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Implementing Edward de Bono's Six Thinking Hats Intervention for Improving Reading Comprehension Skills for Students With Learning Disabilities (SLD)

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Implementing Edward de Bono's Six Thinking Hats Intervention for Improving Reading
Comprehension Skills for Students With Learning Disabilities (SLD)

by
Annaliese Hightower

An Applied Dissertation Submitted to the
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Approval Page

This applied dissertation was submitted by Annaliese Hightower under the direction of the persons listed below. It was submitted to the Abraham S. Fischler College of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova Southeastern University.

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Statement of Original Work

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Abstract

Implementing Edward de Bono's Six Thinking Hats Intervention for Improving Reading Comprehension Skills for Students With Learning Disabilities (SLD). Annaliese Hightower, 2019: Applied Dissertation, Nova Southeastern University, Abraham S. Fischler College of Education. Keywords: Six Thinking Hats, reading comprehension, and Specific Learning Disabilities (SLD)

This study proposed Edward de Bono's Six Thinking Hats as an intervention to enhance SLD students' reading comprehension skills. The study described the Six Thinking Hats intervention as a method that used six diverse thought processes. A narrative review further discussed how the compilation of strategies is needed to help improve reading development skills for SLD students. Additionally, the study described several theoretical frameworks for the study: construction-integration model, event index model, and the metacognitive theory.

The study used a quantitative approach to answer the research questions that focused on comparing statistical differences between an experimental group and a control group. The study utilized an experimental design that implemented Achieve 3000's Level Set test as a pretest-posttest to measure students' Lexile levels. Additionally, a criterion-referenced test was used as a pretest-posttest to assess the six cognitive abilities of the Six Thinking Hats for the experimental and control group.

Participants of the study were Grade 9 and Grade 10 students enrolled in Intensive Reading classes at a Florida high school.

The results of this study showed no statistically significant difference in using the Six Thinking Hats with SLD students. However, the researcher believes that this approach can be beneficial with this population of students with modifications to implementation.

Table of Contents

Chapter 1: Introduction

Statement of the Problem

Enhancing students' reading comprehension skills can become a daunting task for most teachers. Students with learning disabilities, as well as students without learning disabilities, can struggle with reading comprehension. Approximately 90% of students with learning disabilities experience difficulties when obtaining and mastering reading comprehension skills (Crabtree, Alber-Morgan, & Konrad, 2010). These challenges become evident in middle and high school when students are dealing with increasingly more literacy demands (Crabtree et al., 2010). These literacy demands are profoundly affecting students with learning disabilities. The National Center for Educational Statistics reported that 61% of Grade 8 students with disabilities read at the *Below Basic Level* on the 2017 National Assessment of Educational Progress (NAEP) reading assessment while only 19% of Grade 8 non-disabled students read at this level.

Edward de Bono's Six Thinking Hats (1999) serves as a possible approach that could help facilitate reading comprehension and higher order thinking skills. Higher order thinking skills consist of critical literacy, critical numeracy, and cross-curricular abilities (Forster, 2004). This process involves contexts where thought processes are needed to solve problems, daily decision-making, and contexts where mental processes are required to benefit from instruction, including comparing, evaluating, justifying and making inferences (Forster, 2004). The Six Thinking Hats approach has the intent of improving thinking skills (de Bono, 1999). This technique provides individuals with opportunities to determine critical choices and deductions (Erisen & Bayrakli, 2016). Additionally, this process examines a subject using different perspectives, and it separates ideas connected

to affective factors from logical reasoning, and creativity from knowledge (Erisen & Bayrakli, 2016).

The topic. The topic of this proposed dissertation was to investigate if the Six Thinking Hats method will remediate and strengthen reading comprehension skills for students diagnosed with Specific Learning Disabilities (SLD).

The research problem. The Florida Standards Assessment (FSA) is used in the State of Florida to measure reading comprehension skills and higher order thinking skills. This assessment is an indicator of students' reading comprehension proficiency levels. The Florida Department of Education (2017) computed the following data for the target school in 2016, only 48% of the Grade 9 and Grade 10 students met the reading achievement level. In 2017, only 51% of Grade 9 and Grade 10 students achieved the reading achievement level. This data includes non and disabled students. As a result, only half of the student body met the reading achievement level. To further demonstrate the need for reading improvement, in the 2018-2019 school year, a goal in the school improvement plan was to increase the FSA ELA achievement of SLD students from 13% to 20%. SLD students fall under the FSA ELA achievement of ESE.

Background and justification. There is an immediate concern for SLD students to improve their reading comprehension skills. SLD students possess academic deficiencies and complex reading challenges (Botsas, 2017). Reading comprehension problems consist of deficiencies in decoding skills, word recognition, and fluency (Botsas, 2017). Furthermore, students with learning disabilities lack previous content knowledge and therefore, grapple to develop reading fluency that could support their reading comprehension (Botsas, 2017). Reading comprehension skills are not an aptitude

that most students acquire easily and can be challenging for students with learning disabilities (Blum, Lipsett, &Yocum, 2002). For example, Jennings, Caldwell, and Lerner (2006) reported that 80% of three million students are receiving special education services for learning disabilities that focus on reading difficulties (as cited in Berkeley, 2007). Most students lack the abilities of even acquiring these skills; therefore, mastering these skills seems unattainable. Thus, students with learning disabilities are at a disadvantage when strengthening their craft in literacy.

Students with learning disabilities lack an understanding of how to strengthen their reading comprehension skills. Crabtree et al. (2010) reported that adolescents with learning disabilities struggle when monitoring their reading comprehension and lack such skills as rereading when they do not comprehend. These types of learners experience poor reading comprehension skills because they lack the know-how of reading strategically (Blum et al., 2002). Therefore, students with learning disabilities will need a different approach to strengthening their reading comprehension skills. One educational method that could potentially improve reading comprehension and enhance higher order thinking skills is the Six Thinking Hats (de Bono, 1999). Higher order thinking is characterized in reading as a comparative process, which is goal-oriented, responsive, and self-regulated (Afflerbach, Cho, & Kim, 2015). These attributes are featured in the Six Thinking Hats approach. First, this method involves a structured approach that uses six different points of view. Second, these modes of thinking require a responsive approach to each mode of thought. Third, self-regulating occurs throughout this approach. The Six Thinking Hats are as follows: the Red Hat examines issues concerning reactions, emotions, and instincts instead of focusing on a rational view (de Bono, 1999). This view is pertinent because it

forces the students to have feelings about what is read. The White Hat identifies facts (de Bono, 1999). This aspect focuses on obtaining information which is crucial to reading comprehension. The Black Hat evaluates using a negative perspective (de Bono, 1999). This mode of thinking uses critical thinking and judgment which enhance reading skills. The Yellow Hat examines positive aspects. This view resembles the same reading components as the Black Hat. The Green Hat focuses on creativity (de Bono, 1999). In brief, the Six Thinking Hats examines other ideas. This aspect is critical to reading as readers need to examine more profound thoughts and ideologies. The Blue Hat is known as the hat of control because it organizes thinking activities (de Bono, 1999). These hats help readers to use strategies to identify, select, apply, revise and evaluate while comprehending a text (Afflerbach et al., 2015). Moreover, higher order thinking involves constructive and integrative processes which help readers to make complex inferences, problem solve or synthesize (Afflerbach et al., 2015). These tasks are featured in the Six Thinking Hats.

Deficiencies in the evidence. Kivunja (2015) stated that instructors are not teaching students how to think effectively; therefore, there is a pedagogical gap. Critical thinking skills must be implemented into curricula to eliminate the pedagogical gap (Kivunja, 2015). Tapscott (2009) and Trilling and Fadel (2009) surmised the need for critical thinking skills because it is necessary for academia and beyond. Kivunja (2015) suggested using Edward de Bono's Six Thinking Hats because it is a proven model that will increase critical thinking skills. Payette and Barnes (2017) described the Six Thinking Hats as an effective probing approach that instructors can utilize to teach students how to think critically. Ercan and Bilen (2014) mentioned that the Six Thinking

Hats helped students to deepen their critical and creative thinking skills. Smith and Cook (2012) proclaimed that the Six Thinking Hats encouraged student motivation and it increased students' academic achievement. Baum (2013) and Prince (2004) recommended that students engage in active learning tasks such as discourse, teamwork, self-evaluation, and analysis. These tasks helped students to develop knowledge; that in turn, built higher order thinking skills and these tasks are components of the Six Thinking Hats (Baum, 2013; Prince 2004).

Gregory and Masters (2012) engaged student-teacher candidates in the Six Thinking Hats techniques in a virtual and face-to-face setting. The study showed that the participants enjoyed the technique both in the real world and virtually. The qualitative findings of the study showed that the pre-service teachers found the strategy useful for students and provided a better understanding of how to implement the Six Thinking Hats approach in the classroom (Gregory & Masters, 2012). Similarly, Alkhateeb (2015) investigated the effectiveness of the Six Thinking Hats method as it relates to the development of pivotal thinking skills and axial impact on the achievement on Islamic ideas. The study recommended training teachers on how to use the Six Thinking Hats to strengthen the educational process (Alkhateeb, 2015). The studies mentioned do not discuss the impact of using the Six Thinking Hats strategy of teaching critical thinking habits to develop reading comprehension skills. Thus, the research will extend the works of Gregory and Masters (2012) and Alkhateeb (2015).

Audience. The investigation of the proposed study will benefit high school SLD students. Enhancing SLD students' reading comprehension skills will help these students pass their english courses successfully, and thus are likelier to pass the FSA state test.

SLD students who pass the FSA test help to improve the school's academic standing.

Setting of the Study

The site chosen for observation was in Florida. The site selection had a student population of 2,661 students ("Florida Department of Education," 2017). The student demographics consisted of the following number of students: Caucasian 2,180, Hispanic 1,551, African-American 243 ("Florida Department of Education," 2017). The gender demographics consisted of female 48% and male 52%, ("Celebration High School," 2017).

Researcher's Role

The researcher's role in the organization is to provide the best instructional strategies for teachers. Regardless of the type of students in the classroom, my purpose is to provide instructional methods that meet the need of every child; this includes creating various remediation strategies to help all students improve their reading comprehension skills. Additionally, in this position, I assist all english and reading teachers with achieving a successful pass rate on the FSA (reading and writing section) test.

Purpose of the Study

The purpose of this quantitative study was to investigate the implementation of the Six Thinking Hats as a method to improve SLD students' reading comprehension skills.

Definition of Terms

Several terms are defined as used in the study.

Classic Novels (Literature). A classic novel expresses artistic qualities; it is memorable and merits lasting recognition, utilizes universal appeals, and emphasizes

connections (Lombardi, 2017).

Six Thinking Hats. The Six Thinking Hats is a method used to encourage thinking. It allows the thinker to deal with one idea at a time and then switch thinking (de Bono, 1999). There are six modes of thinking: White Hat (neutral, objective, fact-oriented), Red Hat (gives an emotional view), Black Hat (covers negative aspects), Yellow Hat (covers hope and positivity), Green Hat (indicates creativity and new ideas), and the Blue Hat (focuses on control and organization) (de Bono, 1999).

SLD. This disorder is visible in one or more of the basic learning processes which consist of language, spoken, or written. As a result, significant difficulties are affecting the ability to listen, speak, read, write, spell or do mathematics ("Florida Department of Education," 2017).

Chapter 2: Literature Review

Introduction

Edward de Bono's Six Thinking Hats is a structured approach to help students to enhance their critical and problem-solving skills. Kivunja (2015) stated that the Six Thinking Hats approach is a meaningful pedagogical technique. This approach is valuable because it allows students the opportunity to think efficiently and authentically (de Bono 1992d). Ercan and Bilen (2014) described the Six Thinking Hats as a more structured approach compared to other teaching activities. Additionally, this strategy increases classroom activities among students (Ercan & Bilen, 2014). In-class activities are increased among students because it engages learners in six distinctive cognitive modes that allow students to analyze problems collectively (Payette & Barnes, 2017).

Theoretical Framework

Edward de Bono's Six Thinking Hats is a process that allows for the extraction of knowledge through active discourse (Zwaan, 2016). In other words, the recalling of information expressed through language (Zwaan, 2016). This approach has six different components; text content integrates with ideas developed from passages (Kintsch, 1988). These integrations of ideas become stronger with connectivity (Kintsch, 1988). This leads to knowledge obtained through words, syntax, world, or spatial relations (Kintsch, 1988). As well as, tasks can produce the formation of knowledge (Kintsch, 1988). Furthermore, the Six Thinking Hats is a parallel thinking process that helps students to become more productive, focused, and active critical thinkers (Dhanapal & Wern Ling, 2013). This process allows students to become stimulated to think and be in control of their learning with the specified modes of thoughts through language and take control of their role as an

active listener and speaker (Dhanapal & Wern Ling, 2013). As a result, the Six Thinking Hats align with several theoretical frameworks: the construction-integration model, event index model, and the metacognitive theory.

Construction-Integration Model

The construction-integration model is a situational model (Zwaan, 2016). Situational models extract comprehension from the discourse which involves the construction of mental representation and text components (Zwaan, 2016). The most comprehensive situational model is Walter Kintsch's construction-integration model which is an extension of Kintsch and van Dijks' 1978 model of text recall (as cited in Zwaan, 2016). Furthermore, the construction-integration model is language/discourse comprehension (Kintsch, 1988). Discourse comprehension pertains to constructing a representation of discourse through processing, and the outcomes act as evidence for comprehension (Kintsch, 1988). This process achieves success on several levels: accessing a linguistic level of representation, conceptual levels to represent both the local and global meaning of a structure of a text (Kintsch, 1988). Other processes involve a level that consists of a text which has lost its individualism, and the text content has become integrated into a larger structure (Kintsch, 1988). There are distinct processes that can construct meaning through representations (Kintsch, 1988). These representations consist of word identifications, parser, inference mechanism, macro-operators, and spatial imagery from verbal descriptors (Kintsch, 1988). Word identifications provide associations of ideas using words (Kintsch, 1988). Parsers create predictions for each successive component from those already analyzed based on syntactic rules (Kintsch, 1988). Inference mechanism helps to infer meaning from a text

or discourse. Macro-operators extract ideas from a passage (Kintsch, 1988). Spatial imagery generates a verbal description of a place (Kintsch, 1988). These levels of thinking can only occur with the use of general knowledge (Kintsch, 1988). General knowledge of words, syntax, the world, spatial relations and anything relating can construct discourse representations at all levels (Kintsch, 1988).

Development of Discourse Representations. There are several approaches to obtaining knowledge. One said method utilizes the construction-integration model (Kintsch, 1988). It is a construction process in which a text component is obtained from a linguistic input, a person's comprehension knowledge base, and an integration phase (Kintsch, 1988).

Knowledge Representation. The development of discourse representation depends upon knowledge (Kintsch, 1988). Knowledge generates in the context of a task, and there is an associative net with positive as well as negative interconnections (Kintsch, 1988). Knowledge has nodes which are concepts or schemes (Kintsch, 1988). When the nodes are connected, they have strength (Kintsch, 1988). Nodes are equivalent to the propositions used as representations of text (Kintsch, 1988). The nodes have slots that demonstrate the relationship between the head and the argument (Kintsch, 1988). The arguments of propositions produce concepts or more propositions (Kintsch, 1988). Concepts are not visible in the knowledge net, but their meaning acquires from their position in the net (Kintsch, 1988).

Construction Approach. The construction process requires several steps. First, create the concepts and propositions which respond to linguistic input. Second, elaborate on concepts and propositions by selecting closely related elements from the knowledge

net (Kintsch, 1988). Third, infer additional propositions; this entails inferences acquiring

positive and negative interconnections from the general knowledge net (Kintsch, 1988).

Fourth, assign connection strengths to all previously created elements; this entails

analyzing the connections from propositions derived from the text (Kintsch, 1988). The

propositions in the text base derive their interconnections from the general knowledge net

(Kintsch, 1988).

Integration. The integration process organizes text comprehension into cycles

which correspond to short sentences or phrases (Kintsch, 1988). This cycle allows for the

construction of new knowledge nets, and this includes nets being carried over. When the

new nets are constructed, it allows for the integration process to take over and activation

is spread until the system sustains (Kintsch, 1988).

Event Index Model

The event index model is another theoretical framework which aligns with the Six

Thinking Hats. This model focuses on the event representations within a situation model

(Zwaan, 2016). Events can relate to one another on five distinctive levels: time, space,

entity, causation, and motivation (Zwaan, 2016). When these levels have formed an

event, representation develops, and it integrates with other event representations which

are currently in the working memory (Zwaan, 2016). If the event occurs within the same

time frame as the events in the working memory, then an overlap occurs in the temporal

dimension (Zwaan, 2016). If the event occurs during the same spatial region, then a

spatial overlap ensues (Zwaan, 2016). If the same entity involving a person or object

develops, then an entity overlap materializes. If causation occurs within previous events,

then a casual overlap develops (Zwaan, 2016). If similar goals or plan development

happens then, there is a motivational overlap (Zwaan, 2016). These situational overlaps help the current events remain in the working memory (Zwaan, 2016). It makes it easier to process the clause construing the event. Additionally, connections become stronger between the current event and the events in the working memory; as a result, it transfers into the long-term memory (Zwaan, 2016).

Metacognitive Theory

The last theoretical framework which aligns with the Six Thinking Hats is the metacognition theory. Metacognition is the idea of thinking about one's own thoughts, knowledge or reflecting on one's actions (Papaleontiou-Louca, 2008). Therefore, cognition pertains to perceiving, understanding, remembering and metacognition is thinking about one's own understanding and remembering (Papaleontiou-Louca, 2008). One major theorist credited with this theory is Lev Vygotsky (Papaleontiou-Louca, 2008). Vygotsky believes that metacognition is developed through social interactions while utilizing language (Fox & Riconscente, 2008). The internalizations produce abstractions which moves to the levels of conscious abstractions or scientific concepts (Fox & Riconscente, 2008). This level transfers into a reflective awareness and deliberate control (Fox & Riconscente, 2008). Vygotsky believes that metacognition and self-regulation are intertwined (Fox & Riconscente, 2008). Equally important, several other ideas evolved: structure occurs in one's thoughts and how to direct and control these thoughts (Fox & Riconscente, 2008). Reflection abstract happens through mental manipulation of concepts using language (Fox & Riconscente, 2008). Awareness of inner speech, focused thoughts, and an active listener and speaker are developed (Fox & Riconscente, 2008).

