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Fifth graders' discussions of graphic novels facilitated by de Bono Thinking Skills

Abstract

The effectiveness of graphic novels, heavily illustrated novels and traditional novels as a reading teaching tool has not been heavily researched. During the 5th grade school year of the 2011-2012, 24 students were required to read six novels, two in each format. During and after the reading, students were required to complete assigned assessments. The results of the study were graded based on a rubric system and by the number of responses per novel. The graphic novel received the highest scores in all categories. The graphic novel should be considered as an alternate method of teaching reading to 5th graders.

Fifth Graders' Discussions of Graphic Novels Facilitated by de Bono Thinking Skills

A Graduate Project

Submitted to the

Department of Curriculum and Instruction

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts in Education of the Gifted

UNIVERSITY OF NORTHERN IOWA

by

Kimberly Ann Jennings

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Abstract

The effectiveness of graphic novels, heavily illustrated novels and traditional novels as a reading teaching tool has not been heavily researched. During the 5th grade school year of the 2011-2012 24 students were required to read six novels, two in each format. During and after the reading students were required to complete assigned assessments. The results of the study were graded based on a rubric system and to the number of responses per novel. The graphic novel received the highest scores in all categories. The graphic novel should be considered as an alternate method of teaching reading to 5th graders.

Chapter 1: Introduction

Reading comprehension is made up of multiple skills that all students must be able to provide evidence of acquiring to succeed in their education, future careers, and home life. A student's ability to comprehend what he/she reads allows him/her to gather information in content area classes, providing success in gleaning information from various texts. Most careers require reading skills for the person to understand reports, utilize directions, and locate information. Even in daily life, people need to be able to interpret such texts as traffic signs, nutritional information on food packages, bus schedules, and TV listings.

The use of different genres of literature in which students have interest adds to their motivation to read, ultimately improving their comprehension (Martin, 2009, p. 30). Graphic novels are a relatively new genre in today's libraries and classrooms which may help with students' motivation and comprehension of their reading, particularly because of the engaging illustrations with talking balloons that add new modality to the text. As students' interests in the topic and delivery of the text increase, their comprehension of the text will also increase.

Importance of Studying the Effects of Using Graphic Novels

The popularity of computer based technology for today's student population has allowed visual media to replace written media as a source of entertainment. For example, Xbox Live, Facebook, My Space, and Twitter are very popular among all age levels, especially middle and high school students. These popular visual and social media are taking the place of former afternoon school activities like reading, card games, or playing catch. Teachers need to learn to adapt the curriculum to students' interests that now include visual media. New technology necessitates using visual stimuli to capture the attention of students and facilitate their understanding of new topics. Comparing three different forms of literature - graphic novels,

heavily-illustrated novels and traditional novels - will provide a better understanding of how each is perceived by students and how each affects comprehension and enjoyment of reading.

Personal Interest in the Topic

The topic of graphic novels and reading comprehension is interesting to me because I have taught reading at the 7th and 8th grade level for 5 years, and, while I am currently completing my Master's degree in Education of the Gifted, I am also working towards a reading degree. I have seen the positive impact that student motivation can have on a student's education and I believe that it is the powerhouse behind a student's ability to succeed at school and in life. The use of literature circles with a focus on graphic novels will tap into the desire for visual learning of Generation Y students (those born after 1982). According to Short and Reeves (2009), "The graphic novel provides an attractive medium to meet the high need for stimulation that may be required to best meet the needs of Generation Y" (p. 1). Graphic novels satisfy many student's fascination with visual images and the fast paced, action-packed world. The multimodal nature of graphic novels can enhance reading instruction at any grade level.

Enrichment for All Students through Integration of Thinking Skills

Edward de Bono is known as an authority on human thinking. He is highly educated with many different degrees, including: a medical degree from the University of Malta, a Master's degree in psychology from the Christ Church, Oxford, a Ph.D. in medicine from Cambridge University, a Doctor of Design from the Royal Melbourne Institute of Technology, and a Doctor of Law from the University of Dundee. Edward de Bono is a scholar who focused his books, lectures, and studies on creativity thinking skills. He created the ten Breadth Thinking Skills (as shown in Table 1) to allow people to critically examine all aspects of an issue or situation. These are basic thinking skills that help people examine issues before they jump to conclusions. The

thinking skills also allow people to examine a problem or issue from all angles to draw correct conclusions.

Table 1. Edward de Bono's ten CoRT Breadth thinking skills.

Abbreviation	Full Name of Skill	Brief Explanation of Skill
PMI	Plus, Minus, Interesting	Examine the positives and negatives connected to the issue while also identifying interesting effects or consequences that are neither positive nor negative.
CAF	Consider All Factors	Generate a list of all of the factors related to a situation from the past, present, future or other perspectives.
RULES	Rules	Create rules for behavior regarding the situation.
C & S	Consequence and Sequel	Produce a list of all of the consequences that a situation could create and its effects, short term (1-5 years), medium term (5-25 years) and long term (25+ years).
AGO	Aims, Goals, Objectives	A list of all possible goals, objectives, and motivations for a particular situation.
PLANNING	Planning	Create a plan for the situation outlining everything in order that needs occur.
FIP	First Important Priority	Create a list of actions or ideas for the situation and rate them from highest priority to least.
APC	Alternatives, Possibilities, Choices	Generate alternatives, possibilities and choices for the situation.
DECISIONS	Decisions	Use other thinking skills described here to help make important decisions about the situation.
OPV	Other People's Views	Determine other viewpoints that varied people could possibly have about the situation.

Edward de Bono's CoRT (Cognitive Research Trust) skills can and have been used in many schools and businesses to help students and executives analyze a problem creatively and critically. Examining a problem in depth from various perspectives helps the student see all the aspects that the problem addresses. When students have mastered these skills they will be able to adapt them to any class, any issue or any problem that they encounter to help them create deeper understandings of the issues.

Statement of the Problem

All students are individuals with different histories and interests, therefore they all learn differently. A student being able to read, to comprehend the text, and a student's ability to develop insights, consequences, and interpretations of situations portrayed in the text, is crucial to a student's ability to intelligently process information and make effective decisions and actions. Traditional novels, although they may include illustrations, may not provide enough visual stimulation for all students to make deeper interpretations of text. There is some evidence that graphic novels, with their highly illustrated comic-book format, may allow students to form more complex concepts from their reading (Bosma, Rule, & Krueger, in press). Therefore, this study examines student discussions and products produced under three conditions: reading graphic novels, heavily-illustrated novels and traditional novels. This study will also examine the efficacy of using Edward de Bono's CoRT Breadth thinking skills to guide student discussions of the texts and will compare the richness of these responses under the three conditions. The following are the research questions addressed by this research study:

1. How does student comprehension of text, as exemplified by number and quality of responses to thinking skill exercises related to the text, compare between graphic novels, heavily-illustrated novels, and traditional-illustrated texts?
2. How does student comprehension of text and motivation to display creativity, as exemplified in visually illustrated products made by students, differ (if at all) between products made related to graphic novels heavily-illustrated novels, and sparsely-illustrated texts?
3. How does student comprehension of text and motivation, as displayed in reflective writing differ (if at all) between the three conditions?
4. How does student comprehension of text and motivation, as shown by rating scales of

interest in the topic and enjoyment of reading, along with additional comments, differ (if at all) between the three conditions?

5. How do students react to using the Edward de Bono CoRT thinking skills in discussing the texts they read?

Terms Related to the Study

Graphic novel. A graphic novel is a narrative form of writing using sequential pictures and graphics to tell the story. According to Rudiger and Schilliesman, (2007), “Graphic novels are simply book-length comics” (p. 57).

Heavily illustrated novel. A novel having at least one illustration for each two pages of text such as “*The Invention of Hugo Cabret* (Selznick, 2007), which has 316 pages of illustrations to 214 pages of text or *Diary of a Wimpy Kid: A novel in cartoons* (Kinney, 2007), that has small pictures on every page of text.

Traditional novel. This more traditional novel has one or fewer illustrations per chapter. For example, the book, *Tuck Everlasting* (*Babbitt*, 1975) has 144 pages of text and only one illustration.

Literature circle: A literature circle is a small group of students who read and discuss together a piece of literature. Literature circles are student-centered and powered by students’ responses to the literary work. “Literature circle book groups engage students by allowing them to respond to the text in a variety of ways and practice reading comprehension strategies” (Briggs, 2010, p. 7).

CoRT Breadth Thinking Skills: Edward de Bono created a set of thinking skills to be used by children and adults to help with their thinking (Rule & Stefanich, in press). “Edward de Bono’s most basic set of critical thinking skills allows people to analyze situations from

all angles and perspectives without prematurely choosing an initial idea” (Rule & Stefanich, in press, p. 3).

