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HOW HIGHER ORDER QUESTIONING AND CRITICAL THINKING
AFFECTS READING COMPREHENSION

by

Lindsay A. Samelian

A capstone submitted in partial fulfillment of the
requirements for the degree of Master of Arts in Education.

Hamline University

Saint Paul, Minnesota

May 2017

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To my darling friend Melanie Keillor who continually inspires me to be open-minded and think of others. To my mom Donna and my sister Amy who supported me and helped watch my puppy Ruby so I could go work on my paper. Thank you to my student subjects who engaged in discussions on difficult topics. Thank you to my committee for their continued encouragement throughout this long journey. To my cousin Kris Potter who empathized at the hard work that lay before me. This is the biggest, hardest accomplishment of my scholarly life. I could not have persevered without ALL of you.

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CHAPTER I

Introduction

I always wondered what made a good question, one that would lead my students to a deeper understanding of concepts, provide some keywords to trigger their background knowledge, and elicit evidence of high student achievement. I reflected over my teaching often: the books I chose, the technology I integrated, the topics, the engagement of the material, but I felt the most important aspect of my teaching was the daily questions and discussions I led my students through. It was a big part of our day and it affected all subject areas. Questioning could cause wonder, excitement, deep thought, and positive engagement in students and teachers alike. I wanted to build a classroom atmosphere that valued questioning and critical thinking.

My burning question was to discover how the use of higher-order questions and discussion techniques impacted fifth graders' achievement particularly in the area of reading. I believed questioning not only guided thinking, but also helped promote different ways students critically think. The term "college readiness" was very prevalent in our newspapers and political discussions, as well as my district meetings. Future employers, colleges, and even society need citizens who can think critically, ask questions, problem solve, and look at situations in innovative, creative ways. My district had a goal for all our students to have the skills necessary to be post secondary ready. The district created a list of 12 habits that students can practice to reach their goals. A

few of these habits are: thinking flexibly, questioning and problem posing, applying past knowledge to new situations, creating, imagining, and innovating. These higher levels of thinking supported my research topic. My students need the higher-order thinking skills to be able to handle the rigors of college and an ever competitive work force, and it started with the questions I asked.

In my educational system a heavy emphasis was placed on the state standards, aligned to the Common Core Standards. These standards were skills students in fifth grade were expected to master by the end of the year and became a roadmap for teachers in my district. The skills included inferring, finding the main idea or theme of a text, and analyzing multiple perspectives of the same event. While some of these skills do use higher-level thinking like compare and contrast or analyze, there is no explicit direction to help teachers build critical thinking skills or reading strategies in their students. Snyder & Snyder (2008) cited teachers are not trained in critical thinking methods and most instructional materials do not provide critical thinking resources. Harvey & Goudvis (2007) believed reading strategies like monitoring comprehension, connecting to background knowledge, questioning, visualizing and inferring, determining importance, and summarizing and synthesizing must be explicitly taught to students. Most of these elements were not found in the state standards, which is why I felt my research was important to the work teachers were engaged in.

When I've worked with students I noticed they didn't know what certain questions were asking them to do. For example, if a question asked a student to analyze or evaluate or synthesize a text, they would usually come to me and express confusion. There was an obvious disconnect between learning or reading the content and being able

to do something with that knowledge. A teacher's questions can have an impact both positive and negative on student engagement and level of understanding. I've seen teachers ask very basic questions with "right there" answers and I've watched teachers ask a question and get a student to thoroughly explain their logic. Within the context of reading, I want to build student's understanding and achievement through questions and discussion techniques. *How I can increase fifth graders' reading comprehension through the use of higher-order thinking questions and critical thinking instruction?*

College Experience

In my undergraduate program, I was exposed to some of the great educational psychologists, including Vygotsky, Gardner, and Bloom. I remember receiving a chart showing Bloom's Taxonomy (1984); discussing the different types of multiple intelligences from Gardner, such as musical, interpersonal, linguistic, and the Zone of Proximal Development from Vygotsky that illustrated a learner has a developmental level and a potential level they can reach with guidance. Their research was valuable to my work with children. For instance, I was able to tailor lessons to students learning styles and strengths. I knew how to scaffold a lesson by starting off modeling a skill and then letting the students try it with a partner or small group and finally trying it independently. It was important for me to know how students learned best and what I could do as their teacher to help them learn more effectively. In college we only used theories of educational psychology research, never getting to deeper levels of understanding using practical applications in the classroom. Just knowing Bloom's levels of thinking did not help me increase my students' comprehension. I wanted to know more about how and when to use different levels of thinking, how to formulate

higher-order questions, how to get the students thinking more critically, and how to help them create their own higher order questions.

Professional Experience

My teaching began with fourth graders. I honed my teaching techniques for four years, building my guided reading skills through professional development, working with colleagues, and trying different teaching strategies. I was lucky to have a wonderful mentor and friend who had a real passion for reading. We worked splendidly together, stopping by each others' classrooms, bouncing ideas around, building on each others' excitement and passion for trying new things with our students. She helped me pick fictional chapter books and modeled how she would write in her "teacher copy" all the questions she created, vocabulary words she wanted the students to decipher, and literary techniques she wanted her kids to grapple with. I used these great ideas and became a much more effective teacher, building my teaching capacity.

At the start of my career, teachers were required to use a purchased curriculum. I never liked teaching from a scripted curriculum. The stories were pre-planned for the teacher and the skills and questions were written in the margins. I was expected to read from the big manual and guide students' learning, but it made me feel like a robot. I felt like I was just asking them easy questions they could find in the text without much effort or thought. Over the next few years, teachers were encouraged to use online lessons and ideas as a supplement to the curriculum. I turned to the Minnesota State Standards to create goals in my lessons. These standards helped guide teachers and hold all students to the same expectations for skills they needed to learn in their particular grade level. By using the state standards I tailored my lessons and picked whichever chapter books and

content I thought would help the students master a skill. I liked being creative with my lessons, using authentic literature and topics from my students' lives to get them more engaged in their own learning, whether I put their favorite kind of food in a math problem or made connections between their favorite sport and a new vocabulary word like tenacious. When I created my own lessons, I borrowed from other teachers and sources and designed my own learning activities, and formative and summative assessments. A formative assessment informs the teacher what student can do and what they still need work on. These typically short assessments are given along the way to ensure growth, and they help the teacher know what to re-teach and if they can extend the learning further. Summative assessments are given at the end of a unit of study and are more of a summary of what was learned. These tests are done after the learning takes place. I especially liked preparing formative assessments because I could quickly check-in with my students to see if they understood the concepts we worked on that day. A formative assessment is usually short with enough evidence and questions for students to answer and show mastery of a skill. It could be in the form of an exit slip, a quiz, an informal teacher observation, or a response to a scenario. When creating these lessons and assessments I wondered if I was asking the right sort of questions to get my students to think critically. Just because they showed me mastery and got all the questions right on an assessment does not tell me how deep they were thinking. Maybe they were just recalling information. Should I have been following the curriculum and textbooks verses making my own lessons and assessments? How did I know what I had my students do would yield critical thinking and higher achievement?

When I led discussions in class, I took a step back and looked at the reactions of my students. I observed some students enthusiastically participating, desiring to answer every question. Some were distracted with their neighbor or the pencil in their hand. It made me realize I needed to really hook my students into the topic or concept we were discussing. I wondered what my class could look like, feel like, and sound like if everyone wanted to have a say. Would it be chaos or a buzz of excitement and determination? One particularly bright student stood out to me. At the beginning of the year she was very eager to participate and always put her hand up. She had so many insightful thoughts. A few months into school I noticed she had started raising her hand less and less. What had I done to discourage her? This question made me reflect on my discussion practices and reaffirmed my desire to be a better conversation leader.

On the other end of the spectrum, I had a boy in my reading class who would never participate unless called on and he typically was not able to answer the question without a lot of teacher prompting. I tried working on my relationship with this student by asking him about things that interested him, but I could not get him hooked on or engaged in what we were learning. Both of these students motivated and inspired me to want to improve my questioning techniques. I have been in classes where the instructor had us on the edge of our seats wanting to know more. That was the kind of teacher I wanted to be.

Each year, I worked harder to improve my lessons and teaching craft. In my first year of teaching fifth grade I tried to help my students think critically and make connections using nonfiction history articles tied to our fictional trade books. I decided to do this because I knew nonfiction was an area many students needed more work and

because there were many great events and issues in history my students could debate. My students were able to view history from multiple perspectives. A few were able to analyze and evaluate issues to form their own opinion. I saw an improvement in my students reading comprehension, but I still was not intentionally using questions to elicit higher order thinking, nor did my students know what critical thinking was.

In my social studies class we analyzed different accounts of the same historical event. I used texts from European perspectives and Native American perspectives to highlight similarities and differences in their accounts and gain a better understanding of what happened. It was fascinating to watch my students form ardent opinions and become engaged in these topics. My students began to question long held beliefs and make their own decisions about issues such as European expansion and Christopher Columbus' encounters with Native Americans. Students knew Columbus discovered America, but once they learned how the Natives were treated by Columbus and his crew, they began to question why we celebrate Columbus Day and why children were typically taught these events from the European perspective. My class was alive with meaningful conversations. These were my favorite moments in my first survival year in fifth grade, because I knew my students were thinking for themselves and able to back up their thinking with historical facts. They were wondering things. They were not just being spoon fed information and asked later to regurgitate it on a test.

In my reading class we examined the treatment of the Cherokee, Navajo, and Ojibwa tribes from the Native perspective in conjunction with reading historical fiction books. One lesson I found to be particularly meaningful was an examination of the Cherokee Nation's Long Walk. We read and interacted with three different documents:

one from the Cherokee tribal members, one from a soldier carrying out the government orders to remove the Cherokee from their land, and Andrew Jackson's State of the Union Address. These were all primary sources, meaning they were all original historical documents that were not altered. We also read a nonfiction article on the concept of Manifest Destiny, which was a 19--century American belief that the expansion of the US was inevitable and justified. I felt I set up a context full of critical thinking opportunities. My students and I had some great discussion, but my questions on the assessment did not draw out the deeper connection and understanding I was looking for. Among the questions, I asked my students, "Does the idea of Manifest Destiny exist today and if so, how?" Sadly as I examined their exit slips, I realized our discussion and my questioning were not effective. Only a few students had deep answers that stemmed from our conversations and were able to connect what we learned about to current events and issues where an indigenous population was being exploited by a conquering people. My questioning did not work the way I hoped. This pushed me to want to be far more intentional with my questions and discussion choices I made.

I had a great opportunity to teach at the summer school, a learning experience for high-performance learners in a Midwestern state, where students learned from community experts, using real-life, hands-on exploration in many subject areas. One component of this program was their "Ask the Expert" daily routine. Students were required to not only present on a topic they knew a lot about, but field and ask questions of their peers everyday. I believed it was a brilliant way to encourage students to think critically and wonder. I felt this strategy could build the minds of all learners. Postman (1999) stated,

[A]ll the knowledge we have is a result of our asking questions; indeed... question-asking is the most significant intellectual tool human beings have. It is not curious, then, that the most significant intellectual skill available to human beings is not taught in school? (p.171)

This further pressed me to figure out how to ask and formulate higher-order thinking questions and how I could get my students to start asking questions of their own.

I was very blessed in my teaching career to work in a progressive district with some collaborative, caring teachers. I was encouraged and supported by my principal and superintendent, which not every teacher can say. I had a lot of instrumental leadership opportunities that molded me as a teacher and a professional. For instance, I was on the district's Social Studies Curriculum Review Committee, Building Instructional Leadership Team (BILT), and Positive Behavior Intervention and Supports team (PBIS). I enjoyed being a part of our school's educational decisions. We based our decisions on educational research and best teacher practices. For example, we decided how to set up our instructional model, how students would receive intervention help, which teacher resources were needed with which grade level, and what professional development our teachers needed to continue growing. I created the phrase, "AYP is VIP". AYP stood for Adequate Yearly Progress and was a measurement used by the federal government to determine how well schools and student subgroups performed academically on standardized tests. We were receiving so much money to send teachers to professional development workshops. I loved it.