Intervention and Components of Six Thinking Hats Strategy

   The review of literature supports that students with learning disabilities need an alternative approach to augmenting their reading comprehension and higher order thinking skills. Thus, de Bono (1992) believes that despite one's intellectual level, students can be taught how to think. To better understand how this approach can be implemented with students with varying intellectual levels, a basic conceptual model of how the Six Thinking Hats instructional program works is provided in the Figure. As seen in this figure, the Six Thinking Hats instructional program is designed to facilitate reading comprehension through two distinct mechanisms: a) facilitate students' construction and use of knowledge while reading and b) create a context for students to share and discuss with each other the knowledge representations formed while reading a text.

Mechanism 1:
Facilitate Knowledge
Created or Used While
Reading

Instructional Program:
Six Thinking Hats

Outcome: Reading
Comprehension

Mechanism 2:
Discussion of
Knowledge through
Social Interactions
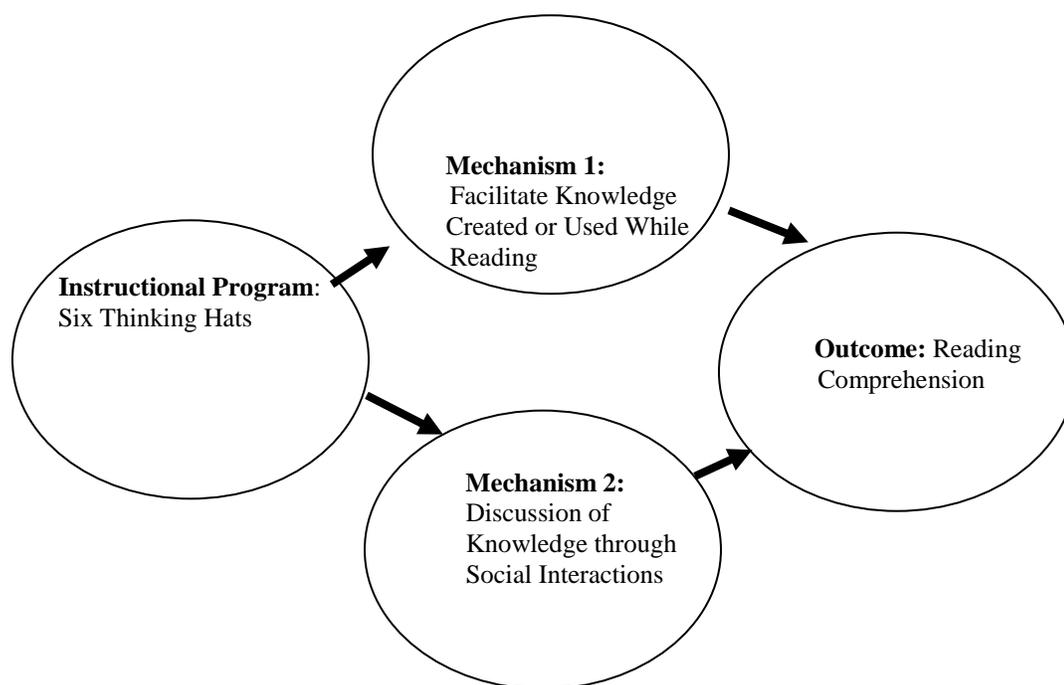
Figure. Basic conceptual model of the Six Thinking Hats instructional program

Mechanism 1: Types of Knowledge Created or Used While Reading

Research proposes that effective literacy instruction involves several characteristics: the ability to retell, ask questions, engage in inferential reasoning, summarize, and monitor comprehension (Swanson et al., 2016). These characteristics can improve students' comprehension among a variety of texts for students with and without reading problems (Swanson et al., 2016). Moreover, these characteristics are facets of de Bono's Six Thinking Hats.

Table 1 depicts each of the types of knowledge that are specifically targeted by the Six Thinking Hats instructional program. The table illustrates a structured thinking approach which uses several representations of knowledge facilitated through oral language and social interactions. Each representation uses a distinctive lens that poses

questions using a specific point of view. The following questions are posed for each hat:
Are there any facts? What facts should I know (White Hat)? How can I merge these ideas
to create new ones (Green Hat)? What did I learn (Blue Hat)? What feelings do I have?
What are the author's feelings towards the subject (Red Hat)? Why will it not work
(Black Hat)? What is this positive view based upon (Yellow Hat)? (de Bono, 1999).

Table 1

Types of Knowledge Created or Used While Reading When Using the Thinking Hats Curriculum

_____

Representation	Student Behavior	Corresponding Component (Knowledge) of the Intervention (i.e., Hat)

_____

Factual <Protagonists, Place, Time, Motivations>	Looks for facts in text	White Hat
Inferences <New Ideas, New Approaches, Merging of Ideas,>	Creating inference that goes beyond the given information	Green Hat
Metacognitive Knowledge <Monitoring Understanding Self-correcting Re-reading Summarizing Reading Aloud>	Reflecting on content engaging in strategies to enhance understanding	Blue Hat
Emotional <Happy, Anger,>	Interpreting emotions in text Affective reaction to the text	Red Hat
Negative <Inconsistencies, Incorrect Facts, Error Detection, Comprehension Monitoring,>	Identify information that is somehow inconsistent with facts	Black Hat
Positive <Constructive, Optimism, Benefits,>	Identifying positive results or aspects for protagonists in text for the reader	Yellow Hat

_____

Factual Content Representations. The ability to retell factual content is one type of knowledge needed to improve reading comprehension. Factual comprehension questions evaluate whether a student comprehends the details or facts within a text (Schmitt, Hale, McCallum, & Mauck, 2011). The following questions are posed: Who is the protagonist and antagonist? Where does the story take place? When is the story's timeframe? What are some of the characters' motivations? Students who can answer these questions have a literal understanding. A literal understanding uses surface features which consist of decoding and syntactic parsing (Park, Nam, & Lee, 2016). Furthermore, a literal understanding identifies explicit ideas observed within a text and requires minimal inferential processing (Elleman, 2017).

Representations of Inferences. Readers must learn to go beyond what a text states explicitly to grasp discernment. When readers extend their knowledge beyond a surface level understanding, they create a coherent mental representation or situational model (Elleman, 2017). A situational model uses an inference generation, as it requires prior knowledge and knowledge obtained from a text (Elleman, 2017). Park et al. (2016) assert that knowing only content explicitly stated in the text does not equate to the successful comprehension of a text. Instead, readers need to obtain a literal understanding of the text and then integrate the text into a larger structure (Park et al., 2016). This approach is essential to reading comprehension (Elleman, 2017).

To further illustrate this claim, a recent study analyzed the approach of teaching inference generation with skilled and less skilled readers in Grades K-12 (Elleman, 2017). This study was a "meta-analysis of 25 inference studies in Grades K-12" (Elleman, 2017, p.76). The purpose of the study was to examine the relationship between

inferences and comprehension, the impact of inference instruction on different levels of

text representation, and how skilled and less skilled readers respond to the intervention

(Elleman, 2017). The study focused on literal and inferential comprehension (Elleman,

2017). The types of inferences were coded as text-based inferences and elaborative

inferences (not required to understand the text-based representation of a text). The

research design consisted of experimental and quasi-experimental studies (Elleman,

2017). Studies included a posttest control with randomization or pretest-posttest control

group design (Elleman, 2017). The results of the study indicated that skilled and less

skilled readers both benefited from inference instruction (Elleman, 2017). Additionally,

the findings from the study showed that the less skilled readers improved in their literal

comprehension (Elleman, 2017). Lastly, the study revealed that teaching higher order

thinking skills is a difficult task, but the study showed positive results with their

intervention (Elleman, 2017).

   Representations of Metacognitive Strategies. Reading pertains to consistently

obtaining information and using metacognitive strategies when formulating meanings

from a text (Park et al., 2016). Metacognition is another type of represented knowledge

proven to strengthen student reading comprehension skills. Theorists describe this type of

knowledge as having an awareness of one's cognitive processes, monitoring one's

thinking, and controlling one's learning (Ceylan, Harputlu, & Eylul, 2015). This type of

knowledge is classified as higher order thinking because it engages in cognitive processes

and student learning (Ceylan et al., 2015). Therefore, students must be taught

metacognitive strategies (Ceylan et al., 2015). Researchers claim that metacognitive

strategies are vital in reading comprehension (Ceylan et al., 2015). This approach helps

students to process their thinking before, during, and after reading (Ceylan et al., 2015).

When students do not use the metacognitive approach, they cannot assess their

development, accomplishment, and future learning (Ceylan et al., 2015).

      Representations of Emotions. Although literal comprehension, inference

generation, and metacognitive strategies are essential to reading comprehension

development, readers still need more strategies to help enhance comprehension.

Specifically, readers need a strategy to heighten their meaning construction process; the

strategy will help readers to achieve their reading goals at an accelerated pace (Yusfarina,

Jamian, Zaitul Azma, & Roslan 2013). Yusfarina et al. (2013) mention that this strategy

needs to give equal focus to cognitive, metacognitive, and affective aspects. Affective

domains are visible when participating in reading activities. Furthermore, various

research studies focus on emotional responses during reading to explore best practices for

reading activities (Daley, Willett, & Fischer, 2014). This approach analyzes how

students respond to reading specific texts (Daley et al., 2014). When students use task-

focused measures of affective factors, it provides opportunities to explore the role of

emotions in reading and learning to read (Daley et al., 2014). Additionally, affective

factors are especially important in narrative text comprehension (Yusfarina et al., 2013).

In narrative text comprehension, students must recognize the plot and characters; this

process allows students to release their emotions (Yusfarina et al., 2013). Lastly, affective

factors such as value, motivation, and emotion can influence students' skills and success

(Yusfarina et al., 2013).

      Representations of Negative Content. Another equally important knowledge

created during reading is the ability to detect inconsistency in the text that one is reading.

Students who can identify inconsistencies in their comprehension will strengthen their understanding. This application allows readers to identify incorrect facts and engage in comprehension monitoring; this task can enhance their reading comprehension skills. Comprehension and comprehension monitoring are two distinct processes that have a connecting relationship (Skarakis-Doyle & Dempsey, 2008). Comprehension entails constructing the meaning of a text (Skarakis-Doyle & Dempsey, 2008). When students construct meaning from a text, comprehension monitoring detects problems with the meanings in the text and attempts to correct it (Skarakis-Doyle & Dempsey, 2008). Comprehension monitoring operates under the expectations that are created from discourse representation (Skarakis-Doyle & Dempsey, 2008). If expectations for the discourse materials are not met, this discrepancy allows students to find ways to explain or resolve the inconsistencies in the text (Skarakis-Doyle & Dempsey, 2008). This process enables students to evaluate and regulate their learning (Skarakis-Doyle & Dempsey, 2008). Students who can detect errors are better able to succeed in daily social communication as well as in literacy activities, such as understanding stories (Skarakis-Doyle & Dempsey, 2008).

Representations of Positive Content. Lastly, engaging in positive assessments can help to improve reading comprehension. This knowledge is obtained through becoming a constructive thinker. Readers base their positive assessments on experiences, available information, logical deductions, hints, trends, guesses, and hopes (de Bono, 1999). Therefore, constructivists view reading comprehension as progressive and a constructive, meaning-making process, involving reader-text interaction (Yussof, Jamian, Roslan, Hamzah, & Kabilan, 2012). The effectiveness of this approach depends upon the

reader's characteristics and their engaging role in the meaning-making process (Yussof et al., 2012). Readers engage in this role through using prior knowledge (schemata) and considering their worldviews, beliefs, positive attitudes, motives, values, motivations, and linguistic abilities (Yussof et al., 2012). The entire process is a complex thinking approach, comprised of recognizing, decoding, arranging, analyzing, assessing, generalizing, and employing language ability (Yussof et al., 2012).

Moreover, this type of thinker will "do his or her best to find as much support as possible for the proffered optimism" (de Bono, 1999, p. 118). Additionally, the constructive thinker engages in the exploration and positive speculation (de Bono, 1999). For example, readers will analyze the text looking for positive attributes of a story or positive elements of the protagonist. The constructive thinker will look for those positive attributes and then seek to justify them (de Bono, 1999). This type of knowledge used while reading will help students to process their comprehension through analysis, and then justify their reasonings.

Mechanism 2: Discussion of Knowledge Through Social Interactions

The Six Thinking Hats help students to construct knowledge through social interactions. McCormick, Clark, and Raines (2015) state active discourse among student groups helps students to transfer knowledge; this is essential in the learning process. Additionally, collaborative groups allow students to build on one another's strengths and construct knowledge (McCormick et al., 2015). Thus, social interactions are needed to help students obtain knowledge. Several studies support the idea that students with learning disabilities can better obtain knowledge through social interactions. These students experience difficulties in both reading comprehension and critical thinking

(Wilder & Williams, 2001). These students lack the knowledge of how to evaluate, understand text structure, and metacognitive strategies to monitor their learning (Wilder & Williams, 2001). To remedy these issues, SLD students need a more extensive, structured, and explicit instruction compared to most students (Wilder & Williams, 2001). Unfortunately, most teachers focus on decoding skills rather than reading comprehension skills (Wilder & Williams, 2001). This focus only limits these students (Wilder & Williams, 2001). Wilder and Williams (2001) designed a theme development and reading comprehension instructional program that was specific to teaching SLD students higher order thinking skills through active discourse. The program was called Theme Scheme, and its purpose was to discover whether SLD students with the appropriate instruction can demonstrate a transfer of higher order thinking skills (Wilder & Williams, 2001). The program design included 12 lessons that targeted the following specific areas: prereading discussions that discussed the purpose and topic of the text. Additional lessons involved, reading the story, discussed important story elements using structured questions, identifying the theme and relevance to various situations, and applying the theme to real-life experiences (Wilder & Williams, 2001). Ninety-one students attending a New York City junior high school, including Grade 6, Grade 7, and Grade 8 students participated in the study. The results of the study indicated that the program was successful with SLD students obtaining higher order thinking skills (Wilder & Williams, 2001).

Similarly, another research study demonstrated that students on the autism spectrum disorder could increase their reading comprehension skills with question-generation strategy instruction as recommended by the National Reading Panel (NRP)

(Whalon & Hart, 2011). This method of instruction taught students how to create and respond to questions about a text; as well as, how to determine main ideas and supporting details (Whalon & Hart, 2011). Whalon and Hart (2011) proposed a similar method to help students improve their reading comprehension skills. This method suggested using a question-generation strategy instruction also known as reciprocal teaching. Reciprocal teaching is another constructive intervention used with SLD students to help improve reading comprehension skills (Klinger & Vaughn, 1996). Although, this method resembles the Six Thinking Hats it only focuses on one mode of thinking which limits students' potential to reach higher order thinking. In this model, students use four strategies: prediction, summarization, question-generation, and clarification (Klinger & Vaughn, 1996). This model requires the teacher to model each strategy with students than gradually release the students to demonstrate this model on their own (Klinger & Vaughn, 1996). This approach works well with students who have decoding skills but lack reading comprehension skills (Klinger & Vaughn, 1996).

Reciprocal teaching can help students with reading comprehension difficulties increase their performance on reading comprehension measures, improve their ability to discuss the text with others and heighten the quality of questions to better reflect main ideas (Whalon & Hart, 2011). Klinger and Vaughn (1996) evaluated the use of reciprocal teaching and its use with students labeled as English as a Second Language (ESL) and diagnosed as having learning disabilities (LD). The study used several other interventions, such as cooperative learning, and cross-age tutoring. Cooperative learning requires group collaboration, and cross-age tutoring involves student tutors across grade levels (Klinger & Vaughn, 1996). There was a total of 26 participants who were seventh

and eighth graders who participated in the study (Klinger & Vaughn, 1996). Participants

of the study engaged in reciprocal teaching sessions for 27 days (Klinger & Vaughn,

1996). Students used this strategy with social studies passages (Klinger & Vaughn,

1996). After students engaged in the reciprocal teaching sessions, they received training

on how to tutor sixth-grade students. The students acted as "teachers" (Klinger &

Vaughn, 1996). Lastly, students implemented their reading comprehension skills in

cooperative learning (Klinger & Vaughn, 1996). To obtain data from this study, the

researchers used several tests: Woodcock-Johnson Test of Achievement: Letter-Word

Identification, Passage Comprehension, and Social Studies Subtest and the Palincsar and

Brown (Klinger & Vaughn, 1996). The results of the study showed student gains in

comprehension after using the interventions (Klinger & Vaughn, 1996).

Another strategy mentioned to further assist students who have low

comprehension skills was the question-and-answer-relationship strategy (QAR) (Whalon

& Hart, 2011). This method categorizes two types of questions: in the book or the

students' head (Whalon & Hart, 2011). This line of questioning is paired with visuals and

sample questions (Whalon & Hart, 2011). Moreover, the research journal made a note of

other instructional strategies such as scaffolding which can also help to improve the

reading comprehension skills (Whalon & Hart, 2011). This method challenges students to

answer both fact and inference-based questions (Whalon & Hart, 2011). After

incorporating scaffolding strategies, the program design recommended that students learn

how to progress monitor (Whalon & Hart, 2011). Student-generated questions can pose

as a self-monitoring tool (Whalon & Hart, 2011). Students must be able to evaluate

information read to form a response (Whalon & Hart, 2011). Overall, the empirical

journals support the idea that SLD students can improve their reading comprehension skills with reciprocal teaching routines (Whalon & Hart, 2011).

Literature circles are another approach used when obtaining content learned through active discourse. It originated in the 1980s (Whittaker, 2012). Several teachers in the country developed the idea (Whittaker, 2012). However, the teachers structured the literature circles in different ways (Whittaker, 2012). Despite the differences, each student improved in some way. Literature circles lack consistency in its approach because instructors can change the structure; whereas, the Six Thinking Hats uses a consistent approach to condition student thinking. This process assigns groups of students to read a book (Whittaker, 2012). Each student in the group has a different task concerning the book (Whittaker, 2012). Whittaker (2012) suggested several basic roles: connector (identifies the linkage between the text, personal examples, events, or other texts), questioner (creates questions, clarifies and examines text), vocabulary enricher (seeks out the definitions for important words), literary luminary (rereads important parts of the text), and summarizer (recaps the reading) and designed role sheets to guide students' thinking and prompt written response. Optional roles consist of a researcher (seeks background knowledge of the text), illustrator (creates visuals of the text), and travel tracer (captures important plot points) (Whittaker, 2012). In these roles, students receive opportunities to create an authentic understanding of the text (Whittaker, 2012). Smith and Geil (2016) indicated that literature circles help to create illuminating discussions which empower students and adapt to multiple learning styles. Additionally, this method is deemed to be useful when working with students who have learning disabilities (Whittaker, 2012). Literature circles provide student enjoyment and opportunities to

improve literacy skills especially in an inclusive classroom (Whittaker, 2012). Whitaker (2012) claimed that students with learning disabilities in an inclusive classroom showed improvements while using literature circles. The researchers created several cycles where they compared their analysis and observed the student weaknesses in the areas of literacy and then retaught the weaker areas (Whittaker, 2012). Overall, social interactions are needed to help SLD students obtain and construct knowledge.

