literature course curriculum. One group read the standard text-only novel, and the other read *Ray Bradbury's Fahrenheit 451: The Authorized Adaptation,* which is a graphic adaptation of the original. The original novel is assessed at a Lexile level of 890, which is considered on that scale to approximate a sixth-grade reading level; this is consistent with the approximate Lexile reading levels of the students in my class. The text portions of the graphic novel, both narration and dialogue, are largely verbatim from the original novel. Lexile scores do not account for the impact of picture support on reading comprehension, but the text portions of the graphic novel in this case are equivalent to the Lexile level of the original novel.

The texts were presented to the students in three different in-class formats: silent individual reading; out-loud partner reading, where two students read to each other; and large group reading, where teacher and students take turns reading out loud to the group. Students in my class are accustomed to switching between these methods of reading,

and all three were employed during the first week of the data collection period. After that time, students were allowed their choice of reading method; this allowed for exposure to different reading styles and also student choice for the method that suited them best as readers. During the data collection period, the two groups—graphic novel and text-only—began the class period together, but were then separated physically in two different classrooms for the remainder of the period, during which time they read their respective texts individually or together. The reading schedule was designed so that the various sections of each book were read at roughly the same time for each group; there was some variability because, although the two texts were roughly the same length, some sections of the graphic novel adaptation took less time to read. I circulated between the two groups during the reading time, both as observer and reader-participant.

Discussion and Journal Questions. Students were provided with weekly journal prompts, related to the week's reading passages, which were designed to scaffold the classroom discussion questions. Students spent twenty minutes at the end of each week responding to the journal prompts. Students were then provided with discussion questions prior to each week's group discussion.

The discussion questions were based on the week's readings and were designed to elicit responses that fell into the more advanced of Bloom's categories of critical thinking. Most questions were two-part, involving a question that fell into Bloom's levels 1 – 3 (lower critical thinking skills such as basic knowledge and understanding/comprehension) followed by a higher-order question (levels 4 – 6). For example, the first part of a question could be, "Describe the relationship between (two

characters)," a question that required recall from the story, falling into the lower levels of thinking. This could be followed by, "Why do you think the author included this relationship in the story?"—a question that required students to apply higher levels of critical thinking, evidenced by analysis and evaluation.

These questions were accompanied by a graphic organizer, provided the day before each discussion, which helped the students prepare notes and evidence for their responses to discussion questions (see Appendix A for examples of questions).

## Data Analysis

### Recorded Classroom Discussions

Each classroom discussion was recorded and then later transcribed by the researcher. Once the coding categories used in the pilot study were finalized, transcriptions were coded according to those categories. The results of this coding was sorted into tables which address the first two research questions, dealing with frequency of critical thinking responses between the two reading groups, and the quality of the responses, across both reading groups.

The data from the discussion transcriptions was analyzed using a limited coding system in the manner of discourse or interaction analysis. This method involves designing a coding system to isolate a specific aspect of classroom discourse (McKay, 2006)—in this case, students' oral responses in terms of certain critical thinking skills. The coding method chosen for this data set involved two stages of coding, in order to isolate and analyze the data most relevant to the research questions. Categories were formed from the data according to certain types of responses that signified the use of

critical thinking skills, based on the pilot study and previous researchers' data coding categories in similar studies. The coding table included five broad categories, called "phases" in the table, reflecting level of critical thinking. Each phase contained between one and 6 subcategories; these subcategories served to aid the coding process by honing in on certain indicators that illustrated a certain level of critical thinking.

Student responses were first highlighted to sift out the relevant data from the transcripts--for example, teacher comments and extraneous, unrelated comments from students were left out. Each relevant student comment unit was then coded according to the coding table. Each comment (considered a "unit" in the coding process) was coded with two numbers: both the general "phase" number and the subcategory number. For example, a comment such as "I think Montag was stupid to do that" fell into Phase 1, *sharing/comparing of information,* and received a subcategory code of 1, listed in the coding table as *a statement of observation or opinion*. Thus the comment as a whole was coded as 1.1. The subcategory numbers were not relevant to the analysis of data; they served to assist the researcher in more accurately coding each student comment.

Written Student Journals

The student journal responses were analyzed in a manner similar to that mentioned above. The journals were collected and the responses coded using the same limited-coding method as for the classroom discussions. The main distinction in the case of the journals was that the responses were embedded in paragraph form, whereas the transcriptions involved shorter responses from many individuals. As such, the journal responses needed to be split into logical thought units in order to be coded. This was

done in the manner of student text analysis (McKay, 2006), breaking the written passage into logical thought units to be coded, and finally counting the highest phase number of each student response. For example, within one student response, there were units that were marked at phases 1, 2, and 4. Apart from the distinction of breaking the responses into units, the coding categories and process was the same for the written responses as for the oral transcriptions. These results were analyzed together with and separately from the results of the oral discussion responses, in an attempt to provide a broader picture of the case, and to bring to light any significant differences that emerged in comparing the two groups.

## Verification of Data

The data collected and analyzed in this study follow a qualitative case study approach that includes triangulation from several different types of data, as well as analysis that presents the data in both qualitative and quantitative formats (Merriam, 2009; McKay 2008). Data from the written responses and oral discussion responses will be presented in several different tables, in an effort to triangulate the data: 1) comparison of *frequency* of certain types of critical thinking responses in text-only and graphic novel groups (both oral and written responses), and 2) comparisons between written and oral data within and between both groups.

I attempted, through the use of several methods of data collection and analysis, to ensure the reliability of the information in this case study. However, it should not be taken as generalizeable to the general population, as its components and results are unique to the specific context of the study. In the discussion of findings contained in the

next chapter, I describe my results in light of the context-specific nature of the study.

## Ethics

This study included the use of the following safeguards to protect participants' rights:

1. Research objectives will be shared with student participants and with the parents of student participants.
2. Written permission will be obtained through an informed parental consent form for all student participants, as well as informed consent from the school and school district.
3. Participants' names will be changed; where names are used, a pseudonym will replace the actual name of the participant.
4. The study will be approved through an official IRB process at Hamline University.
5. The study will be conducted under the supervision of Dr. Cynthia Lundgren at Hamline University. She may be reached at 651-523-2751.

# CHAPTER FOUR: RESULTS

This study took place at a high school located in a large suburb of a metropolitan area in the Midwest. I collected my data in an advanced ESL class of 11 students through the use of recorded classroom discussions and short written responses. By analyzing these data, I sought to find out if the use of graphic novels in as ESL literature class had a positive effect on students' use of critical thinking skills. Specifically, do graphic novels elicit critical thinking in ESL students' oral and written responses to literature? Do ESL students reading graphic novels demonstrate more critical thinking skills than ESL students reading text-only equivalents? Are higher-level critical thinking statements more prevalent in oral or written discourse for graphic or text-only novels?