In the summer of 2012, I chose to take a continuing education class through Hamline, because I recognized I needed to know how to teach students who were above

grade level as they had already met proficiency on grade level standards. I had recently taken on teaching the above grade level reading class and needed the skills and tools to really challenge accelerated learners. As she led the class discussions and learning activities, my professor really impressed me with her ability to monitor the whole class's understanding and adjust and push us deeper into the topics we were learning about. It almost seemed like she was using a metacognitive level of thought, where she was able to reflect mid teaching, speaking, questioning, and leading of our discussions. For my final project I chose to apply the techniques we learned to help guide above grade level students using differentiation, divergent thinking, problem-based thinking, and reflect on how I was able to, during the lesson, gauge the level of understanding in the room and reflect and adjust my teaching. I believe this ability to guide a classroom discussion and make modifications to your questions and responses to students can have a profound effect on how deep a discussion can get, leading to greater student understanding.

During my Hamline graduate program, I took a class on formative assessments. Formative assessments are formal or informal ways teachers to assess how much students understood during the learning process in order to modify instruction and learning activities to improve student achievement. The class really made me think about how I was assessing my students and the format and types of questions I was asking. I was then fortuitously asked to help write my district's literacy and math benchmark tests. I was honored to help lead the charge into the realm of formative assessment with my fellow teachers. We began at a time when formative assessment was a fairly new concept in our district and like usual, things were learned by muddling

our way through. I was very excited to be on both committees, working with my colleagues and applying what I learned.

We called these tests “benchmarks” and they would ask three questions per standard. On two different benchmark tests both assessing main idea, students would answer correctly on the fall test and show mastery, but incorrectly on the winter test, which meant we needed more work on main idea. We never discussed what made a good question, versus a bad one, or how rigorous the questions were. We did not know how to write distracter answer choices that showed if a student had any misconceptions. A distracter is a possible answer that made sense to a child if they solved the problem partially or misread the question. We needed questions which produced the kind of responses and evidence we needed to prove a student was indeed proficient, meaning a student had mastered that particular skill. My excitement quickly turned to worry and finally disappointment. What could have been thrilling research-based formative assessment work had morphed into long summative tests taking students three to four days of lost instructional time to complete. By having only three questions per skill, it is hard to tell if a student mastered it. If the benchmark tests were formative short quizzes with more than three indicators, it would have informed teachers’ instruction and allowed them to adjust to the students’ needs and errors. My warnings were in vain. We lived in a time where students were tested often. I was disheartened, because I believed these benchmark tests were not going to be very effective in changing teachers’ instruction and ultimately how much a student learned.

Despite the fact the District Benchmark Tests started out as not ideal, my fifth grade team and I have used them to have good discussions about where our students are

and what we can do differently in our instruction to help them make more growth. Over the last two years we have used a different model of discussing student data as a team and how it correlates to our instructional practices. This is called Professional Learning Communities or PLCs. According to Hord, Bradley, and Roy (2013), a PLC is a group of teachers who gather regularly to discuss multiple pieces of student data to analyze the connection between student learning, instructional strategies, and collegial learning. Within our PLC we engage in a cycle of looking at a particular standard or skill students need to learn, discussing strategies and best practices, resources, how we will assess students, and what possible misconceptions students will have. According to Hunter (2015), this cycle is called “Plan, Do, Study, Act” or PDSA or the Deming Cycle and was originally developed by Deming in 1951 as a way to help continuously improve a product or process. As educators, we are constantly engaged in critical thinking, but we need to shift that to the classroom and begin to teach our students how to think critically.

Along with summative assessments and good team discussions, I used my own formative assessments to inform my instruction along with other in-class observations and student work, giving me a better sense of where my students were with new concepts, so I could give extra help to those who needed it. Yet, I was still left wondering if my formative assessments were any good and more importantly, if I was challenging my students enough. Even during class discussions I asked questions, trying to lead my students to a deeper understanding of topics and a more critical mind, hoping I was guiding them well. I need to know I am asking quality questions of my students and creating an atmosphere of deeper critical thinking and wondering. This led me to my

action research question: *Can I increase fifth graders' reading comprehension through the use of higher-order thinking questions and critical thinking?*

Conclusion

I have a growth mindset for myself and my students, and I truly believe I can grow as a teacher and effect my students' achievement. My burning question will take me on a journey toward professional growth and understanding, which will benefit both my students and me. I aim to create a culture of wonder. My burning question is *how can I increase fifth graders' reading comprehension through the use of higher-order thinking questions and critical thinking skills.*

In the next chapter, I will review and synthesize questioning types, discussion strategies, and higher-order thinking. By working on and implementing higher-order thinking questions I hope to increase my students' understanding of texts and their ability to critically think and inquire.

CHAPTER 2

Literature Review

Introduction

The need for students to discuss and wonder is important to their understanding of the world around them. Our country needs reflective, innovative, critical thinkers. According to Walsh and Sattes (2005), teachers asked a lot of questions, sometimes two to three questions per minute, giving students only 20 to 30 seconds to answer them. They found questions and answers at that speed usually only elicited the lowest cognitive level – like recall or remember. Walsh and Sattes (2005) also stated this typical state of classroom discussion, rapid call and response, does not draw out the type of thinking students needed to be successful in school and beyond.

I reflected on my need to improve, understand, and use purposefully, carefully planned questions. The literature review will reveal the taxonomy of thinking, how to develop quality questions, the delivery of questions and wait time. It will also examine how to foster higher-order thinking including meta-cognitive thinking. Finally, the literature review will cover how to assess for quality questions and responses, as well as how the research fits into the context of reading comprehension strategies. Researching those topics will help determine *if the use of higher-order questions and critical thinking skills increase fifth graders' reading comprehension*. This literature review helped develop my action research plan and tools needed to use with my students.

Taxonomies of Thinking

Bloom (1956), identified and leveled thinking, in order of difficulty, into six categories: knowledge, comprehension, application, analysis, synthesis, and evaluation. Anderson, Krathwohl, and Bloom (2001) created a two dimensional categorization of thinking, reflecting the type of knowledge and the cognitive process of educational objectives. In their updated taxonomy, Anderson et al. (2001) stated there are four types of knowledge: factual, conceptual, procedural, and meta-cognitive. They believed actual knowledge refers to basic information students must know about a topic, conceptual knowledge is larger more inter-relational information like categories, principles, generalizations, theories, or structures, and procedural knowledge pertains to how to do something, methods, algorithms, skills, and techniques. According to Anderson et al. (2001), meta-cognitive knowledge is the knowledge of one's own thinking and an awareness of cognitive tasks.

Anderson et al. (2001) stated the six categories of cognitive processes included: remember, understand, apply, analyze, evaluate, and create. Within these six categories were 19 subcategories in the form of verbs. Anderson et al. (2001) warned educators to be sure questions were indeed at the level of thinking they intended them. For example, they stated questions could fall back to the remember level of thinking if the tasks or examples used were identical to those used during instruction. They showed if the level of thinking was intended to connect and use new knowledge, such as the understand level or above, then the questions must contain new examples or situations, so students could not simply rely on memory. Anderson et al. (2001) also defined the six categories of cognitive processes, only one – remember - was considered a retention level, meaning

it only required thinkers to access their memory to find the information. They claimed the other five cognitive levels required the transfer of information, and higher-order thinking occurred at the top three levels of Bloom's Taxonomy: analyze, evaluate, and create.

Marzano (1993) found questions were either recitation or construction. He argued when students only needed to retrieve information they had already learned they were being asked recitation questions, but when questions required students to create new knowledge it was considered a construction question. Gallagher and Aschner's (1961) taxonomy (as cited in Walsh & Sattes, 2005) classified thinking into recall, convergent, and divergent thinking. The recall category was similar to Marzano's (1993) recitation label or Anderson's et al. (2001) remember level. Walsh and Sattes (2005), stated during convergent thinking/questioning there was only one correct answer students were aiming for, whereas divergent questioning allowed for many possible responses.

Walsh and Sattes's (2005) taxonomy coded teachers' questions into three categories: recall, use, and create. Their recall category required low level thinking, while questions using understand, apply, and analyze were considered higher-order thinking. When questions required a person to create knowledge it could be connected to Bloom's (1956) evaluate and create levels.

Another taxonomy was created by Morgan and Saxton (2006). They classified questions by their function including: Category A – questions that elicited information, Category B – questions that shaped understanding, and Category C – questions that pressed for reflection. When looking at Morgan and Saxton's (2006) taxonomy, it can be tied to reading instruction by thinking of the questions as what was "on the line" or right

there in the text, “between the lines” or what can be inferred, and “beyond the lines” or looking outside of the text.

What do taxonomies of thought mean to students? Walsh and Sattes (2005) emphasized teaching the “language of thinking” to all students through structured learning opportunities taking students through the ordered cognitive processes. They also suggested posting a visual of the levels of thinking to help teachers and students talk about thinking and questioning and to be more aware of their thinking or metacognition. According to Morgan and Saxton (2006), statements could be powerful learning tools to generate an exploration of ideas as an alternative to asking a question. Walsh and Sattes (2005) asserted it was most helpful for teachers to know the different types of taxonomies and choose the one that worked best for them. Rothstein and Santana (2011) stated students could be powerful allies in creating a classroom flush with higher-levels of thinking.

Wineburg and Schneider (2010) argued Bloom’s taxonomy pyramid could be inverted to open up new questions and higher levels of thinking. They claimed if students started with a problem, evaluated it, analyzed it, and created possible solutions, which are all higher order thinking skills, then the students could create new understandings and new knowledge at a deeper level than they had before. Morgan and Saxton (2006) also thought Bloom’s (1956) taxonomy was not intended to be used in order from simple to complex. In fact, they asserted when teaching a lesson, starting with a higher-order thinking question tended to elicit much more interest from students. Walsh and Sattes (2005) included many different taxonomies and stated they were meant

to help teachers see and understand the different levels of thinking, so they could reach their students through careful planning of quality questions.

Developing Quality Questions

How do teachers develop quality questions that will increase fifth graders' higher-order thinking skills and reading comprehension? Susskind's (1979) research (as cited by Walsh and Sattes, 2005) indicated teachers asked too many questions and did not give enough time for deep thinking to occur, and advocated for creating a few carefully thought out questions.

Using the backward design planning methods of McTighe and Wiggins (2004), a teacher had a blueprint aligned with the desired result. They recommended teachers plan lessons by beginning with the end goal in mind: the objective, big idea, and the essential questions they want students to be able to answer. Walsh and Sattes (2005) suggested using the "Q-Card", which provided: sentence stems to help a teacher start questions, expected student responses, and ways to prompt students when their responses were not complete or correct. In their work, Walsh and Sattes (2005) found it appropriate to use the six cognitive levels of thinking when creating questions, but it does not have to go in cognitive order. They discovered developing different levels of questions helped engage all students by scaffolding.

According to Walsh and Sattes (2005) students' interests, relevancy to students' lives, and the appropriate level of challenge are just a few factors to keep in mind. To help with student engagement they also recommended beginning a unit or lesson with a hook question. They observed these types of questions grab student's attention by

speculating and asking, “What if...?”, or “Do we have the right to...?” and were usually a higher-order thinking question that got students wondering and participating.

Morgan and Saxton (2006) advised teachers to determine the *function* of questions, which could help to ensure students stretch their higher order thinking abilities. For example, they stated the function could be: to discover the personal background knowledge students bring to a lesson, to give opportunities to see topics from a variety of viewpoints, to look at possible results of actions through conjecture, to think creatively about facts and break from traditional logic, to develop attitudes and determine biases, and to press for clarity when emotion clouds judgment. Walsh and Sattes (2005) suggested teachers reflect and determine the purpose of a question. They asserted a teacher should then analyze the level of thinking required for students to answer the question.