Outcome: Reading Comprehension

Reading is a process that entails connecting information from a text (Bahmani & Farvardin, 2017). In this process, readers use their background knowledge to build meaning and comprehension (Bahmani & Farvardin, 2017). Reading comprehension is developed when a reader simultaneously extracts and constructs meaning through their interaction with a text (Ronberg & Petersen, 2016). Recently, researchers are giving significant attention to extensive reading (ER) to improve vocabulary development, reading comprehension and building motivational interest in reading (Bahmani & Farvardin, 2017). ER is described as learners reading large quantities of books and other materials (Jang, Kang, & Kim, 2015). A recent study analyzed the use of ER with English as a Foreign Language (EFL) students to see if it can improve student motivation, language acquisition, and reading comprehension skills (Bahmani & Farvardin, 2017). The study revealed that the participants showed improvement in their reading comprehension. Also, the study noted that using novels based on participants' interest encouraged student engagement (Bahmani & Farvardin, 2017). Jang et al. (2015) mentioned that adult learners who participated in an ER program read novels for pleasure and these learners saw an increase in the following competency skills, speaking and

listening. As well as, these learners improved their writing skills through their engagement in reading (Jang et al., 2015).

Using novels can generate ER that provides more opportunities to attain reading proficiency, building fluency, and developing a stronger vocabulary. Novels can increase students' motivations to read through building students' interest using narrative and plot (Gareis, Allard, & Saindon, 2009). On the other hand, typical classrooms do not use novels as a primary text. Instead, students are subjected to a traditional textbook filled with short stories, excerpts from books, or informational text. Novels can provide a plethora of purposes in a classroom. For example, a study done by Castellano, DeAngelis, and Clark-Ibanez (2008) validated that students in a college class were more interested in reading novels to entice their interest in sociology rather than using a traditional textbook. Researchers developed three goals: promote engagement, increase student understanding, and improve analytical abilities (Castellano et al., 2008). Additionally, researchers used nonfiction (journalistic accounts), popular fiction (best sellers), and mysteries (Castellano et al., 2008). The researchers used three different strategies to accompany the various types of novels (Castellano et al., 2008). Each researcher taught a different class and implemented the different forms of novels. Clark-Ibanez implemented novels with journalistic accounts. DeAngelis implemented novels that were best sellers. Castellano implemented mystery novels. Strategy one used the journalistic accounts from a novel in an Introduction to Sociology course with class sizes ranging from 35-40 students (Castellano et al., 2008). At the end of the novel reading, students had to analyze a character or group of people in the novel (Castellano et al., 2008). In this analysis, students had to choose to write about an individual problem that

could be analyzed as a public issue (Castellano et al., 2008). Strategy two utilized novels

that were bestsellers in a Contemporary Social Problems course with a class size of 72

students (Castellano et al., 2008). The purpose of the best-selling novels was to help

students understand how to apply social constructionist theory to study social problems

(Castellano et al., 2008). Students chose their bestseller and used it to analyze and collect

data to write a paper on what role do fiction writers play in the construction of social

problems (Castellano et al., 2008). Strategy three used mystery novels in an Introduction

to Sociology course with a class size of 100 students (Castellano et al., 2008). This type

of novel was used to provide students with a variety of social settings (Castellano et al.,

2008). The participants of this study received the following survey response rates: 54 %

for Castellano, 64 % for DeAngelis, and 90 % for Clark-Ibanez, (Castellano et al., 2008).

If students did not respond to the survey, it was due to an absence in class, and the

demographics of students were not recorded (Castellano et al., 2008). The survey

questionnaire with opened and closed questions was created to evaluate students'

attitudes (Castellano et al., 2008). The results indicated that 61.1 % of the students using

mysteries and 84.8% the students using popular fiction "agreed that reading literature

helped stimulate their interest in the subject" (Castellano et al., 2008, p. 246). In addition,

63.0% of students using mystery novels, 65.2% using popular fiction, and 69.4% using

journalistic accounts agreed that these texts enhanced their understanding of sociology

concepts (Castellano et al., 2008). Moreover, Boyd (2004) conducted a study in two

classes of an advanced public relations college course (Problems in Public Relations) that

used novels to increase speaking and writing skills. In this study, Boyd (2004) used two

different novels for one semester in the classes. The 2004 study assessed critical thinking

skills through the following: addressing questions, hypothesizing, accumulating, and deconstructing data, and posing arguments. Boyd (2004) assessed two exam questions that counted as 20% of the grade. The study confirmed that students showed an increase in their speaking and writing skills (Boyd, 2004). From the assessment, it showed that students used the fictional issues and applied their knowledge of public relations to the issues that deepen an understanding (Boyd, 2004). As well as, students kept a journal that illustrated their student attitudes (Boyd, 2004). In most journals, students voiced their complaints about traditional textbooks and praised the use of novels (Boyd, 2004). One student named Kelly wrote in her journal how she became engulfed in the reading and proclaimed how the use of a novel was much better than a traditional textbook (Boyd, 2004). Furthermore, the evidence does illustrate the potential of novels in instruction of this type (Boyd, 2004). Additionally, the study showed that novels promote student reflection, critical thinking and writing about important course topics, (Boyd, 2004). Both Castellano et al. (2008) and Boyd (2004) provided concrete evidence that the use of novels is beneficial in the classroom for various aspirations.

Post-secondary institutions are not the only education systems making use of novels as a primary text, but secondary schools are seeing the relevance as an instructional tool as well. For instance, an empirical study examined the use of novels in a middle school class with students who have learning disabilities (Browder, Trela, & Jimenez, 2007). The methodology of the study followed a multiple-probe-across participants design (Browder et al., 2007). The design evaluated the effects of training teachers to follow a literacy plan task analysis (Browder et al., 2007). The next step was to assess the number of phases completed by teachers on the literacy lesson plan template

(Browder et al., 2007). Lastly, students' responses to teachers use of the literacy lesson plan was analyzed (Browder et al., 2007). The results showed increased independent gains in student responses: opening the book (from a mean of 0 % in baseline to a mean of 53% in intervention), pointing to text and listening attentively to what was read (from 0% to 35%), answering comprehension questions (from 14% in baseline to 39% in intervention, and reading the repeated storyline (from 4% to 29%) (Browder et al., 2007). Likewise, another study proposed using novels to meet state standards in science and social studies (Gelzheiser, Hallgren-Flynn, Connors, & Scanlon, 2014). In this research study, the target participants were at-risk students who lack reading comprehension skills (Gelzheiser et al., 2014). The study's initiatives were to use literacy to engage readers with carefully crafted thematic related texts to promote various literacy goals and develop readers' content knowledge, vocabulary, and self-efficacy for reading, (Gelzheiser et al., 2014). The results showed higher scores in fictional novels compared to nonfiction text (Gelzheiser et al., 2014). Thus, the researchers claim that students with varying abilities can benefit from ER while using novels.

Research Supporting the Instructional Program: Six Thinking Hats

The Six Thinking Hats (de Bono, 1999) is a structured approach that uses question-generation strategies, engages students in social interactions, provides opportunities for students to infer meaning, summarize learned materials, and allows opportunities for creativity. Not to mention, this intervention encourages students to connect text to global meanings through active discourse and can enhance analytical abilities. This educational method could help to improve reading comprehension and higher order thinking skills within the classroom. The Six Thinking Hats method of

instruction promotes articulation of diverse opinions and thinking differently in a myriad of situations (Kaya, 2013). This technique allows students to find solutions out of deductions from personal experiences, define, analyze their personal feelings and evaluate other feelings by being emphatic (Kaya, 2013). This technique uses six different thinking components which are objectivity, organization, subjective feelings, creativity, positive and negative sides (Kaya, 2013). As well as, this method promotes metacognitive skills, and therefore researchers are analyzing its use and possible implementation in the classroom for various subject areas.

A previous study done by Can and Semerci (2007) used the Six Thinking Hats method. The study's focus was to determine the efficacy of the approach on the academic achievement of sixth-grade students in the social sciences compared to traditional teaching methods (Can & Semerci, 2007). Research was conducted on 50 students (Can & Semerci, 2007). The study used a qualitative approach of interviewing the experimental group (Can & Semerci, 2007). The results showed that both the Six Thinking Hats and traditional methods increased student success but noted that traditional methods were insufficient to strengthen success (Can & Semerci, 2007). Can and Semerci (2007) noted that the benefits of this approach included: opportunities for student-centered learning and motivating collaborative group work. However, some students wanted direct teacher instruction, and overall students identified the White Hat as being the most useful cognitive mode (Can & Semerci, 2007). The study recommended that the Six Thinking Hats be further investigated. Similarly, Kaya (2013) used a mixed methods study to analyze the use of the Six Thinking Hats in teaching subjects related to sustainable development in a geography class. The study design used a pretest, posttest

control group research model and students answered interview questions that were
analyzed using a descriptive analysis method (Kaya, 2013). The study focused on the
effects of the Six Thinking Hats as the independent variable and the academic success as
the dependent variable (Kaya, 2013). The qualitative design of this study consisted of
student responses (Kaya, 2013). The quantitative part of the design evaluated two groups,
experimental and controlled groups and compared the results gathered after the
experiment group was intervened and then compared with findings gathered from the
control group (Kaya, 2013). The population of the study consisted of 650 students
ranging from Grade 9 through Grade 12. The study took place at Gaziantep Araban High
School (Kaya, 2013). However, there were 36 participants in the study who were 11th
graders studying "Environmental and Society" learning domains (Kaya, 2013). Success
test and interview questions were used to measure student success. Success test uses
specific requirements for the "Environmental and Society" learning domains (Kaya,
2013). This test consisted of 42 multiple choice questions and at least three teacher
created questions domains (Kaya, 2013). Additionally, interviews were another form of
data collection domain (Kaya, 2013). Students were asked their opinions on the Six
Thinking Hats technique, and which thinking style was a preferred domain (Kaya, 2013).
The results of the study showed that using the Six Thinking Hats technique provided
positive results compared to using any other proposed method in the curriculum (Kaya,
2013).

Comparatively, another recent study evaluated the use of the Six Thinking Hats in
a science curriculum. The study focused on improving the science education curriculum
through having students produce various ideas without the use of technology but rather

using two different techniques: Six Thinking Hats and the Scamper technique (Toraman & Altun, 2013). The Scamper technique is an applicative and entertaining brainstorming approach which is inherent in the discussion method and then applying implementation (Toraman & Altun, 2013). This technique involves the use of an object or person and then changed and developed using brainstorming (Toraman & Altun, 2013). Toraman and Altun (2013) evaluated the efficiency of the Six Thinking Hats and the Scamper strategies. The justification for the research problem consisted of teachers lack of knowledge when using various discussion methods to help students generate ideas (Toraman & Altun, 2013). The study mentioned that teachers stray away from these techniques due to inadequate knowledge or these methods are deemed to be too time-consuming (Toraman & Altun, 2013). The study supported the idea that there needs to be more of an emphasis on improving such ideas through creating an environment for discussion and creative thinking (Toraman & Altun, 2013). For this study group, it consisted of 20 seventh-grade students, 10 girls and 10 boys who were studying at secondary school in Beykoz district of Istanbul province (Toraman & Altun, 2013). The study examined the learning outcomes in the science and technology curriculum in the Turkish Ministry of Education to create an instructional design for the Scamper technique and the Six Thinking Hats (Toraman & Altun, 2013). Participants in the study experienced five different instructional designs. The first through the second instructional designs focused on using the Scamper technique of brainstorming ideas on the ecosystem and living organisms but the instructional design three through five utilized the Six Thinking Hats. The study posed such questions as "Give examples to plants and animals facing the danger of extinction both in our country and worldwide. Make suggestions as

to how plants and animals which face the danger of extinction in our country and worldwide" (Toraman & Altun, 2013, p.172). These tasks were in instructional design three. "Collect and submit information about one of the environmental problems in our country and worldwide and discuss its results" (Toraman & Altun, 2013, p.172). This task was in instructional design four. "Make inferences of how an environmental problem in the world may affect our country. Suggest solutions and attend activities aiming at collaboration against environmental problems in our country and worldwide" (Toraman & Altun, 2013, p.172). These tasks aligned to instructional design five. After concluding all of the instructional designs, the data collection for this study consisted of observations, open-ended question forms, documents and interviews (Toraman & Altun, 2013). A content analysis approach was used to analyze the data (Toraman & Altun, 2013). The study focused on improving students' comparison of ecosystems regarding the diversity of living creatures and climatic features (Toraman & Altun, 2013). The results of the study indicated that the Scamper technique helped to improve cognitive development in students by providing opportunities to act beyond mental patterns and encouraging creative thinking (Toraman & Altun, 2013). The Six Thinking Hats helped to improve metacognition. This process allowed students to examine and evaluate the subject and prevent different opinions from coalescing into one (Toraman & Altun, 2013). Gunes and Demir (2013) also evaluated the use of the Six Thinking Hats within a science curriculum. The researchers evaluated the effectiveness of the Six Thinking Hats on a science achievement test for second graders and compared this approach to traditional teaching methods (Gunes & Demir, 2013). The studies approach used a quantitative and qualitative design (Gunes & Demir, 2013). The results showed that

student achievement increased on the endocrine system (Gunes & Demir, 2013). The studies' qualitative findings indicated that students were more engaged in meaningful learning without rote memorization, enhanced creative thinking skills, and passive students became active learners (Gunes & Demir, 2013). Ercan and Bilen (2014) investigated the impact of web-assisted programs with the support of the Six Thinking Hats approach on seventh graders academic achievement, and their attitudes towards science and using computers in a science unit (ecosystems, biology, and environmental problems). The researchers used a pretest-posttest, control group semi experimental group model composed of 25 native Istanbul students in each group (Ercan & Bilen, 2014). The study consisted of eight weeks, and the findings indicated that Six Thinking Hats helped to improve students understanding of a unit centered on human beings and environmental topics (Ercan & Bilen, 2014).

Other disciplines have benefitted from the use of the Six Thinking Hats. For example, a primary school in Melbourne, Australia, chose to adopt this method throughout each grade level as an adjunct to their meta-cognitive curriculum in the subject of mathematics (Paterson, 2006). In the study, each hat introduced its style of thinking (Paterson, 2006). Although the Six Thinking Hats has no specific order, some sequential orders work better than others (Paterson, 2006). For this study, educators presented the Yellow Hat (positive) first. This hat introduced innovation, then use the Red Hat (feelings) after the Green Hat (creativity) for prioritizing key areas and discarding others (Paterson, 2006). A mathematics class used the Six Thinking Hats approach when using "the sequence for usable alternatives" as a method to consider problems (Paterson, 2006, p.11). Pohl (1994) offers the following sequence: Yellow Hat,

Black Hat, and Red Hat. This sequence design allowed students to make choices (Pohl, 1994). Additionally, Pohl (1994) recommended the following sequence design of Blue Hat, Green Hat, and Red Hat. This sequence design allowed students to demonstrate written and mental methods (Pohl, 1994). This approach benefits the aspects of numeracy that were challenging found in "Would you rather …situations?" (Paterson, 2006, p.12). The Six Thinking Hats also demonstrated a decision-making approach to choosing between using a calculator, pencil, and paper method or mental computation strategy (Paterson, 2006). Further, the study mentioned that the Six Thinking Hats approach helped students to choose particular methods that individual students may not have arrived at on their own after assessing the benefits and difficulties (Paterson, 2006). For example, the 2006 study analyzed how students solved the problem 6x7 using each hat: White Hat (facts) "What is the definition of a prime number?" (p.12). The Yellow Hat (positive) asked the following question, "What are the benefits of using a computational strategy?" (Paterson, 2006, p.12) The Green Hat (creativity) posed the following the question, "If the calculator button did not work what could we use? (Patterson, 2006, p.12). The Blue Hat (summarizing) proposed the following question, "What did you learn?" (Paterson, 2006, p.12). The Red Hat (feelings) used the following question, "Choose your favorite fraction method?" (Paterson, 2006, p.12) The Black Hat (negative) mentioned the following question, "What problems exist when using a written algorithm mentally?" (Paterson, 2006, p.12) Moreover, the following sequence design used the Blue Hat(summarizing), Green Hat (creativity), and Red Hat (feelings) for children exploring and inventing (Paterson, 2006). The purpose of this sequence used computational strategies, for both written and mental methods (Paterson, 2006). The last

extension of the intervention design includes the development of a "numeracy block" using whole/part/whole teaching methods (Paterson, 2006, p.12). When implementing the "numeracy block," the Blue Hat (summarizing) and Green Hat (creativity) would cater to students' extension of knowledge since it requires higher order thinking (Paterson, 2006, p.12). To conclude, in Western Australia, the country's newest strand in the mathematics key learning area (KLA) is utilizing the Six Thinking Hats within their curriculum (Paterson, 2006).

Higher education institutions see the value in using the Six Thinking Hats approach as well. Paraskeva et al. (2015) study focused on combining web 2.0. technologies and the Six Thinking Hats to enhance creative thinking and four related components, fluency, elaboration, flexibility, and originality. The study conducted a random sampling procedure with 15 girls and 29 boys of Greek ethnicity (Paraskeva et al., 2015). The study implemented the EPLab for creativity – as an experimental procedure for learners to evaluate their growth, expand creativity, and encourage participation in groups (Paraskeva et al., 2015). The results of the study showed an increase in creativity through web 2.0 technologies and applying the Six Thinking Hats (Paraskeva et al., 2015). Equivalently, Geissler, Edison, and Wayland (2012) study evaluated the active cooperative-learning approach with systematic activities to assist in-depth learning and skill development within several marketing courses. The aim for implementation of the Six Thinking Hats within the marketing courses was to increase class participation, encourage proficient teamwork, activate creativity, promote collaboration, gain insight, obtain problem-solving skills, heighten critical thinking skills, and encourage scholarly discussions (Geissler et al., 2012). The researchers created an

entertaining game using the Six Thinking Hats (Geissler et al., 2012). One-hundred and twenty-eight students completed student questionnaires all stating various benefits of using the approach (Geissler et al., 2012). Overall, these peer-reviewed journals illustrated the significance of using the Six Thinking Hats for diverse purposes.

Conclusion

The literature review showed the benefits of using the Six Thinking Hats from elementary to post-secondary learning. Additionally, this approach can be implemented within various subject-areas. The studies showed the further need to investigate the use of the Six Thinking Hats within other subject areas, particularly english language arts and using classic novels as the source material with high school SLD students to improve reading comprehension and higher order thinking skills.