Manga: Manga is the Japanese word for comics. “Specifically, manga are printed comics found in graphic-novel format...” (Schwartz & Rubinstein-Avila 2006, p. 41).

Anime: This term is very often confused with comics or graphic novels, but anime are animated cartoons. “Amine are animated cartoons (i.e., moving images on television, movies, or video games) (Schwartz and Rubinstein-Avila, 2006, p. 41).

Chapter 2: Literature Review

Preview

The following literature review outlines the three major components of this study, graphic novels, literature circles and Edward de Bono's CoRT Thinking Skills. First, graphic novels are defined with research supporting the ways this genre of writing meets the needs of students of the "Y Generation". Research is also provided that shows student motivation and engagement connected to graphic novels and the tasks students accomplish during the reading of a novel. Literature circles and Edward de Bono's CoRT Thinking Skills are also discussed, providing research on the efficacy of these two teaching strategies in the classroom.

Graphic Novels

Rudiger and Schliesman state (2007), "Graphic novels are simply book-length comics" (p. 57), with all of the necessities of text-only novels such as character development, plot, and setting. Graphic novels have been looked at as a particular format rather than their own genre (O'Enlgish, Matthres, & Lindsay, 2006). Graphic novels are a type of literature in which students can get lost with the characters, dialogue, and the pictorial representations of the story. Students are drawn to this type of format because of their constant exposure to visual media on computers, television, and video games. "Today many authors and artists adapt works of classic literature into a medium more user friendly to our increasingly visual student population" (Martin, 2009, p. 30). That medium is often the graphic novel.

Graphic novels have been around for many years. They are related to comic books and manga. Graphic novels have been in production for fifty years: "Graphic novels grew out of the comic book movement in the 1960's and came into existence at the hands of writers who were looking to use the comic book format to address more mainstream or adult topics" (O'English,

Matthews & Lindsay, 2006, p. 173). Since this beginning, more authors have recognized the potential of graphic novels for increasing engagement in reading, resulting in an increase in popularity of this genre. “Because of its rich history, this literary genre is quickly gaining acceptance as [a] viable and popular tool to get students enthused about reading and into school libraries” (Martin, 2009, p. 30).

Graphic novels not only motivate students to read but use of graphic novels has been shown to improve students’ reading comprehension by motivating them through complex materials and providing other modalities for learning. Edwards states (2009), “Reading a graphic novel requires the reader to infer and construct meaning from the visual representations while using the text to develop not only meaning, but to foster comprehension” (p. 56). Because graphic novels consist of words and pictures, this genre does not require students to depend merely on different text reading strategies to access the full extent of the stories content as a text-only novel would require; students may gain comprehension meaning from the lively illustrations. As students read graphic novels, they are able to analyze the images of characters, their facial expressions, and their stances. Also, the perspectives of setting and other pictorial representations that they might not be able to envision with words alone are revealed? with graphic novels. As Edwards (2009, p.57) pointed out, “The students liked the graphic novels because the additional details provided by the pictures helped them understand the material.”

The use of graphic novels in the classroom is another great tool to help teachers better meet the diverse needs of all students in the classroom. Graphic novels allow for teachers to use a different genre addressing current topics, visual representation to help struggling readers make connections to text and keeps students motivation up due to visual world that our students live in. Martin suggests that the role of graphic novels is very important: “It is important that teachers

recognize graphic novels' value and begin implementing their use within the classroom" (2009, p. 30). Graphic novels' visual appeal helps engage and motivate students while simultaneously assisting those who struggle by providing pictorial representations (Martin, 2009).

Importance of Student Motivation and Engagement with Reading Comprehension

A student's ability to interpret the written word greatly affects a student's present and future education. Students' motivations for reading must continue to grow throughout their early education to further academic success: "Reading engagement is also important to the maintenance and further development of reading skills beyond the age of 15" (Brozo, Shiel and Topping, 2008. p. 304). Teachers must find ways to foster this love for reading to help our students stay connected. Middle school students have shown tendencies to choose graphic novels over other novels for free reading (Edwards, 2009). Graphic novels keep the interest of young adolescents inside and outside of the classroom and also help improve students' comprehension. Students who read graphic novels use more cognitive thinking skills during reading than when they read more traditional novels (Lavin, 1998). Additionally the multimodality of this genre may be useful in helping students navigate complex ideas in content areas. Martin states, "Graphic novels can be used by teachers of all subjects to research instructional techniques, current events and social dilemmas" (2009, p. 30).

All students benefit from the use of graphic novels in the classroom. Graphic novels include the fast paced visual media that students are growing accustomed to. Students who struggle with reading or who simply do not choose to read can relate and connect to graphic novels because they can use the pictures to help them visualize the text that they are reading. Lyga and Lyga (2004, p. 56) state, "Even students whose reading abilities deter them from enjoying reading for the inherent satisfaction are drawn to graphic novels." Many teachers have a

goal of fostering motivation and engagement for young readers and using graphic novels in the classroom is a way to fill the void that some students seem to have when it comes to reading.

Literature Circles

Literature circles are designed to simulate a book club atmosphere during reading discussion in the classroom. A group of peers reads the same novel, and the members of the group lead discussion rather than the teacher. This approach helps teach the students to hold discussions about texts with their fellow peers and to cooperate with others. A successful literature circle will have students moving throughout the discussion of the book to make sure that every student has a chance to look at the book from every angle.

Literature circles often include preset student roles that rotate among the students in the small groups to facilitate discussions. Literature circle roles were provided in Harvey Daniels book, *Literature Circles: Voice and Choice in the Student-Centered Classroom* (1994) which includes discussion director, literary luminary, illustrator, connector, summarizer, and vocabulary enricher. Each of the roles requires that students use vital reading comprehension strategies as they read and discuss the novels. Although these roles are a great resource for students to use during literature circles, in the current study students' roles are to suggest ways to use the 10 CoRT Breadth Thinking Skills created by Edward de Bono, which are outlined in the following section. Students will focus on a different thinking skill during their discussions and those skills will serve as their literature circle roles.

However, as in most effective reading activities, the students must be interested in the text. According to Briggs, "In order for literature circles to be successful, students need to connect the text to their own experience, to events in the world or other readings" (2010, p. 9). This is where the use of graphic novels comes into play. Teachers can use this genre to increase

student interest in the reading and then use literature circles to broaden their learning through discussion. Literature circles may also help create a safe learning environment where students feel comfortable to talk about the book and give their opinions. In an effective literature circle, students understand "... that in order to facilitate good discussion, they... [need]... to respect other group members, cooperate, and be good listeners" (Certo, Moxley, Reffitt, & Miller, 2010, p. 1).

Literature circles also help struggling readers. Students can be part of a discussion with their peers and add their comments in a comfortable environment. Implementing literature circles appeals to a variety of learning styles and allows all students the chance to learn in at least one way that matches their learning style (Briggs, 2010, p. 10; Teaching with the Constructivists, n.d.). The effective use of literature circles coupled with graphic novels will allow for rich conversations due to student interest and engagement of the text in a social setting. During literature circle discussions, students learn how to start conversations, listen to conversations, and share ideas about the text in a group setting (Certo, Moxley, Reffitt, & Miller, 2010).

Edward de Bono's CoRT Breadth Thinking Skills

Edward de Bono is an acclaimed author examining how people think and respond to situations. He has created a CoRT thinking skills series, which contains six different lesson sets (breadth, organization, interaction, creativity, information/feeling, and action) (Rule & Barrera, 2006). Each of the sets focuses on a different way that a person can think and have been used all over the world in business and education settings. The set that was used in this study were the 10 CoRT Breadth Thinking Skills. Edward de Bono's Thinking Skills were created to help children and adults with their thinking. The 10 different thinking strategies help students examine an issue or situation from all angles to generate ideas from new viewpoints to better understand what they

are studying. The thinking skills are set up for all students: “Thinking skill instruction can benefit students. All students, both higher and lower achieving, need and are able to improve their thinking skills through inquiry activities that incorporate appropriate cognitive exercises” (Zohar & Dori, 2003, p. 3) These thinking skills are also a way for teachers to take a new approach to problem solving by allowing for students to use the strategies independently when a problem or issue arises. Once the child understands each of the Thinking Skills he/she can connect his/her education to these strategies and to really the comprehension of different subjects and texts. As stated by Rule and Barrera (2008), “De Bono finds it important for individuals to know *how* they learn as well as *what* they are learning” (p.3). This system of learning also helps students recognize their potential ability to analyze and generate new ideas as they apply these thinking skills to their reading. Teachers will also be able to use the Thinking Skills on top their curriculum to allow for differentiation to help meet the needs of diverse learners.