Discussion Techniques

When thinking of the impact a teacher’s behaviors and beliefs had on students, Walsh and Sattes (2005) discussed the following:

If questions are the vehicles for thought, then the questioning process determines who will go along for the ride. Teacher questioning behaviors affect which students learn how much. For example, teachers tend to call on high achievers much more frequently than low achievers, which provide these academically able students with an additional edge. A usual result of this practice is that, over their years of schooling, low achievers become accustomed to low expectations. They tune out and turn off. (p.9)

It is important to have a level of awareness of how a teacher is discussing and responding to students in order to have the greatest impact on their learning. Rowe (1986) researched the idea of wait time. She found the richness of student's thinking and responses increased, the use of evidence increased, and more students were ready to respond when teachers used wait time. Rowe (1986) observed teachers who waited three to five seconds had higher levels of student thought and more instances of student-generated questions. She found there were two times during the question and response where waiting and silence were important. She also claimed wait time 1 occurred after a teacher posed a question and wait time 2 was equally important and occurred after a student responded to the question. Rowe (1986) argued students needed time to think or rethink while they were speaking and making meaning. Her research showed students in this type of setting hypothesized and speculated more, increased student to student responses, and increased student confidence and achievement. Rowe (1986) also suggested teachers overtly practiced wait time and posted the steps of wait time, which helped students know what to be thinking about during silent time.

Morgan and Saxton (2006) found by paying attention and listening to student responses, typical disengaging, question and answer type classrooms can be transformed into respectful meaning-making environments. They maintained a teacher who paid attention to students' responses and used the responses could take the discourse and thinking of the classroom to a deeper level. Morgan and Saxton (2006) recommended some techniques including: elevating the language of the classroom by modeling new vocabulary, giving students' answers weight and value, taking a student's response and

universalizing it, and giving students opportunities to rethink, restate, or change their minds.

Carlsen (1991) analyzed many studies on questioning in the classroom from a sociolinguistic standpoint. Sociolinguistics is the study of language and how it serves and shapes humans socially. One interesting finding discovered was teachers sometimes inhibited student discussion by trying to control too much of it. Some of his research showed the most active student participation came from classrooms where the teacher's questions were interpersonal, the teacher did not verbally evaluate the responses of students, and the teacher gave over control of speaking turns.

Barell (2003) observed teacher responses and the messages those responses sent to students. When a student gave a wrong answer, he recommended teachers probe students' thinking by asking them to explain their thinking. He found this helped the student find the faulty parts in their logic on their own and helped the teacher get to the root of the misconception and fix it.

Critical Thinking

Ennis (1993) stated critical thinking involved deciding what to do or believe based on reasoning and reflection. Ennis (1993) also claimed to guide and assess critical thinking a person must be able to do most of the following:

1. Judge the credibility of sources.
2. Identify conclusions, reasons, and assumptions.
3. Judge the quality of an argument, including the acceptability of its reasons, assumptions, and evidence.
4. Develop and defend a position on an issue.

5. Ask appropriate clarifying questions.
6. Plan experiments and judge experimental designs.
7. Define terms in a way appropriate for the context.
8. Be open-minded.
9. Try to be well informed.
10. Draw conclusions when warranted, but with caution. (p.180)

Elder and Paul (2008) proposed students must be able to deconstruct and understand their thought processes in order to think critically.

Nosich (2009) stated the process of critical thinking involved evaluation, compare and contrast, application, decision making, action, and living mindfully. Meyers (1986) suggested teachers help students learn to think critically by visualizing the thinking process and teaching it explicitly. Udall and High (1989) observed when students were explicitly taught critical thinking strategies they were able to verbalize what the teacher wanted them to think and reported trying those thinking strategies. In a different study, Riesemy (1991) found students tutored in critical thinking applied their learning effectively when compared to students who did not receive tutoring.

Teaching Critical Thinking

Commeyras (1993) recommended what she called a “Dialogical-Thinking Reading Lesson” when teaching critical thinking within the context of reading. Her lessons required students to: go back to the text to clarify details, think about multiple interpretations, find evidence to support the interpretations, and evaluate competing interpretations. As students discussed, Commeyras (1993) had them argue for or against

each point of view, belief, or conclusion. Commeyras (1993) stated students also needed to evaluate their thinking and reasoning skills, not just the teacher.

According to Smith (1990), teachers should: assist students in recognizing their biases, create and pose open-ended questions, help students create criteria for evaluation, and have students support their opinions with logical reasoning and sources. Hynd (1999) advocated for the use of multiple texts when teaching critical thinking. Through multiple texts, she stated students were more prone to question, find discrepancies in different accounts, see different perspectives within issues, evaluate assumptions, and look for agreement across sources before making a judgment.

Metacognition

According to Kuhn and Dean (2004), metacognition was an awareness of one's own thinking and thought processes. Pintrich (2002) divided metacognitive knowledge into the three different types: strategic knowledge, knowledge of cognitive tasks, and self-knowledge. He asserted when a student knew their own strengths and weaknesses accurately, they could monitor and adjust as needed for different tasks, tests, and studying activities. Pintrich (2002) thought metacognitive knowledge should be taught explicitly in the K-12 settings by embedding it into the subject areas. He suggested modeling strategies, explaining them, and talking aloud to show teachers' thinking and why they are using a particular strategy.

Protheroe and Clarke (2008) agreed metacognitive skills can and should be taught to students in what's called "learning strategy instruction". They suggested using three components when teaching metacognitive thinking: what the strategy is, how to use it, and when and where it is best used. They also stated the importance of putting strategy

instruction into already familiar content, so struggling students were not overwhelmed and the lesson was focused on one strategy instead of multiple goals. Kiewra (2002) believed teachers should start by describing and modeling the strategy, and then tell students why the strategy works, so students buy into it.

McGregor stated, “Taking time to explore metacognition sets a foundation on which to build. In making kids aware of how they think about their own thinking, I open a channel through which purposeful conversation can flow” (2007, p.11). According to Fisher and Frey (2012), during close reading, students critically analyzed complex text, sometimes through repeated readings to gain a deeper understanding. They stated the key features of close reading were the use of short passages, complex text, preteaching, repeated readings with a purpose or leading question, text-dependent questions, and annotation. They found the annotation component of close reading was evidence of thinking that teachers and students can later analyze. They observed close reading helped students activate their prior knowledge independently, assimilated new information, slowing down to pay closer attention, and inferred for different purposes.

Bransford’s (2000) National Research Council Report argued metacognition was a significant factor in learning, helped students transfer knowledge, and should be deliberately taught. It also noted when metacognitive abilities were limited students had an inadequate understanding of content and did not attempt to learn from new information. The report implicated teachers should inquire into students’ thinking, build from where they are at, teach subjects in depth, and integrate metacognitive skills into the curriculum. According to a study by Loizidou and Koutselini (2007), teaching students about metacognition and having them participate in monitoring and reflecting

on their metacognition after each lesson, led to more accurate and improved academic performance.

Ritchhart, Church, and Morrison (2001) argued when you can see students' thinking it is evidence of their understanding and their misconceptions. They stated teachers needed planned activities and opportunities that take students' thinking to the next level and making thinking visible is an essential component. They suggested asking facilitating questions requiring students to back up their thinking. They also found documenting students thoughts by capturing moments using a variety of media helped teachers not only facilitate, observe, and listen, but also advance learning. They suggested documenting students' thoughts allowed students and teachers to see the thinking strategies being used and reflect on the thinking.

Reading Strategies

Why is reading comprehension so difficult? Reading is a complex process.

Willingham (2009) explained the following:

Reading comprehension depends on combining the ideas in a passage, not just comprehending each idea on its own. And writing contains gaps – lots of gaps – from which the writer omits information that is necessary to understand the logical flow of ideas. Writers assume that the reader has the knowledge to fill the gaps. (p.23)

Lucy Calkins (2001) concurred reading comprehension went deeper when students read like they were writers, which helped them speculate the author's intentions, craft, and clues.

Keene and Zimmermann (2007) discussed how good readers monitor their thinking and made adjustments and revisions, which required readers to be metacognitive. They found questioning was key to being human and it is how people make sense of the world and fix confusion. They explained readers must be able to do many things such as, determine importance, analyze unknown words to determine meaning, and synthesize meaning using inference. Harvey and Goudvis (2007) concurred questioning, determining importance, and synthesizing by merging new information with background knowledge takes readers to deeper levels of thinking. In the area of fiction, Gallagher (2004) asserted students needed a first and second draft reading to deepen understanding with a focus for the reader. He also suggested metaphors, reflection, and collaboration bring students deeper comprehension.

When it comes to vocabulary instruction, Rupley, Logan, and Nichols (1998) recommended multiple exposures and opportunities for students to learn and use new words. They found having students create analogies, different language features, mental pictures, visuals, and movement helped students understand new vocabulary words. Gallagher (2004) suggested having students do web searches, anticipation guides, theme spotlights, and focus poems to help them gain the background knowledge necessary to comprehend the text at a deeper level.

Guided Reading

According to Fountas and Pinnell (2001), the guided reading teaching approach helped individual students learn how to read challenging texts, while building comprehension and fluency. They stated it was a small-group setting where the teacher selected and introduced texts, guided and engaged students in discussions, and made

important points after the reading. They also mentioned a teacher can extend the learning through writing activities, text analysis, and word work. They maintained the purpose of guided reading was to meet the instructional needs of all students by helping them problem solve difficulties while engaging in the complexities of reading.

Serravallo (2010) defined guided reading as a small group of students who practice instructional level texts chosen by their teacher. The teacher uses explicit instruction and support to introduce, read, coach, and discuss the text with students. She discussed the use of book clubs in the small groups. Richardson (2009) stated the purpose of guided reading was to have students practice reading strategies with teacher support.

Fountas and Pinnell (2001) suggested building guided reading lessons by selecting and introducing the text and having the students read the text silently. They then recommended discussing and revisiting the text to talk with students about the skill or goal of the lesson, such as synthesizing information, making connections or inferences, or analyzing character development. The final component Fountas and Pinnell (2001) stated was doing a quick mini-lesson on the reading strategies helped them solve problems while reading and analyzing words.

During the small group guided reading session, Fountas and Pinnell (2001) recommended having the rest of the class engaged in self-selected reading, writing in reader's notebooks, or completing tasks aligned to the guided reading skills learned so far.

Student Generated Questions

In a study by Ayaduray and Jacobs (1997), students engaged in ten weeks of instruction focused on higher-order thinking questioning. They found students were able to ask more complex questions and elaborate more in their responses. They noted during instruction the students were shown how asking higher-order thinking questions and extending responses benefited them. Barell (2003) observed good questions helped people think and create a genuine desire to know more. He recommended teachers model their own personal inquiries, teach students the different levels of thinking and questioning, and start lessons with complex, universal problems to solve.

Harvey (1998) concurred with Barell's (2003) assertion teachers should model how great learners ask questions. Harvey suggested teachers hold classroom discussions about current events and find places in newspapers, magazines, and books where questions were asked. She also emphasized teachers read aloud and then pause to think aloud their questions, code the text with post-it notes to keep track of questions, and have students record their burning questions.

In their book Rothstein and Santana (2011), found using the "Question Formulation Technique" dramatically helped students learn how to ask their own questions, and gave them the opportunity to engage in higher-order thinking. Their technique had six components:

- A focus question used by the teacher to help the students get started
- A process where students produced questions
- A closed- and open-ended question activity, discussions, and analysis
- A selection of priority questions
- Creating a plan of next steps for use of the priority questions

- Reflecting on what students learned and how they will use it

After using the Question Formulation Technique, Rothstein and Santana (2011) found students increased comprehension and learning, gained confidence, and valued asking questions more. Their findings also indicated more students participated in the learning.