Research Questions

The study intended to determine if improvement in SLD students' reading comprehension skills occurred from using the Six Thinking Hats as an intervention. Therefore, there are several research questions created for the study:

1.Will there be a statistically significant difference in the standardized Achieve3000 assessment scores between participants who received the Six Thinking Hats intervention versus those that did not receive the intervention?

2.Will there be a statistically significant difference on tests that directly measure use of each of the six comprehension skills (i.e., Thinking Hats) between students who received the Six Thinking Hats intervention versus those that did not receive the intervention?

Chapter 3: Methodology

Introduction

  The study addressed the need to improve reading comprehension skills of SLD students at a target high school located in Florida. Reading comprehension skills are necessary proficiencies that aid in students reading development. The study implemented the Six Thinking Hats as a proposed intervention to enhance reading development skills. The Six Thinking Hats engage students in six different modes of thought (de Bono, 1999). These processes guide students through such reading skills as (a) inferencing, (b) fact-finding, (c) affective factors, (d) metacognition, (e)constructivism, and (f) error-detecting (Elleman, 2017; Schmitt et al., 2011; Yusfarina et. al., 2013; Park et al., 2016; Yussof et al., 2012; Skarakis-Doyle & Dempsey, 2008).

Participants

  The target participants of this study were ninth and 10th grade students enrolled in Intensive Reading classes during the 2018-2019 school year. Students' ages range from 14 to 18-years old. Creswell (2015) mentioned that a possible threat to internal validity can occur when students mature at various levels and come from different backgrounds or groups. As a result, student selection included students who were maturing at the same level and stemmed from similar backgrounds. The student demographics consisted of the following number of students: Caucasian 2,180, Hispanic 1,551, African-American 243 ("Florida Department of Education," 2017). The gender demographics consisted of female 48% and male 52%, ("Celebration High School," 2017).

  The participants for this study were students who have taken the FSA and failed the test. The FSA is used in the State of Florida to measure reading comprehension skills

and higher order thinking skills. This assessment is an indicator of students' reading comprehension proficiency levels. Participants of the study have not shown mastery of the reading comprehension levels. These students have received an achievement score of either a Level 1 or 2 on the FSA and they need a Level 3 to show mastery. Level 1 students need a significant amount of help for the following grade level ("Understanding Florida Standards Assessments Reports," 2018). Level 2 students anticipate substantial support for the proceeding grade level ("Understanding Florida Standards Assessments Reports," 2018). These students are in the lowest quartile and they receive additional support in an Intensive Reading class. A convenience sample consisted of approximately 28 students. Convenience sampling allowed the researcher to select inclined and accessible participants (Creswell, 2015). Students in the convenience sample consisted of four different Intensive Reading classes. Creswell (2015) believed that to ensure validity when working with two different groups, they must be kept separate. Four classes were merged to create two different groups, and these groups were separated.

The study had a control group and an experimental group. The control group did not receive the intervention. However, to safeguard validity within the study, Creswell (2015) emphasized that the control group should receive a handout or something that provides a benefit. Therefore, the control group received an advanced graphic organizer (see Appendix A) and sticky notes to organize their thought processes about the novel and the experimental group received the Six Thinking Hats intervention.

Instruments

The study used two instruments: Lexile scores from Achieve 3000 benchmarks (Level Set Test) and a Six Thinking Hats Criterion-Referenced Test.

Achieve 3000. Achieve 3000 and Meta Metrics designed the Level Set test ("National Lexile Study," 2016). The test provides accurate and reliable data on students' Lexile scores ("National Lexile Study," 2016). The Level Set test is an online assessment that gauges reading comprehension of fact-based text in English and Spanish ("Achieve 3000," 2017). The assessment is the only worldwide screener of informational text ("National Lexile Study," 2016). Additionally, the Level Set test comprises a college and career readiness report that indicates students' college and career preparedness analysis ("College and Career Readiness Starts with Level Set," 2017). In the report, it shows students their Lexile levels for their desired careers and provides teachers with data for tiered instruction ("Achieve 3000," 2017).

Six Thinking Hats Criterion-Referenced Test. The Six Thinking Hats Criterion-Referenced Test measured students' knowledge of the Six Thinking Hats modes of thinking. The test assessed the following skills: inferencing (Green Hat), fact-finding (White Hat), affective factors (Red Hat), metacognition (Blue Hat), constructivism (Yellow Hat), and error-detection (Black Hat). The test structure consisted of: Green Hat (focused on inferring the mood and tone of a text), White Hat (focused on literal comprehension questions about characters, setting, or the narrator), Black Hat (identified errors in the answers), Red Hat (analyzed emotional contexts of characters and word choices that impacted the tone of a passage), Blue Hat (identified themes), and Yellow Hat (analyzed complex characters positive traits). Students took a pretest in February and a posttest in May (see Appendix B).

The Six Thinking Hats Criterion-Referenced Test focused on several protocols to ensure validity of the test. First it was essential to determine the number of passages used

in order to ensure validity. Most reading comprehension test use several passages. Good and Kaminski (2002) emphasized that the DIBELS oral reading fluency passages consist of three texts per benchmark assessment for second and third graders. The number of passages is sufficient. For this study, two passages were used per test (pretest and posttest) which is very similar to DIBELS battery of test. Other standards considered the number of questions. The Gray Oral Reading Test (GORT) uses five questions to assess general reading comprehension skills for students in second through 12th grade. (Hall & Tannebaum, 2013). The current study consisted of four questions per thinking hat, but it assessed six reading comprehension skills. The Florida Assessments for Instruction in Reading (FAIR) test consist of seven to nine multiple choice questions that focus on the language arts standards for students in third through 12th grade ("Florida Assessments for Instruction in Reading Aligned to the Language Arts Florida Standards," 2014). The Six Thinking Hats Criterion-Referenced Test consisted of 12 questions per passage (i.e., 24 questions). The Florida Standards Alternate Assessment (FSAA) is designed for students who have severe cognitive disabilities in third through 10th grade ("Florida Standards Alternate Assessment Performance Task,"2018). The test is used in english, math, science, and social studies ("Florida Standards Alternate Assessment Performance Task,"2018). The assessment involves tiered participation for students who complete 19 item sets (i.e., questions) and three tasks ("Florida Standards Alternate Assessment Performance Task," 2018). For this study, the pretest had a total of 24 questions and the posttest had the same number of items. Six reading comprehension skills are being measured in two passages with a total of 24 questions per test which is sufficient enough to assess students' skills.

While students only had to read two passages this helped to avoid fatigue effects. McGee, Brodeur, Symons, Andrade, and Fahie (2004) compared fatigue effects with students diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and Reading Disorders (RD) while taking the Conner's Continuous Performance Test (CCPT). The researchers discussed that a long battery of intellectual responsibilities can result in fatigue effects (McGee et al., 2004). Similarly, SLD students can encounter fatigue effects if given more passages to read for an extended amount of time.

Other criteria considered involved developing passages for a criterion-referenced test with an appropriate passage length for SLD students. The test consisted of two passages per test with four multiple choice questions per thinking hat. The number of passages and its lengths were determined based on SLD students' reading stamina. Hiebert (2015) pointed out that students need to build comprehension silent-rates (CSR) to achieve an understanding of a text. There are several patterns that exist when students do not possess CSR; one of the patterns being students will quit after reading two or more passages (Hiebert, 2015). Additional consideration included looking for several distinctive passages, choosing interesting passages, and ensuring that teachers have not taught students the selected passages (Chen, 2010). Passages were picked from the CommonLit and the Storytelling Resource Center websites. Passages range in difficulty from 1100-1300 Lexile levels. Ninth and 10th grade students should be reading at the following Lexile levels 1050 to 1335 ("Achieve 3000," 2017). Additional measures included creating a committee of experts to assess the test and to ensure validity. Lastly, the test was piloted to students, who scored a Level 2 on the state test (i.e., below

average), who are not SLD and therefore were not potential participants of the study.

Feedback concerning all aspects of the testing materials was gathered from the students.

Procedures

Design. This study used an experimental design, with students randomly assigned to either a control or experimenting (Thinking Hats) group. The control group did not receive the treatment; instead they received graphic organizers while the treatment group received the Six Thinking Hats reading comprehension instruction. The researcher intended to determine if improvement in reading comprehension skills can occur from using the Six Thinking Hats as an intervention with SLD students. A pretest and posttest determined if SLD students improved their reading comprehension skills. The pretest provided an assessment of the experimental group's achievement before they received the treatment; as well as, the pretest provided an assessment of the control group's achievement (Creswell, 2015). The control group did not receive the intervention. Experimental and control groups completed a posttest after the treatment (Creswell, 2015). Both scores from the experimental and control group were examined.

Intervention Curriculum. A curriculum was developed using the Tyler Model which is based on the ideas of Tyler (1949) (O'Neill, 2010). The Tyler Model used four basic principles. The first principle identified a purpose (Ornstein & Hunkins, 2017). The purpose of the curriculum intervention was to increase reading comprehension skills for SLD students. The second principle chose educational experiences related to the purpose (Ornstein & Hunkins, 2017). The curriculum was based on the Six Thinking Hats which was intended to create compelling educational experiences for students that could improve

the fundamentals of reading comprehension. The third principle focused on how experiences are organized (Ornstein & Hunkins, 2017). The Six Thinking Hats used a structured approach that engaged students in six distinctive modes of thinking. These thinking modes employ cognitive and metacognitive abilities to improve reading skills. The fourth principle evaluated the purpose (Ornstein & Hunkins, 2017). Evaluation of the curriculum's purpose occurred after posttest data collection of the Level Set Test and the Six Thinking Hats Criterion-Referenced Test.

Curriculum Pacing Guide for Experimental and Control Groups. A curriculum pacing guide was developed and based on the Florida State Standards (see Appendix C). Students received graphic organizers to help answer one question relating to the clusters from the standards: Key Ideas and Details, Craft and Structure, and Integration of Knowledge. Key Ideas and Details focus on students identifying strong textual evidence, theme development, central idea development, character analysis, and understanding how complex characters can strengthen a theme or central idea ("Cpalms," 2017). Craft and Structure focus on students identifying figurative, connotative, and literal meanings of words, how a text is structured, comparing and contrasting cultural works, and analyzing an author's point of view ("Cpalms," 2017). Integration of Knowledge focus on students comparing and contrasting two different sources and understanding how similar works build upon common themes ("Cpalms," 2017). The standards provided student objectives. The control and experimental groups received the objectives during each session. Also, they received a timeline of assigned pages. The experimental and control groups engaged in reading for a minimum of 10 minutes and 20 minutes analyzing the text within collaborative groups.

Model of Delivery for Experimental Group. The model of delivery for the experimental group consisted of a facilitated learning approach. Facilitated learning inspires students to take ownership of their learning (Crockett & Foster, 2005). The teachers' role then becomes that of a coach, organizer, and resource provider (Crockett & Foster, 2005). Teachers can then observe students learning from each other (Crockett & Foster, 2005). Students learn how to evaluate and solve problems (Crockett & Foster, 2005). Participants of the study used the Six Thinking Hats as a means to solve problems related to reading comprehension. The groups engaged in the task of working together to form an analysis of the novel. The researcher provided students with a graphic organizer that identified a different role for each student from the Six Thinking Hats (see Appendix D). Group members also received a colored hat for each thinking hat role. Students were allowed to role play while in their designated thinking mode. Each group consisted of one student per thinking hat.

Model of Delivery for Control Group. The model of delivery for the control group was inquiry-guided learning. Inquiry-guided learning involves problem solving and it engages students in thinking (Lee, 2011). Additionally, inquiry-guided learning pertains to the attainment of new information, the ability to strengthen skills, and form probing questions (Lee, 2011). This approach allows the teacher to guide students and then gradually release students to generate questions and form analysis. In this approach, the researcher guided students during the first couple of tutoring sessions, and then students read in collaborative groups on their own. The researcher provided the control group with a graphic organizer to help form ideas about concepts from the text. Additionally, the control group received sticky notes. While students are in their groups, they were instructed to

write questions and work together to answer their student-generated questions. Using this approach allowed students to shape their own analysis of the text.

Data collection procedures. After university Institutional Review Board approval, data collection for the study commenced. The Achieve 3000's Level Set pretest was a far transfer which measured reading comprehension. The data collected from the assessment occurred on August 24th and August 25th of 2018. The data was analyzed prior to the intervention in February 2019.

Subsequently, a committee of experts was formed and asked to review questions for a near transfer of learning, Six Thinking Hats Criterion-Referenced Test. The committee of experts were selected based on a diversity of competencies in the literacy field (Surowiecki, 2004). The committee consisted of experts who worked in the school district. Specifically, these experts are members of the district's professional development department, an assistant principal over literacy, three district resource teachers, and an instructor of professional development at district. The committee of experts evaluated the level of questioning and proposed recommendations. Questions that were not agreed upon by the committee mutually were removed from the criterion-referenced test. Each committee member was encouraged to think individually and not collectively (Surowiecki, 2004). An explanation of each construct was explained to the committee via email with an attached chart (see Appendix E) with further explanation. The committee of experts utilized the Delphi Method to evaluate the construct validity (Okoli & Pawlowski, 2004). The Delphi Method allowed the committee of experts to evaluate if the questions were aligned to the intended construct (Okoli & Pawlowski, 2004). Revisions were made to the test after each member provided feedback. The test was

resent with all revisions and not piloted until all members approved.

After the committee's approval of the criterion-referenced test and IRB approval, the instrument was piloted. The pilot involved two low achieving students, who scored below average on the state test, and are not potential participants in the study. During the pilot testing, participants were asked to identify questions that were unclear or too easy, grammatical errors, and unclear answer choices.

Once the testing instrument was finalized, the experimental and control group completed the pretest. The pretest consisted of two passages. Each passage contained four questions per hat (i.e., 12 questions in total). Students read and answered comprehension questions for two passages and answered 24 questions in total (or four questions per hat in total). Within one week after the intervention was completed, both treatment and control students completed another 24 questions at the posttest phase. Each of the passages administered were counterbalanced to minimize the effects of the particular passages and questions chosen per passage on the overall results (Brooks, 2012). Table 2 shows the Balanced Latin Square ordering of the passages that was implemented. Participants were randomly assigned to each of the four passage order conditions; similarly, an equal number of participants answered each of the passages at posttest. There was two different ordering of questions per passage. Students were assigned a passage order; a random coin flip was used to assign the student to one of the two question orders. The first question order included items for hats one through three first and the second question order presented items for hats four through six first. In summary, this counterbalancing plan ensured that the assignment of each batch of eight participants were done so that each passage presented as the first and second passages

read at pretest and posttest an equal number of times. Also, the ordering of questions for the first three and last three thinking hats were equally distributed across each batch of eight participants. Participants had two 30 minute sessions to take the pretest and two 30 minute sessions to take the posttest.

Table 2

Balanced Latin Square Designs of Six Thinking Hats Criterion-Referenced Test Passages

Question Order	Passage Order			
	Order 1	Order 2	Order 3	Order 4
		Pretest		
1	A	B	C	D
2	A	B	C	D
1	B	A	D	C
2	B	A	D	C
		Posttest		
1	C	D	A	B
2	C	D	A	B
1	D	C	B	A
2	D	C	B	A

Description of Treatment and Control Instruction. The treatment group received instruction in February 2019, on how to use the Six Thinking Hats with a classic

novel (*Lord of the Flies* by William Golding*).* Conversely, the control group read the novel and answered questions without a cognitive technique. Creswell (2015) mentioned to terminate threats to internal validity a researcher can have the control group and experimental groups engaged in both activities without implementing the treatment with the control group.

The experimental and control groups read the novel from February until May 2019. The intervention occurred 30 minutes every week. Participants met for 10 sessions in 11 weeks. Participants engaged in the study during a school-wide tutoring session. The tutoring sessions allowed teachers to provide additional skill instruction. After the study's designated timeframe, the students completed the Six Thinking Hats Criterion-Referenced Test and then the Level Set posttest in May 2019. The pretest and posttest questions were different, but it assessed the same skills to ensure the validity of the test questions.

Data analysis procedures. In the study, the independent variable was the Six Thinking Hats intervention. The dependent variable was the data from the SLD students' scores. The study's premise focused on how the independent variable might affect SLD students' reading achievement levels. To further analyze the independent and dependent variables, several research questions were posed, and a data analysis procedure was constructed for each question. Research question 1 asked: "Will there be a statistically significant difference in the standardized Achieve 3000 assessment scores between participants who received the Six Thinking Hats intervention versus those that did not receive the intervention?" In order to answer research question 1, students' assessment scores on the Achieve 3000 were analyzed. Data from the experimental group and the

control group were analyzed. Statistical differences were noted between the experimental group and the control group through using ANOVA to determine the analysis of variance.

The second research question inquired: "Will there be a statistically significant difference on tests that directly measure the use of each of the six comprehension skills (i.e., Thinking Hats) between students who received the Six Thinking Hats intervention versus those that did not receive the intervention?" In order to answer research question 2, the researcher developed and administered a pre-and posttest criterion-referenced test to the experimental group and the control groups. The researcher analyzed data from both groups and determined statistically significant differences.

Ethical Practices

Creswell (2015) proclaimed that a researcher should consider ethical issues that might arise. To avoid encountering potential ethical issues before collecting data for the study, the researcher received permission from the school district, principal, parents, and the university's Institutional Review Board. The consent letter explained the purpose of the study. Also, any parent's request to remove their child from the study was respected.

Other ethical practices included not disrupting the classroom environment; instead, the study took place during the school's tutoring allotted time. Moreover, the protection of students' identities involved assigning each student a number. The assigned number was used to identify student data. Student names or identification was protected. Also, permissions were sought from online publications in order to use passage selections (see Appendix F and Appendix G).

Limitations

There were several limitations within this study's design. First, the study could

face internal validity regarding instrumentation (Ohlund & Yu, n.d.). A committee of experts were reviewing the instrument; however, their changes could impact the instrument's outcome. Second, the study encountered experimental mortality (Ohlund & Yu, n.d.). The study lost participants due to school relocation or expulsion.

Conclusion

The purpose of this dissertation was to investigate the use of the Six Thinking Hats as a method used to strengthen SLD students' reading comprehension skills. The study's experimental design provided a pretest-posttest to measure SLD students' reading comprehension skills. As well as, a criterion-referenced test served as another instrument to obtain student data on six cognitive strategies. Findings from the posttest scores and the criterion-referenced test further revealed if students were receptive to a structured thinking approach. The researcher anticipated that the Six Thinking Hats helped to improve students' reading comprehension skills.