## Reading Groups

The 11 students in the class were split into two groups, one of which read a traditional novel and the other a graphic adaptation of the same novel. Each group was intentionally formed to include a mix of students with high and low reading levels. Both groups read corresponding sections of the novel each day during the data collection period and participated in a total of four separate class discussions, one at the end of each week during the unit. The discussion questions for both groups were the same during each discussion; for example, Discussion #1 for both groups was guided by the same questions (see Appendix A). There were between 3 and 6 questions for each discussion, designed to encourage and elicit critical thinking about the novel. All students also

responded to a total of five written prompts, one at the end of each week and one concluding prompt at the end of the unit; these questions were also the same for both groups.

## Text-Only Group

### Oral Responses

Student responses from the text-only group were transcribed and then coded according to the critical thinking analysis tool I developed for the study (see Appendix C). Responses were coded with numbers 1 through 5 corresponding to levels of critical thinking, with 1 representing the lowest level on the scale. The number of responses corresponding to each critical thinking level was then tallied. Table 1 shows the total number of each type of response for all four text-only group discussions.

Table 4.1

*Types of Oral Discussion Responses: Text-Only Group*

| Thinking Level and Level Descriptors | Total Number of Responses (4 Discussions) |
|---|---|
| 1 (recognize: share/compare information) | 638 |
| 2 (understand: explore dissonance/inconsistency) | 108 |
| 3 (analyze: negotiate meaning) | 23 |
| 4 (evaluate: test/synthesize) | 5 |
| 5 (create: apply newly constructed meaning) | 0 |

Level 1 responses. The total number of level 1 responses was considerably higher than the other types of responses; in other words, the students participated more often with level 1-type thinking responses than they did with levels 2 through 5. This is not surprising, given that many level 1 student responses were short comments common to a classroom discussion format. Often, these were one-or two-word phrases following a prompt from the teacher, as illustrated by the following example from the transcript of the first discussion. In this excerpt from the first discussion, students and teacher are clarifying an idea that appears in the story. Student comments are in italics; numbers in parentheses represent the thinking level each comment was coded as (see Appendix C).

Teacher: That's a good point. Does everyone understand what the seashells are?

S2 (TOd1): *Technology*. (1.5)

S4 (TOd1): *Headphones*. (1.5)

The student responses in this example were both coded under *recognize*, as 1.5, (see Appendix C), by far the most common type of level 1 response for this group. These students responded with answers that showed they understood something that was happening in the story, and were able to recall it when prompted, but didn't elaborate further. The other typical level 1-type comments or responses that were evident in this group's discussions are exemplified in the following example:

Teacher: I want to hear from a couple other people. What book would you memorize, if you were in the same situation, and we knew that all the books were going to be burned.

S1 (TOd4): *The funny ones.* (1.1)

Teacher: Okay, Beatriz would memorize a funny book . . .

S3 (TOd4): *Interesting book* . . . (1.1)

Teacher: Something interesting . . .

S4 (TOd4): *Oh yeah, you would?* (1.4)

Teacher: Interesting like what?

S4 (TOd4): *I guess you would memorize a comic*. (1.1)

In this example, both student responses were coded as level 1; both types of responses were common to this group's discussion. Statements of opinion, such as those given by S1 and S3 in the above example, as well as S4's question clarifying the teacher's previous statement, were typical level 1 responses in these discussions.

Level 2 responses. The instance of each consequent type of response, levels 2 through 5, was progressively lower for the text-only group: there were 108 level 2 responses and no level 5 responses. A typical exchange containing level 2-type responses (with coded level in parentheses) can be seen in the following example:

Teacher: . . . If we let people read books then they might, like, take over the world.

S2 (TOd4): *That would be cool.* (1.1)

S4 (TOd4): *They already are*. (1.5)

S3 (TOd4): *We cannot take over the world. Because there is big security, you have to go through everything*. (2.4)

S2 (TOd4): *They could be really smart*. (2.3)

Teacher: People have too much freedom, though. They think too much about bad things, so . . .

S4 (TOd4): *Because the government's terrible. Worse than the Somalian government.* (2.5)

The students in this example were going beyond level 1 responses, dialoguing and sometimes disagreeing with each other, using examples from real life to illustrate the points they were making. This exchange was typical in that the level 2 responses are preceded by teacher prompting and student opinions. Exchanges like this also frequently occurring in this group's discussions, 108 instances, as opposed to lower instances of levels 3-4; among responses higher than level 1, exchanges containing level 2 responses made up the bulk of the discussions.

Level 3 responses. Although there were fewer responses coded at levels 3 and 4, the students did occasionally display responses at these levels. Of these occurrences, the majority of level 3 responses fell under the 3.1 code, negotiating the meaning of terms or story elements, as can be seen in the following example:

Teacher: Well, can you think of any examples from the book where that happened, where people died for books?

S2 (TOd3): *No* . . . (1.4)

S3 (TOd3): *Yeah, that lady*. (1.5)

S5 (TOd3): *Yeah, that old lady*. (1.5)

S2 (TOd3): *Oh yeah, okay. But I mean like . . . why is it so serious that they get killed for a book?* (3.1)

Here, S2 goes beyond just talking about what happened in the story. Even though he seemed to not remember exactly what had happened in the part of the story being discussed, after being reminded by other students, he continues on to question the meaning of an important element of the story, indicating that he is going beyond levels 1 and 2 on the thinking-level scale.

Level 4 responses. Student responses that went beyond level 3 were quite rare for this group, 5 total responses among the four discussions, but several instances of level 4 responses did occur. In the discussion leading up the following example, students were making predictions about what would happen to the society portrayed in the novel, debating whether or not people being able to read books would be better or worse for society as a whole:

Teacher: Don't you think that would create more problems, though?

S3 (TOd4): *If what?* (1.4)

S4 (TOd4): *It would create more problems. If all the people have so much knowledge, then everybody would be like, "I'm smart. Oh, I'm smart too." And they just gonna fight.* (3.5)

S3 (TOd4): *Well, that's—you know, that's kinda like the first question that we did, like is there a perfect society? No!* (4.4)

In this excerpt, S3 is relating the theme being discussed to a theme that was mentioned in a previous discussion, characteristic of a level 4 response, "synthesizing or relating overarching themes from the story" (see Appendix C).

Level 5 responses. There were no level 5 responses for this group. In order to account for this absence, I looked at the types of discussion questions the students were prompted with and compared them to the descriptors of level 5 responses in my coding tool. Typical discussion questions were prompts such as,

1. In your opinion, what would our society be like without books? Think about specific things that might be affected.
2. If you had to memorize a single book or risk its extinction, which book would you choose? Why? What is the value to society of the men memorizing books?

These questions were designed to prompt critical thinking responses beyond level 1, *recognize*. However, most of them don't contain specific prompts that would possibly elicit level 5 responses. A level 5, or *creating*, response is described as a summarization of agreement, application of new knowledge, and metacognitive statements by participants illustrating understanding that their ways of thinking have changed (see Appendix C). Questions designed to elicit level 5 responses could include asking students to think about how their thinking has changed (metacognitive statements), or asking students to evaluate other students' responses (summarization of agreement). These kinds of questions were not included in my discussion guides.