Gallagher (2004) recommended ten strategies to support higher-level thinking in small group settings like a guided reading group. One strategy he mentioned was called ‘Silent Exchange’, where students wrote an open-ended question on the top of their paper and then passed it around, giving the other students two minutes each to silently respond to the question on paper. Once the paper went around to everyone, the owner of the paper read the responses and discussion began.

Morgan and Saxton (2006) suggested teachers overtly model questions by using think alouds, acknowledging great questions students come up with, analyzing which questions really got the conversation going, and encourage students to ask questions.

Harvey (2007) defined a think aloud as process of making a person’s thinking public by saying out loud how they constructed meaning. According to Walsh and Sattes (2005), students need training and practice at questioning. They recommended teaching students Bloom’s et al. (1986) Taxonomy table and providing students with questioning stems to help formulate higher-order thinking questions. They also found reciprocal teaching and pair problem sharing was another strategy to use with students. They explained during the reciprocal teaching strategy the teacher gave the students a problem. They further stated one student then thought out loud to solve the problem, while their partner listened and asked questions to better understand the first student’s thinking. They also suggested modeling higher-order thinking questions, providing cues and prompts, and allowing for

students to practice creating questions. They went on to emphasize teachers should provide feedback and criteria for good questions to help promote quality student formulated questions.

Assessing Quality of Questions

What makes a question good? According to Morgan & Saxton (2006), high quality questions demonstrated a genuine curiosity and inner logic related to the teacher's goal and students' experiences. They explained the question should be worded in a clear way, which evoked surprise and should challenge one's current thinking and encourage students to reflect. Barell (2003) stated,

'Good Questions' are important because we have a strong desire to know. They are also good because they engage our minds in complex processes of analysis – posing problems and resolving them, uncovering unstated assumptions, and searching for evidence that will lead us to logical, reasonable conclusions. (p. 80)

Walsh and Sattes (2005) found quality questions had a direct purpose tied to the objective, which challenged the student to think and had a clear function in the lesson.

Wiggins and McTighe (1998) created a framework to help make the content and questions clear. The innermost tier was the enduring understanding students must get and it is the aim of the lesson. Outside of that tier was what is important for students to know and do and the outermost tier was what students should be familiar with. They stated the cognitive level should be clear and modeled by the teacher and include words that cued students as to how they should respond. They also recommended teachers consider their questions from the student perspective. When creating quality questions a

teacher should use appropriate vocabulary, precise words, a clear and simple structure, and use the fewest words possible (Walsh & Sattes, 2005).

Assessing Higher-Order Thinking

Once a teacher knows the quality of their questions, how will they know the students are using higher-order, critical thinking skills? In Brookhart's book (2010), she suggested the teacher assume the role of the student and ask themselves, 'If I were the student, what thinking would I have to do in order to answer the question?' She found when assessing students higher-order thinking a teacher needed to use novel materials and ideas, build new problems to solve, and create opportunities for students to think critically, otherwise the assessment would be a lower-level task. Brookhart (2010) also recommended paying close attention to cognitive complexity, easy to difficult, versus the level of thinking, remembering to creating, required in a teacher's assessment. After assessments are designed, criteria should be used to judge students' higher-order thinking skills. Common criteria for rubrics should include: appropriateness of evidence, soundness of reasoning, and clarity of explanation (Brookhart, 2010). Buckner (2009) recommended,

In the reader's notebook I had found the place for them to document their thinking and growth, to support their thinking for group discussions, and to explore their own ideas about a text without each and every entry being a judgment of their reading progress. (p. 6)

She provided practical lessons teachers used to discover: what students knew to be true about reading, what kept students reading, the history of a reader, what students thought

about while reading, how deeply students used the reading strategies, how students quoted text, reading like a writer, and how to assess the reader's notebooks.

Ennis (1993) promoted using performance assessments, essays, open-ended questioning, and multiple-choice with written justification to assess critical thinking skills. He gave the example of using an argumentative text with built in errors, where students evaluated the thinking of each paragraph and defended their judgments.

Conclusion

According to the literature reviewed in this chapter questioning, critical thinking, metacognition, and discussion techniques built student comprehension and increased students' levels of thought. The following researchers and their findings were crucial to my action research project:

- Anderson et al. (2001) described the 6 levels of cognitive thought and provided useful verbs to help teachers write objectives and create higher order questions.
- Walsh and Sattes (2005) provided teachers with criteria and rubrics for self-evaluation of their quality questions, formats for different discussion techniques, and ways to interact and give feedback to students effectively.
- Morgan and Saxton (2006) asserted quality questioning can deepen the thought level when teachers turn questions into statements and when they invert Bloom et al. (2001) triangle to build interest. They also found it vital for teachers to analyze student responses and determine the function of the questions they develop in order to create rich, meaningful discussions.

- Fountas and Pinnell (2001) stated guided reading provided a supported, small group setting for students to discuss and problem solve through challenging texts to build comprehension and develop their ideas about the text.
- Brookhart (2010) developed criteria and rubrics for teachers to rate students' higher order thinking skills, such as analysis, evaluation, creation, and logic and reasoning.

Armed with the knowledge of different taxonomies of thought and the ability to create and evaluate quality questions, teachers can provide valuable learning opportunities for students to increase their understanding and reading comprehension. Utilizing discussion techniques like wait time and teacher feedback helped students elevate the level of conversation in the classroom. Teaching students to think critically and metacognitively helped students become more aware of their own thinking and use evidence and logic to back up their ideas and comprehension of texts. Guided reading is a small group format that provides teacher support to students to increase their comprehension of complex texts. Knowing how to evaluate for quality questions in their own practice and evaluate students' critical thinking skills is key to the beginning and ending of the discussion process.

In chapter three I will explain the methodology, the subjects used, and the tools used to develop critical thinking and questioning lessons, the quality questions developed, and discussion techniques used for the action research. I will also state the way in which teacher and student data will be collected and how it will be analyzed as evidence to determine *can I increase fifth graders' reading comprehension through the use of critical thinking and higher-order questioning?*

CHAPTER 3

Methods

The purpose of this study was to examine the effects of critical thinking and questioning on students' reading abilities. I hoped to discover *how I could increase fifth graders' reading comprehension through the use of critical thinking and higher-level questioning*. The literature I reviewed indicated the importance of teachers' knowledge and ability to ask quality questions, eliciting higher order thinking from students through the use of different discussion techniques. The literature also showed the value of teaching critical thinking and metacognition to students. Teachers must also be well versed in assessing their questioning and their students' higher order thinking skills. These strategies and ideas were implemented in my classroom through a guided reading format to build students' reading comprehension and increase their level of thinking.

After reviewing the literature, I concluded by researching and implementing quality questioning and critical thinking lessons in my reading classroom, I could have an impact on students' thinking in reading comprehension. This chapter is separated into seven sections: Setting and Participants, Action Research Design, Lesson Plans, Questioning, Data Collection, Data Analysis, and Conclusion.

Setting and Participants

I teach at a large suburban public elementary school in a Midwestern state, with students in first through fifth grade. We are a Title I school with 705 students enrolled,

44.1% of which received free and reduced lunch. Our school is diverse in its population with 60% White, 15% Black, 13% Hispanic, 11% Asian, and 1% Native American. Special education students made up 7% of the population and English Language Learners made up 18.5%.

The study took place in my my ninth year teaching. It was my fifth year teaching fifth grade students. I taught fourth grade prior to that. I worked with a wide range of fifth grade students. I had 32 homeroom students. These homeroom students were with me at the beginning and end of the day. They were a heterogeneous group of students, meaning they have different academic levels. Students' abilities ranged from above grade level, on grade level, and below grade level in their learning. During much of our school day students switched class and moved to their reading and math teachers. These classes were flexible ability grouped. My reading and math students were placed in a class with other students who had similar abilities and levels in that subject area as measured by standardized tests, in class performance and formative assessments, and teacher recommendation. I worked with nine math students in a below grade level group as measured by state standards. These mathematicians were approximately two grade levels below the fifth grade level, having scored between a 191-207 on the NWEA Math MAP test, which meant their abilities ranged from the 12th percentile to the 40th percentile on a nationally-normed test. They also scored between the 520-530 range on the state standardized test. On grade level is a score of 550 or higher.

In reading I taught 33 students in an above grade level class as measured by state standards. This meant they can read and comprehend challenging books ranging from Lexile levels of 1051 to 1465. Lexile is a scale that measured the difficulty of books

based on semantic and syntactic features of the text. The readers in my class scored between a 225-248 (90th-99th percentile) on our in-district standardized test called the Measures of Academic Progress (MAP) reading survey test produced by the Northwest Evaluation Association (NWEA). The NWEA (2017) Reading MAP Test showed in previous years students read and comprehended challenging, above grade level material. I taught writing to my homeroom class. This class used mentor texts by published children's authors to help students improve their writing skills. I also taught history to all the fifth graders within their homeroom groups. I had to meet the needs of many different students and the different abilities they come to class with. History class was very reading intensive, and I tried to use literacy skills from our reading class, such as monitoring and clarifying, asking questions, visualizing, and making connections. I believed this research could benefit the other subject areas I taught, because I could ask more high-level thinking questions and engage students in critical thinking activities in different contexts.

The participants in this study were a group of homogeneous students. These students were at a higher ability range in reading, with NWEA RIT ranges from 225-249. The NWEA is a nationally-normed test. Compared to other peers across the nation, the students in my class were in the 90th to the 99th percentile of fifth graders in the US. They read and comprehended texts at the middle school level and had been recommended by their fourth grade teachers to be in a more challenging reading class. Our goal was by the end of the 2015-2016 school year, fifth graders should have a RIT score of 224 or higher to be considered on-grade level in the district. All of these students already reached this goal in fourth grade. The group consisted of 33 students: one was on a 504 plan. A 504

educational plan is a legal document allowing students with a disability who are attending elementary or secondary school to receive accommodations that help them succeed academically. I also had two students on IEPs or Individualized Education Plan. An IEP is also a legal document and plan to ensure a child with a disability has goals and needs the school must meet. Of these 33 reading students, seven were students of color. There were no English Language Learners in the class. There were 12 girls and 21 boys in the class. Students were placed in this reading class at the end of last school year based on their NWEA Reading MAP score and their current and past scores from our state standardized tests, in-district assessments, and previous teacher recommendation. When deciding which class students were a good fit in, current and past teachers met to look over the students' historical standardized test data and made a decision where to place students.

I used this action research within my reading setting where I worked with students for 90 minutes every day. The action research consisted of reading students participating in guided reading groups, while I used my questioning to engage students in higher levels of thought. The research also included students participating in lessons on what critical thinking was and how they could be more aware of their thinking using metacognition. My action research was conducted over a three month period from October 2015 to December 2015. Data containing students' responses was collected each week. Questions I used were recorded and assessed for the level of thought required. The lessons I created on critical thinking can be found in the appendices and were used with students during the research.

A Human Subject Review was conducted on September 10, 2015 prior to the beginning of this research. I assigned pseudonyms to participants for confidentiality. I obtained permission from my school district, principal, and the participants and their legal guardians prior to the study. All reading students in the class were invited to participate in the research, but only those who give permission were used in the study. 31 out of the 33 students chose to participate.

Action Research Design

I chose a qualitative approach to my research. According to Creswell (2009), qualitative research was a way of exploring and understanding people in the context of a social or human problem. He stated this type of research involved emerging questions, collecting data from the participant's setting, and analyzing and interpreting the data. The reason I chose to do qualitative research was because it allowed for more open-ended responses from students and the ability to use human subjects to tell a narrative story about what happened in the classroom. Qualitative data produced more rich and detailed discussions and it examined the human experience. I wanted to know what my students' experiences were in reading class and their critical thinking abilities, in order to become a better instructor.