Chapter 4: Results

Introduction

The study focused on developing SLD students' reading comprehension skills. The alternate hypothesis stated that using the Six Thinking Hats as a proposed intervention will demonstrate a statistically significant difference. The study hypothesized the effectiveness of this approach since the Six Thinking Hats uses six different colored hats as metaphorical representations of modes of thoughts (Serrat, 2017). Each hat represents a different critical thinking skill: factual content (White Hat), emotional point of view (Red Hat), logical judgment (Black Hat), positive aspects (Yellow Hat), creativity (Green Hat), and reflection (Blue Hat) (Erisen & Katmer-Bayrakli, 2016; Serrat, 2017). The Six Thinking Hats can provide SLD students with a focus while reading, encourage collaborative thinking, and promote creativity (Serrat, 2017).

Demographic Characteristics

The implementation of the study occurred at a target high school in Florida. The school population consisted of over 2,600 students. Of the 2,600 students, only 100 students were identified as SLD. The SLD students range from Grade 9 through Grade 12. The study's target participants were Grade 9 and Grade 10 students. These students range in ages from 14-18. The study had 13 boys and 15 girls. Most of the participants were minorities (see Table 3).

At the start of the study, there were 30 participants. Fifteen students were in each research group. However, several participants were removed from the study. At the beginning of the study, one student relocated to another school, and another student was

expelled.

Table 3

Sample Demographics

Demographic	Frequency or M (SD)	%
Gender		
Male	13	46
Female	15	54
Age		
14-15	11	39
16-17	16	57
18	1	36
Grade Level		
9th Grade	14	50
10th Grade	14	50
Ethnic Background		
African-American	4	14
Bi-racial	2	72
Hispanic	15	54
White	7	25

Note. N=28

Preliminary Findings

Preliminary analysis was carried out to answer the research questions. An analysis of covariance test (ANCOVA) was conducted on the Achieve 3000 Level Set test which determined students' Lexile levels. Grade 9 and Grade 10 students should be reading between 1050-1335 Lexile levels. There were only a few participants who were reading on grade level after the implementation of the current study. The preliminary findings indicated that participant 6 of the control group at pretest read at a 1045 Lexile level and at posttest read at 1055 Lexile level. Participant 5 of the control group at pretest read at 1100 Lexile level and at posttest read at a 1200 Lexile level. Participant 25 of the

treatment group at pretest read at 1025 Lexile and at posttest read at a 1090 Lexile level. Further descriptive statistics were used to determine if there was a statistically significant difference: mean, standard deviation, and significance value.

An analysis of covariance test (ANCOVA) was conducted on the Six Thinking Hats Criterion-Referenced Test which measures six reading comprehension skills. Pretested ability was the covariate, group (Six Thinking Hats versus the control), and the dependent variable was posttested ability. The White Hat measures a student's ability to identify factual content. The Red Hat measures a student's ability to identify character attributes, motivational feelings, the author's tone, and the reader's mood. The Black Hat measures a student's ability to identify errors. The Green Hat measures a student's ability to identify an author's inferences. The Blue Hat measures a student's ability to summarize what they read and identify central ideas and themes. The Yellow Hat measures a student's ability to identify positive character traits or positive word choice that impacts the tone of the story. The Six Thinking Hats Criterion-Referenced pretest had two passages and 24 questions. The Six Thinking Hats Criterion-Referenced posttest had two passages and 24 questions.

The total criterion-reference test performance was the sum of each of the 24 questions that were answered correctly. Students who had 17 or more correct answers received a score percentage of 71% or higher. Only a few of participants received 17 or more correct answers after the implementation of the current study. The preliminary findings indicated that participant 19 of the treatment group at pretest had 16 correct answers and at posttest had 17 correct answers. Participant 20 of the treatment group at pretest had 17 correct answers and at posttest had 18 correct answers. Participant 5 of the

control group at pretest had 20 correct answers and at posttest had 21 correct answers. Further descriptive statistics were used to determine if there was a statistically significant difference: mean, standard deviation, and significance value. Additionally, subscales of the criterion-referenced test were created and analyzed to determine which thinking hat had the most significant effect on the control and treatment groups. The number of correct responses for each hat (4 questions per hat) was used to measure students' pre and posttest subscale performance.

Primary Findings

The primary findings for each research question were answered using descriptive statistics which included the mean and standard deviation. After the data was analyzed, several outliers were identified. For each variable, outliers were determined visually by creating a histogram which showed the normal curve. Cases that seemed substantially at the end of a skewed tail in the distribution were flagged as potential outliers. These cases then deemed to be outliers if they were larger (above 1100 Lexile levels) or smaller than (less than 100 Lexile level) three standard deviations away from the mean. Data results revealed that there were nine outliers present in the Achieve 3000 Lexile levels and the Six Thinking Hats Criterion-Referenced Test. Outliers were handled as follows: data was first analyzed without the removal of outliers. The mean, standard deviation, and significant values were noted. The ANCOVA test was conducted with the removal of outliers. The mean, standard deviation, and significant values were noted. The current study used data without the outliers since it was assumed that the means were more valid (although only slightly different) when outliers were out of the dataset. It is noted that the pattern of results was virtually unchanged when the outliers were included or removed.

Research Question 1. The first research question asked: "Will there be a statistically significant difference in the standardized Achieve 3000 assessment scores between participants who received the Six Thinking Hats intervention versus those that did not receive the intervention?" Research question one was answered first by examining the mean scores. Descriptive statistics were run with all the data to determine mean values pre and posttest Lexile levels for both the control and treatment groups. Descriptive statistics were run to determine mean values pre and posttest Lexile levels for both control and treatment groups (see Table 4). The mean values for posttest Achieve 3000 Lexile levels for the control group were ($M = 660.00$, $SD = 184.18$) and the mean values for the treatment group were ($M = 779.60$, $SD = 117.13$) which revealed that the treatment group showed a minor increase in posttest values. However, the data revealed that there was not a statistically significant difference between the treatment and control group Lexile levels after the implementation of the Six Thinking Hats. The scores were as follows $F (2,19)$, $p = .198$.

Table 4

Comparison of Pretest and Posttest Achieve 3000 Level Set for Control and Treatment

Control Group				Treatment Group			
Pretest		Posttest		Pretest		Posttest	
			Lexile Levels				
M	SD	M	SD	M	SD	M	SD
592.22	242.64	660.00	184.18	703.00	155.19	779.60	117.13

The null hypothesis stated that there is no difference in SLD students Achieve 3000 Lexile levels with the implementation of the Six Thinking Hats with those who had the treatment and those who did not (control). The data results revealed that the researcher failed to reject the null hypothesis. However, the ANCOVA indicated a strong effect of the pretest scores on posttest achievement scores, thereby suggesting substantial stability in Achieve 3000 Lexile levels between the pretest and posttest time period. The treatment group showed a 76-point increase in their Lexile levels when compared to the control group that showed a 68-point increase. These results suggest that both groups of students improved; however, it is noted that these students remained at least one grade level below their typically achieving peers in reading. According to the Achieve 3000 College and Career Readiness Chart, the treatment group is reading at an eighth and ninth grade reading level (703-779 Lexile level) approaching grade level ("Achieve 3000," 2017). Whereas, the control group is reading between a sixth through eighth grade reading (555-660 Lexile) level ("Achieve 3000," 2017).

Research Question 2. The second research question asked: "Will there be a statistically significant difference on tests that directly measure use of each of the six comprehension skills (i.e., Thinking Hats) between students who received the Six Thinking Hats intervention versus those that did not receive the intervention?" In order to answer research question 2, an ANCOVA test was used to determine if there was a statistically significant difference in tests that directly measure six comprehension skills. Descriptive statistics were run with all the data to determine mean and standard deviation values pre and posttest Six Thinking Hats Criterion-Referenced Test for both the control and treatment groups. The data revealed outliers, so descriptive statistics were run

without outliers to determine mean and standard deviation values pre and posttest Six

Thinking Hats Criterion-Referenced Test for both the control and treatment groups (see

Table 5). The null hypothesis stated that there is no difference in SLD students reading

comprehension skills with the implementation of the Six Thinking Hats with those who

had the treatment and those who did not (control) at posttest. An ANCOVA test revealed

that SLD students who received the treatment (*M*= 14.00, *SD*= 2.32) did not differ

significantly from those that received traditional teaching (*M*=13.13, *SD*=1.72). The

scores were as follows *F* (2,19) *p*=.41. Consequently, the researcher failed to reject the

null hypothesis.

Table 5

Comparison of Pretest and Posttest Scores of the Six Thinking Hats Criterion-Referenced

Test

Control Group					Treatment Group			
Pretest		Posttest			Pretest		Posttest	
				Six Thinking Hats Reading Comprehension				
M	SD	M	SD		M	SD	M	SD
12.88	2.23	13.13	1.72		13.18	2.92	14.00	2.32

Further subscale data was analyzed to determine which thinking hat was the most

effective (see Table 6). Each passage had 24 questions. There were four questions that

represented each thinking hat. Raw data scores from pre and posttest were analyzed.

Students could score at least four correct answers for each thinking hat skill. The subscale

data revealed that both the treatment group (*M*=2.18, *SD*=.98, *M*= 2.82, *SD*= .98) and

control group (*M*=1.38, *SD*= .51, *M*= 2.25, *SD*=1.28) showed an increase in the number

of correct Black Hat questions during the pretest-posttest. The posttest scores were as

follows *F* (2,19) *p*=.85. However, the control group showed a minor increase when

compared to the treatment group. The Black Hat helped students to find errors in their

reading comprehension. This is a metacognitive skill. Cer and Sahin (2016) stated that

students are supposed to use metacognitive strategies to develop reading comprehension

skills. Further statistical analysis revealed that the control group decreased on the pretest-

posttest total number of correct Green Hat questions (*M*= 2.50, *SD*= .75, *M*= 1.75,

SD=1.28) when compared to the treatment group (*M*=1.91, *SD*=.94, *M*=2.27, *SD*=.64).

The posttest scores were as follows *F* (2,19) *p*=.17. The Green Hat focused on students

identifying inferences in a text. Carlson et al. (2015) stated that inferences include

connections to ideas that are presented in a text. Participants of the current study will

need more practice with this skill in order to show mastery.

Table 6

Comparison of Pretest and Posttest Subscales of the Six Thinking Hats Criterion-

Referenced Test

	Control Group				Treatment Group			
	Pretest		Posttest		Pretest		Posttest	
Six Thinking Hats Subscales								
	M	SD	M	SD	M	SD	M	SD
White Hat	2.63	.51	2.50	.75	2.55	.68	2.27	.78
Green Hat	2.50	.75	1.75	1.28	1.91	.94	2.27	.64
Red Hat	2.00	.92	2.13	1.12	2.55	.93	2.27	.90
Black Hat	1.38	.51	2.25	1.28	2.18	.98	2.82	.98
Blue Hat	2.38	1.06	2.38	1.30	2.36	.67	1.82	.60
Yellow Hat	2.25	.70	2.00	1.00	2.64	.80	1.82	.60

Conclusion

The findings indicated that the Six Thinking Hats do not have a statistically

significant difference in improving SLD students' reading comprehension skills.

Although, the Achieve 3000 Lexile levels did show that students who were in the

treatment group showed a minor increase in pretest-posttest scores when compared to the

control group. However, both groups are still reading below grade level. These students

are a grade or two behind their peers.

Further data revealed that there was not a statistically significant difference between the treatment and control groups Six Thinking Hats Criterion-Referenced Test scores. However, the treatment group pre and posttest scores did show a minor increase when compared to the control group. Subscale scores were further analyzed to determine which thinking hat had the greatest effect on SLD students. The Black Hat had the greatest effect on students. Both research groups understood how to monitor their comprehension. However, the treatment group showed an increase in answering the Green Hat questions correctly when compared to the control group. Participants of the study need additional practice inferring meaning from a text.

Chapter 5: Discussion

Introduction

The study evaluated a structured thinking process known as the Six Thinking Hats to improve SLD students' reading comprehension skills. The Six Thinking Hats use six colored hats that represent a style of thinking (Aithal & Kumar, 2017). This approach allows groups and individuals to think more effectively in a cohesive way (Sheth, 2012). The Six Thinking Hats allow students to analyze various perspectives through objective, emotional, cautious, beneficial, creative, and authoritative viewpoints (Serrat, 2017). These perspectives were taught to participants in the study. The purpose of this proposed dissertation study was to evaluate the use of the Six Thinking Hats with SLD students. The outcomes of this research will be used to develop curricula that will strengthen SLD students' reading comprehension skills.

Discussion of Implementation of Study

During the study, attendance for the treatment and control group was not consistent; despite, providing the participants with meeting dates and times in advance. On the date of implementation of the study, students received colored passes that notified them of the meeting location and time.

Participants of the study took a baseline assessment which consisted of two passages and 24 questions. It was observed that participants did not seem overwhelmed by the baseline assessment since it was broken into two sessions. For example, students read one passage and answered 12 questions during a session. After completing the baseline assessment, the treatment group was taught how to use the Six Thinking Hats. It was observed that the treatment group seemed to understand the role of each thinking hat.

The treatment group received laminated colored hats, and during each session, participants had an opportunity to receive a different colored hat. A poster was displayed in the classroom to help students recall the task associated with the hat. Students received a handout that also described the role of each hat.

The control group was taught how to read a text using various reading strategies. Participants were taught how to take notes while reading, identify important names, dates, and places, use context clues when encountering difficult words, evaluate themes and central ideas in a text. Participants received sticky notes to write information while reading and an advanced graphic organizer to help formulate ideas and concepts.

Participants took a posttest which consisted of two passages and 24 questions. Students completed the posttest during two sessions. Each session was 30 minutes.

Summary of Findings

The summary of the findings is discussed in this section. An overview with analysis is discussed with each question.

Research Question 1. The first research question asked: "Will there be a statistically significant difference in the standardized Achieve 3000 assessment scores between participants who received the Six Thinking Hats intervention versus those that did not receive the intervention?" This question was addressed by comparing Lexile levels of the treatment and control groups pretest and posttest scores after the implementation of the Six Thinking Hats.

Students took the Achieve 3000 Level Set baseline test in August of 2018, and these scores were compared to the posttest scores in May of 2019. The pretest and posttest had 30 questions. Since Level Set Test is a computerized test the pretest and

posttest questions were not accessible to teachers. The researcher could only identify the type of text, number of questions, pretest results, and posttest results. These results were calculated using the Achieve 3000 and Meta Metrics computer algorithm ("Achieve 3000," 2017).

The results indicated that there was not a statistically significant difference between the pretest and posttest scores of treatment and control group with respect to the Achieve 3000 assessment. The findings of the current study failed to reject the null hypothesis.

Research Question 2. The second research question asked: "Will there be a statistically significant difference on tests that directly measure use of each of the six comprehension skills (i.e., Thinking Hats) between students who received the Six Thinking Hats intervention versus those that did not receive the intervention?" This question was addressed by comparing the performance scores from the Six Thinking Hats Criterion-Referenced Test of the treatment and control groups pretest and posttest scores after the implementation of the Six Thinking Hats.

Students took the Six Thinking Hats Criterion-Referenced Test in February of 2019 and the posttest in May of 2019. Test questions were designed to assess six comprehension skills. The White Hat measures a student's ability to identify textual evidence that supports the author's ideas. The Red Hat measures a student's ability to identify feelings in a text. In other words, students are examining character's feelings towards a subject, the author's feelings towards a subject, and their feelings towards an author's subject. The Black Hat measures a student's ability to find errors in their understanding. The Green Hat measures a student's ability to infer meaning from a text.

The Blue Hat measures a student's ability to identify an author's central ideas or themes. The Yellow Hat measures a student's ability to identify positive key ideas, details, or text structure. The Six Thinking Hats Criterion-Referenced pretest had two passages and 24 questions. The Six Thinking Hats Criterion-Referenced posttest had two passages and 24 questions. Questions for the pretest and posttest were analyzed by a committee of experts who evaluated whether each comprehension skill was being measured correctly.

The results indicated that there was not a statistically significant difference between the pretest and posttest scores of the treatment and the control group. The findings of the current study failed to reject the null hypothesis. Results from the pretest and posttest were compared to determine if there was a significant difference. Subscale data was analyzed between each thinking hat (i.e., reading comprehension skill). The data revealed that students better understood the role of the Black Hat (monitoring comprehension). In contrast, the treatment group increased their number of correct Green Hat (inferring meaning) questions when compared to the control group. The Green Hat involved inferential comprehension.

Interpretation of Findings

The results of both research questions revealed that there is not a statistically significant difference between pre and posttest after the implementation of the Six Thinking Hats. These results were not expected. The researcher hypothesized the alternate hypothesis. The researcher hypothesized the alternate hypothesis because previous literature showed that the Six Thinking Hats had a statistically significant difference within other subject areas and various sample groups.

Context of Findings

The literature review revealed that students with learning disabilities struggle with developing reading comprehension skills. Wong (1985) stated that students with learning disabilities have one or more cognitive processes that do not function properly. Reutebuch, El Zein, Kyung Kim, Weinberg, and Vaughn (2014) stated that these types of students lack the skills that aid in developing reading comprehension skills. Soto, Poblete, de Blume (2018) stated that teaching literacy skills to students with learning disabilities is a difficult task. As a result, these types of students need a different approach that focuses on the mechanics of reading comprehension. The current study analyzed the Six Thinking Hats which used specific components that can assist students in developing their reading comprehension skills: knowledge created or used while reading and gained knowledge through social interaction. The outcome is improved reading comprehension skills.

Other studies focused on the same elements to improve reading development. Reutebuch et al. (2014) conducted a study with three high school autistic students. The study discussed the collaborative strategic reading (CSR) as an approach to create knowledge and use of this knowledge while reading. This approach was similar to the current study because it showed students how to use metacognitive and cognitive strategies to improve reading comprehension. The following metacognitive and cognitive strategies were taught to students: how to preview the text, interpret unknown words, identify main ideas, create questions, and summarize content (Reutebuch et al., 2014). This approach resembled the Six Thinking Hats because each hat demonstrated a reading comprehension skill. For example, all of the thinking hats help students generate

questions when they are in that particular colored perspective lens. Similar to the CSR approach, the Blue Hat is used to help students summarize content in order to identify main ideas and themes. CSR also showed students how to monitor their understanding (Reutebuch et al., 2014). The Black Hat is used to help students identify errors in their comprehension. Reutebuch et al. (2014) stated that the CSR overall helped participants to increase their reading comprehension skills and improve their social interactions. This study only used three of the thinking hats comprehension skills. Although the CSR approach seemed to be helpful, it limits students on other comprehension skills that they could have learned. Solis et al. (2012) discussed several reading comprehension interventions that were used with students who have learning disabilities. The research revealed that these students improved their reading comprehension skills when the intervention utilized strategy instruction that focused on identifying main ideas or summarizing (Solis et al., 2012). The Six Thinking Hats is a form of strategy instruction.