Written Responses

Students responded to one writing prompt per week, and were required to respond in short answer form. Most student responses were between 2 and 3 sentences in length. The responses were then coded using the same critical thinking analysis tool as was used

for the oral discussion data. The only difference in the coding process was that, due to the longer nature of the written responses compared to the students' utterances in discussions, the written responses could be split into logical thought units, which were then coded. Some shorter responses therefore contained only one thinking level; other longer responses were coded as two or more thinking levels. For example, the following written response contained two different types of responses, noted in parentheses:

Question: What aspects of the world in Fahrenheit 451 remind you of our world today? How do you feel about these similarities?

S1(TOq1): *That the technology is almost the same except that you don't have firefighters burning the books and you can read all the books you want, all the technology has, or it's almost the same as the book* (2.5). *And I feel scare if the future was like the book because they could kill you with a Mechanical Hound* (3.7).

In this example, the student's answer is comprised of two ideas: first, he compares elements of the story plot to real life, and then he makes a prediction based on something from the story. This example was typical of multiple-part written responses for this group.

Table 2 shows the total number of types of responses for the written data.

Table 4.2

*Types of Written Responses: Text-Only Group*

| Thinking Level and Level Descriptors | Total Number of Responses (5 written prompts) |
|---|---|
| 1 (recognize: share/compare information) | 7 |
| 2 (understand: explore dissonance/inconsistency) | 18 |
| 3 (analyze: negotiate meaning) | 6 |
| 4 (evaluate: test/synthesize) | 3 |
| 5 (create: apply newly constructed meaning) | 0 |

Level 2 responses. These data demonstrate that there was a greater incidence of level 2 responses in the written data for the text-only group than there was for the other levels of critical thinking responses. A typical level 2 written response follows:

> Question: In your opinion, what would our society be like without books? Think about specific things that might be affected.
>
> S4 (TOq3): *I think that it would be way different because you learn about anything in books* (2.4) . . .

The response in this example demonstrates that the student was using personal experience to illustrate his opinion, that things would be "way different," indicative of a level 2 response. The question was designed to elicit predictions and making connections between textual themes and students' lives, but many of this group's written responses

were similar to the above example: using simple examples from real life or the story to support an opinion.

Written versus oral responses. The data can also be examined by comparing the written response types to the oral response types. Since the total number of responses in the oral data was much higher than the written data due to the nature and length of the discussions, it is useful to compare the two types of data in terms of frequency of certain types of responses expressed by percentage. Overall, there are some significant differences between the oral and written data as far as number of certain types of thinking-level responses, as can be seen in Table 3.

Table 4.3

*Types of Responses in Oral and Written Data: Text-Only Group*

| | Instance of Each Response Type Expressed as Percentage of Total Responses | |
|---|---|---|
| Thinking Level and Level Descriptors | Oral | Written |
| 1 (recognize: share/compare information) | 82% | 21% |
| 2 (understand: explore dissonance/inconsistency) | 14% | 53% |
| 3 (analyze: negotiate meaning) | 3% | 18% |
| 4 (evaluate: test/synthesize) | 0.06% | 9% |
| 5 (create: apply newly constructed meaning) | 0% | 0% |

The greatest incidence of response type for the oral data were level 1 responses, at 82%, while level 1-type responses accounted for only 21% of the responses in the written data. In the written data, responses such as the following level 1-type response were rare:

Question: Do you think there could ever be a perfect society? If you do, what would it be like? If you don't, why not?

S3 (TOq1): *I don't think so.* (1.1) *There's too many problems going on, and I don' t think there could be a perfect society.* (1.1)

In this written response, the student does not support her opinion with any examples or reasoning, which was atypical of the written responses. Most students supported their statements with at least one if not more examples, indicating a higher thinking level.

Level 3 responses. Another notable difference in the written and oral data for this group can be seen in the instance of level 3 responses. 18% of the written responses fell into the level 3 category, compared to only 3% in the oral discussions. A written response containing two level 3 comments follows:

Question: What aspects of the world in Farenheit 451 remind you of our world today? Think about technology, government, entertainment, etc.) How do you feel about these similarities?

S6 (TOq2): *That the technology is almost the same, except that you don't have firefighters burning the books and you can read all the books you want, all the technology has, or it's almost the same as the book* (3.3) *and I feel scared if the future was like the book because they could kill you with a Mechanical Hound*. (3.7)

This student responded to the question completely, identifying areas of difference between his world and the novel, as well as making a prediction and supporting it with events from the story, components that describe different aspects of level 3 responses.

## Graphic Novel Group

### Oral Responses

This group's oral responses from the class discussion were transcribed and coded in the same way the text-only data was analyzed, using the same data analysis coding tool. Table 4 shows the number of different types of critical thinking responses that emerged from the graphic novel group discussions.

Table 4.4

*Types of Oral Discussion Responses: Graphic Novel Group*

| Thinking Level and Level Descriptors | Total Number of Responses (4 Discussions) |
|---|---|
| 1 (recognize: share/compare information) | 368 |
| 2 (understand: explore dissonance/inconsistency) | 121 |
| 3 (analyze: negotiate meaning) | 11 |
| 4 (evaluate: test/synthesize) | 13 |
| 5 (create: apply newly constructed meaning) | 1 |

Level 1 responses. Level 1 answers were the most frequent among this group's discussions. Of those, a typical exchange from this group follows:

Teacher: . . . The last theme, which I also think is related to the other theme of entertainment, is happiness.

S3 (GNd3): *They are not happy*. (1.5)

S5 (GNd3): *There is not happiness in the book*. (1.5)

Teacher: So, yes, on a kind of surface level people aren't very happy, right?

S5 (GNd3): *No*. (1.4)

S2 (GNd3): *Some of them maybe are*. (1.1)

In this example, the students respond to the teacher's prompt with simple statements about what's happening in the story ("They are not happy") without supporting those statements with evidence or reasoning. In addition, this exchange contains simple opinion statements, also typical of level 1 responses.

Level 2 responses. The second-most frequent type of response was level 2, at 121 total responses. Of these, the majority were coded as 2.4, or responses that refer to examples from the story, real life, or accepted knowledge to illustrate an opinion or to make sense of the story. An example follows:

Teacher: Okay. So, any other things that are similar between our world and the world in the book, Montag's world?

S2 (GNd1): *It's a lot of technology, they have a lot of technology*. (2.4)

S4 (GNd1): *That's about the second question*. (2.1)

Teacher: Well, it's related to the first and second question. They do have a lot of technology, like what were some examples?

S4 (GNd1): *Like, you can be on TV*. (2.4)

S1 (GNd1): *Like this book, there is like, I don't know, to me it looked like doctors . . . I don't know if they were doing experiments.* (2.4)

Teacher: Mm-hmm, it looks like they're using some machines that we don't have, like it's a lot of technology.