Creswell (2009) stated in the qualitative approach the researcher usually used a constructivist perspective where they explored open-ended, emerging data, with the intent to find themes or patterns. My action research would examine an activity (higher-order questioning and critical thinking), process (guided reading), and individuals (responses) in depth. The researcher collected detailed information using many different data collection tools over time. Qualitative methods allowed the researcher to use open-

ended questions, interview, observational, and audio-visual data. It also involved being able to analyze text and interpret data to find themes and patterns. This was an appropriate strategy to use because I collected multiple types of data and used questions that promoted divergent responses with many possible answers versus convergent questions, which produced one single correct answer. Qualitative action research allowed me to analyze my students' responses for critical thinking and determine if teaching critical thinking skills and asking higher level questioning affected students' reading comprehension.

My research was two-fold. One part was examining my questioning and its effect on students' responses. The second part of my research was teaching students what critical thinking was and how to engage in it. Prior to working with my participants on a WWII reading unit, I created a text-dependent question bank just like I normally would for a book I was about to guide students through. I used the book *Someone Named Eva* to examine my questioning skills prior to this action research.. These were questions I pulled from and utilized with students, as I guided them through their WWII chapter book. I then created text-dependent and higher order thinking question banks for the books *Code Talker* and *Parallel Journeys*. I used the knowledge I gained from my literature review and a self-reflection rubric from Walsh and Sattes (2005) work to ensure my questions were high quality and engaged students at a high cognitive level.

When I began my action research with participants, I posed the questions to the students, and I gathered data on the level of student responses. I recorded all questions asked, the type of question according to Bloom's Taxonomy (Anderson et al, 2001), and the average student response (beginning, developing, secure) in Appendix C. In

conjunction with my questions, I collected and evaluated student responses using my district's rating system of Beginning, Developing, and Secure. The rubric for rating student responses is found in Appendix G. I purposefully created high-level questions to observe the effect they had on student responses and reading comprehension.

Based on my literature review, I taught critical thinking lessons, in order to model and practice with students how to think critically. I used a rubric to evaluate for higher-order based on Brookhart's (2010) work, which is found in Appendix F. After each lesson on critical thinking, I collected student work and evaluated the level of critical thinking present. The rubric's ratings showed students' abilities to understand, apply, analyze, evaluate, create, and use logic and reasoning. This was done to ensure I was not just asking higher-level questions, but students also knew how to respond using higher-level thinking.

I collected a baseline of teacher generated questions and student responses to those questions using the chapter book *Someone Named Eva* by Joan M. Wolf. I chose to use *Parallel Journeys* by Eleanor H. Ayer and *Code Talker* by Joseph Bruchac for my higher-order thinking questioning, because of the level of text complexity and themes present in the books. I chose to do a WWII unit for this research, because that time in history was also complex, and it invited higher-level thinking by looking at the war through multiple perspectives and lenses. White (2010) suggested using novels with conflict enticed critical thinking. Since WWII was a large worldwide conflict, the books and topics I chose to use helped during the critical thinking lessons. The data was collected during the guided reading time and independent work time within our 90 minute class periods. The question banks are listed in Appendices A and B.

Asking higher-level thinking questions was one piece of the research, but as the literature review suggested, asking good questions doesn't necessarily mean it will produce higher-level thinking in the students. Students needed instruction on what higher-level, critical thinking was. Another portion of the research design was teaching the students how to engage in critical thinking skills and metacognition. This was done in whole group lessons. Whole group instruction included the entire class participating and interacting during a lesson. According to Snyder and Snyder (2008), critical thinking was a disciplined process of intellectually and actively analyzing, conceptualizing, synthesizing, and evaluating information as a guide to belief and action. They stated this occurred through observation, experience, reflection, and reasoning. Jacobs and Paris (1987) defined metacognitive thinking as thinking about thinking or self-regulated thinking. In terms of reading, Jacobs and Paris (1987) believed metacognition helped a reader plan, monitor, and fix their own comprehension. I carefully planned out lessons engaging students in critical thinking activities. These lesson plans are listed below in this chapter and can be found in more detail in Appendix E.

Data was collected weekly from October through December 2015 and included teacher generated questions, student responses, and rubric data. A reflective journal was also kept by the researcher to note observations of my teaching, and its tangible effect on students. This data also included using exit slips. William (2011) explained exit slips are short assessments with questions requiring longer responses. These formative assessments allowed the teacher time to read through the students' responses and decide what to do next, thus informing their instruction. These data allowed me to learn from

my mistakes and adjust my teaching throughout the research period to better meet the needs of the students. As I analyzed student work I put them into piles of beginning, developing, and secure and looked for patterns, common student misconceptions, and exemplar responses to show the students. From there I put students into small groups if necessary or discussed common errors during small group time.

Preparing higher order questions helped me examine the effects of engaging students in critical thinking and questioning on their comprehension and responses. Along the way student were evaluated using critical-thinking rubrics (Appendix F) and a comprehension rubric (Appendix G) to provide evidence of the effects of critical thinking lessons and higher-order questioning on students.

Questions

Prior to the beginning of the World War II unit in reading class I prepared comprehension questions to ask students about the books we are reading and the content we are learning about (see Appendix A). These text dependent questions showed students' levels of comprehension of the texts. According to the Common Core State Standards, text dependent questions could only be answered by consulting the text. This helped students carefully analyze and present claims about the text. I then created broad, open-ended higher-level thinking questions (see Appendix B). These questions took students beyond the text and required them to investigate the world around them and their thoughts on issues and problems. For example, when discussing propaganda, I asked students to, "Find a current example of something the media did to try to change you and your views. Was it effective?"

I broke my class of 33 students into 3 guided reading groups. Each group read a different WWII chapter book, based on their guided reading levels and interest in the books and the topics they explored. I used the books: *Someone Named Eva* by Joan M. Wolf, *Code Talker* by Joseph Bruchac, and *Parallel Journeys* by Eleanor Ayers. I used text-dependent questions for all three of my guided reading groups. I created higher-order thinking questions for the books *Code Talker* and *Parallel Journeys*. I used *Someone Named Eva* questions as a baseline for the quality and type of questions because I created them prior to my action research and literature review. I wanted to see if there was a change in my practice, the types and quality of questions I asked due to my action research. I wanted to know if and how much I grew in this area.

Lesson Plans

To determine if teaching students to engage in critical thinking increased their reading comprehension, I needed to teach students what critical thinking was. Over the research period I taught six different mini-lessons. I taught critical thinking skills explicitly or intentionally teaching a skill overtly to the students. I also embedded the lessons in some content, in this case World War II, while the critical thinking aspects were taught within the lessons.

I taught a lesson on understanding the different levels of thought people can have, using Bloom's Taxonomy as a guide. The following week I taught a lesson on how to generate different types of questions using sentence starters and rubrics to help students create different leveled questions. Next, I taught students about metacognition and how to monitor their comprehension while they read. From there, I taught students what it means to analyze. Then, I taught students how to evaluate bias in news articles. We

looked at a news article on the current refugee crisis and during WWII. Finally, I taught a lesson on logic and reasoning using a debate format. After these lessons, I embedded the critical thinking skills into our guided reading lessons using the WWII chapter books.

The goal of lesson one was to give students a chance to practice asking questions and wonder. In lesson two, students learned the different levels of Bloom's taxonomy and analyzed different questions to determine the level thinking required to answer the questions. Lesson three showed students how to pay attention to the way they think, also known as metacognition. In lesson four, students analyzed WWII propaganda. For lesson five students evaluated assumptions and biases. Lesson six, students applied their logic and reasoning skills to the debate on whether the atomic bomb should or should not have been dropped to end WWII. Thorough lesson plans utilizing Wiggins and McTighe's (1998) Understanding by Design format can be found in Appendix E.

Method of Data Collection

Prior to working with the participants, I created higher-level thinking questions and self-assessed them using Walsh and Sattes (2005) Quality Question Rubric. When I began working with participants, I collected student responses to the questions I asked during guided reading sessions and independent work time. In order to show if the questions are having an effect on student reading comprehension and level of thinking, I collected and evaluated student responses weekly to check for reading comprehension and level of critical thinking throughout the research period using the rubrics in Appendices F and G. Student data collection was done using Google forms, an online survey entry program that compiles their responses electronically and put it into a

Google spreadsheet. The advantage to using Google forms was the ability afterward for the researcher to sort and analyze data for trends. I analyzed student responses for:

- the level of understanding and comprehension of the text
- the use of higher-order thinking skills
- justification and evidence-based support

In addition to collecting students' written responses to questions, I weekly videotaped a guided reading discussion and transposed the conversations afterward (see Appendix H).

The reason I chose to collect student responses both written and verbally was because some of my students could respond in more detail and with greater ability orally. I observed over my time working with these students some found the act of writing or typing an obstruction to their ability to show how much they understood. Responding orally was a more accurate picture of some of my students' thinking skills and comprehension.

As a teacher researcher I found it is also important to keep track of my lessons, how they went, what I would keep the same or change, misconceptions students had, and informal observations about myself and the effect I had on my students. To do this I kept a journal and wrote in it weekly. I used the journal in my analysis of which higher order thinking skill seemed harder or easier for students and I speculated why that might be. I found this helped me adjust my teaching accordingly and allowed me to show how I changed as an instructor over time in my questioning techniques and my ability to teach critical thinking.

These instruments of data collection allowed me to take a closer look at my role in shaping students' thinking through questioning and the impact of critical thinking

activities and questioning on students' overall reading comprehension. These qualitative data was used to inform my instruction and guided reading group discussions. I evaluated my performance by analyzing and evaluating student evidence in the areas of reading comprehension and critical thinking skills. Data was collected through the sources listed above to build justification. The goal of collecting data was to show how my questioning skills and critical thinking lessons affected students' thinking abilities and reading comprehension over the course of my research.

Data Analysis

The critical thinking lessons and guided reading discussions produced data to analyze including the students' responses and critical thinking activities. The qualitative student responses were coded into three levels: beginning, developing, and secure, to match the building's standards-based grading system. These three levels or terms were on report cards sent home to parents twice a year. They also created coherence with the feedback I gave to students and the communication I sent home regularly to families. The coding is included on the rubrics found in Appendix F and G and was based on Brookhart's (2010) work with assessing higher-order thinking skills. I looked for patterns and trends and improvements in student's level of thinking over the two months of research.

Creswell (2009) suggested following steps when analyzing data: organizing and preparing data, reading through data, coding data, finding themes and descriptions, and then interpreting and finding meaning in the data. I compiled the data in Google sheets, and made transcripts of videotaped discussions and instructor journal entries in Google documents. All data was secured and password protected. Only the researcher had

access to these data. Once I read through the teacher and student data each week, I coded student responses throughout the research to see how students were affected by the higher-level questioning and the critical thinking lessons. I looked for emerging themes from the coding and reflected on them in my instructor journal entries, making connections between what was taught and what was learned. Visuals and tables were used to help see change over time. Once student responses were evaluated using the rubrics, the data was graphed using the coding beginning, developing, and secure.

The issue of validity in qualitative research was a concern. I established validity and reliability in my research by triangulating the data. According to Creswell and Miller (2000), triangulation was a process where the researcher used multiple sources of information to form themes and conclusions. I triangulated the data using multiple participants, multiple student responses, rubrics, and journal entries. Researcher reflexivity was a procedure used to ensure qualitative research was valid. Creswell and Miller (2000) stated in this procedure the researcher disclosed their beliefs, assumptions, and biases early on in the research in order to make the readers aware of their position and the social, cultural, and historical influences that may shape the researcher's interpretation.