Edward de Bono created these 10 Thinking Skills to allow students to widen their spectrum of thinking. The different ways in which students think and learn in situations is where the thinking skills will come into play. Students may not be able to use all of the ten CoRT Breadth Thinking Skills in a particular lesson but once they have mastered the Thinking Skills they will be able to relate them to their education today and in the future. Edward de Bono states, “The purpose of these strategies is to broaden perception so that thinkers can see beyond the obvious, immediate, and egocentric” (2000, p.3).

Previous Studies Related to the Current Study

A study on the use of literature circles to improve student reading comprehension showed that when the students truly understood the different individual roles (discussion director, literary luminary, illustrator, connector, summarizer, and vocabulary enricher) and they were able to use

those roles with their discussions, literature circles increased students' reading comprehension (Daniels, 1994). However, the teacher observed that she did have to re-teach the roles to make sure that students knew what exactly each role required. After this re-teaching, the students improved the depth of their discussions of the novels and their comprehension.

A counterbalanced-design in a previous study conducted with fifth graders (Bosma, Rule, Krueger, in review) comparing graphic novels to traditional well-illustrated novels about the American Revolution showed that the students recalled more complex facts from graphic novels than from illustrated texts. Overall, groups of students under both conditions (graphic novel and illustrated texts) showed comprehension of the texts read, but the students using graphic novels found graphic novels significantly more enjoyable to read. Students increased the number of responses that they provided on the post-test when the Thinking Skills were used in a problem-based learning setting. Students showed excitement about learning and discussions when the Thinking Skills were incorporated into the unit.

Summary

Graphic novels are an up-and-coming resource in which classrooms and libraries need to invest. This text format appeals to this generation of students and likely future generations. Today's students live in a fast-paced world where technologies and communication are changing and developing every single day. Graphic novels provide stimulating pictures, exciting dialogue and current topics to catch students' attention. By incorporating two proven approaches (literature circles and an organized system of thinking skills) to help students with their thinking and reading comprehension, graphic novels meet students' needs. Literature circles and Edward de Bono's CoRT Thinking Skills, therefore, support a teachers reading curriculum.

Chapter 3: Methodology

Participants and Research Setting

Twenty-four fifth grade students (13 male, 11 female; 22 Caucasian, 1 Hispanic, 1 African-American) of mixed abilities in a self-contained classroom at an elementary school in the greater Milwaukee area participated in the study. Permission to conduct the study was obtained from the University of Northern Iowa's human subjects review committee and the school principal. All students and their parents agreed in writing to participate.

Research Design

The research design was counterbalanced with all students experiencing the three different types of novels – graphic novels, heavily-illustrated novels, and more traditional novels as shown in Table 2 and Table 3. Students worked in six variable groups of mixed ability students (four or five students each group) during the lessons. At any one time, two groups were reading graphic novels, two groups were reading heavily-illustrated novels, and two groups read more traditional novels. Each student read exactly two graphic novels, exactly two heavily-illustrated novels and exactly two traditional novels. All books chosen for the study received favorable reviews by the Children's Comprehensive Databases shown in Table 4.

Table 2. Set-up of the Research Study

Week	Books being read this week					
Week 1	<i>Smile</i> (Telgemeier, 2010)	<i>Adventures of Captain Underpants</i> (Pilkey, 1997)	<i>Bone: Escape from Boneville</i> (Smith, 2005)	<i>Amulet</i> (Kibuishi, 2008)	<i>Secret of Droon</i> (Abbott, 1999)	
Week 2	<i>Night of the Twisters</i> (Ruckman, 1984)	<i>Brian's Winter</i> (Paulsen, 1996)				
Week 3	<i>Smile</i> (Telgemeier, 2010)	<i>Amulet</i> (Kibuishi, 2008)	<i>Bone: Escape from Boneville</i> (Smith, 2005)	<i>Into the Volcano : A Graphic Novel</i> (Wood, 2008)	<i>The Doll People</i> (Martin & Godwin, 2000)	<i>The Invention of Hugo Cabret</i> (Selznick, 2007)
Week 4	<i>Smile</i> (Telgemeier, 2010)	<i>The Invention of Hugo Cabret</i> (Selznick, 2007)	<i>The Diary of a Wimpy Kid</i> (Kinney, 2007)	<i>The Doll People</i> (Martin & Godwin, 2000)	<i>Into the Volcano : A Graphic Novel</i> (Wood, 2008)	<i>The BFG</i> (Dahl, 1982)
Week 5	<i>The Invention of Hugo Cabret</i> (Selznick, 2007)	<i>The Doll People</i> (Martin & Godwin, 2000)	<i>Into the Volcano : A Graphic Novel</i> (Wood, 2008)	<i>The Diary of a Wimpy Kid</i> (Kinney, 2007)	<i>The Phantom Tollbooth</i> (Juster, 1961)	<i>Tuck Everlasting</i> (Babbitt, 1975)

Table 3. Books Read by Individual Students

Student Letter Code	Graphic Novels		Heavily-illustrated Novel		Traditional Novel	
					<i>Brian's Winter</i> (Paulsen, 1996)	
					<i>BFG</i> (Dahl, 1982)	
					<i>Tuck Everlasting</i> (Babbitt, 1975)	
					<i>Secrets of Droon, The Magic Staircase</i> (Abbott, 1999)	
					<i>The Phantom Tollbooth</i> (Juster, 1961)	
					<i>Night of the Twisters</i> (Ruckman, 1984)	
Student A	Bone: Escape from Boneville	Smile	The Diary of a Wimpy	The Invention of Hugo Cabret	Brian's Winter	Tuck Everlasting
Student B	Amulet	Smile	The Diary of a Wimpy	The Invention of Hugo Cabret	Night of the Twisters	Tuck Everlasting
Student C	Bone Bone: Escape from Boneville	Smile	The Invention of Hugo Cabret	The Doll People	Brian's Winter	The BFG
Student D	Bone: Escape from Boneville	Into the Volcano	Adventures of Captain Underpants	The Invention of Hugo Cabret	Night of the Twisters	The Phantom Tollbooth
Student E	Smile	Into the Volcano	The Doll People	The Invention of Hugo Cabret	Night of the Twisters	Tuck Everlasting
Student F	Smile	Bone: Escape from Boneville	Adventures of Captain Underpants	The Doll People	Night of the Twisters	The BFG
Student G	Bone: Escape from Boneville	Smile	The Doll People	The Invention of Hugo Cabret	Night of the Twisters	Tuck Everlasting
Student H	Bone: Escape from Boneville	Into the Volcano	Adventures of Captain Underpants	The Invention of Hugo Cabret	Night of the Twisters	The Secret of Droon
Student I	Smile	Amulet	The Invention of Hugo Cabret	The Diary of a Wimpy	Brian's Winter	The Secret of Droon
Student J	Smile	Amulet	The Diary of a Wimpy	The Doll People	Night of the Twisters	Tuck Everlasting
Student K	Smile	Amulet	The Invention of Hugo Cabret	The Doll People	Brian's Winter	The BFG
Student L	Smile	Bone: Escape from Boneville	Into the Volcano : A Graphic Novel	The Invention of Hugo Cabret	Brian's Winter	The Secret of Droon
Student M	Bone: Escape from Boneville	Adventures of Captain Underpants	The Doll People	The Diary of a Wimpy	Brian's Winter	The Secret of Droon