In this excerpt, the students were still trying to make sense of and understand the story, but they were moving beyond level 1 responses by using specific examples from the novel. In addition, S4 displayed another kind of response characteristic of a level 2 response when he suggests that another student's comment may be irrelevant to the issue at hand.

Level 3 and 4 responses. Level 3 and 4 responses were less common for this group, but were seen with about the same frequency; 11 and 13 total, respectively. In the following exchange containing these types of responses, students and teacher were discussing whether or not censorship is positive or negative:

Teacher: And what about you, Raul?

S2 (GNd2): *Um, because, depends, like if you're talking about censoring stuff from children, it's different than censoring things from adults.* (3.4)

Teacher: Okay, what do you think, Giovanni? I think that you made a good point, that it's different to censor things from all people in a whole society versus just children like you said.

S3 (GNd2): *Yeah, like in the military they have to do it because they don't want attacks, and they like have to censor the people that control the*

*ships and all that, so if they know something, like something's bad . . . because they could take to someone that's not from them, like a ship that's not from them.* (3.6)

Teacher: So you're saying it's a good thing or a bad thing?

S3 (GNd2): *Well it could be a good thing if it's used for something like that, like to censor what people say in that situation.* (4.3)

In this example, S2 is able to break the issue at hand into parts. Then, with some prompting from the teacher, students go on to use the analogy of censorship in the military, relating it to the theme in the story, and furthering the train of thought by coming to an evidence-supported argument.

Level 5 responses. This group displayed the only level 5 response that was seen in both written and oral data in the study. As previously mentioned, the questions and prompts perhaps weren't targeted towards eliciting level 5 responses; in the following example, the student from the graphic novel group is making a metacognitive statement about her way of thinking about the story, one aspect of a level 5 response. Students and teacher were discussing the merits of the graphic novel format, unbidden by the guided questions, and this student offered insight into how the graphic novel format affected her reading of the novel:

S2 (GNd3): *Or like, if you forget the name of someone* [a character], *and they* [the author] *just keep saying, "she" or whatever, and then you don't know who is talking. Like I'll put the example of the dog . . . like we start with "the Hound" and then in the middle they say*

> *"the Hound" again and you're like, "who's that?" . . . you remember faster* [with the graphic novel] *because you remember the images, and then you're just like, "oh yeah, I remember what's going on.* (5.3)

Written Responses

Students in the graphic novel group responded to the same written prompts as the text-only group, in the same order. All students in this group responded to all written prompts except for one student, who was absent on two of the days the written responses were collected. Written responses from this group were analyzed in the same manner as the text-only group, using the same coding method and analysis tool. Table 5 shows the total number of each type of response represented in the written data for this group.

Table 4.5

*Types of Written Responses: Graphic Novel Group*

| Thinking Level and Level Descriptors | Total Number of Responses (5 written prompts) |
|---|---|
| 1 (recognize: share/compare information) | 7 |
| 2 (understand: explore dissonance/inconsistency) | 20 |
| 3 (analyze: negotiate meaning) | 6 |
| 4 (evaluate: test/synthesize) | 5 |
| 5 (create: apply newly constructed meaning) | 0 |

Level 2 responses. There were fewer level 1 responses displayed in this group's written responses than there were from levels 2 through 4, with level 2 responses being the most prevalent. A typical level 2 response follows:

> Question: Do you think there could ever be a "perfect society"? If you do, what would it be like? If you don't, why not?
>
> S3 (GNq1): *I don't think it would be possible because if you want that you need everybody to have the same thoughts of everything and that is just impossible.* (2.4)

This student responded to the question with an opinion and supported it with his own real-life experience, that people will never all think the same, but didn't take it further with specific examples, indicating a level 2 response.

Written versus oral responses. Data from the graphic novel group can also be analyzed in terms of the written versus oral discussion responses and the differences between response types in each. It is helpful to compare the two sets of data in terms of percentage to account for the difference in size of total responses for each data type.

Table 4.6

*Types of Responses in Oral and Written Data: Graphic Novel Group*

| Thinking Level and Level Descriptors | Instance of Each Response Type Expressed as Percentage of Total Responses: Oral | Written |
|---|---|---|
| 1 (recognize: share/compare information) | 72% | 18% |
| 2 (understand: explore dissonance/inconsistency) | 24% | 53% |
| 3 (analyze: negotiate meaning) | 2% | 16% |
| 4 (evaluate: test/synthesize) | 3% | 13% |
| 5 (create: apply newly constructed meaning | 0.2% | 0% |

The percentage of total oral student responses that were level 1 answers for the graphic novel group constituted the majority of responses in that group's discussions, 72%. From there, the percentage for each subsequent level of response decreases. In contrast, 18% of the written student responses for the graphic novel group were level 1. The greatest percentage of responses for the written data were level 2 responses, at 53%. Written responses, therefore, were more often supported by evidence and examples from real life and the book, going beyond level 1 responses, as can be seen in the following example from this groups' written data:

Question: How has Montag changed over the course of the story? Support your answer with examples from the book.

S5 (GNq5): *He now thinks that books are important and he is trying to get rid of the firemen.* (2.4) *He is thinking more about his actions and*

*everything he does, like in page 126 when he puts the book on the fireman's house.* (4.3)

Here, the student is referring to what's going on in the book to open her response, followed by a more in-depth analysis where she specifically supports what she's arguing by citing an example from the novel. Although the second part of her response seems like it could fall more into the 2 category (using examples from the story to support her statement), some context in this example is helpful in understanding the coding choice. In this instance, the student supported an argument she was making (connecting the character's actions to what she was guessing about his motivations), rather than just trying to make sense of something that was overtly present in the story; this is indicative of a level 4 response.

Level 3 and 4 responses. The incidence of level 3 and 4 responses was also significantly higher for the written responses then they were for oral responses. Of these, most could be described as making predictions based on story elements or story-life connections, coded as 3.7 (see Appendix C), and using evidence based on personal experience to support arguments, existing schemata, or examples from literature, coded as 4.3. An example of the former follows:

Question: In your opinion, what would our society be like without books? Think about specific things that might be affected.

S3 (GNq3): *I think that it would be very big changes because all of our knowledge is on the books and without them maybe there would be no more schools and all we know would be lost.* (3.7)

This student not only supports his opinion with his understanding of the world, that all knowledge is in books, but also makes a prediction that he supports with specific examples.

## Text-Only and Graphic Novel Groups Compared

In comparing data between the two groups, there were some significant differences in several areas. It is useful to first compare both groups in terms of first oral and then written data, in order to observe more clearly the differences between the groups in each area. Table 7 shows the frequency of each type of response in the *oral* data for both groups, expressed as percentage.