As a teacher researcher I believed all my students could achieve high levels of understanding in reading. I have taught the above grade level readers in fifth grade for five years, and I assumed my students worked hard in class and had the capacity for high levels of thinking. I knew some of my students preferred to give their answers orally and in doing so responded more thoroughly. Some students preferred to write or type their thoughts. Having observed and surveyed this group of students, I knew World War II

and other conflicts were of high interest to them, and I assumed this helped keep them engaged in the content. Knowing students' quality of work and work ethic throughout the school year, I acknowledged my bias. I knew there was a range of abilities in my class even though they all performed above grade level in reading. As an instructor, I needed to support those students who may need extra help and time and challenge those students who needed more difficult tasks to grow. As a researcher, I looked at the data objectively. I could not assume just because a student needed more help or had scored lower in the past they would score low during this research period. Conversely, I could not assume a student who didn't need help and had historically scored high in reading assessments would score high during the research.

I also acknowledge my personal bias in choosing WWII books. I enjoyed teaching students about history and felt strongly they need a lot of historical background knowledge to successfully approach complex texts. I used the novel *Someone Named Eva* in past years. I know the author Joan M. Wolf and she teaches at my school. Students enjoyed talking with her after they read her book. This may have influenced why I chose that book. Ms. Wolf also gave me suggestions of other great WWII novels I might read with my students. I used her as a resource because of her strong literary background.

Conclusion

In chapter three, I provided a link from the literature to my research, information about the setting and participants in my action research, and illustrated my plan to collect and analyze qualitative data. This was all designed around my research question, *how can I increase fifth graders' reading comprehension through the use of critical thinking*

and higher-order questioning. In chapter four I will discuss and analyze the results of my action research and information found.

CHAPTER 4

Results

In this chapter I will share the results of my research around, *how I can increase fifth graders' reading comprehension through the use of critical thinking and higher-order questioning*. In chapter one I explained my personal journey and connection to my research topic. In Chapter two I synthesized research-based literature on questioning, higher-order thinking, critical thinking, metacognition, and reading comprehension.

Chapter three described the participants, setting, and the qualitative methods and plan for my research, including the assessment tools used.

In the following sections, I will analyze the questions for higher order thinking levels, the online student response results, written critical thinking results, transcripts of guided reading sessions, and my observational journal entries. I will then discuss the patterns and trends that emerged from the action research. Finally, I will interpret the results of my research and describe the implications for stakeholders.

Guided Reading Groups

There were 33 students in my reading classroom. Two students opted not to join this action research project. They participated in the lessons and small groups and read the books just like their peers, but their work and scores were not used in this study. I collected data on 31 students. Of those students, 13 read the book *Code Talker*, eight read *Parallel Journeys*, and ten read *Someone Named Eva*. I chose these chapter books

for these groups based on their reading levels, student interest, and background knowledge required to comprehend the text. Fountas and Pinnell developed a rating system for children's books using letters A-Z, A being a beginning reader and Z being an 8th grade reader. Using their guided reading leveling system, I found the book *Someone Named Eva* was a level U, *Code Talker* is a level Y, and *Parallel Journeys* was also a level Y. Students in the last two groups had to tackle more complex hidden meanings and themes. The characters were more nuanced and changed significantly over time. The group reading *Code Talker* had to have a lot of background knowledge of US fought battles in WWII as well as the names and facts about weaponry, tactics, and locations. The group which read *Parallel Journeys* had to have background knowledge on Nazi Germany, Hitler Youth, and the Holocaust.

Quality of Questions

I created my discussion and online questions as I was reading the WWII chapter books in preparation for this action research project. I wanted to compare the questions I created for the *Someone Named Eva* book to the questions I prepared for the *Code Talker* and *Parallel Journeys* books to see how reading comprehension was affected by the use of critical thinking and higher-order questioning. I considered the questions created for *Someone Named Eva* as my baseline questions or my control questions. These were questions I prepared before I read the sources in the literature review for this capstone. The *Someone Named Eva* questions were questions I would usually pose to students.

The reason I chose to use *Code Talker* and *Parallel Journeys* and did not do the same with the *Someone Named Eva* book was because those books contained a lot of complex issues and required a lot more background knowledge to discuss and answer

higher-level questioning. *Someone Named Eva* was a lower level book and did not have the same depth of content. I did the same activities with all the students, but I used questions I had previously created and used with other groups of kids in years past. I read the chapter books ahead of time and created questions as I read. I wrote the questions right into my “teacher copy” of the book. As I read with the students, the questions were right next to the text. I tried to create questions requiring the students to think beyond the text, inferring things not explicitly stated, things I thought young minds wouldn’t think about independently. I reviewed the questions myself using Walsh and Sattes’ (2005) Rubric for Formulating and Assessing Quality Questions. This is a self-assessment rubric which looks at the purpose of the questions, content focus, cognitive level required, and wording/syntax of the questions.

I used the knowledge and resources I gained from doing research for my literature review for the books *Code Talker* and *Parallel Journeys* due to their difficult, multifaceted content. For example, *Code Talker* explored the issues of race, acceptance, PTSD, conflict, death, and the treatment of Native Americans by the US Government. *Parallel Journeys* delved into the issues of the holocaust, death, survival, world domination, race, and a main character who grappled with being a part of the Hitler Youth and its atrocities. After I created the questions for these two books, I analyzed what type of questions they were according to Bloom’s Taxonomy (Anderson et al., 2001) and used the rubric by Walsh and Sattes (2005) to self-reflect on the questions I created for the *Code Talker* and *Parallel Journeys* groups. I did this to ensure a high quality of questioning was used.

First, I looked for the levels of questions I asked. In my literature review, Anderson et al. (2001) stated the remember level of Bloom's Taxonomy was the only type of questions requiring low-level thinking. From there, understand, apply, analyze, evaluate, and create are all considered higher-level thinking questions. See the table below for a breakdown of the different levels of questions I asked for all three chapter books.

Table 1

Summary of Questions by Higher-Order Thinking Level

Book Title:	Remember	Understand	Apply	Analyze	Evaluate	Create
<i>Someone Named Eva</i>	3 questions	11 questions	0 questions	8 questions	2 questions	2 questions
<i>Parallel Journeys</i>	4 questions	7 questions	1 question	15 questions	9 questions	4 questions
<i>Code Talker</i>	3 questions	10 questions	2 questions	10 questions	4 questions	1 question
TOTAL:	6	28	3	33	15	7

For *Someone Named Eva*, I asked 23 out of 26 higher-level questions or 88%. Those were questions I would normally ask a group of students when guiding them through a chapter book. I was pleased to see I was creating higher-order questions prior to the research, though I relied too heavily on understand and analyze questions.. For *Parallel Journeys* I asked 35 out of 39 higher-level questions, which is 90%. Lastly, for the *Code Talker* book, I presented 28 high level questions out of 31 total, which is 90%. There was not a noticeable difference in the amount of high-level questions asked pre

and post utilizing Bloom's Taxonomy (Anderson et al. 2001) and the self-assessment (Walsh and Sattes, 2005).

I think it is important to note the different variables that may have influenced students' responses to the questions created. *Code Talker* and *Parallel Journeys* are level Y books, while *Someone Named Eva* is a level U. According to Fountas and Pinnell (2001), both levels have themes and deeper meanings, as well as character traits and feelings that are revealed through inferences. A level Y book's deeper meaning is more complex and difficult to pinpoint. Themes can be ambiguous and open to more interpretation. Characters are more nuanced and change significantly throughout the book. It is possible the higher level texts made the questions more difficult and rigorous on the first two books. It is also possible, after having done my literature review, I created more complex questions for those groups. It may be a combination of the two.

I analyzed the types of questions I asked and found I asked more types of questions than others. For example, when asking questions online I noticed the *Someone Named Eva* questions were mostly in the understand and analyze level of thinking. After conducting my literature review, my questioning abilities for the *Parallel Journeys* book and the *Code Talker* book broadly used more of the different levels of thinking. The amount of evaluating questions I used increased from 2 questions to 5 and 9 questions respectively. I only asked 1-2 more apply questions, so I concluded it was an area I still needed to work on, creating situations and questions where students can apply their new knowledge. I also struggled to come up with questions at the create level of thinking. In class, I noticed when I did ask students to create something, it took them a lot longer to complete the creation or task. In hindsight, I needed to give students more think time to

be able to create effectively. They also struggled with the quality of their creation, which implied students needed more guidance to create. If I were to do this action research again, I'd give students a rubric or checklist to help them be more thorough and creative. Preparing apply and create level questions was an area I needed to work on. It appeared I created more analyze and understand level questions.

When looking at the total of each level of question asked and responded to securely by students, I found some clearer results (see Table 2). Students overall averaged a secure response of 60% or higher on the remember, evaluate, and apply levels of questioning. This would imply remember, evaluate, and apply were questions students were stronger at responding to. Only 27% of analyze questions and 29% of create questions were answered securely. This indicated it was more difficult for students to analyze and create. The understanding level of questions were more difficult for the *Parallel Journeys* and *Code Talker* groups due to the content, guided reading level of the book, and the questions prepared. Overall students responded securely to 43% of the understand questions. However, the group reading *Someone Named Eva*, responded securely to 64% of the questions. This could indicate the knowledge I gained from my literature review influenced the more rigorous higher-level questions I created for the other two groups, the *Parallel Journeys* group and the *Code Talker* group had to not only tackle more complex texts, they also had to respond to harder, higher-level thinking questions, which may have caused their response to be given a developing or beginning rating.

Table 2

Secure Student Responses Based on Higher Order Thinking Level

Book Title:	Remember	Understand	Apply	Analyze	Evaluate	Create
<i>Someone Named Eva</i>	2 out of 3 questions	7 out of 11 questions	0 out of 0 questions	1 out of 8 questions	2 out of 2 questions	0 out of 2 questions
<i>Parallel Journeys</i>	3 out of 4 questions	3 out of 7 questions	0 out of 1 question	6 out of 15 questions	4 out of 9 questions	2 out of 4 questions
<i>Code Talker</i>	1 out of 3 questions	2 out of 10 questions	2 out of 2 questions	2 out of 10 questions	3 out of 4 questions	0 out of 1 question
Total percent of SECURE responses:	6/10 or 60%	12/28 or 43%	2/3 or 66%	9/33 or 27%	9/15 or 60%	2/7 or 29%

Next, I analyzed how each of the groups performed at the different levels of questioning. Note these questions were answered independently online (see Figure 1). I averaged student responses to look at the overall results of each level of question. Here are the results of the questions asked to the group of students who read *Someone Named Eva*:

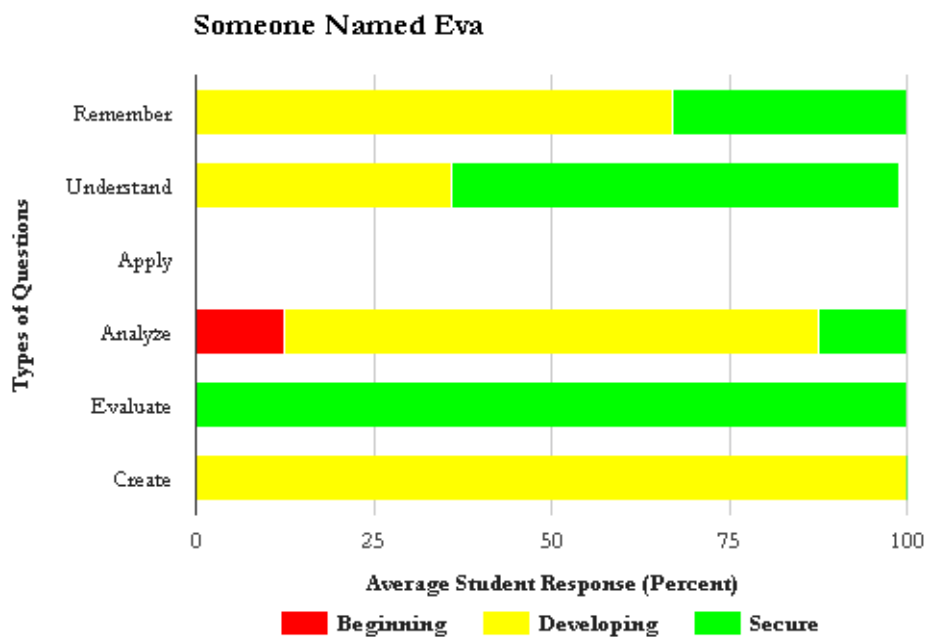


Figure 1. Average student responses to questions for the book *Someone Named Eva*, evaluated using a rubric to determine beginning, developing, and secure levels.