Preston and Stultz (2018) identified several effective reading methods for teaching secondary SLD students: strategy instruction, elaboration, small group instruction, and advanced graphic organizers. All of these strategies are elements of the Six Thinking Hats. The Six Thinking Hats use colored hats as a perspective for students to use while analyzing a text (strategy instruction). Students engage in social interactions which deepens their elaboration while in small groups. Berkeley, Scruggs, and Mastropieri (2010) mentioned that students with learning disabilities need cognitive-behavioral treatments; such as self-questioning, self-monitoring, and self-recording. Additionally, students should receive rules and advance organizers (Berkeley et al., 2010). Overall, previous research showed that students with learning disabilities need

strategy instruction that utilizes cognitive and metacognitive processes.

Implications of Findings

The findings from both research questions indicate the need for more research on the implementation of the Six Thinking Hats with SLD students. The result of the study showed that there was not a significant difference between control and treatment groups Achieve 3000 Level Set Lexile levels and the Six Thinking Hats Criterion-Referenced Test scores.

However, it was observed in the study that the treatment group easily understood the concepts of the Six Thinking Hats. SLD students could easily identify the reading skill that they needed to focus on because they recognized the colored hats. The treatment group received a laminated colored hat. This helped students to recognize their task easier. While students were in their groups, they discussed the novel, *Lord of the Flies* and their colored hats. Additionally, students documented their answers to questions on an advanced graphic organizer. It was observed in the control group that students used the following strategies: taking notes while reading, paying attention to characters and setting, and trying to identify themes in the novel. During the implementation, one student from the control group took pictures of the notes written on the board; these notes explained several strategies for reading. Both treatment and control groups used the strategies that were taught. As a result, more detailed research needs to be conducted on the implementation of the Six Thinking Hats and other strategy instruction for developing reading comprehension skills.

The results of this study are not consistent with other research. Job et al. (2015) compared the Six Thinking Hats to traditional teaching. Participants in this study were 48

Baccalaureate nursing students (Job et al., 2015). The results of the study concluded that

the treatment group found that the Six Thinking Hats was an excellent teaching strategy

that helped the students to produce creative ideas, simplify complex thinking, and

acknowledge patient's feelings (Job et al., 2015). The control group stated that the

traditional teaching method increased their motivation and interest in the class (Job et al.,

2015). Ziadat and Al Ziyadat (2016) analyzed the use of the Six Thinking Hats with

seventh-grade gifted students in an Arabic language course using an experimental design.

The purpose of the study was to improve students' creative thinking (Ziadat & Al

Ziyadat, 2016). Unlike the current study, Ziadat and Al Ziyadat (2016) designed a

training program to help students better grasp the concepts of the Six Thinking Hats.

During the program, students had 29 sessions for six weeks (Ziadat & Al Ziyadat, 2016).

The current study only met with students once a week for 10 weeks. Results from the

study indicated that the experimental group showed positive results from using the Six

Thinking Hats. Overall, educational stakeholders see the benefits of implementing the Six

Thinking Hats when compared to traditional teaching methods.

Educational stakeholders would be interested in the findings. These findings

could lead to additional strategies on how to develop literacy skills. The Six Thinking

Hats could be used to develop reading comprehension skills for SLD and regular

education students. The current study demonstrated how students could be taught six

different reading tasks using the Six Thinking Hats. Students learned to shift their

thinking when they received different colored hats. Each hat is representative of the

specific skills needed to develop reading comprehension skills. The White Hat showed

students how to identify factual textual evidence; this is literal comprehension. The Red

Hat showed students how to evaluate the character motivational feelings, the author's tone, and the reader's mood; this is an analytical skill. The Black Hat showed students how to monitor their thinking; this helped students to use their metacognitive skills. The Green Hat showed students how to understand an author's inferences; this utilized inferential comprehension. The Blue Hat showed students how to summarize what they read and identify central ideas and themes; this is a metacognitive skill. The Yellow Hat showed students how to identify positive character traits or positive word choice that impacts the tone of the story. Each of these skills is needed to develop literacy skills. Summing up, further research is warranted to determine the effects of the Six Thinking Hats in developing literacy comprehension. This approach could drastically shift how teachers instruct their students in text comprehension.

Limitations of the Study

The study had several limitations. The study's sampling posed a limitation. Initially, the study sought parental consent from 50 participants. Creswell (2015) discussed that a study's sample should use a large sample to avoid potential errors or sampling errors. However, due to the transient population of student body, the study was not able to get 50 participants. As a result, the study used convenience sampling. Participants who were willing and available participated in the study (Creswell, 2015). In some cases, a study may have a constricted number of participants who are conveniently available (Creswell, 2015). Only SLD students were utilized in the current study and this is a limitation. Other exceptionalities were not considered or regular education students.

Another limitation of the study consisted of experimental mortality. Participants were no longer involved in the study due to school relocation for various reasons, or

students were expelled due to not following the school's rules and policies. Other noted limitations were the inconsistencies in participant attendance (i.e., treatment or control groups).

Further limitations of the study consisted of not enough time for the implementation of the study. The current study detailed a limited amount of time to work with students. The researcher met with students for 30 minutes once a week. The researcher was only permitted to work with students during a 30 minute tutoring time during the school day. Since the researcher was not a classroom teacher, it was difficult to meet with students daily.

Future Research Directions

The current study did not consider measuring students' attitudes regarding the Six Thinking Hats. The current study could have surveyed students' feelings. Creswell (2015) explained that attitudinal measures analyze feelings concerning educational topics. The researcher could have determined if students had positive or negative feelings about the Six Thinking Hats. Understanding students' feelings about the Six Thinking Hats could have directed future researchers on how to implement the approach effectively if students had negative feelings or keep the same approach if students had positive feelings.

Additionally, the current study could be further extended with a mixed methods design. Creswell (2015) stated that both quantitative and qualitative methods provide a more comprehensive understanding of the research problem and questions. Using both quantitative and qualitative measures help the researcher to merge, connect, and build upon data (Creswell, 2015). The researcher could have merged the data from the current

instruments (i.e., pre and posttest Achieve 3000 Level Set test and Six Thinking Hats

Criterion-Referenced Test) and added an observational tool. The researcher could have

used the observational tool to check off behaviors as students in the treatment group

displayed them. This would allow the researcher to connect the data from the observation

tool to scores on the posttest. For example, if students did not demonstrate an

understanding of the White Hat and they performed poorly on these questions, the

researcher can further analyze the connection between the two instruments and better

understand the outcome of the posttest results.

Other recommendations for this study would be to use a larger sample size.

Creswell (2015) expressed the importance of selecting a large sample size to avoid

sampling error. The ideal number of participants sought in the current study was 50, but

due to the transient student population, it was difficult to obtain this number of

participants. Another way to gather 50 or more participants for the current study would

be to extend the study to other participants with and without exceptionalities.

Future studies should extend the timeframe of the study. The current study was

conducted for 10 weeks. It would be interesting to start the study at the beginning of the

school year (August) and end the study in April. This would allow participants to utilize

the Six Thinking Hats for an extended period of time in order to compare students who

are receiving traditional teaching methods to see if the outcome changes. Also,

participants met once a week for only 30 minutes. Having a more extended study will

allow students in the treatment and control groups more time to use the Six Thinking

Hats or traditional teaching methods. It is recommended to implement the Six Thinking

Hats at least three times a week and for longer than 30 minutes. It would be interesting to

see this study duplicated yearly tracking the same students from their ninth-grade year through their 12th grade year to see how students use the Six Thinking Hats to develop their literacy skills further.

Conclusion

The purpose of this dissertation study was to improve the reading comprehension skills of SLD students. There is limited research on the use of the Six Thinking Hats as a method that can develop students' reading comprehension skills. There is a definite need to explore this approach further.

The study found that there was not a statistically significant difference between pre and post test results on the Achieve 3000 Level Set Test and the implementation of Six Thinking Hats Criterion-Referenced Test. However, previous research demonstrates that this is an effective strategy. It is further hypothesized that the Six Thinking Hats approach could benefit all students' literacy skills.

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Appendix A

Control Group Graphic Organizer

Theme Graphic Organizer- Team Cyclones

Name:_____ Per._____ Date:_____

Directions: Read each question and answer in complete sentences.

What would you do if you were stranded on a deserted island?	
What is a theme? What are some characteristics of a theme?	

Directions: Use the graphic organizer to construct a theme for the text.
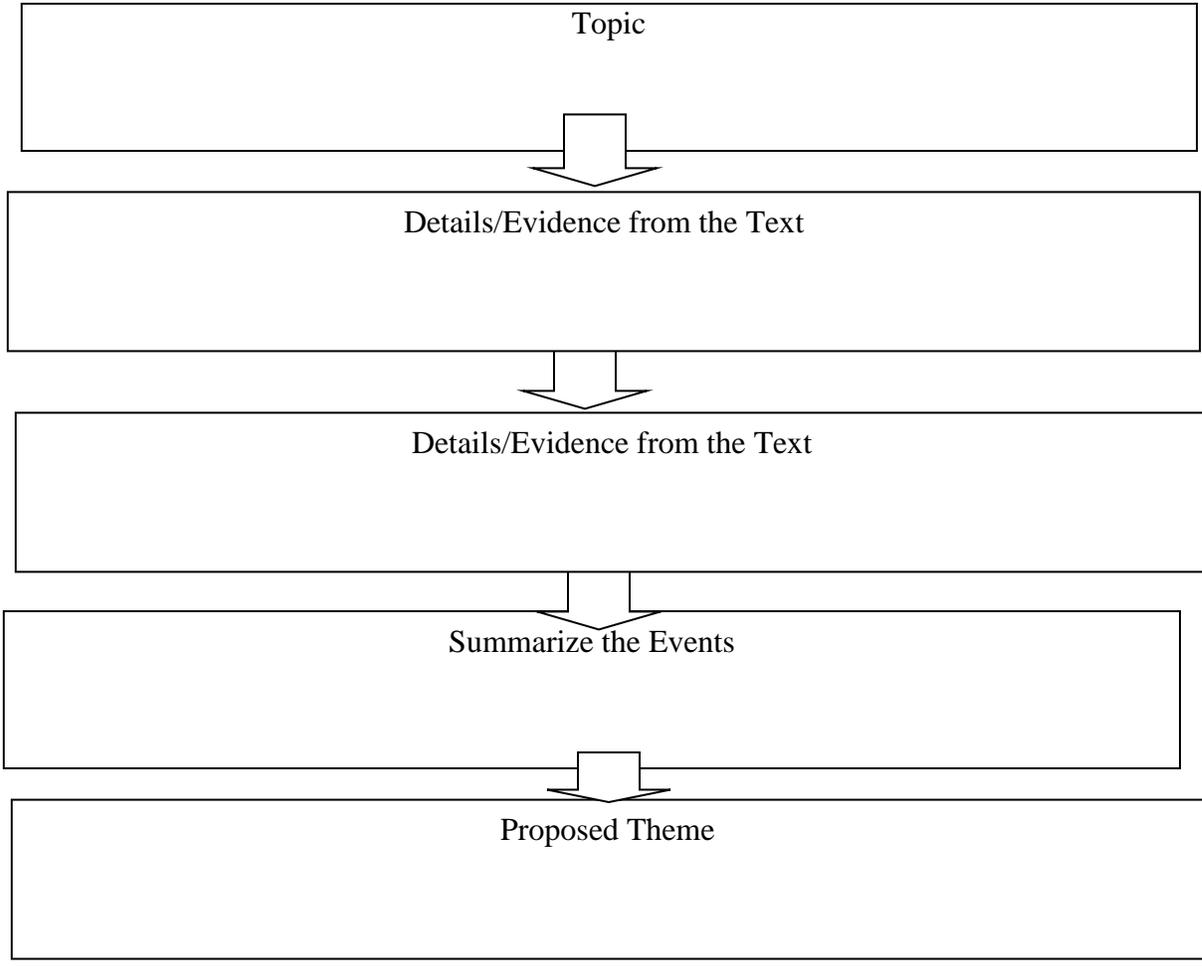
Topic

↓

Details/Evidence from the Text

↓

Details/Evidence from the Text

↓

Summarize the Events

↓

Proposed Theme

Directions: There is only one correct theme. Pick the theme that is being illustrated in pages 7-17. Then find textual evidence from the novel to support the theme. Lastly, explain the textual evidence used.

1. Don't take a blind eye to the truth.
2. Ralph and Piggy are fearless.
3. Survival instincts occur in times of tragedy.

Theme	
Textual Evidence	
Explanation	

Appendix B

Six Thinking Hats Criterion-Referenced Test

Six Thinking Hats Criterion-Referenced Test A

Name:_____ Per._____ Date:_____
Directions: Read the passage and answer the questions on a GradeCam answer sheet.

Passage: "The Appointment in Samarra" as retold by W. Somerset Maugham 1933

(1)There was a merchant in Bagdad who sent his servant to market to buy provisions and in a little while the servant came back, white and trembling, and said, Master, just now when I was in the marketplace I was jostled by a woman in the crowd and when I turned I saw it was Death that jostled me. She looked at me and made a threatening gesture, now, lend me your horse, (5)and I will ride away from this city and avoid my fate. I will go to Samarra and there Death will not find me.

(7) The merchant lent him his horse, and the servant mounted it, and he dug his spurs in its flanks and as fast as the horse could gallop he went. Then the merchant went down to the marketplace and he saw me standing in the crowd and he came to me and said, Why did you (10)make a threating gesture to my servant when you saw him this morning? That was not a threatening gesture, I said, it was only a start of surprise. I was astonished to see him in Bagdad, for I had an appointment with him tonight in Samarra.

Standard/Reading Comprehension/Higher Order Thinking	Questions	Six Thinking Hats

LAFS.9.10.R.L. 2.4.
 	
Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).
	Read the following lines from the story:
	"There was a merchant in Bagdad who sent his servant to market to buy provisions and in a little while the servant came back, white and trembling, and said, Master, just now when I was in the marketplace I was jostled by a woman in the crowd and when I turned I saw it was Death that jostled me ."
	
	1. Identify the type of figurative language being used in the lines?
	
	   a. A metaphor is used within the lines. A merchant is being compared to Death in the text.
	
	   b. A simile is used within the lines. A merchant is being compared to Death in the text.
	
	   c. Personification is used within the lines. Death is described as a woman.
		Green Hat
		
		Creating inferences that go beyond the given information

	2.How does the use of this figurative language impact the tone? a. The use of the metaphor creates a contemplative tone. b. The use of the simile creates a sarcastic tone. c. The use of personification creates a gloomy tone.	
LAFS.9.10.R.L. 1.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	3.Who is the speaker/narrator of story? a. Death b. The merchant c. The servant 4. Which quote identifies the speaker of the text? a. "Master, just now when I was in the marketplace I was jostled by a woman in the crowd and when I turned I saw it was Death that jostled me." b. "(7) The merchant lent him his horse, and the servant mounted it, and he dug his spurs in its flanks and as fast as the horse could gallop he went." c. "Then the merchant went down to the marketplace and he saw me standing in the crowd and he came to me and said, Why did you (10)make a threating gesture to my servant when you saw him this morning? That was not a threatening gesture, I said, it was only a start of surprise."	White Hat *Looking for facts in text*

| LAFS.9.10.R.L. 1.1.

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. | 5. Identify the types of irony are used in the text?

a. Dramatic Irony and Verbal Irony
b. Situational Irony and Dramatic Irony
c.Verbal Irony and Situational Irony

6. Which details from the text supports your answer?

a. "She looked at me and made a threatening gesture, now, lend me your horse, (5)and I will ride away from this city and avoid my fate. I will go to Samarra and there Death will not find me."

b. "…, now, lend me your horse, (5)and I will ride away from this city and avoid my fate. I will go to Samarra and there Death will not find me… I was astonished to see him in Bagdad, for I had an appointment with him tonight in Samarra."

c."Then the merchant went down to the marketplace and he saw me standing in the crowd and he came to me and said, Why did you (10)make a threating gesture to my servant when you saw him this morning?" | Black Hat

Identifying information that is somehow inconsistent with facts |
| LAFS.9.10.R.L. 2.4.

Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).

LAFS.9.10.R.L. 1.1.

Cite strong and thorough textual evidence to support | 7. Select two words or phrases from the text that supports the idea that the servant was frightened in the marketplace?

    a. "white and trembling"

    b. "jostled by a woman"

    c. "I had an appointment with him tonight in Samarra"

8. Read the following lines from the story:
"Then the merchant went down to the marketplace and he saw me standing in the crowd and he came to me and said, Why did you (10)make a threating gesture to my servant when you saw him this morning? That was not a threatening gesture, I said, it was only a start of surprise. I was astonished to see him in Bagdad, for I had an appointment with him tonight in Samarra."

What emotions are illustrated by Death and how does this shift the tone of the story? | Red Hat

Interpreting emotions in text and examining affective reactions to the text |

analysis of what the text says explicitly as well as inferences drawn from the text.	a. Death is overwhelmed with grief when she sees the merchant's servant. The tone shifts to gloomy. b. Death is shocked when she sees the merchant's servant. The tone shifts to being contemplative. c. Death is emotionless when she sees the merchant's servant. The tone shifts to callous.	
LAFS.9.10.R.L. 1.2. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text. LAFS.9.10.R.L. 1.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	9.What is the theme of the story? a. Run as far as you can from death. b. We should embrace death. c. Fate determines death and you cannot outrun it. 10. Which details from the text supports your answer? a. "I turned I saw it was Death that jostled me. She looked at me and made a threatening gesture, now, lend me your horse, (5)and I will ride away from this city and avoid my fate." b. "[servant]…now, lend me your horse, (5)and I will ride away from this city and avoid my fate…. I [Death] was astonished to see him [servant] in Bagdad, for I had an appointment with him tonight in Samarra." c. "Then the merchant went down to the marketplace and he saw me standing in the crowd and he came to me and said, Why did you (10)make a threating gesture to my servant when you saw him this morning? "	Blue Hat *Reflecting on content, and engaging in strategies to enhance understanding*

| LAFS.9.10.R.L. 1.3.

Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.

LAFS.9.10.R.L. 1.1.

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. | 11. What positive effect does Death's actions have on the servant and how does it advance the plot of the story?

   a. Since the servant knows Death is coming he tries to avoid death and he believes he is now prepared. The plot of the story advances because the reader awaits the climax of the story which will reveal the fated outcome of the servant.

   b. Since the servant knows Death is coming he leaves Bagdad and visits Samarra to welcome Death's arrival. The plot of the story advances because the reader anticipates that the servant is waiting for Death and willing to accept his outcome or resolution of the story.

   c. Since the servant knows Death is coming he decides to take one last trip to Samarra to enjoy his last moments in this world. The plot of the story advances because the reader waits to see the climax of the servant's trip.