Table 3 Continued. Books Read by Individual Students

Student Letter Code	Graphic Novels		Heavily-illustrated Novel		Traditional Novel	
	<i>Bone: Escape from Boneville</i> (Smith, 2005) <i>Amulet</i> (Kibuishi, 2008) <i>Smile</i> (Telgemeier, 2010) <i>Into the Volcano : A Graphic Novel</i> (Wood, 2008)		<i>The Invention of Hugo Cabret</i> (Selznick, 2007) <i>The Diary of a Wimpy Kid</i> (Kinney, 2007) <i>The Doll People</i> (Martin & Godwin, 2000) <i>Adventures of Captain Underpants</i> (Pilkey, 1997)		<i>Brian's Winter</i> (Paulsen, 1996) <i>BFG</i> (Dahl, 1982) <i>Tuck Everlasting</i> (Babbitt, 1975) <i>Secrets of Droon, The Magic Staircase</i> (Abbott, 1999) <i>The Phantom Tollbooth</i> (Juster, 1961) <i>Night of the Twisters</i> (Ruckman, 1984)	
Student N	Smile	Amulet	The Doll People	The Invention of Hugo Cabret	Brian's Winter	The BFG
Student O	Smile	Amulet	The Doll People	The Invention of Hugo Cabret	Brian's Winter	The BFG
Student P	Smile	Amulet	The Invention of Hugo Cabret	The Doll People	Brian's Winter	The BFG
Student Q	Bone: Escape from Boneville	Amulet	Into the Volcano : A Graphic Novel	The Diary of a Wimpy	Night of the Twisters	Tuck Everlasting
Student R	Smile	Into the Volcano : A Graphic Novel	The Invention of Hugo Cabret	The Doll People	Night of the Twisters	The Phantom Tollbooth
Student S	Into the Volcano : A Graphic Novel	Smile	The Doll People	Bone: Escape from Boneville	Night of the Twisters	Tuck Everlasting
Student T	Smile	Amulet	The Doll People	The Invention of Hugo Cabret	Brian's Winter	The Phantom Tollbooth
Student U	Smile	Amulet	The Doll People	The Invention of Hugo Cabret	Night of the Twisters	The Phantom Tollbooth
Student V	Smile	Into the Volcano : A Graphic Novel	The Invention of Hugo Cabret	The Doll People	Brian's Winter	The Phantom Tollbooth
Student W	Amulet	Into the Volcano : A Graphic Novel	Adventures of Captain Underpants	The Diary of a Wimpy	Night of the Twisters	Tuck Everlasting
Student X	Smile	Amulet	The Doll People	The Invention of Hugo Cabret	Night of the Twisters	Tuck Everlasting

Table 4. Reviews, Recommendations or Awards for the Novels in this Study

Book	Type	Review, Recommendation or Award
<i>Bone: Escape from Boneville</i> (Smith, 2005)	GN	<u>Best Children's Books of the Year, 2005</u> ; Bank Street College of Education; United States Reviewed and recommended by Children's Literature Reviews in Children's Literature Comprehensive Database (2011).
<i>Amulet</i> (Kibuishi, 2008)	GN	Reviewed and highly recommended (Spisak, 2008)
<i>The Invention of Hugo Cabret</i> (Selznick, 2007)	HIN	Awarded the Caldecott Medal, 2008 Where is the reference for this? Find a place that lists the Caldecott winners and cite it.
<i>Adventures of Captain Underpants</i> (Pilkey, 1997)	HIN	<u>Best Children's Books of the Year, 1998</u> ; Bank Street College of Education; United States Reviewed and highly recommended by LaJuan from the Children's Literature Comprehensive Database (2011).
<i>Into the Volcano : A Graphic Novel</i> (Wood, 2008)	GN	<u>Booklist Best Books for Young Adults, 2009</u> ; American Library Association; United States Reviewed and Highly Recommended by Michael Jung (Children's Literature)
<i>Smile</i> (Telgemeier, 2010)	GN	Boston Globe-Horn Book Award honor book: Nonfiction (Children's Literature, 2010)
<i>The Diary of a Wimpy Kid</i> (Kinney, 2007)	HIN	Publishers Weekly (March 5, 2007) April Spisak (The Bulletin of the Center for Children's Books, June 2007 (Vol. 60, No. 10))
<i>The Doll People</i> (Martin, 1955)	HIN	<u>Best of the Year, 2000</u> ; Child Magazine; United States <u>ABC Children's Booksellers Choices Award, 2001</u> Winner Middle Grade Readers United States
<i>Night of the Twisters</i> (Ruckman, 1984)	TN	Reviewed and recommended by Children's Literature Reviews in Children's Literature Comprehensive Database by Anne Marie Pace (2011).
<i>Tuck Everlasting</i> (Babbitt, 1975)	TN	Recommended Literature: Kindergarten through Grade Twelve, 2002 ; California Department of Education; California
<i>The Phantom Tollbooth</i> (Juster, 1961)	TN	Reviewed and recommended by Children's Literature Reviews in Children's Literature Comprehensive Database by Claudia Mills, Ph.D. (2011)
<i>The BFG</i> (Dahl, 1982)	TN	Educators' Top 100 Children's Books, 2007 ; NEA Survey; United States
<i>The secrets of Droon, The Magic Staircase</i> (Abbott, 1999)	TN	Reviewed and recommended by Children's Literature Reviews in Children's Literature Comprehensive Database by Claudia Mills, Ph.D. (2011)
<i>Brian's Winter</i> (Paulsen, 1996)	TN	Reviewed and recommended by Children's Literature Reviews in Children's Literature Comprehensive Database by Hazel Rochman (2011).

De Bono Thinking Skills

Two short picture-book lessons were delivered before the start of the study and the Edward de Bono CoRT Thinking Skills were practiced by all students to introduce the skills. The two picture books that were used in these lessons were: *The Three Questions* by Jon J. Muth (2002) and *Click, Clack, Moo Cows that Type* by Doreen Cronin (2000). These two picture books were read aloud to the students and together as a class I introduced each of the thinking skills and students had to respond. This allowed for students to be introduced to the thinking skills that they were going to use in the study and also allow them to feel comfortable using them on their own.

The teacher did a quick book talk to introduce each title of possible novels that were chosen for the study, after which the novels were passed around the classroom. Students ranked their choices to indicate the novels they would prefer to read in a literature circle. The teacher then worked out a schedule so that each student would read two graphic novels, two heavily-illustrated novels, and two traditional novels.

Students met in their literature circles five times over a two-week period to discuss the novels with the teacher present. The teacher's role was recorder of the ideas presented and facilitator when the discussion lagged. The students led the discussions by choosing one of the ten de Bono skills (on display on a poster in the classroom) and applying it to the story. The student who chose the skill was recorded at the title of the skill on the promethean Board and gave one idea. Then other students contributed ideas about how this thinking skill could be applied to the story. When the skill was exhausted, the teacher asked for another student to volunteer to suggest a new de Bono skill and apply it to the story. The teacher made sure that in the five discussion periods that the book was explored, each of the ten thinking skills was addressed at least once. Sometimes, there was time for a skill to be re-visited after all skills had been discussed. These

discussions were written down by each student in a reader's notebook, which was later collected by the teacher for assessment.

When students were not meeting in their literature circles, they read individually their assigned book and responded to journal prompts and other reflection activities in their reading notebooks. Table 5 shows these activities that all students completed during the two-week unit, regardless of their chosen novel.

As a midpoint assessment, students were asked at the end of the first week to respond to a question connected to the story using the de Bono thinking skills. These questions are shown in Table 6. The rubric used to score them is shown in Table 7.

As a summative assessment for each novel, students completed a project that showed the main elements of the story. Students were allowed to choose from the list in Table 8. The rubric used to score the final project is shown in Table 9. At the end of work on a novel, students rated the novel by circling a number from 1 to 10 to indicate how interested they were in the topic after reading the novel, as shown in Table 10. They also circled a number from 1 to 10 on how much they enjoyed reading the novel. They also answer short open-ended questions:

- What was the best or most interesting part of this novel?
- Which de Bono thinking skill used with this novel did you have the most fun with or find most effective?

Table 5. List of Journal Prompts and other Reflection Activities.

Weeks	Instructions
1-2	<p>Make five predictions on what will happen in the story. Each prediction needs to be a complete sentence. In another sentence, back up your prediction with reasons and evidence from the story so far telling why you think this will happen. Choose two characters from the story. List at least 5 different traits each character has. Give evidence from the story for each trait you choose.</p> <p>Midpoint Assessment Pick a chapter from the novel you are reading right now. Draw the setting for that chapter. Make sure that someone looking at your drawing would know exactly what where this novel takes place.</p> <p>Final Product</p>
3-4	<p>Think of a situation that the main character is facing. Write a letter to the main character, giving him or her advice on the problem that the character is facing. Write a diary entry that is at least 10 sentences long that one of the story's main characters might have kept before, during, or after the book's events. Remember that the character's thoughts and feelings are very important in a diary.</p> <p>Midpoint Assessment Make your own final test of 8 questions for the chapters that you have read so far. Include multiple choice questions, true/false, short answer, and essay questions. At least half of the questions need to require the test-taker to analyze information rather than just recall facts. Include a correct answer key.</p> <p>Final Product</p>
5-6	<p>If the story of your book takes place in another country or state, describe the new location (Setting) and the effects that it could have on the characters and plot. Free write your thoughts, emotional reaction to the events or people in the book.</p> <p>Midpoint Assessment Write about the life of one of the characters twenty years from now. Explain how the future behavior of the character relates to actions in the story.</p> <p>Final Product</p>
7-8	<p>Choose five "artifacts" from the book that best illustrate the happenings and meanings of the story. Tell why you chose each one of the artifacts and their importance to the novel.</p>
5-6	<p>Go back to the previous chapter. Write down the setting or settings that took place in only that chapter. Draw and label all of the settings that were involved in the chapter.</p> <p>Midpoint Assessment Write a summary of chapter that you are reading right now using exactly 55 words.</p> <p>If the story of your book takes place in another country or state, describe the new location (Setting) and the effects that it could have on the characters and plot.</p> <p>Final Product</p>

Table 5 Continued. List of Journal Prompts and other Reflection Activities.