When I analyzed the online responses from the *Someone Named Eva* group, I found the understand and evaluate level questions elicited 64% and 100% secure responses from students. Analyzing (13% secure), remembering (33% secure), and creating (0% secure) questions produced more developing responses from students. There was no data on the apply level. Then I compared those results to the responses from the *Code Talker* group:

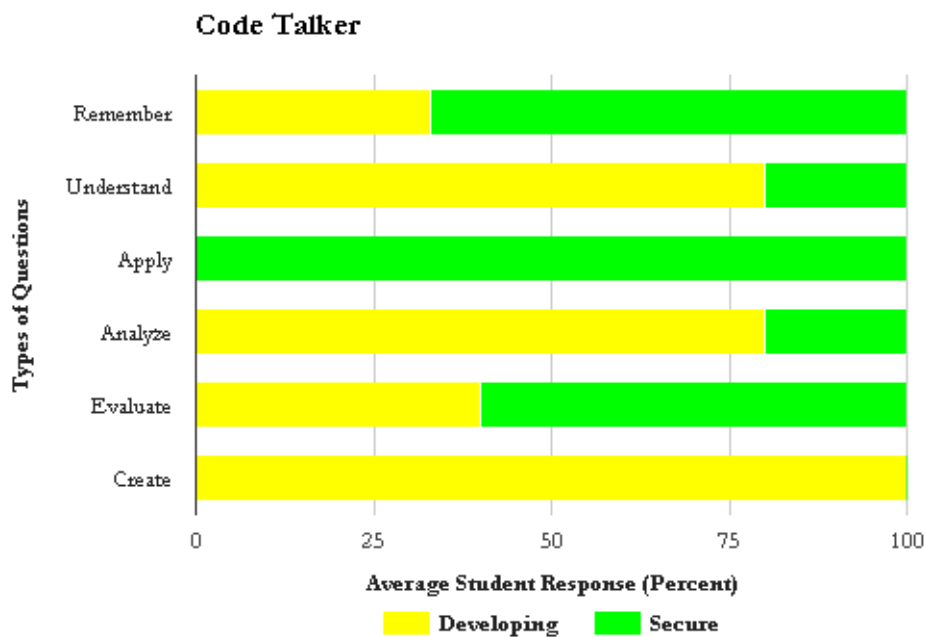


Figure 2. Average student responses to questions from the book *Code Talker*, evaluated using a rubric to determine beginning, developing, and secure levels.

The *Code Talker* group responded securely to 100% of the apply questions, 60% of the evaluate questions, and 66% of the remember questions (see Figure 2). There were however large discrepancies between secure and developing on the understand and analyze levels of questioning. They responded securely to 20% of the understand and analyze questions. This could indicate those two areas were more difficult for students, and it could also be the complexity of the text and content we were studying. I also compared these to the *Parallel Journeys* group responses:

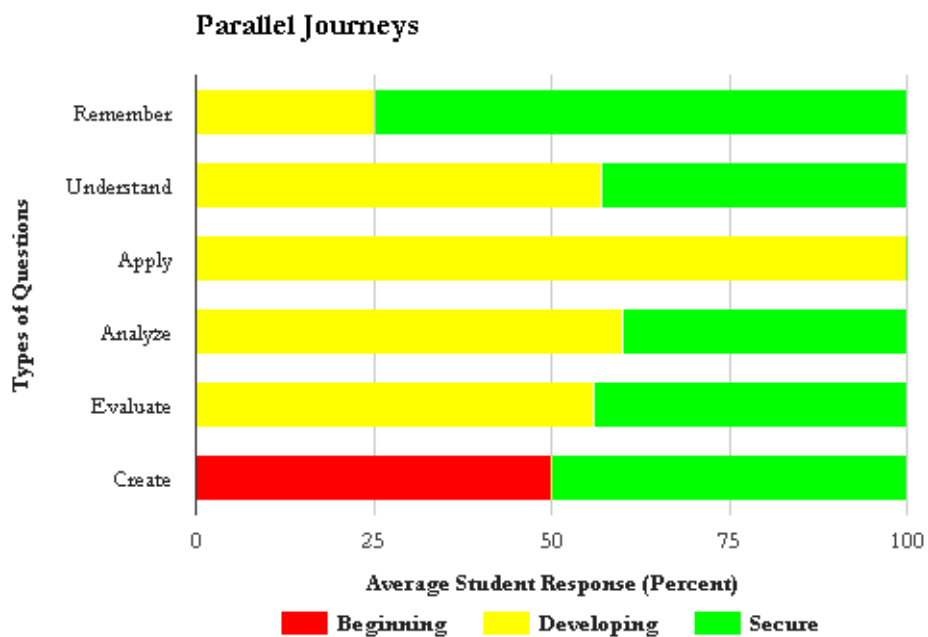


Figure 3. Average student responses to questions for the book *Parallel Journeys*, evaluated using a rubric to determine beginning, developing, and secure levels.

The *Parallel Journeys* group averaged a secure rating on 75% of the remember level questions (see Figure 3). The evaluate questions were 44% secure and the understand questions were 43% secure. There was more of a discrepancy in the analyze questions with 40% responses being secure. Create questions elicited an average of 50% secure responses. There was not enough data on the apply questions to build a conclusion.

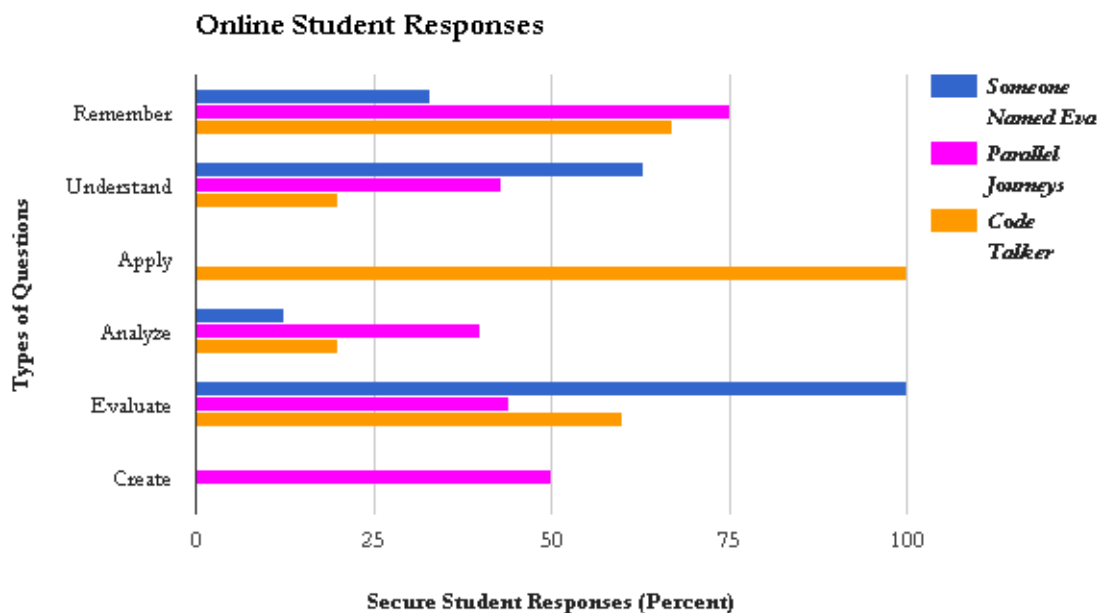


Figure 4. Average secure student responses to questions from all three books: *Someone Named Eva*, *Parallel Journeys*, and *Code Talker*, evaluated using a rubric to determine beginning, developing, and secure levels.

Overall, when comparing and contrasting the three groups' responses, I noticed all three groups struggled in the area of analyzing (see Figures 4). I found this to also be true when I gathered data from the critical thinking lesson on analyzing, which I will discuss more later in this chapter. Across the three groups, their strengths varied among the different types of questions, which made it difficult to find trends. Evaluate level questions were a strength for the *Code Talker* and *Someone Named Eva* groups with 60% and 100% secure responses respectively. Remember level questions were not higher-order thinking questions, so students should have scored well on those, which the *Code Talker* and *Parallel Journeys* groups did with 66% and 75% secure responses.

Understand questions were also not very high for the students who read *Code Talker*

(20% secure) and *Parallel Journeys* (43% secure). Students who read *Someone Named Eva* scored 63% secure on the understand level questions.

When looking at Figure 4, apply and create questions look poor with 0% secure. However, I asked an average of 1 apply question and 2.3 create questions per group, which was not enough indicators that students were truly secure in those areas. Analyzing beginning, developing, and secure responses, showed areas of strengths and areas for growth. When looking at the critical thinking activities I found it very interesting to look at individual student data I reported out to students and families, which I discuss later in this chapter.

Student Online Responses

Students responded to three to five questions online into a Google Form after they read the assigned chapters for that day. 88-90% of the questions were higher-order thinking questions. As students completed their online responses, I analyzed their individual responses based on a response rubric (see Appendix G) and colored coded them red for beginning, yellow for developing, and green for secure. A rating of beginning meant the response didn't demonstrate an accurate understanding of the text.

A developing rating meant the response demonstrated a partial understanding of the text, but left out some key details or evidence from the text. A rating of secure meant the response demonstrated an accurate understanding of the text and fully supported their response using evidence from the text.

The group reading *Someone Named Eva* had ten students who participated in the research. The data showed a trend over time of more student responses becoming secure

and less student responses were beginning (see Figure 4). This is evidence of an increase in comprehension.

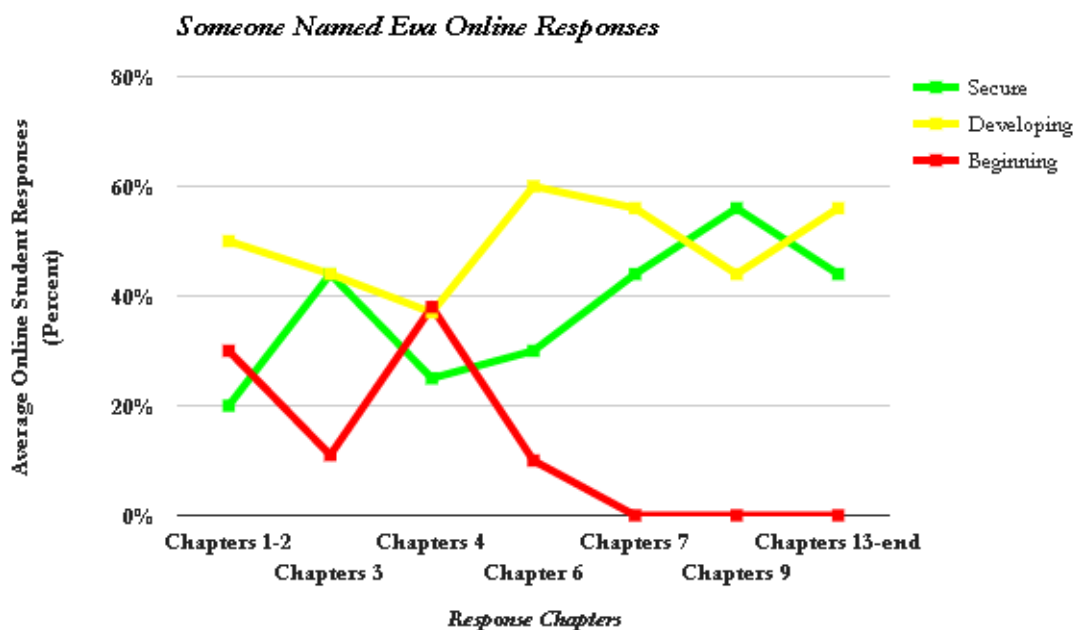


Figure 5. Student online work evaluated for beginning, developing, and secure responses to the questions for the book *Someone Named Eva* organized by chapter.