Table 4.7

*Types of Responses in Oral Data: Text-Only vs. Graphic Novel Group*

| Thinking Level | Text-Only Group | Graphic Novel Group |
|---|---|---|
| 1 (recognize) | 82% | 72% |
| 2 (understand) | 14% | 24% |
| 3 (analyze) | 3% | 2% |
| 4 (evaluate) | 0.6% | 3% |
| 5 (create) | 0% | 0.2% |

Level 1 responses were the most common among the oral data for both groups; however, the text-only group had a considerably higher percentage of this type of response (82%), compared to the graphic novel group's level 1 responses (72%). As can

be seen in the examples in previous sections, these level 1 responses were similar in content between the groups. The one notable exception to this was that the *text-only* group's level 1 responses tended to display more questioning and clarifying about story events, as can be seen in the following example:

Teacher: Does someone want to remind us about what happened at the end of the story?

S5 (TOd4): *He escaped.* (1.5)

Teacher: Montag escapes . . .

S1 (TOd4): *They're going to build a mirror factory.* (1.5)

Teacher: They're going to build a mirror factory, yeah . . .

S5 (TOd4): *Oh, and there were those other guys that, um, like* . . . (1.5)

Teacher: Yeah, and who were those other guys?

S2 (TOd4): *The professors?* (1.5)

S1 (TOd4): *Teachers?* (1.5)

This type of exchange was common in the text-only group's discussions, and often illustrated that students were confused about story events. In contrast, the graphic novel group's level 1 responses tended to contain more opinion statements and references to real-life information.

Among the oral responses categorized as level 2 and above, the graphic novel group had a higher percentage of 2, 4, and 5 responses, with level 2 responses representing the most substantial difference: 24% versus the text-only group's 14%.

Level 3, 4, and 5 responses occurred with only slightly more frequency in the graphic novel group than they did for the text-only students.

There were similar differences among the *written* data for both groups. Table 8 shows the frequency of each type of written response for each group.

Table 4.8

*Types of Responses in Written Data: Text-Only vs. Graphic Novel Group*

| Thinking Level | Text-Only Group | Graphic Novel Group |
|---|---|---|
| 1 (recognize) | 21% | 18% |
| 2 (understand) | 53% | 53% |
| 3 (analyze) | 18% | 16% |
| 4 (evaluate) | 9% | 13% |
| 5 (create) | 0% | 0% |

As with the oral data, level 1 answers made up a lower percentage of the written responses for the graphic novel group (18%) than they did for the text-only group (21%).

Among the responses higher than level 1, the two groups had the same percentage of level 2 answers in their written responses, 53%. The text-only group had a slightly higher percentage of level 3 responses, 18% versus 16%; this is the only instance in both oral and written data in which the text-only group's numbers were higher. The graphic novel group had a higher percentage of level 4 responses, and neither group displayed any level 5 responses in the written data.

In light of the significant difference in both oral and written data between the percentage of level 1 responses compared to all other levels (2 – 5) for both groups, it is helpful to isolate those responses categorized as levels 2 and above from the level 1 responses. This allows the data to be examined more specifically from the perspective of higher-level responses only. Table 9 shows the oral and written responses categorized as 2 and above for both groups, expressed both in total response numbers and percent of total responses for each group. The table also highlights the *combined* frequency of oral and written ≥ 2 responses for each group.

Table 4.9

*Level 2 and Above Percentages in Oral AND Written Responses*

| | Text-Only Group | | | Graphic Novel Group | | |
|---|---|---|---|---|---|---|
| | Oral | Written | Combined | Oral | Written | Combined |
| ≥ 2 Responses (percentage of total) | 18% | 79% | **20%** | 28% | 82% | **32%** |

The percentage of total responses categorized as 2 and above was higher for the graphic novel group than for the text-only group in both oral and written data. Specifically, 32% of the graphic novel group's written and oral responses were categorized as level 2 and above, whereas only 20% of the text-only group's responses were level 2 and above. The difference was more pronounced between the two groups for the oral data than it was for the written data. This difference is highlighted more specifically in Table 10, which shows the each group's percentage of level ≥ 2 responses in terms of oral versus written data:

Table 4.10

*Types of Responses in Text-Only and Graphic Novel Groups: Oral vs. Written Data*

| | Oral Responses | | | Written Responses | | |
|---|---|---|---|---|---|---|
| Thinking Level | Text Only | Graphic Novel | Combined | Text Only | Graphic Novel | Combined |
| % ≥ 2 Responses | 20% | 32% | **22%** | 79% | 82% | **81%** |

When examined in this light, it can be seen that when comparing kinds of data, oral versus written, there was a substantial difference between the two. The overall average of both groups' 2-and-above responses was considerably higher (81%) for the written data than it was for the oral data (22%). This comparison represents the most marked difference that emerged from the data analysis, both between groups and between oral versus written responses.

In comparing the two groups, the data can also be examined in terms of average number of responses per student. Table 11 displays the average number of responses categorized as 2 and above for both groups. This is useful because it takes into account the differences in the number of student participants in each discussion and collection of written data.

Table 4.11

*Average Number of ≥ 2 Responses per Student: Text-Only and Graphic Novel Groups*

| | Text-Only Group | | | Graphic Novel Group | | |
|---|---|---|---|---|---|---|
| | Oral | Written | Combined | Oral | Written | Combined |
| Average Number of 2+ Responses per Student | 22.7 | 6.4 | **16** | 32.4 | 6.7 | **19.5** |

The graphic novel group had a higher average incidence of level ≥ 2 responses in both oral and written data, 32.4 and 6.7 responses per student, respectively, than the text-only group, with 22.7 oral and 6.4 written ≥ 2 responses per student. When the two averages are combined for each group, the graphic novel group's average 2-and-above response-per-student ratio is 19.5, as compared to an average of only 16 per student in the text-only group. Consistent with the data shown in the previous tables, there was a greater difference in the oral data between the two groups than there was among the written data.

## Conclusion

In this chapter I presented the results of my data collection. Overall, the data show that both participant groups, text-only and graphic novel, exhibit a greater percentage of level 1 responses than higher-level responses. For both groups' written response data, the percentage of total answers for each subsequently higher thinking level decreased. In contrast, the written response data for both groups showed a higher percentage of answers categorized as level 2 than any other level; students in both groups

seemed better able to express level 2 answers in writing than orally. There were some substantial differences in numbers of higher-level response types between the text-only and graphic novel groups, in both the oral and written response data. In Chapter Five I will discuss my major findings, their implications, and suggestions for further research.

# CHAPTER FIVE: CONCLUSIONS

In this study, I examined the questions: Do graphic novels elicit critical thinking in ESL students' oral and written responses to literature? Do ESL students reading graphic novels demonstrate more critical thinking skills than ESL students reading text-only equivalents? Are higher-level critical thinking statements more prevalent in oral or written discourse for graphic or text-only novels? In this chapter, I will discuss the major findings of my research, as well as limitations of the study, implications, and suggestions for further research.

## Major Findings

The following findings emerged from the analysis of data in this study:

1. The graphic novel group produced more higher-level (categorized as 2 and above) responses than the text-only group overall, both orally and in writing.
2. Students in both groups seemed better able to exhibit critical thinking skills in writing than they did orally.
3. Students may not be provided the opportunity to fully engage in critical thinking in the literature class setting.