Weeks	Instructions
9-10	<p>Make 2 inferences about one of the characters and explain why you made each of those inferences – what observations or information were they based on.</p> <p>Write a two-paragraph story in which you imagine that the main character is having a birthday party. Who would he/she invite and what would they do at the party (food, games, music, conversations, clothing)?</p> <p>Midpoint Assessment</p> <p>Make a scrapbook page for today's chapter created from the main character's perspective. Add captions for the items glued into the scrapbook.</p> <p>Final Product</p>
11-12	<p>List the 5 most important events that have happened in the book so far. Tell why each is important.</p> <p>Think about the book and think about your least favorite part. Write a quick summary of your favorite part and then change it so that it would now be one of your most favorite parts.</p> <p>Midpoint Assessment</p> <p>If you could change one thing in the book, what would it be and what major or minor effects would changing that event or item have on the book?</p> <p>Final Product</p>

Table 6. Reflective Questions Based on De Bono's Thinking Skills Answered at Book Midpoint.

Week	Thinking Skill	Question
Weeks 1-2	C & S Decisions	Pick a main action or conflict in the story and describe it. Then list and explain three different possible consequences or sequels (1 immediate, 1 short term, and 1 longer-term) that might follow this action or conflict. These three things should be events that did not happen in the story- they are new ideas you made up. Considering the consequences and sequels you listed, make a decision on what the character should do and explain your reasons.
Weeks 3-4	CAF Planning	Identify a problem in the story for a character. Identify all the factors that influence the solution of the problem. List at least 5. Make a plan for a character in the story to solve a problem, telling the title of the plan, the materials and equipment needed, the steps of the plan, the possible problems, and underline changes made to the plan to solve or avoid these problems.
Weeks 5-6	AGO PMI	Select a situation from the story that is problematic. List at least 3 possible aims, goals or objectives the character might have concerning the solution to this problem. Choose a possible solution to the problem. Rate this action with two pluses, two minuses, and an interesting consequence of this action.
Weeks 7-8	APC Rules	Select a situation from the story and generate at least five alternatives, possibilities and choices for reacting to or solving the situation. Write three rules that you think the character should follow regarding the situation.
Weeks 9-10	OPV	Choose a character's actions in the story. Make up three different character's opinions or views of these actions. The characters can be people you make up that were not mentioned in the story, but they need to make sense with the story.
Weeks 11-12	FIP	Give three possible suggested actions or reactions to a character who is doing something. Think about which would be most important and put these three ideas in order according to priority, giving a reason for the order of each.

Table 7. Rubric for Grading Midterm Reflective Response to de Bono Question.

Criteria	Yes	Somewhat	No
1. Did the student provide the requested number of ideas (Even bare minimum gets full credit)?	2	1	0
2. Did the ideas make sense in connection with the novel?	2	1	0
3. Were the ideas particularly creative (added drawing, unusual ideas, elaboration and detail)?	2	1	0
4. Were the ideas particularly insightful or intelligent (skill, smartness, deep thinking, extra considerations)?	2	1	0
5. Was the student complete and correct in following the required steps or presenting everything needed?	2	1	0
Total	Possible 10 points		

Table 8. Choices for Summative Project

Product	Description
Movie Poster	Create a movie poster for the book showing five important scenes that tell the main events of the complete story.
Timeline	Create a timeline of the story showing at least five significant events and illustrate it.
Bag or Objects	Draw a suitcase or bag containing five objects that could be used to recreate the entire story. Each object represents a significant story event. Describe the objects and their symbolism in order according to story events.
Puzzle	Create a five-piece puzzle that tells the main events of the story in order. On the front of each piece, draw an important scene from the story and on the back, explain the significance of the scene. Use arrows to show the order of the events.
Collage	Create a collage of pictures from magazines that represent five main events of the story. Put them in order clockwise around a circle and write an explanation on the front or back.
Diary Entries	Create five illustrated diary entries for the main character of the story showing the most important story events in order.
Crown	Create a story crown or hat that is decorated with five illustrated main story events and number them in order or use arrows to show their progression.
Mobile	Create a string and paper mobile that shows the five main events of the story. Illustrate them, and write a sentence on the back of each piece explaining their significance.

Table 9. Rubric for Grading Summative Assessment Project.

Criteria	Yes	Somewhat	No
1. Did the student provide five significant events from the story?	2	1	0
2. Did the ideas make sense in connection with the novel and were they in the correct order?	2	1	0
3. Was the product particularly creative (unusual ideas, elaboration and detail)?	2	1	0
4. Were the ideas particularly insightful or intelligent (skill, smartness, deep thinking, extra considerations)?	2	1	0
5. Was the overall appearance and quality of the final product excellent?	2	1	0
Total	Possible 10 points		

Table 10. Student Interest Survey

Write the title of this week’s novel _____

Please circle a number below to rate your enjoyment of reading this book.									
1	2	3	4	5	6	7	8	9	10
Not enjoyable at all		Neutral						Very enjoyable	

Please circle a number below to rate your interest in the story.									
1	2	3	4	5	6	7	8	9	10
Not interested at all		Neutral						Very interested	

Please circle a number below to rate how well you think you understood what happened in the story.									
1	2	3	4	5	6	7	8	9	10
Didn’t understand it at all		Neutral						Understood it very well	

In complete sentences please respond to the following questions

- What was the best or most interesting part of this book?
- Which de Bono thinking skill used with this book did you have the most fun with or find most effective?

Data Collection and Analysis

Data were collected in four different stages throughout the course of this research project. During the reading of each of the six novels, the students had to complete set of Edward de Bono thinking skills together with the teacher present. The students would record their responses to each thinking skill in the reader's notebook. The students would complete each individual thinking skill as they read the novel. There were ten thinking skills that needed to be completed for each novel.

Midway through the reading of each novel the student was given a written assessment to complete. Each mid-point assessment included two different Edward de Bono thinking skills.

After the student had finished reading of each novel, the student would have to complete a final project. The form of the project was selected by the student from a list of eight possible project styles that was provided to them by the instructor.

An interest survey was completed by the student as a final evaluation tool. This survey was made up of two parts. First the student's interest, enjoyment and comprehension of the novel was rated on a linear scale of one to ten. Second, the students had to answer two questions one about what they found the most interesting about the novel and the second was which de Bono thinking skill did they find the most interesting for that particular novel.

Chapter 4: Results

Student Attitudes toward the Different Types of Novels

Table 11 shows that students reported greatest enjoyment in reading, most interest for the story and greatest understanding of graphic novels followed by heavily-illustrated novels and then traditional novels. Several *t*-tests were conducted to determine if the differences in ratings were statistically significant and the effect sizes of those determined significant were calculated using Cohen's *d* (Cohen, 1988). These are reported in Table 12.

Table 11. Mean Students-Reported Attitudes on a Scale of One to Ten with Ten Indicating Most Enjoyment, Greatest Interest, or Greatest Understanding

Area Of Student Attitude	Mean Rating of Type of Book Being Read		
	Graphic Novel	Heavily-Illustrated Novel	Traditional Novel with Few Illustrations
Enjoyment of reading	9.0 (0.9)	8.2 (1.6)	7.4 (1.9)
Interest in the story	8.9 (0.9)	8.1 (1.8)	7.5 (1.9)
Student perception of understanding the story	9.2 (0.9)	8.9 (1.6)	8.0 (1.9)

Table 12 shows that there were significant differences of enjoyment of reading between all three types of novels. The differences between graphic novels and traditional novels regarding enjoyment of reading were greatest with a large effect size. However, the differences between graphic novels and heavily-illustrated books were also significant with a medium effect size. Regarding interest in the story, there were significant differences between graphic novels and traditional novels with a large effect size, and smaller yet significant differences between graphic novels and heavily-illustrated novels with a medium effect size. However, there was no significant difference between heavily-illustrated and traditional novels in student interest in the stories. Finally, concerning students' perceived understandings of the story, there was again a large, significant difference between student ratings of self-understanding between graphic

novels and traditional novels with a large effect size, but in student perceived understanding, the difference between graphic novels and heavily-illustrated novels was not significantly different. There was, however, a significant difference between heavily –illustrated and traditional novels with few illustrations that indicated a medium effect size.

Table 13. Statistical Significance of Differences in Student Ratings of Enjoyment, Interest, and Understanding.