12.Which details from the text supports your answer?

a."Then the merchant went down to the marketplace and he saw me standing in the crowd and he came to me and said, Why did you (10)make a threating gesture to my servant when you saw him this morning? "

b."(1)There was a merchant in Bagdad who sent his servant to market to buy provisions and in a little while the servant came back, white and trembling, and said, Master, just now when I was in the marketplace I was jostled by a woman in the crowd and when I turned I saw it was Death that jostled me."

c."She looked at me and made a threatening gesture, now, lend me your horse, (5)and I will ride away from this city and avoid my fate. I will go to | Yellow Hat

Identifying positive results or aspects of the protagonists in text for the reader |

	Samarra and there Death will not find me."	

Answers with a rationale for "The Appointment in Samarra"

1. C. is the correct answer because the author gives human-like characteristics to Death. Death is described as a woman.
2. C. is the correct answer because the use of personification creates a gloomy tone. Death brings a negative tone to the story.
3. A. is the correct answer because Death refers to herself while telling the story.
4. C. is the correct answer because when Death is telling her story she says "and he saw me standing in the crowd and he came to me and said, Why did you (10)make a threating gesture to my servant when you saw him this morning? That was not a threatening gesture, I said, it was only a start of surprise". This quote shows how Death is narrating the story and explaining her actions.
5. B. is the correct answer because we the reader understand that Death has an appointment with the servant in Samarra but the servant does not know that. Situational irony is used because the servant tries to escape Death by escaping to Samarra but Death intends to meet him there.
6. B. is the correct answer because dramatic irony is demonstrated with the quote, "… I was astonished to see him in Bagdad, for I had an appointment with him tonight in Samarra". We reader understand that Death intends to meet the servant. Situational irony is being demonstrated with the quote, "…, now, lend me your horse, (5)and I will ride away from this city and avoid my fate. I will go to Samarra and there Death will not find me… I was astonished to see him in Bagdad, for I had an appointment with him tonight in Samarra". The servant tries to escape Death, but Death will be waiting on him in Samarra.
7. A. is the correct because the author describes the servant as "white and trembling" when he encounters Death in the marketplace.
8. B. is the correct answer because Death is truly shocked to see the servant in the marketplace. The initial tone was gloomy because the servant realizes that Death is coming for him but then the shift changes when Death sees the servant because she reflects on seeing the servant.
9. C. is the correct answer because the servant thought that he could change fate by escaping to Samarra but unbeknown to him Death was always supposed to meet him in Samarra.
10. B. is the correct answer because the servant states that he leaves the city to avoid his fate but the next quote explains how Death intended to meet the servant in Samarra.
11. A. is the correct answer since the servant saw Death he prepares himself to escape Death. It advances the plot of the story because the reader wants to see the fated outcome of the servant.
12. C. is the correct answer because the servant tries to hide from death in the quote.

Six Thinking Hats Criterion-Referenced Test B

Name:_____ Per._____ Date:_____
Directions: Read the passage and answer the questions on a GradeCam answer sheet.

Passage: "Sleeping" by Katharine Weber (2003)

(1) She would not have to change a diaper, they said. In fact, she would not have to do anything at all. Mrs. Winter said that Charles would not wake while she and Mr. Winter were out at the movies. He was a very sound sleeper, she said. No need to have a bottle for him or anything. Before the Winters left they said absolutely please not to look in on the sleeping baby because the door squeaked too loudly.

(2) Harriet had never held a baby, except for one brief moment, when she was about six, when Mrs. Antler next door had surprisingly bestowed on her the tight little bundle that was their new baby, Andrea. Harriet had sat very still and her arms had begun to ache from the tension by the time Mrs. Antler took back her baby. Andy was now a plump seven-year-old, older than Harriet had been when she held her that day.

(3) After two hours of reading all of the boring mail piled neatly on a desk in the bedroom and looking through a depressing wedding album filled with photographs of dressed-up people in desperate need of orthodonture (Harriet had just ended two years in braces and was very conscious of malocclusion issues) while flipping channels on their television, Harriet turned the knob on the baby's door very tentatively, but it seemed locked. She didn't dare turn the knob with more pressure because what if she made a noise and woke him and he started to cry?

(4) She stood outside the door and tried to hear the sound of a baby breathing but she couldn't hear anything through the door but the sound of the occasional car that passed by on the street outside. She wondered what Charles looked like. She wasn't even sure how old he was. Why had she agreed to baby-sit when Mr. Winter approached her at the swim club? She had never seen him before, and it was flattering that he took her for being capable, as if just being a girl her age automatically qualified her as a baby-sitter.

(5) By the time the Winters came home, Harriet had eaten most of the M & M's in the glass bowl on their coffee table: first all the blue ones, then the red ones, then all the green ones, and so on, leaving, in the end, only the yellow.

(6) They gave her too much money and didn't ask her about anything. Mrs. Winter seemed to be waiting for her to leave before checking on the baby. Mr. Winter drove her home in silence. When they reached her house he said, My wife. He hesitated, then he said, You understand, don't you? and Harriet answered Yes without looking at him or being

sure what they were talking about although she did really know what he was telling her and then she got out of his car and watched him drive away.

Standard/Reading Comprehension/Higher Order Thinking	Questions	Six Thinking Hats

LAFS.9.10.R.L. 2.4.
 	
Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).
	1. How does Weber demonstrate the mood of the story in paragraph 1?
	
	   a. The mood in paragraph 1 is peaceful . Harriet will not have to worry about the baby Charles.
	
	   b. The mood in paragraph 1 is dreamy. Harriet has the dream baby-sitting job.
	
	   c. The mood in paragraph 1 is mysterious. Harriet was asked to babysit but she is not allowed to check on baby Charles .
	
	2. What quotation supports your inference?
	
	   a. "She would not have to change a diaper, they said."
	
	   b. "Before the Winters left they said absolutely please not to look in on the sleeping baby because the door squeaked too loudly."
	
	   c. Mrs. Winter said that Charles would not wake while she and Mr. Winter were out at the movies."
		Green Hat
		
		Creating inferences that go beyond the given information

LAFS.9.10.R.L. 1.1.
 	
Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
	3. What were Harriet's previous experiences with babies?
	
	   a. Harriet was an exemplary baby-sitter. She had several experiences with babies.
	   b. Harriet had very few experiences with babies. As a result, Harriet was not a baby-sitter expert.
	   c. Harriet had intermittent experiences as a baby-sitter.
		White Hat
		
		Looking for facts in text

	4. What quotation supports your inference?	
	a. "Harriet had never held a baby except for one brief moment…"	
	b. "…it was flattering that he took her for being capable, as if just being a girl her age automatically qualified her as a baby-sitter."	
	c. "Mrs. Antler next door had surprisingly bestowed on her the tight little bundle that was their new baby, Andrea."	

LAFS. 9.10.R.L. 2.5.
 	
Analyze how an author's choice concerning how to structure a text, order events (parallel plots), and manipulate time (flashbacks, foreshadow) to create effects such as mystery, tension, or surprise.
 	
LAFS.9.10.R.L. 1.1.
 	
Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
	Read the following lines from the story:
	"They gave her too much money and didn't ask her about anything. Mrs. Winter seemed to be waiting for her to leave before checking on the baby. Mr. Winter drove her home in silence. When they reached her house he said, My wife. He hesitated, then he said, You understand, don't you? and Harriet answered Yes without looking at him or being sure what they were talking about although she did really know what he was telling her and then she got out of his car and watched him drive away."
	
	5. How does the author structure the events in in the lines?
	
	    a. The author uses parallel plots to describe the Winters and Harriet's point of view. This structure creates an element of tension.
	    b. The author uses foreshadowing in the lines to describe Mrs. Winter's personality. This creates an element of suspense.
	    c. The author uses flashbacks to demonstrate Harriet's thoughts as Mr. Winter is speaking to her.
	
	6. What quotation supports your inference?
	
	    a. "Mr. Winter drove her home in silence."
	    b. "He hesitated, then he said, You understand, don't you? and Harriet answered Yes without looking at him or being sure what they were talking about
		Black Hat
		
		Identifying information that is somehow inconsistent with facts

	although she did really know what he was telling her…" c. "…she got out of his car and watched him drive away."	
LAFS.9.10.R.L. 2.4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	Read the following lines from the story: "After two hours of reading all of the boring mail piled neatly on a desk in the bedroom and looking through a depressing wedding album filled with photographs of dressed-up people in desperate need of orthodonture (Harriet had just ended two years in braces and was very conscious of malocclusion issues) while flipping channels on their television,…" 7.What are Harriet's feelings about her appearance? a. Harriet is self-conscious about the way she looks, and she notices dental imperfections in a wedding album. b. Harriet feels indifferent about the way she looks. c. Harriet views her appearance as perfection and she is looking down on the people in the album. 8. What cumulative impact does the words' meaning have on the story? a. We discover Harriet's feelings about herself when she examines the "depressing wedding album …need of orthodonture…" Wedding albums symbolize happiness, but she describes it as "depressing" and the "need of dental work" symbolically illustrates the needs of the Winters. b. We discover that Harriet is insensitive to the needs of the Winters. She describes elements of their home as "boring mail" and "…of dressed-up people in desperate need of orthodonture." She mentions the poor dental work. c. We discover Harriet's feelings of despair when she mentions "…dressed-up people in desperate need of orthodonture…" She feels	Red Hat *Interpreting emotions in text and examining affective reactions to the text*

	bad for the people who need dental work.	

LAFS.9.10.R.L. 1.2.
 	
Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.
 	
LAFS.9.10.R.L. 1.1.
 	
Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
	9. What is the theme of the short story?
	
	   a. Baby-sitting is an art that most teenagers must learn.
	   b. Pain can cause people to act in mysterious ways.
	   c. Husbands and wives can act radically.
	
	10. Which details from the text, supports your answer to question 9.
	
	   a. "Mrs. Winter seemed to be waiting for her to leave before checking on the baby… My wife. He hesitated, then he said, You understand, don't you? and Harriet answered Yes…"
	   b. "Mr. Winter drove her home in silence. When they reached her house."
	   c. "Why had she agreed to baby-sit when Mr. Winter approached her at the swim club?"
		Blue Hat
		
		Reflecting on content, and engaging in strategies to enhance understanding

LAFS.9.10.R.L. 1.3.
 	
Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.
	11.Determine how Harriet develops as a character and demonstrates positive character traits to further develop the plot?
	
	   a. Weber describes Harriet as someone who lacks real-world experiences. At the beginning of the story Harriet ponders her experiences with children and towards the end she is grateful that she does not have encounter the baby.
	   b. Weber describes Harriet as irresponsible but willing to mature. At the beginning of the story Harriet does not really want to baby-sit but she takes on the responsible role.
	   c. Weber describes Harriet as inquisitive and understanding. At the beginning of the story Harriet inquired about the baby and why she was chosen as baby-sitter. Towards the end, Harriet figures out what is going on with Winters.
		Yellow Hat
		
		Identifying positive results or aspects of the protagonists in text for the reader

12. Select **two** details from the text that supports your answer to question 11.

    a. "She stood outside the door and tried to hear the sound of a baby breathing but she couldn't hear anything through the door…"

    b. "Mr. Winter approached her at the swim club? She had never seen him before, and it was flattering that he took her for being capable, as if just being a girl her age automatically qualified her as a baby-sitter."

    c. "She would not have to change a diaper, they said. In fact, she would not have to do anything at all."

    d. "My wife. He hesitated, then he said, You understand, don't you? and Harriet answered Yes without looking at him or being sure what they were talking about although she did really know what he was telling her…"

Answer Key with Rationale for "Sleeping"

1. C. is the correct answer because the family has a sense of mysteriousness. Harriet was asked to babysit which consists of checking up on the baby, but she was instructed not to check on the baby because the door might squeak.
2. B. is the correct answer because quote supports how the Winters do not want Harriet to monitor baby Charles.
3. B. is the correct answer because Harriet states in the story that she had one experience with Mrs. Antler's baby.
4. A. is the correct answer because the quote supports the idea that Harriet has not had many experiences with babies.
5. B. is the correct answer because the author tries to hint at what Mrs. Winter's is going through and Mr. Winter tries to protect his wife. These lines create suspense because the reader is not quite sure what is going on with Mrs. Winter, but we can infer she might have lost a baby and continues to grieve.
6. B. is the correct answer because the quote illustrates how Mr. Winter hints out what is going on with his wife.
7. A. is the correct answer because the lines show a self-confident Harriet when she views other people.
8. A. is the correct answer because Harriet's feelings demonstrates her true feelings about her appearance through examining the lives of the Winters. Weber provides foreshadowing in the story when she describes the wedding album as "depressing" and she mentions the needs of the guest "…need of orthodonture…" which symbolically represents the needs of the Winters.

9. B. is the correct answer because it is inferred that Mrs. Winter is dealing with the death of a child. The pain that she is experiencing has caused her to act mysteriously. For example, the Winters asked Harriet to watch a child that does not exist.
10. A. is the correct answer because these quotes illustrate the pain that was consuming Mrs. Winters. For example, she would not check on the baby until Harriet had left and Mr. Winter wanted to explain the situation to Harriet.
11. C. is the correct answer because Harriet does inquire about her baby-sitting job, or why she can not hear the baby breathing but towards the end she does acknowledge Mrs. Winter's mental state.
12. A and D are the correct answer. These quotes demonstrate Harriet's development as a character and furthers develop the plot of the story.

Six Thinking Hats Criterion-Referenced Test C

Name:_____ Per._____ Date:_____
Directions: Read the passage and answer the questions on a GradeCam answer sheet.

Passage: "Ripe Figs" by Kate Chopin (1893)

(1) Maman-Nainaine said that when the figs were ripe Babette might go to visit her cousins down on the Bayou-Lafourche where the sugar cane grows. Not that the ripening of figs had the least thing to do with it, but that is the way Maman- Nainaine was.

(2) It seemed to Babette a very long time to wait; for the leaves upon the trees were tender yet, and the figs were like little hard, green marbles.

(3) But warm rains came along and plenty of strong sunshine, and though Maman-Naiaine was as patient as the statue of la Madone, and Babette as restless as a humming-bird, the first thing they both knew it was hot summer-time. Every day Babette danced out to where the fig-trees were in a long line against the fence. She walked slowly beneath them, carefully peering between the gnarled, spreading branches. But each time she came disconsolate away again. What she saw there finally was something that made her sing and dance the whole long day.

(4) When Maman-Nainaine sat down in her stately way to breakfast, the following morning, her muslin cap standing like an aureole about her white, placid face, Babette approached. She bore a dainty porcelain platter, which she set down before her godmother. It contained a dozen purple figs, fringed around with their rich, green leaves.

(5) "Ah," said Maman-Nainaine, arching her eyebrows, "how early the figs have ripened this year!"

"Oh," said Babette, "I think they have ripened very late."

"Babette," continued Maman-Nainaine, as she peeled the very plumpest figs with her pointed silver fruit-knife, "you will carry my love to them all down on Bayou-Lafourche. And tell your Tante Frosine I shall look for her at Toussaint — when the chrysanthemums are in bloom."

Standard/Reading Comprehension/Higher Order Thinking	Questions	Six Thinking Hats
LAFS.9.10.R.L. 2.4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	1. How does Chopin demonstrate the mood of the story in paragraph 3? a. The mood in paragraph 3 demonstrates sadness. Babette is somber that the figs are not ripe enough. b. The mood in paragraph 3 demonstrates carelessness. Babette does not care if the figs are ripe. c. The mood in paragraph 3 demonstrates uneasiness. Babette anxiously waits for the figs to ripen . 2. What quotation supports your inference? a. "Every day Babette danced out to where the fig-trees were in a long line against the fence." b. "…But warm rains came along and plenty of strong sunshine, and though Maman-Naiaine was as patient as the statue of la Madone." c. "But each time she came disconsolate away again."	Green Hat *Creating inferences that go beyond the given information*
LAFS.9.10.R.L. 1.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	3. How does Maman-Naianine and Babette's personality contrast? a. Maman-Naianine is a silly old woman and Babette is a young and vibrant child. b. Maman-Naianine is a wise woman and Babette is wiser because of her youth. c. Maman-Naianine is calm and Babette is unsettled.	White Hat *Looking for facts in text*

	4. What quotation supports your inference?	
	a. " 'Ah,' said Maman-Nainaine, arching her eyebrows, 'how early the figs have ripened this year!' "	
	b. "…Maman-Naiaine was as patient as the statue of la Madone, and Babette as restless as a humming-bird,".	
	c. " Babette, continued Maman-Nainaine, as she peeled the very plumpest figs with her pointed silver fruit-knife, 'you will carry my love to them all down on Bayou-Lafourche',…"	
LAFS. 9.10.R.L. 2.5.

Analyze how an author's choice concerning how to structure a text, order events (parallel plots), and manipulate time (flashbacks, foreshadow) to create effects such as mystery, tension, or surprise.

LAFS.9.10.R.L. 1.1.

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. | Read the following lines from the story:
" But warm rains came along and plenty of strong sunshine, and though Maman-Naiaine was as patient as the statue of la Madone, and Babette as restless as a humming-bird, the first thing they both knew it was hot summer-time."

5. How does the author structure the events in in the lines?

a. The author uses parallel plots to describe Maman-Nainaine and Babette's point of view. This structure creates an element of mystery.

b. The author uses foreshadowing in the lines to describe the change in nature. This creates an element of suspense.

c. The author uses flashbacks to demonstrate how Babette's recalls summer-time. This creates an element of surprise.

6. What quotation supports your inference?

a. " But warm rains came along and plenty of strong sunshine…"

b. "Maman-Naiaine was as patient as the statue of la Madone, and Babette as restless as a | Black Hat

Identifying information that is somehow inconsistent with facts |

	humming-bird."	
	c. "…the first thing they both knew it was hot summer-time."	

LAFS.9.10.R.L. 2.4.
 	
Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).
	Read the following lines from the story:
	" But warm rains came along and plenty of strong sunshine, and though Maman-Naiaine was as patient as the statue of la Madone, and Babette as restless as a humming-bird, the first thing they both knew it was hot summer-time. Every day Babette danced out to where the fig-trees were in a long line against the fence. She walked slowly beneath them, carefully peering between the gnarled, spreading branches. But each time she came disconsolate away again. What she saw there finally was something that made her sing and dance the whole long day."
	
	7.Identify the type of figurative language used in the lines?
	
	    a. The lines use an alliteration to describe Maman-Naiaine's personality.
	
	    b. The lines use onomatopoeia to describe the summer-time noises.
	
	    c. The lines use imagery to describe nature and the main characters' personalities.
	