### Finding 1

Students in the graphic novel group produced more evidence of higher level critical thinking skills, as shown by the higher number of responses coded as 2 or above,

than the students reading the text-only novel. Including written and oral data, the graphic novel group had 32% of student responses coded as level 2 and above, as opposed to the text-only group's 20%. This is a 12% difference between the two groups overall. In addition, this finding can be examined in terms of average number of higher-level responses per student: the graphic novel group displayed a combined average of 19.5 level-2-and-above responses, whereas the text-only group's 2-and-above response-per-student average was 16. This represents a difference of 3.5 responses per student. Although this difference does not seem very sizeable in terms of number, it is important to note that a small difference--each student responding with about 3.5 more higher-level responses--made a big difference in the overall level that student responses reached, because each higher-level student response can serve as a model for fellow students. When students contribute more higher-level thinking responses, other students are encouraged to build from one another, and this allows the discussion as a whole reach higher levels.

This finding speaks to perhaps the two most central questions in my study: graphic novels *do* seem to elicit critical thinking in ESL students' oral and written responses to literature. ESL students reading graphic novels also seem to demonstrate more critical thinking skills than ESL students reading text-only equivalents, supporting research that has shown that all students tend to better comprehend what they are reading with the inclusion of visual supports such as graphics or images (Liu, 2004; Marcus, Cooper, & Sweller, 1996).

Students reading the graphic novel may have been able to get to a deeper understanding of the text because their comprehension of basic story elements was not impeded by dense text or unfamiliar words in the story, since they had visuals available to help them process more abstract concepts. Sweller's (1988) schema theory states that real-world ideas and concepts are stored in the mind in the form of schemata; these help a reader process complex ideas and avoid overloading the working-memory capacity, which can impede comprehension. Images and drawings in the graphic novel represent the schemata in this instance. For example, through the drawings, students had access to schemata for an invention such as a mechanical dog (the Mechanical Hound in the story) which may have allowed them to spend time processing the story more deeply rather than becoming caught up in figuring out what a Mechanical Hound was. This interpretation of my finding is consistent with several studies that have used schema theory as a basis for explaining the positive effect of visual support on reader's comprehension (Bensoussan, 1998; McCrudden, 2004; Nassaji, 2007), and therefore their ability to take the next step of applying critical thinking skills.

Students in the graphic novel group may have also benefitted from what Sadoski (2001) termed the dual-coding system. Students who read the graphic novel had two different forms of information—visual and text—available to them as they read the story. Based on the dual-coding theory, this may have helped them to better comprehend the text, as they were able to access the mental representations in the story using two different mental systems. Several researchers have found the inclusion of both forms of

information to have a positive effect on reading comprehension, consistent with my findings (Liu, 2004; Rasco, 1975; Sadoski, Goetz, & Fritz, 1993).

Students in the graphic novel group were able to not only match but exceed the levels of responses displayed by the students who read the text-only version. Not only does this demonstrate that students can benefit from the addition of visuals such as those present in a graphic novel, but it validates the graphic novel form as a choice for alternative or additional reading material in literature class settings. This finding demonstrates that graphic novels could serve in an equal--if not greater—capacity as text-only books in eliciting the kinds of critical thinking responses teachers are looking for from their students.

Finding 2

Students in both the text-only and graphic novel groups seemed better able to express critical thinking responses better in writing than they did orally in discussions, addressing my third research question. Overall, the combined percentage of 2-and-above responses for both groups in the written responses was 81%, compared to 22% for the combined oral response data. In comparing these two kinds of higher-level student responses, there was a greater discrepancy in the graphic novel group and text-only groups' oral data, 32%, than there was for the written data: 82% for the graphic novel group compared to 79% for the text-only group. These percentages suggest that not only were students able to respond more frequently with higher-level critical thinking skills in written form, but that both groups were able to express this kind of thinking at relatively the same rate in writing.

Students in both groups having more time to think about their written responses than they did during discussions could be one explanation for the difference. Students had a week of listening to classmates and thinking about the week's discussion before they were required to respond in written form. They had more time to formulate their ideas in writing, taking as much time as they needed, rather than being called upon to respond on the spot. Students may not have had the kind of language they needed to respond orally available to them for the faster-paced discussions.

The written responses were not being prescriptively analyzed; in other words, I was looking past argument structure and writing mechanics to focus more on the ideas that emerged from students' responses. Although many of the written responses contained just two or three sentences, they were indicative of higher levels of critical thinking. For example, most of the written responses didn't contain the simple retelling or clarifying of the story that was often present in the oral discussions; students got to the point of the written prompts more quickly, most of the time supporting their answers with examples from the book or real life.

Finding 3

A final important finding that emerged from the study was that students may not be being exposed to the kinds of curriculum and questions they need in order to practice higher level critical thinking skills. This is based on a twofold outcome in the results of my study: one, that level 1-type responses made up the vast majority of responses in the oral discussion data for both the graphic novel and text-only groups, and two, that

responses coded as level 3 and above were not common among written or oral data for either group.

It was anticipated that students would have difficulty with higher-level critical thinking responses, as each level on the critical thinking scale increases in cognitive difficulty (Anderson & Krathwohl, 2001; Bloom, 1956; Brown, 2004; Carr, 1988). As a result, responses that are considered higher-level are more rare because they are more difficult. However, students' lack of familiarity with higher-level critical thinking responses in the classroom could be an additional explanation for the prevalence of level 1 responses and lack of 3-and-above responses in my study.

As mentioned in Chapter 4, level 1 responses consisted of often-short statements of opinion or observation, clarifying questions, or descriptions of real-life events or events in the story. Although the percentage of level 1 responses made up the bulk of the discussions for both groups, the percentage was lower (72%) for the students who read the graphic novel than it was for the text-only group (82%). Specifically, students in the text-only group seemed to spend much of their discussion time clarifying (with level 1 comments) what had happened in the story, rather than moving forward with a higher-level analysis. In contrast, accurate statements about the storyline or characters, and also real life, made up the bulk of the graphic novel group's level 1 responses. This discrepancy could speak to the first finding, that those students reading the graphic novel were better able to comprehend the storyline due to the visual support present, even though in this case it didn't translate to significantly fewer level 1 responses. Despite the

difference in the content of level 1 responses between groups, both seemed to display a certain comfort level in keeping the discussion at a low level of critical thinking.

The scarcity of the highest-level thinking responses (3 and above) can perhaps be explained by the fact that ESL students have not been asked to or instructed in giving these types of responses in a classroom setting. Curry's assertion (1999) that ESL curriculum often does not include critical thinking aspects because ESL students are perceived as not capable of this kind of complex thought applies here. Perhaps it is not just that most students are not exposed to critical thinking skills in their courses, but that ESL students, because of their lack of proficiency in English, are perceived to be incapable of integrating higher levels of critical thinking into their academic lives. If this is true, then students like those in my study are affected not just because they may miss out on fully understanding a piece of literature, but also because they may be set on an academic track that is below their actual capacity. Because so few students responded at an advanced level of critical thinking suggests that not only do these students need explicit instruction in this area, but that using alternative tools such as graphic novels may be one way to allow these students better access to the grade-level critical thinking-focused curriculum that they deserve.