	Graphic Novels Compared to Traditional Sparsely- Illustrated Novels	Graphic Novels Compared to Heavily- Illustrated Novels	Heavily-Illustrated Novels Compared to Sparsely-Illustrated Traditional Novels
Enjoyment of reading			
<i>p</i> value from T-test	$p < 0.001$	$p < 0.01$	$p > 0.05$
Cohen's <i>d</i>	1.08	0.62	0.46
Effect size interpretation	Large	Medium	Medium
Interest in Story			
	$p < 0.01$	$p < 0.02$	Not significantly different
Cohen's <i>d</i>	0.94	0.56	-
Effect size interpretation	Large	Medium	-
Perception of understanding			
	$p < 0.01$	Not significantly different	$p < 0.01$
Cohen's <i>d</i>	0.81	-	0.51
Effect size interpretation	Large	-	Medium

Table 14. Student Statements of Most Interesting Part of Graphic Novel Story: *Smile*

Book Title	Type	Student View of Best Part of Book	Category
Smile (Telgemeier, 2010)	GN	When she fell down and broke her front teeth.	Intense action scene
		When she lost her 2 front teeth in the accident.	Intense action scene
		When she got her 2 front teeth knocked out.	Intense action scene
		When she fell and her 2 front teeth came out	Intense action scene
		I like the whole book, but when she fell and broke her two front teeth.	Intense action scene
		When she lost her two front teeth in the accident.	Intense action scene
		When she loses her 2 teeth and has to get braces and her friends are mean to her.	Intense action scene
		When Rianna lost her two front teeth	Intense action scene
		When she gets her teeth knocked out on the street.	Intense action scene
		I thought the part of when her friends picked on her.	Emotional Impact
		When she was at the dentist for the first time and seeing everything wrong with her teeth.	Emotional Impact
		When Karin and Nicole pulled down on Raina's skirt.	Emotional Impact
		When she had a retainer with 2 teeth in it.	Emotional impact
		The most interesting part of the book was when Riana was embarrassed when she got braces.	Emotional impact
		I think when Riana went through all of the different stages when her teeth getting fixed.	Emotional impact
		Everything in the book was interesting. I liked when she finally got her braces off so she could smile.	Climax of story
		When she had the party in the end with her friends	Climax of story
How her teeth did not come back in the rest of the middle school	Details made story come to life		

Table 14. Continued. Student Statements of Most Interesting Part of Graphic Novel Story: *Into the Volcano* and *Bone: Escape from Boneville*

Book Title	Type	Student View of Best Part of Book	Category
Into the Volcano : A Graphic Novel (Wood, 2008)	GN	When the group finally reaches the volcano.	Intense action scene
		When Duffy fell of the cliff into the huge crack.	Intense action scene
		When there in the volcano.	Intense action scene
		When they went into the volcano together.	Intense action scene
		When they entered the volcano.	Intense action scene
		When the boys found their mother	Climax of story
		When they found the mother in the volcano.	Climax of story
		When Duffy and Sumo found their mother.	Climax of story
Bone: Escape from Boneville (Smith, 2005)	GN	I think the most interesting part was probably when the sumo found out that his brother was still alive and when he found his mom.	Climax of story
		The rats attacking the camp site where Bone was staying.	Climax of story
		The rat creatures were in the cow race, I did not expect that.	Climax of story
		When all of the Bone people found Thorn.	Climax of story
		The most interesting part of the book was the battle in the end between the rat creatures.	Climax of story
		When they were getting chased by all the monsters at the end of the story.	Intense action scene
		When all of the Rat Creatures attacked.	Intense action scene
		When the little small green triangle guy said, "What's up?"	Details made story come to life

Table 14. Continued. Student Statements of Most Interesting Part of Graphic Novel Story:

Amulet

Book Title	Type	Student View of Best Part of Book	Category
		When they hear the bang at the bottom of the stairs.	Intense action scene
		When all three of them got separated by the bugs.	Intense action scene
		The car crash and when she started to look for her mother.	Intense action scene
		When the car crash happened.	Intense action scene
		I thought the whole book was interesting but when they meet the scientist.	Details made story come to life
		When she tells the Elf Prince to back off.	Details made story come to life
		The most interesting part was when Emily found the Amulet.	Details made story come to life
		The car crash started the story off awesome.	Details made story come to life
		When they walked in the house it seemed like someone was watching them.	Details made story come to life
		When Emily found the amulet for the first time.	Details made story come to life
		When the Elf prince reveals himself in the end of the story.	Climax of story
		At the end because was very dangerous and excited to read	Climax of story
		I liked when all of the secrets were shown at the end of the story.	Climax of story
		When the sister and brother started to work together to find their mother.	Emotional impact

Table 14. Continued. Student Statements of Most Interesting Part of Heavily Illustrated Novel

Story: *The Invention of Hugo Cabret*

Book Title	Type	Student View of Best Part of Book	Category
The Invention of Hugo Cabret (Selznick, 2007)	HIN	When the automan drew the moon picture.	Emotional impact
		When the automan drew the picture by Georges Melies.	Emotional impact
		When automan worked.	Emotional impact
		When the automan drew the very important picture.	Emotional impact
		When the machine name drew the picture of the moon.	Emotional impact
		The most interesting part of the book was when the automan drew the picture.	Emotional impact
		I love the entire book, but when the automan drew the picture.	Emotional impact
		I liked everything in this book, but when automan drew the picture of the moon.	Emotional impact
		When he found the key on the girls necklace.	Details made story come to life
		When Hugo got the man to turn on with the key.	Details made story come to life
		When he took over his dad's job.	Details made story come to life
		When the automan drew the picture of the moon.	Details made story come to life
		I enjoyed the entire story, but when he found the heart shaped key.	Details made story come to life
		The most interesting part of this book was when Hugo found the heart shaped key on Isabelle's neck.	Details made story come to life
When Hugo became a magician	Details made story come to life		
When he finds the key	Details made story come to life		

Table 14. Continued. Student Statements of Most Interesting Part of Heavily Illustrated Novel

Story: *The Doll People*

Book Title	Type	Student View of Best Part of Book	Category
The Doll People (Martin & Godwin, 2000)	HIN	When they meet the Funcrafts.	Details made story come to life
		When Bobby, Annabel and Uncle Doll found the Funcrafts.	Details made story come to life
		The dolls being able to talk and move.	Details made story come to life
		When she fell in the doll state or when she found her Aunt Sarah.	Details made story come to life
		The most interesting part of the book is probably when Annabelle found the Funcrafts.	Details made story come to life
		When Annabelle found the Funcrafts.	Details made story come to life
		The best part of the book was when the Funcrafts arrived.	Details made story come to life
		When they finally found Auntie Sarah.	Climax of story
		When they found Auntie Sarah.	Climax of Story
		When Annabelle finds Auntie Sarah.	Climax of story
		When everyone got lost and they were looking for each other.	Climax of story
		When they found Aunt Sarah.	Climax of story
		When they found Aunt Sarah.	Climax of story
		When they found Auntie Sarah	Climax of story
When they found Auntie Sarah.	Climax of story		
When the captain got Papa doll and took him into his bed.	Emotional impact		

Table 14. Continued. Student Statements of Most Interesting Part of Heavily Illustrated Novel

Story: *The Diary of a Wimpy Kid* and *Adventures of Captain Underpants*

Book Title	Type	Student View of Best Part of Book	Category
The Diary of a Wimpy Kid (Kinney, 2007)	HIN	When they bought the hypo-ring and hypnotized the principal to get the tape from the principal.	Details made story come to life
		The main characters interactions with his teachers at school.	Details made story come to life
		The winter play.	Humorous part
		The cheese on the basketball court.	Humorous part
		Christmas because they tried to make the world's largest snowman.	Humorous part
		The best part of this book was the chapter called December.	Humorous part
		The concert was very funny	Humorous part
Adventures of Captain Underpants (Pilkey, 1997)	HIN	The most interesting part of the book was when they turned him into captain underpants.	Humorous part
		When the large machine exploded.	Intense action scene
		When he was hypothesized.	Humorous part
		I like the part when Mr. Krupp got the tape and forces George and Harold to do chores then George and Harold hypnotized Mr. Krupp	Details made story come to life Details made story come to life
		When they introduced Nettlebrand.	Details made story come to life

Table 14. Continued. Student Statements of Most Interesting Part of Traditional Novel Story:

The Secret of Droon and Night of the Twisters

Book Title	Type	Student View of Best Part of Book	Category
Secret of Droon (Abbott, 1999)	TN	When the bull was kicked into the droon.	Climax of story
		I liked the end when the main character found his family.	Climax of story
		When the people were flying on the carpet.	Intense action scene
		When the soccer ball rolled down the magical stair case.	Humorous part
Night of the Twisters (Ruckman, 1984)	TN	When the twisters was right on top of them in the house.	Intense action scene
		When the twister came and he ran into the baby cradle.	Intense action scene
		When they were in the basement in the shower.	Intense action scene
		When the twister hit the houses and when the twister was pulling them out of the house.	Intense action scene
		When the first twister struck and they were in the shower.	Intense action scene
		When the first twister hit and they had to hide.	Intense action scene
		When they were downstairs in the bathroom during the tornado.	Intense action scene
		The all of the tornados started to hit.	Intense action scene
		When all of the twisters were going around and they stayed calm.	Emotionally intense
		When they were trapped in the basement during the tornado.	Emotionally intense
		When the tornado came and all of the things happened and how detailed everything was.	Details made story come to life
I think the most interesting part of the book was how they got out of the houses.	Details made story come to life		

Table 14. Continued. Student Statements of Most Interesting Part of Traditional Novel Story:
Brian's Winter and *The BFG*

Book Title	Type	Student View of Best Part of Book	Category
Brian's Winter (Paulsen, 1996)	TN	When Brian found the trappers.	Climax of story
		The end of the book when Brian gets saved.	Climax of story
		When Brian finds other people on the island and returned home.	Climax of story
		When Brian gets attacked again by the bear.	Intense action scene
		When the bears were going to attack him again.	Intense action scene
		When he killed the doe	Intense action scene
		When he got the deer and the moose attacked	Intense action scene
		I thought it was interesting how the bear attacked him and how he survived like hunted, made food and ate the food.	Details made story come to life
		When Brian got the moose for food and clothing.	Details made story come to life
		I thought the most interesting part was when Brian's meets the Native American.	Details made story come to life
When the trees started to crack because of how cold it was outside.	Details made story come to life		
The BFG (Dahl, 1982)	TN	The time the Sophia gets stolen by the BFG.	Intense action scene
		When they caught all of the giants.	Intense action scene
		When he made the dream and took the girl.	Intense action scene
		When the BFG made the dream.	Details made story come to life
		When they gave the queen the dream.	Details made story come to life

Table 14. Continued. Student Statements of Most Interesting Part of Traditional Novel Story:

Tuck Everlasting and *The Phantom Tollbooth*

Book Title	Type	Student View of Best Part of Book	Category
Tuck Everlasting (Babbitt, 1975)	TN	When the main in the yellow coat got introduced and started to follow them.	Details made story come to life
		When the Tucks told Winnie about the spring water.	Details made story come to life
		When the Tucks talked about the spring and how they drank it.	Details made story come to life
		When Winnie found out about the Tuck's secret.	Details made story come to life
		The Tucks being able to live forever.	Details made story come to life
		The most interested part of the book was when Winnie discovered the story about the Tucks.	Details made story come to life
		When Mea Tuck is broken free from jail.	Climax of story
		When the boys went to get Mae out of jail.	Climax of story
The Phantom Tollbooth (Juster, 1961)	TN	When they go into the miners cave.	Details made story come to life
		I thought the best part of the book was when Milo goes to the market.	Details made story come to life
		When he finds Rintem and Ryem.	Details made story come to life
		When he got sprayed with the fire extinguisher.	Humorous part
		When they finished the book together.	Climax of story
		When Milo saved the princesses.	Climax of story
		When the kids got home.	Climax of story
		When Milo, Tuck and the Humbug saved the princesses.	Climax of story

Table 15. Comparison of Percentages of Most Liked Parts between the Types of Novels

	Graphic Novels	Heavily Illustrated Novels	Traditional Novels
Intense action	42%	2%	33%
Details that make the story come alive	17%	44%	35%
Climax of the story	27%	18%	23%
Emotional impact	15%	20%	4%
Humor	0%	16%	4%

Academic Performance: Project and Midterm Grades

The data in Tables 16 and 17 show that students scored higher on the rubric when reading graphic novels. The midterm assessment was given in written form when all students were half way through reading each novel. The midterm assessment questions consisted of applications of two Edward de Bono Thinking Skills in which the students had to use their knowledge of the skills and the novel itself to answer each of the questions. A rubric was used to examine creativity in the student responses, connection to the novel, adherence to the de Bono Thinking Skills steps and overall thoughtfulness of the response. An analysis of the midterm assessment data showed that students averaged a higher score on this assessment for graphic novels, followed by heavily-illustrated novels and then traditional novels. The difference between scores of students when reading graphic novels compared to traditional novels was a large effect size, but the differences between graphic novels and heavily-illustrated novels and between heavily-illustrated novels and traditional novels were small. This indicates that the students' answers connected to graphic novels were more in-depth and creative. Students were able to interpret the pictures and story line of graphic novels when they were writing their responses to the midterm assessment. Heavily-illustrated novels scored second highest of the three types of novels. The pictures throughout the novel allowed students to follow the story line and allowed for good responses on the midterm assessment.

The final project was also graded using a rubric based on the creativity of student responses, connection to novel, but this assessment focused on the overall comprehension of the novel. The students chose one of eight possible projects to complete for each novel. These projects were designed with similar components so that a general rubric could be used to score each of them. The data from the summative projects showed that the students scored on average

highest for graphic novels, followed by traditional novels and then heavily-illustrated novels. Data from Table 17 indicate that the difference between graphic novels and heavily-illustrated or traditional novels had a medium effect size. Students' illustrations were directly connected to the graphic novels and allowed for students to focus on the content of their project. The graphic novel summative projects were more colorful, had more pictures describing the events of each novel and needed less student explanation of the drawings. Students reading traditional novels and heavily-illustrated novels scored very similarly on this project assessment. Students were able to use the text or illustrations provided to follow the story line and create the summative project assessment with their personal insights.

Table 16. Mean Summative Project Scores, Mean Midterm Scores, and de Bono Skill Exercise Scores for Different Types of Novels

Assignment	Graphic Novels	Heavily-Illustrated Novels	Sparsely-Illustrated Traditional Novels
Mean Midterm Test Score (Out of 10 Possible Points)	8.1 (1.0)	7.7 (1.1)	7.4 (1.0)
Mean Project Score (Out of 10 Possible Points)	7.5 (1.0)	6.9 (1.1)	7.1 (1.0)
Mean number of student volunteered responses to de Bono Skill Exercises during class	3.2 (1.0)	3.0 (1.0)	3.0 (1.0)

The third row in Table 16 shows the average number of volunteered student responses to de Bono skill exercises discussed during class. Students provided more responses when the de Bono skills were being applied to graphic novels. This difference was statistically significant, but had a small effect size.

Table 17. Statistical Significance of Differences in Student Performance on Projects and Midterm Test

	Graphic Novels Compared to Traditional Sparsely-Illustrated Novels	Graphic Novels Compared to Heavily-Illustrated Novels	Heavily-Illustrated Novels Compared to Sparsely-Illustrated Traditional Novels
Mean midterm score	$p < 0.001$	$p < 0.01$	$p = 0.025$
Cohen's d	0.70	0.38	0.29
Effect size interpretation	Large	Small	Small
Mean project work score			
p value from T-test	$p < 0.01$	$p < 0.01$	Not Significant
Cohen's d	0.41	0.56	-
Effect size interpretation	Medium	Medium	-
Mean number of student volunteered responses to de Bono Skill Exercises during class	$p < 0.001$	$p = 0.01$	Not Significant
Cohen's d	0.19	0.19	-
Effect size interpretation	Small	Small	-

Table 18. Number of Ideas Generated by Students for the Individual de Bono Skills

de Bono Thinking Skill	Graphic Novel	Heavily Illustrated Novel	Traditional Novel	Significant Differences and Effect Size
Plus, Minus, Interesting (PMI)	3.3 (0.6)	3.1 (0.6)	2.9 (0.4)	Large effect size between graphic novels and traditional novels; Medium effect size between heavily-illustrated and traditional novels.
Consider All Factors (CAF)	3.1 (0.9)	3.0 (0.6)	2.8 (0.6)	
RULES	3.4 (0.9)	3.2 (0.7)	3.0 (1.2)	
Consequence and Sequel (C&S)	2.9 (0.8)	3.0 (0.8)	2.8 (0.7)	
Aims, Goals, Objectives (AGO)	3.1 (0.7)	3.3 (1.1)	3.2 (1.0)	The differences were not statistically significant
PLANNING	3.6 (1.5)	3.2 (1.2)	3.6 (1.0)	
First Important Priorities (FIP)	3.6 (1.2)	3.5 (1.3)	3.3 (0.9)	
Alternatives, Possibilities, Choices (APC)	3.2 (1.0)	3.0 (1.0)	3.4 (1.3)	
DECISIONS	2.9 (1.0)	2.6 (0.9)	2.6 (0.6)	
Other People's Views (OPC)	3.0 (1.0)	2.6 (0.9)	2.7 (0.8)	Medium effect size between graphic novels and traditional novels

The data in Table 18 show that on two skills, Plus Minus Interesting and Other People's Views, were the number of student responses for that skill significantly different. These two skills ask the student to generate ideas from different perspectives; graphic novels may help students in seeing situations from various views. Certainly, the illustrations in graphic novels often show a scene from various perspectives – for example, in *Amulet* (Kibuishi, 2008) there is a series of panels that show the main character learning about the disappearance of her mother, while her little brother is the learning about the house that they found there grandfather in and his

role in the mother's disappearance. This may allow the reader to unconsciously adopt this multiple perspective viewpoint.