	8.What cumulative impact does the words' meaning have on Babette's feelings?
	
	    a. The lines demonstrate that Babette's feelings are based on the change in the fig-trees. When the figs were not ripened she becomes sad but when they are ripened she is excited.
	
	    b. The lines demonstrate that Babette has insensitive feelings towards nature and its growth or change.
	
	    c. The lines demonstrate that Babette is fearless and has no problem facing nature alone.
		Red Hat
		
		Interpreting emotions in text and examining affective reactions to the text

LAFS.9.10.R.L. 1.2. Determine a theme or	9. What is the theme of the short story?	Blue Hat *Reflecting on*

central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text. LAFS.9.10.R.L. 1.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	a. Children should listen to their elders. b. Maturity is a process that takes time; it should not be rushed. c. Children experience various emotions starting with happiness and then sadness all at the same time. 10. Which details from the text, supports your answer to question 9. a. "When Maman-Nainaine sat down in her stately way to breakfast, the following morning, her muslin cap standing like an aureole about her white, placid face, Babette approached." b. "Every day Babette danced out to where the fig-trees were in a long line against the fence. She walked slowly beneath them, carefully peering between the gnarled, spreading branches. But each time she came disconsolate away again. What she saw there finally was something that made her sing and dance the whole long day." c. "It contained a dozen purple figs, fringed around with their rich, green leaves."	*content, and engaging in strategies to enhance understanding*
LAFS.9.10.R.L. 1.3. Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	11.Determine how Babette develops as a character and demonstrates positive character traits to further develop the theme of the passage? a. Chopin describes Babette as hopeful and patient. At the beginning of the story Babette did not understand why Maman-Nainaine asked her to wait to visit her cousin until the figs ripened but she was hopeful that the figs would ripen and waited patiently. b. Chopin describes Babette as someone who contemplates about her actions and it helps her grow as a character. At the beginning of the story Babette contemplates about visiting her cousins and she observes the figs as they progress.	Yellow Hat *Identifying positive results or aspects of the protagonists in text for the reader*

| | c. Chopin describes Babette as irresponsible but willing to mature. At the beginning of the story Babette does not think clearly about what she is asking of Maman-Nainaine but later realizes the questions she poses, and it helps her mature as a character.

12. Select **two** details from the text that supports your answer to question 11.

   a. "Every day Babette danced out to where the fig-trees were…"

   b. " Babette, continued Maman-Nainaine, as she peeled the very plumpest figs…".

   c. "She walked slowly beneath them, carefully peering between the gnarled, spreading branches."

   d. "She bore a dainty porcelain platter, which she set down before her godmother." | |

Answer Key with Rationale for "Ripe Figs"
1. C. is the correct answer because Babette anxiously waits for the figs to ripen so that she can visit her cousins .
2. A. is the correct answer because the quote "Every day Babette danced out to where the fig-trees were in a long line against the fence" describes how Babette checked the figs everyday feeling uneasy and waiting in suspense for the figs to ripen.
3. C. is the correct answer because Maman-Naianine is patient enough to wait for the figs to ripen and Babette is restless because she wants the figs to ripen so that she can visit her cousins.
4. B. is the correct answer because Maman-Naiaine was as patient as a statue, and Babette was as restless as a hummingbird that moves rapidly.
5. B. is the correct answer because the author uses foreshadowing in the lines to describe the change in nature: "warm rain" and "strong sunshine" will allow for the figs to ripen. The audience experiences suspense through waiting for the change.
6. A. is the correct answer because " But warm rains came along and plenty of strong sunshine…" foreshadows the change that will occur with the figs.
7. C. is the correct answer because the lines uses imagery to describe nature and the main characters' personalities. For example, "warm rain" can be felt and you can see the "strong sunshine" (personification). The main characters' personalities are demonstrated in the following lines: "Maman-Naiaine was as patient as the statue of la Madone, and Babette as restless as a humming-bird". The reader can visually see each character's personality through the described images.
8. A. is the correct answer because the lines demonstrate that Babette's feelings are based on the change in the fig-trees. When the figs were not ripened she becomes sad "…she came disconsolate away again…" but when they are ripened she is excited "she saw there finally was something that made her sing and dance…".
9. B. is the correct answer because this story chronicles Babette's quest to maturity through being patient. She has to wait for the figs to ripened in order to visit her cousins.
10. B. is the correct answer because it describes Babette's quest to maturity which was not easy for her.
11. A. is the correct because Chopin describes Babette as hopeful that the figs will ripen, and she listens to Maman-Nainaine and waits for the figs to change so that she can visit her cousins.
12. A and C are the correct answers because these quotes demonstrate how Babette was hopeful and patient that the figs will ripen "Every day Babette danced out" and "She walked slowly beneath them, carefully peering between…"

Six Thinking Hats Criterion-Referenced Test D

Name:_____ Per._____ Date:_____
Directions: Read the passage and answer the questions on a GradeCam answer sheet.

Passage: "Excerpt from Five Weeks in a Balloon" by Jules Verne (1863)

(1)It was a curious spectacle — that mass of clouds piled up, at the moment, away below them! The vapors rolled over each other, and mingled together in confused masses of superb brilliance, as they reflected the rays of the sun. The Victoria had attained an altitude of four thousand feet, and the thermometer indicated a certain diminution of temperature. The land below could no longer be seen. Fifty miles away to the westward, Mount Rubeho raised its sparkling crest, marking the limit of the Ugogo country in east longitude thirty-six degrees twenty minutes. The wind was blowing at the rate of twenty miles an hour, but the aeronaut felt nothing of this increased speed. They observed no jar, and had scarcely any sense of motion at all.

Three hours later, the doctor's prediction was fully verified. Kennedy no longer felt a single shiver of the fever, but partook of some breakfast with an excellent appetite.

"That beats sulphate of quinine!" said the energetic Scot, with hearty emphasis and much satisfaction.

"Positively," said Joe, "this is where I'll have to retire to when I get old."

(5)About ten o'clock in the morning the atmosphere cleared up, the clouds parted, and the country beneath could again be seen, the Victoria meanwhile rapidly descending. Dr. Ferguson was in search of a current that would carry him more to the northeast, and he found it about six hundred feet from the ground. The country was becoming more broken, and even mountainous. The Zungmoro district was fading out of sight in the east with the last cocoanut-trees of that latitude.

Ere long, the crests of a mountain-range assumed a more decided prominence. A few peaks rose here
and there, and it became necessary to keep a sharp lookout for the pointed cones that seemed to
spring up every moment.

"We're right among the breakers!" said Kennedy.

"Keep cool, Dick. We shan't touch them," was the doctor's quiet answer.

"It's a jolly way to travel, anyhow!" said Joe, with his usual flow of spirits.

(10)In fact, the doctor managed his balloon with wondrous dexterity.

"Now, if we had been compelled to go afoot over that drenched soil," said he, "we should still be

dragging along in a pestilential mire. Since our departure from Zanzibar, half our beasts of burden

would have died with fatigue. We should be looking like ghosts ourselves, and despair would be seizing on our hearts. We should be in continual squabbles with our guides and porters, and completely exposed to their unbridled brutality. During the daytime, a damp, penetrating, unendurable humidity! At night, a cold frequently intolerable, and the stings of a kind of fly whose bite

pierces the thickest cloth, and drives the victim crazy! All this, too, without saying any thing about wild

beasts and ferocious native tribes!"

"I move that we don't try it!" said Joe, in his droll way.

"I exaggerate nothing," continued Ferguson, "for, upon reading the narratives of such travellers as have

had the hardihood to venture into these regions, your eyes would fill with tears."

About eleven o'clock they were passing over the basin of Imenge, and the tribes scattered over the

adjacent hills were impotently menacing the Victoria with their weapons. Finally, she sped along as

far as the last undulations of the country which precede Rubeho. These form the last and loftiest chain of the mountains of Usagara.

(15)The aeronauts took careful and complete note of the orographic conformation of the country. The

three ramifications mentioned, of which the Duthumi forms the first link, are separated by immense

longitudinal plains. These elevated summits consist of rounded cones, between which the soil is bestrewn with erratic blocks of stone and gravelly bowlders. The most abrupt declivity of these mountains confronts the Zanzibar coast, but the western slopes are merely inclined planes. The depressions in the soil are covered with a black, rich loam, on which there is a vigorous vegetation. Various water-courses filter through, toward the east, and work their way onward to flow

into the Kingani, in the midst of gigantic clumps of sycamore, tamarind, calabash, and palmyra trees.

Standard/Reading Comprehension/Higher Order Thinking	Questions	Six Thinking Hats
LAFS.9.10.R.L. 2.4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	1. Identify the type of figurative language being used in paragraph 1 and how has the figurative language meaning impacted the tone? a. Personification is used within the lines. The personification creates a dreamy and peaceful tone. b. A metaphor is used within the lines. The metaphor creates an indifferent tone. c. An alliteration is used within the lines. The alliteration creates a whimsical tone. 2. Select **two** details from the text that supports your answer? a. "It was a curious spectacle — that mass of clouds piled up, at the moment, away below them!" b. "The wind was blowing at the rate of twenty miles an hour, but the aeronaut felt nothing of this increased speed." c. "The vapors rolled over each other, and mingled together in confused masses of superb brilliance, as they reflected the rays of the sun." d. "Finally, she sped along as far as the last undulations of the country which precede Rubeho." e. "They observed no jar, and had scarcely any sense of motion at all."	Green Hat *Creating inferences that go beyond the given information*

LAFS.9.10.R.L. 1.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	3. What dangers concerned the men during their travels in the hot air balloon? a. Native tribes b. High, pointed peaks c. Infectious diseases 4. Which details from the text supports your answer? a. "A few peaks rose here and there, and it became necessary to keep a sharp lookout for the pointed cones." b. "we should still be dragging along in a pestilential mire…" c. "All this, too, without saying any thing about wild beasts and ferocious native tribes!"	White Hat *Looking for facts in text*
LAFS.9.10.R.L. 1.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	5. Which character is directing and controlling the hot air balloon? a. Joe b. Kennedy c. Dr. Ferguson 6. Which details from the text supports your answer? a. "It's a jolly way to travel, anyhow!" said Joe, with his usual flow of spirits." b. "In fact, the doctor managed his balloon with wondrous dexterity." c. ""That beats sulphate of quinine!" said the energetic Scot, with hearty emphasis and much satisfaction."	Black Hat *Identifying information that is somehow inconsistent with facts*

| LAFS.9.10.R.L. 1.1.

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. | 7. How do Kennedy and Joe's feelings about their hot air balloon excursion contrast?

a. Kennedy is fearless, but Joe is weary about traveling by a hot air balloon.

b. Kennedy is nervous and very cautious; whereas, Joe is optimistic and openminded.

c. Kennedy and Joe both feel a level of discomfort when traveling in the hot air balloon.

8. Which details from the text supports your answers?

a. " 'We're right among the breakers!' said Kennedy. ' Keep cool, Dick. We shan't touch them,' was the doctor's quiet answer. 'It's a jolly way to travel, anyhow!' said Joe, with his usual flow of spirits."

b. "Three hours later, the doctor's prediction was fully verified. Kennedy no longer felt a single shiver of the fever, but partook of some breakfast with an excellent appetite. 'That beats sulphate of quinine!' said the energetic Scot, with hearty emphasis and much satisfaction."

c. "Now, if we had been compelled to go afoot over that drenched soil," said he, "we should still be dragging along in a pestilential mire." | Red Hat

Interpreting emotions in text and examining affective reactions to the text |
| LAFS.9.10.R.L. 1.2.

Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of | 9. What is the theme of the story?

a. The hot air balloon is a fascinating way to travel.

b. Too many people on a hot air balloon can be afflicting.

c. Life should be experienced through extraordinary methods that will produce positive and negative experiences. | Blue Hat

Reflecting on content, and engaging in strategies to enhance understanding |

the text. LAFS.9.10.R.L. 1.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	10. Select **two** details from the text supports that supports your answer? a. "It's a jolly way to travel, anyhow!" said Joe, with his usual flow of spirits." b. ", in the midst of gigantic clumps of sycamore, tamarind, calabash, and palmyra trees." c. "The wind was blowing at the rate of twenty miles an hour, but the aeronaut felt nothing of this increased speed." d. "About eleven o'clock they were passing over the basin of Imenge, and the tribes scattered over the adjacent hills were impotently menacing the Victoria with their weapons." e. "They observed no jar, and had scarcely any sense of motion at all."	
LAFS.9.10.R.L. 1.3. Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme. LAFS.9.10.R.L. 1.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	11. What positive effect did Dr. Ferguson's personality/actions have on Kennedy and Joe? a. Dr. Ferguson has an authoritative personality and Joe and Kennedy realized that they should not question his authority. b. Dr. Ferguson is very knowledgeable, and he demonstrates his knowledge through directing the course of the travels; Joe and Kennedy trusted his guidance and suggestions. c. Dr. Ferguson values his love of traveling and Joe and Kennedy soon embraced this same concept. 12. Select **two** details from the text supports your answer? a. "It was a curious spectacle — that mass of clouds piled up, at the moment, away below	Yellow Hat *Identifying positive results or aspects of the protagonists in text for the reader*

	them!”	
	b. "Dr. Ferguson was in search of a current that would carry him more to the northeast, and he found it about six hundred feet from the ground."	
	c. " The country was becoming more broken, and even mountainous. The Zungmoro district was fading out of sight in the east with the last cocoanut-trees of that latitude."	
	d. " 'We're right among the breakers!" said Kennedy. 'Keep cool, Dick. We shan't touch them,' was the doctor's quiet answer."	
	e. "Positively," said Joe, "this is where I'll have to retire to when I get old."	

Answer Key with Rationale for "Excerpt from Five Weeks in a Balloon"

1. A is the correct answer because paragraph 1 uses various examples of personification to illustrate a dreamy and peaceful tone. For example, the following objects were given human-like characteristics "curious spectacle" "The vapors rolled over each other, and mingled together in confused masses of superb brilliance, as they reflected the rays of the sun." These examples of personification help to form a dreamy and peaceful tone.

2. A. and C. is the correct answer because these quotes display examples of personification that demonstrate a calming and dream-like tone.

3. B. is the correct answer because the characters discussed that they need to look out for the high peaks.

4. A. is the correct answer because it's the only quote that discusses the dangers in the air. The other two quotes refer to possible dangers on land.

5. C. is the correct answer because the other characters describe Dr. Ferguson as the one who is controlling and directing the hot air balloon.

6. B. is the correct answer because it shows how the doctor has skilled hands when controlling the hot air balloon.

7. B. is the correct answer because Kennedy is seen as often being nervous and cautious, but Joe enjoys traveling by hot air balloon.

8. A. is the correct answer because it shows how Kennedy is nervous when traveling with a hot air balloon, but Dr. Ferguson tries to calm it down. But Joe is happy and enjoys traveling by hot air balloon.

9. C. is the correct answer because the men chose to experience life on a hot air balloon which is an extraordinary way to travel. The men had positive and negative experiences while traveling in the hot air balloon.

10. A. and D. are the correct answers because these quotes show how the men did enjoy life through traveling with a hot air balloon. But the second quote shows how the men did experience some negative experiences with neighboring tribes.

11. B. is the correct answer because Dr. Ferguson uses his knowledge throughout the story to guide the men while they are traveling. As a result, the men trust Dr. Ferguson's guidance.

12. B and D are the correct answers because these quotes show how Dr. Ferguson uses his knowledge of coordinates to guide the men while traveling. The second quote shows how when the men were scared Dr. Ferguson calms them down and assures the men that they will not hit a high peak.

Appendix C

Curriculum Pacing Guide for Experimental and Control Group

Standard	Cluster	Timeline	Text	Task
R.L. 1.1.- Determine which piece(s) of evidence provide the strongest support for inferences, conclusions or summaries of text. R.L. 1.2.- Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.	Key Ideas and Details	1-17-2019 Read pgs. 7-17	"Lord of the Flies" by William Golding	Experimental Group- Students in the experimental group will read pages 7-17. Then students will receive a graphic organizer that illustrates each role of the Six Thinking Hats. Students will work collaboratively to fill in each thinking hat. Control Group- Students in the control group will read pages 7-17. Then students will receive a graphic organizer to construct their ideas. Students will work collaboratively to fill in the graphic organizer. Additionally, students will use sticky notes to write down any additional questions about the text. Students will work together

				to answer their student-generated questions.

Appendix D

Experimental Group Graphic Organizer

Six Thinking Hats-Team Tornadoes

Name:_____ Per._____ Date:_____

Directions: Read each question and answer in complete sentences.

What would you do if you were stranded on a deserted island?	
What is a theme? What are some characteristics of a theme?	

Directions: While in your groups, work together to answer each of the assigned roles of the Six Thinking Hats. Everyone is assigned to a different color, but you are responsible for coping down your classmates' response to each assigned thinking hat.

White Hat What words or phrases from the text explicitly describe the setting of the novel?	Black Hat Why does Piggy believe his father is going to rescue him?
Red Hat What were Ralph and Piggy's feelings when they both realized that they were stranded on an island?	Yellow Hat What positive events happened in the text?

Blue Hat Summarize events that happened in the text.	Green Hat What can we infer will occur in the story if no grown-ups are on the island?

Directions: There is only one correct theme. Pick the theme that is being illustrated in pages 7-17. Then find textual evidence from the novel to support the theme. Lastly, explain the textual evidence used.

1. Don't take a blind eye to the truth.
2. Ralph and Piggy are fearless.
3. Survival instincts occur in times of tragedy .

Theme	
Textual Evidence	
Explanation	

Appendix E

Thinking Hats Chart

Representation	Student Behavior	Thinking Hats
<u>Factual</u> Protagonists, Place, Time, Motivations	Looking for facts in the text	White Hat
<u>Inferences</u> New ideas, New approaches, Merging of ideas,	Creating inferences that go beyond the given information	Green Hat
<u>Metacognitive Knowledge</u> Monitoring understanding Self-correcting, Re-reading Summarizing Reading aloud	Reflecting on the content Engaging in strategies to enhance understanding	Blue Hat
<u>Emotional</u> Happy, Anger,	Interpreting emotions in the text Affective reaction to the text	Red Hat
<u>Negative</u> Inconsistencies, Incorrect facts, Error detection, Comprehension Monitoring,	Identifying information that is somehow inconsistent with facts	Black Hat
<u>Positive</u> Constructive, Optimism, Benefits	Identifying positive concepts within key ideas or details and craft and structure of a text (i.e. benefits of the author's choice of structure or word choice)	Yellow Hat

Appendix F

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Appendix G

"Appointment in Samarra" Text Permission

Leslie Melville writes:

Hello Annaliese,

Thank you for writing. I am pleased you found the website useful and yes, by all means use the story in any way that you find helpful.

The story is attributed to W. Somerset Maugham and I myself have adapted the plot in a different context to use in connection with a magic trick!

Good luck with all your endeavours!

Regrds,

Leslie