As I analyzed the oral data transcripts, I noticed that both groups often needed prompting from me, and often would not respond with higher-level responses unless specifically prompted. Students did not respond to or play off of each other's responses as much as I had expected them to. There is a possibility that this is due to students being used to responding at this level in the classroom, whether in formal discussions or other

oral formats. Although the use of critical thinking skills is an integral part of current academic standards (Anderson & Krathwohl, 2001; Ennis 1985), it is possible that not all teachers or schools envision the development and practice of these skills playing out in the classroom in the same way. Teacher questioning has a great impact on the level of student responses produced; if students are not exposed to higher-level critical thinking interactions in the classroom, they are less likely to produce higher-level critical thinking responses (Redfield & Rousseau, 1981). In addition, although critical thinking skills are part of the skill set being assessed in standardized tests (Anderson & Krathwohl, 2001; Minnesota Department of Education, 2010), it is possible that some teachers are overwhelmed with teaching to more basic aspects of material and have not integrated critical thinking responses into oral teacher-student interactions (Corich, 2007; Facione, 1990).

As teacher-researcher, I was responsible for creating the questions and prompts that my students would respond to. I chose these based first on study guides and models I obtained from the mainstream language arts teachers (in an attempt to prepare my students for those classes), and second, on my knowledge of the critical thinking criteria present in academic standards. This finding suggests that there is room for improvement in both of these areas; ESL and mainstream teachers alike may need to take a closer look at the kinds of questions and expectations present in our lessons if we truly expect students to be able to express critical thinking skills at higher levels.

## Limitations

There were several limitations to my study. These include issues of teacher bias; differences in student attendance, ability and engagement; and content of discussion questions and written prompts.

One obvious limitation was that of teacher and researcher bias, both in data collection and data analysis. As teacher-participant, I was involved in each oral discussion and therefore had an effect on what students did and didn't say. My individual relationship with each student participant could have affected how students responded, as well as potentially affecting my reactions to their comments during discussions. In addition, my data collection was not blind—I knew which group the students were in—which may have also affected my treatment of them during discussions. Although this bias had potential to affect the amount and quality of student responses in the discussions, it probably would not have been ideal to have an unknown person conduct the oral discussions. Students felt relatively comfortable with me as their classroom teacher and were therefore willing to participate and take risks in a way that they may not have been with a stranger. In order to mitigate this bias, I attempted to allow students to carry the oral discussions as much as possible, only interjecting my own comments when the discussion lagged or was too far off track. Researcher bias in terms of the data analysis process can also be considered a limitation of the study. I coded the data transcriptions of oral and written data by hand; as a participant in the discussions and as someone who knows each student in a long-term capacity, I was not a neutral party. Despite my efforts at remaining consistent during the coding process, this could have affected the accuracy

of the data analysis. In order to lessen this bias, I attempted to remain neutral during the coding process, taking frequent breaks and mixing up the order of discussions I was coding in order to not be influenced by the knowledge of which discussion I was coding. I also used my committee members for feedback on the development of my coding table and accuracy of coding samples.

Another limitation of the study was the issue of individual student differences. Although I attempted to form the two reading groups in a balanced manner according to my knowledge of each student's ability and personality, these issues may have affected the outcome of the discussions in particular. Some students were, by nature or because of other outside circumstances, less engaged in the discussions than others; for example, several shy students may have responded more in depth in a smaller group setting, and a few students were dealing with personal issues that caused them to be silent or off-task in certain instances. This may have affected the data, and those students in a different situation may have been able to better express critical thinking skills, which would affect the results of the study. In addition, there were some days when students were absent during one of the discussions or written response sessions; ideally, all students in each group would be present, in order to keep the dynamics of the discussions especially as consistent as possible.

In analyzing the data, it seemed that the content of some of the questions, both oral discussion questions and written prompts, could have been a limitation. The questions and prompts were designed to reflect the kinds of questions students would encounter in a mainstream literature class, as well as elicit the kinds of critical thinking

responses I was hoping my students would display. In looking at the scarcity of responses at levels 3 and above, I can conclude that differently worded questions may have guided the students to higher-level responses. Specifically, as mentioned in Chapter 4, virtually none of the questions specifically included language or content that would elicit level 5-type responses, according to my coding tool. Students may have been able to respond at higher critical thinking levels with additional or differently worded questions.

## Implications

While this study cannot prove that graphic novels elicit more critical thinking skills for ESL students, the findings do suggest that graphic novels as visual support can help ELLs to express higher-level critical thinking skills in a literature-class setting. There are several implications that come out of the findings of my study.

One implication is that graphic novels can be a useful tool for high school ESL classrooms. Not only can ELLs benefit from reading graphic novels in terms of better comprehension of story events, but they are better able to express critical thinking skills in the discussions and written responses to these novels. Graphic novels like the one used in this study, as well as others that may not have text-only counterparts, may be useful to integrate into a curriculum. In addition, teachers of ELLs in other content areas such as social studies or science may want to consider incorporating graphic novels or other visually-supported texts into their curriculum; similar results and success with application of critical thinking skills could benefit teachers and students in these other areas.

Another implication of the study is that ESL students need to have opportunity to respond to literature both orally and in writing; empathically in writing, since that seemed to be the place where they were most able to express critical thinking skills. There was value in students being able to respond both ways in my study, since each allowed students to focus on different aspects of the novel and different levels of critical thinking; teachers who are interested in helping students to elicit critical thinking skills should not discount oral discussions, but should definitely include some sort of written-response assessment in addition. Focusing too heavily on oral classroom interactions about literature or other content areas may be detrimental to ESL students' development of and ability to show critical thinking skills.

A final implication from my study is perhaps the most pressing: ESL students need to be held to the same academic standards in regards to critical thinking skills as other students, since they are clearly capable but have perhaps not been taught to or expected to respond to literature in this way. This involves teachers taking a closer look at the reading materials used in literature classes, as well as the types of questions and tasks students are being asked to respond to. My study suggests that graphic novels, rather than being less academically-rigorous as some literature teachers believe, have in fact been shown in my study to suggest a path to deeper, more complex understanding of literature than their text-only counterparts for ELLs. In addition, teachers need to make sure that they are not expecting students to produce higher-level critical thinking responses without carefully crafting their instruction and questioning to elicit those responses.

The implication that ELLs are not being held to the same academic standards as other students is clearly important in the context of high schools in the United States. These students will continue to be held accountable to the same standardized tests as their native English-speaking peers; they may be college-bound, in which case the need for critically responding to literature is even more pressing. However, this implication does not only apply to ESL teachers and their students; mainstream teachers should take note, as well. Incorporating graphic novels into a literature class unit or curriculum, accompanied by a revision of questions and prompts for the literature, could be a good way to move towards the important goal of academic equality for all high school students.