Table 19. Students' Favorite Edward de Bono Thinking Skills for each of the six novels

Edward de Bono Thinking Skill	Amount of times student chose as favorite Thinking Skill
Plus, Minus, Interesting	46
Rules	39
Planning	15
Aims, Goals, Objectives	12
Consequence and Sequel	7
Consider All Factors	7
First Important Priority	6
Other People's Views	3
Alternatives, Possibilities, Choices	2
Decisions	1

The data in Table 19 represents the number of times that the Edward de Bono Thinking Skill was chosen by the students as their favorite thinking skill for the six novels that they read. There were two Thinking Skills that students enjoyed using over the other eight. The two Thinking Skills that were Plus, Minus and Interesting and Rules. During my discussions with the students throughout this project the students explained that they enjoyed these two skills because each one allowed for the students to use own personal opinions and connections to each novel. This table also shows that some of the skills that the students did not enjoy using were those that involved deeper thinking connected to the novel. I would go back and reteach and work more with the skills that received the lower scores to help students understand each skill, to allow for students to see the possibilities of the other skills.

Chapter 5: Conclusions and Recommendation

Summary of Results

The mean number of student responses was the higher for the graphic novels than for either of the other two novel forms. The heavily-illustrated novels and the traditional novels had the same number of student responses.

The midterm assessment responses displayed that the graphic novels had higher assessment scores that did either of the other two novel forms. The heavily-illustrated novel scored higher that the traditional novel.

The final project score revealed that the graphic novels had higher project scores that either of the other two novel forms. The traditional novel received higher project scores than did the heavily-illustrated novel.

The interest survey results showed that the graphic novels had higher interest scores than either of the other two novel forms. The heavily-illustrated novel received higher interest scores than did the traditional novel.

Are you going to add to this? What about student interest in the texts and their reasons? A few more specific summary statements could be added here.

Conclusion and Recommendation

The potential of the graphic novel as a powerful tool to increase the modern student's interest in reading was demonstrated in this study. The graphic novel proved to be superior to either the heavily-illustrated novel or the traditional novel in all of the categories that were studied. The modern student lives in a society where access to visual media is increasing daily. Many students find that a large amount of their free time is utilized in the use of visual forms of entertainment. Perhaps we are witnessing the beginning of a new era in learning, where graphic

novels will replace traditional novels in the manner similar to the way television replaced radio.

At the very least this study indicates that the graphic novel should be available to students as a **method** of increasing their interest in reading. Keeping the interest of the student is an **important** tool in ensuring that the student will read the novel. The graphic novel was superior to the other forms in maintaining the student's interest. However the advantages that the graphic novel **displayed** went way beyond interest alone. Students' comprehension of the novel also **improved** by graphic novels. Deeper understanding of material was reflected in the summative projects related to the graphic novel over the traditional novel.

While further research in this exciting text format should be conducted to back up what was **found** in this study and to show that the value of the graphic novel as an educational tool cannot be dismissed.

References

- Abbott, T. (1999). *The Secrets of Droon: The Magic Staircase*. New York: Scholastic.
- Babbit, N. (1975). *Tuck Everlasting*. New York: Farrar, Straus and Giroux.
- Bosma, K., Rule, A. C., & Krueger, K. S. (in press). Memorable, enjoyable reading about American Revolution with graphic novels. *Social Studies Research and Practice*.
- Briggs, S. R. (2010). Using Literature Circles to Increase Reading Comprehension in Third Grade Elementary Students. ERIC Document Reproduction Service No. ED 511 091.
- Brozo, W. G., Shiel, G. & Topping, K. (2010). Engagement in Reading: Lessons Learned from Three PISA Countries. *Journal of Adolescent and Adult Literacy*, 51, 304-315.
- Certo, J., Moxley, K., Reffitt, K., & Miller, J. (2010). *I Learned How to Talk About a Book: Children's Perceptions of Literature Circles Across Grade and Ability Levels*. *Literacy Research and Instruction*, 49(3),
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Cronin, D. (2000). *Click, Clack, Moo Cows That Type*. New York, NY. Simon & Schuster Children's Publishing Division.
- Dahl, R. (1984). *The BFG*. New York: Puffin Books.
- Daniels, Harvey. (1994) *Literature Circles: Voice and Choice in the Student-Centered Classroom*. York, ME: Stenhouse.
- Edwards, B. (2009). Motivating middle school learners: The graphic novel link. *School Library Media Activities Monthly*, 25(8), 56-58.
- Edwards, B. (2008). Motivation and middle school readers: Graphic novels, comic books, and free voluntary reading time. Ph.D. dissertation., University of Oklahoma.

- Juster, N. (1961). *The Phantom Tollbooth*. New York: Random House, Inc.
- Kibuishi, K. (2008). *Amulet: Book One: The Storekeeper*. New York: Graphix.
- Kinney, J. (2007). *Diary of a Wimpy Kid*. New York: Amulet Books, 2007.
- Lavin, M.R. (1998). Comic books and graphic novels for libraries: What to buy. *Serials Review*, 24(2), 31–46.
- Martin, A. (2009). Graphic novels in the classroom. *Library Media Connection*, 28(2), 30-31.
- Martin, A. & Godwin, L. (2002). *The Doll People*. New York: Hyperion Books for Children.
- Muth, J. (2002). *The Three Questions*. New York, NY: Scholastic Press.
- O'English, L. Matthews, J. G., & Lindsay, E. B. (2006). Graphic novels in academic libraries: From *Maus* to manga and beyond. *The Journal of Academic Librarianship*, 32(2), 173-182.
- Paulsen, G. (1996). *Brian's Winter*. New York: Random House.
- Pilkey, D. (1997). *The Adventures of Captain Underpants*. New York: The Blue Sky Press.
- Ruckman, I. (1984). *Night of the Twisters*. New York: Harper Collins Publishers Corp.
- Rudiger, H. M., & Schliesman, M. (2007). Graphic novels and school libraries. *Knowledge Quest*, 36(2), 57-59.
- Rule, A. C. (2005). An analysis of dollhouse story themes and related authentic learning activities. *Journal of Authentic learning*, 2(1), 61-79.
- Rule, A. C., & Barrera, M. T., III. (2008). Three authentic curriculum-integration approaches to bird adaptations that incorporate technology and thinking skills. ERIC Document Reproduction Service No. ED 501247.
- Rule, A. C., & Barrera, M. T., III, (2006). CoRT thinking skills guide PBL science. *Academic Exchange Quarterly*, 10(4), 145-149.

- Rule, A. C., & Stefanich, G. P. (2012). Using a Thinking Skills System to Guide Discussions during a Working Conference on Students with Disabilities Pursuing STEM Fields. *Journal of STEM Education: Innovations and Research*, 13(1), 1-12.
- Schwartz, A., & Rubinstein-Ávila, E. (2006). Understanding the manga hype: Uncovering the multimodality of comic-book literacies. *Journal of Adolescent and Adult Literacy*, 50(1), 40-49.
- Selznick, B. (2007). *The Invention of Hugo Cabret*. New York: Scholastic.
- Serchay, D. S. (2008). *Graphic novels for children and tweens*. New York: Neal-Shuman.
- Short, J. C., & Reeves, T. C. (2009). The graphic novel: A “cool” format for communicating to Generation Y. *Business Communication Quarterly*, 72(4), 414-430.
- Smith, J. (2005). *Bone: Out from Boneville*. New York: Graphix.
- Telgemeier, R. (2010). *Smile*. New York: Graphix.
- Wilson, H. W. (2011). Children’s core collection (Children’s catalog). Online version Wilson Web. Retrieved from: <http://www.hwwilson.com/print/childcat.cfm#Online>
- Wood, D. (2008). *Into the Volcano: A Graphic Novel*. New York: The Blue Sky Press.