## Further Research

Several questions arose during the course of this study that could benefit from further research. Most obviously, what would the results be if this study was repeated with different students, in a different classroom, with perhaps a different novel or non-fiction text? It would be interesting to see if students reading graphically-enhanced texts in other contexts would have similarly positive results.

My results suggested that students were better able to respond with higher-level critical thinking in writing than in oral discussions. Since students responded so well in writing, how could this be capitalized upon to not only elicit more critical thinking in ELLs, but maybe to *teach* critical thinking skills? What would that look like in a non-literature classroom? How could oral discussions be differently structured to give

students the important practice they need in expressing higher-level critical thinking skills about literature?

The finding that level 1 responses made up the bulk of all students' oral responses brought up some intriguing questions as well. In oral discussions, how does teacher-student interaction affect the quality and quantity of students' critical thinking responses? This is an area I would like to explore further in the future. Teacher comments in oral discussions could be analyzed for type of response, and compared to student responses, in order to attempt to answer questions of the effect of that interaction and its implications for planning the structure of classroom discussions. I also plan, in the immediate future, to share my findings with ESL and language arts colleagues at my school, in the hopes that we might broaden our curriculum to include graphic novels, as well as take a closer look at the questions we are asking students to respond to.

Finally, how would students respond differently if their discussions took place in a mixed group—with some that had read a text-only novel and others that had read a graphic novel counterpart? Would the results be similar to mine in terms of average student responses at higher critical thinking levels? Or would the different dynamic change the outcome of the discussion, as well as students' understanding and interpretation of the novel?

## Conclusion

I conducted this study because I wanted to find out if graphic novels could be a tool that might encourage ESL students to display higher-level critical thinking responses, both in writing and in oral discussions. Through my data collection and

analysis, I found that students who read a graphic novel were able to produce more higher-level critical thinking responses than their classmates reading a text-only novel. I also found that students in both groups showed more evidence of higher-level thinking in their written responses than they did in the oral discussions. Finally, perhaps the most intriguing finding emerged from the lack of highest-level responses in my data: students seem not to have been exposed to the kinds of critical thinking skills practice in the classroom that would encourage them to produce higher levels of critical thinking responses.

These findings suggest that it may be beneficial for teachers of ELLs to incorporate graphic novels or other graphically-enhanced texts into their literature curriculum if they want to improve their students' ability to demonstrate a more critical understanding of the literature; in fact, the results lend validity to the graphic novel as a legitimate component of high school literature classes. It may be beneficial to include a written response component in classroom exercises and assessments to allow students to demonstrate their critical thinking ability. While the results of my study show that graphic novels can have a positive effect on ESL students' ability to express critical thinking skills in these different contexts, more research is needed to further explore the implications, benefits, and drawbacks of using graphic novels to explore critical thinking skills and literature with ESL students.

# APPENDIX A

# APPENDIX A

## Oral Discussion Questions

Discussion #1

1. Describe things that are similar between the world in F451 and our world today.
2. What do you think our world will be like 50 years from now?
3. In your opinion, could there ever be a "perfect" society? Why or why not?
4. From what you've read so far, what do you think will happen in the book?

Discussion #2

1. In your opinion, what would our society be like without books? Think about specific things that might be affected.
2. Are there any circumstances where censorship might play a beneficial role in society? Are there some books that *should* be banned?
3. Faber (the old professor) says there are three things "missing" or "necessary" from their society. What are they? Discuss why they are important to society. Do we have them now?

Discussion #3

1. There are several different themes in F451. Some of them are: censorship, political correctness, entertainment, and happiness. Discuss each and support with evidence.
2. What is your opinion about the style the author used in this book? Do you think the graphic novel format or a regular novel format works better with the theme? Why?

Discussion #4

1. If you had to memorize a single book or risk its extinction, which book would you choose? Why? What is the value to society of the men memorizing books?
2. If you had to explain to someone the author's main message in the book, what would you say?
3. Imagine the next chapter of *Fahrenheit 451*. What is Montag doing in the future? Describe the new society around him.

# APPENDIX B

# APPENDIX B

## Written Response Prompts

Prompt #1

Do you think there could ever be a “perfect society?” If you do, what would it be like? If you don’t, why not?

Prompt #2

What aspects of the world in F451 remind you of our world today? (Think about technology, government, entertainment, etc.). How do you feel about these similarities?

Prompt #3

In your opinion, what would our society be like without books? Think about specific things that might be affected.

Prompt #4

Are there any circumstances where censorship might play a beneficial role in society? Are there some books that should be banned? Use examples from real life and from the book.

Prompt #5

How has Montag changed over the course of the story? Support your answer with examples from the book.

# APPENDIX C

# APPENDIX C

## Data Analysis Coding Tool
(Drawn from Gunawardena, Lowe, & Anderson, 1997; Garrison, Anderson, & Archer, 2001)

**1** **REGOGNIZE**: SHARE AND COMPARE INFORMATION
1.1 Statement of observation or opinion
1.2 Statement of agreement
1.3 Corroborating example
1.4 Asking and answering questions to clarify previous statement
1.5 Description, identification, or clarification of story element or real-life information

**2** **UNDERSTAND:** EXPLORATION OF DISSONANCE OR INCONSISTENCY
2.1 Identifying/stating what is relevant to issue at hand
2.2 Identifying/stating areas of disagreement/contrast or agreement/congruence among others' opinions or story elements
2.3 Asking/answering questions to address disagreement or contrast
2.4 Referring to examples from story, personal experience, accepted conclusions, or other sources to illustrate opinion or to make sense of story
2.5 Comparing element of real life to story element in order to illustrate point
2.6 Locating/stating alternative perspectives or author's perspective

**3** **ANALYZE:** NEGOTIATE MEANING
3.1 Negotiating meaning of terms or story elements
3.2 Negotiating weight or relevance of types of arguments
3.3 Identifying areas of agreement and dissonance among concepts or arguments
3.4 Breaking down issue/problem/concept into parts
3.5 Identifying and filling in gaps in own knowledge
3.6 Integrating metaphors or analogies into new information
3.7 Making predictions based on story elements or story-life connection

**4** **EVALUATE:** TEST AND SYNTHESIZE
4.1 Testing proposed synthesis against "received fact" from another participant
4.2 Critiquing perspectives or assumptions
4.3 Using evidence to support arguments (personal experience, existing schemata, examples from literature)
4.4 Synthesizing or relating overarching themes from the story

**4** **CREATE:** APPLY NEWLY CONSTRUCTED MEANING
5.1 Summarizing agreements
5.2 Applying actual or hypothetical solutions or conclusions to create alternative hypotheses or perspectives
5.3 Metacognitive statements by participants illustrating understanding that their ways of thinking have changed

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