The *Code Talker* group had 13 students who opted to participate in the research. I followed the same procedure for each group and averaged the three to five questions together for each set of chapters to come up with a final rating.

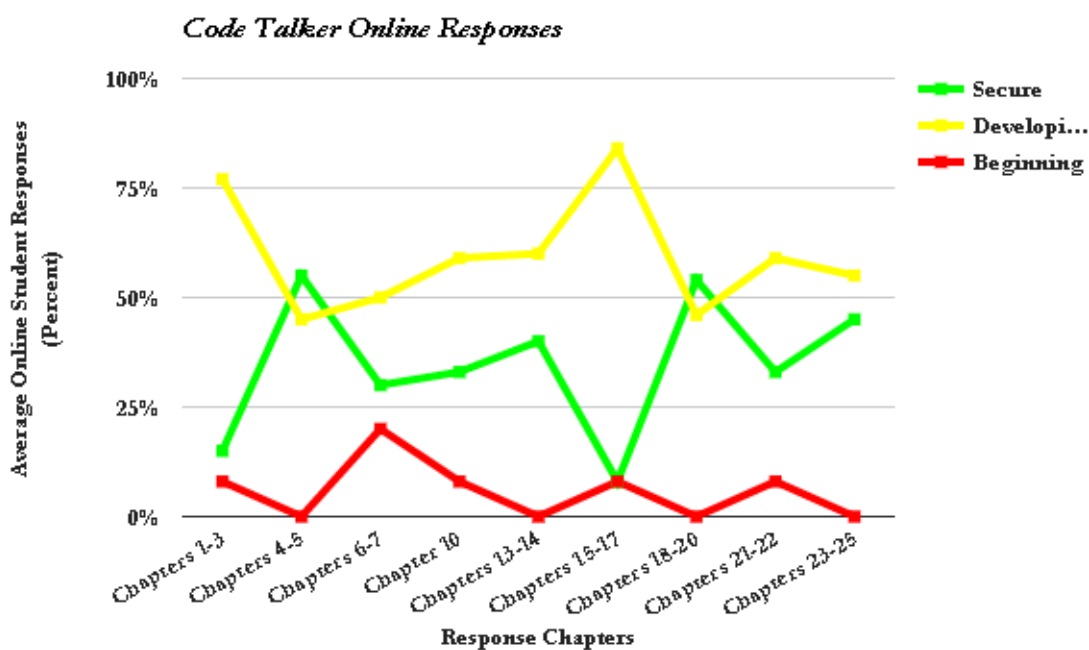


Figure 6. Student online work evaluated for beginning, developing, and secure responses to the questions for the book *Code Talker* organized by chapter.

When looking at student responses to the questions for *Code Talker* over the length of the research, there was no clear evidence of an increase in student comprehension or critical thinking (see Figure 6). There was a slight upward trend of secure responses. In my observational journal, I noted this group resisted going back into the book to reread, which is a skill effective readers use. This may have influenced their online responses and comprehension.

For example, this analyzing question, “What does this quote mean, ‘Strong words outlast the paper they are written upon’?” was a text-dependent question, where students could have gone back to reread this part of the story to better understand how this quote related to the character and picked apart its meaning. Because the response

questions were done independently, I feel some students' responses were not as well thought out or supported by text evidence as they were when I met with students to discuss their books in small groups.

The *Parallel Journeys* group had eight students who participated in the research. They had three to five questions for each set of chapters. I analyzed their responses and rated them beginning, developing, secure, using the rubric in Appendix G, just like I did for the other groups. I averaged the questions together to give students a final rating after each set of assigned chapters. Here were the results for this group:

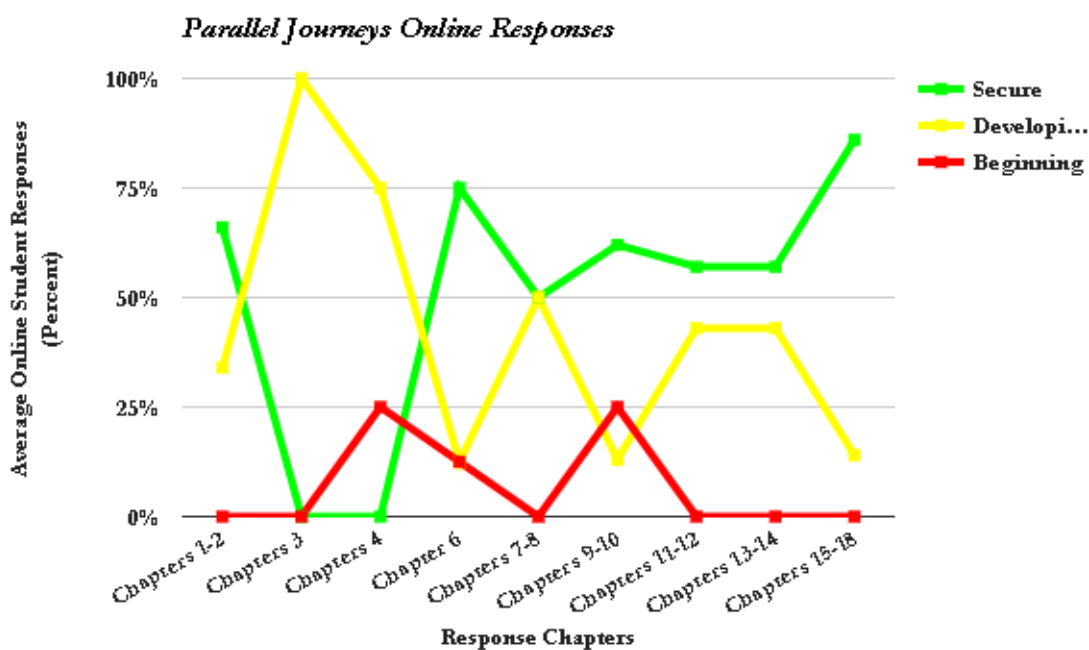


Figure 7. Student online work evaluated for beginning, developing, and secure responses to the questions for the book *Parallel Journeys* organized by chapter.

I noted in my observational journal the *Parallel Journeys* group had more well thought out and supported responses. I saw them go back into the text more to reread and monitor their comprehension. The responses from the *Parallel Journeys* group showed

an upward trend of more student responses were secure and a downward trend of developing student responses (see Figure 7). For example, when asked, “How do the author’s use of third person and multiple first person accounts affect you the reader? Rate the author’s writing techniques,” students were able to articulate a rating and back up their thinking with evidence from the text. Many students brought up how the perspectives gave them a better, deeper understanding of what happened to the characters. Some found they gravitated toward one character, versus the other.

I noticed questions requiring the students to infer were more difficult. They struggled with, “Why did most Germans believe the Final Solution meant Jewish people were being sent to work as slave labor on farms?” and “Why did Germans pay “little attention to their hero’s darker side?” With these questions I was trying to get students to understand something not explicitly stated by the author. I now think these questions would fit better in the context of a guided reading setting, so I could help direct their thinking.

One way I used the student responses formatively was to give students individual feedback and have them look at exemplar responses. About midway through the books, I gave the students a half sheet of paper with some feedback on their responses. I then asked the students to look over their responses and my feedback and to re-submit their thoughts. The *Code Talker* group’s responses and comprehension remained on average developing. However, the *Parallel Journeys* and *Someone Named Eva* responses and comprehension increased. Some common feedback I gave was to analyze and pick apart the text more, go back into the text to find examples, back up their thinking, be more specific, and use more details. I also showed all groups exemplar responses with no

names attached so they would know how secure response should look. The two groups who took my feedback and improved their responses saw an increase in secure responses in subsequent chapters.

In Appendix D, I looked at individual average online responses to see if it looked like students improved toward a rating of secure on their individual responses over time. The *Code Talker* group had four students out of 13 who made positive growth over the course of the research. The rest achieved neutral growth, meaning they stayed developing most of the time, or they had beginning, developing, and secure answers throughout. The *Parallel Journeys* group had 4 out of 8 with positive growth and 1 student with negative growth. The *Someone Named Eva* group had four out of ten students made positive growth. That is a total of 12 out of 31 students or 39% of students improved their average responses.

I felt it was important to have students write about what they read about. I found written responses were more difficult for some students to articulate. I wondered if even though it was online, if it was more of a “worksheet” type assignment. I speculated if the questions were embedded in more project-based assignments, students’ responses and comprehension would have increased. It would be an interesting follow up action research topic to explore.

Critical Thinking Lesson Results

The students engaged in six different higher-order thinking lessons. See Appendix E for the lesson plans. The first lesson was on student generated questions. The purpose of this lesson was to model and have students ask higher-order thinking questions. The second lesson connected student generated questions, along with

Anderson's et al (2001) different levels of thinking. The third lesson showed students how to be metacognitive while reading and monitoring their comprehension. Lessons one through three were an introduction for students to higher order thinking and how to pay attention to their thinking.

From there, I focused on analyzing, evaluating, and logic and reasoning and the application of those critical thinking skills on the topic of WWII. In the following lessons I collected data for each and analyzed the results. The fourth lesson was about analyzing WWII propaganda. As a class we engaged in looking at the different types of propaganda techniques and practicing analyzing posters and advertisements. Then I asked the students to pick one of two WWII posters to analyze as their assessment. After they completed their work, I analyzed and used a rubric (see Appendix F) based on the work of Brookhart (2010). I discovered 45% of students' analyses were secure, 32% were at a developing level, and 23% were beginning.

77% of students were able to analyze at least one part of the WWII posters. A common error was in their inability to reason and explain their thinking. The appropriateness of their evidence was mostly clear and relevant. I observed students who scored in the beginning or developing range needed more practice in picking apart something when analyzing it. They only analyzed one element of the whole poster and dug no deeper. I felt with more practice at finding and analyzing all the elements of a work or text, students would become more secure at analyzing. Analyzing was an area all three groups struggled with when responding online as well. This was a skill I noted we would keep practicing all year.

The fifth lesson on critical thinking I taught was on evaluating bias. We practiced looking at scenarios and determining biases different people had in the scenarios, based on what they said and did. Then for their assessment I had them read a higher level news article on WWII refugees and its connection to Syrian refugees today, and asked them to identify the biases and rate the bias using a Bias meter and state why they gave it the score they did. I collected their evaluations and analyzed and rated them using the evaluation rubric (see Appendix F). I was looking for clear and complete judgment, and accurate and complete evidence that supported the judgment. In the skill of evaluating 50% of students were secure, 33% were developing, and 17% were beginning. I found it interesting when evaluating their books in the response questions they were more secure at evaluating, but when given a checklist and a rating system, as well as a nonfiction article, they had a harder time explaining the reason for their evaluation.

50% of students were able to give the article an accurate rating of how much the article was biased and they were able to identify key quotations from the article which hinted at what the biases were. 87% of the students identified who the article was biased for and against. Again the tricky area was in their reasoning and explanation of why they gave the article the score they did. It was evident that some students used the bias meter as a rubric, which was the expectation. Half the students did not use specific examples of what the author said in the article to show and justify why the student rated the article with the score they gave it. I believe students needed more practice using a checklist or rubric to make their evaluation more objective and secure. I observed if I gave students a scale of one to ten and asked them to rate their books, they could do it and back up their

thinking with evidence from the text. By adding an evaluating tool, it may have made it more difficult for students to look at not just the article, but also a checklist.

The sixth and final lesson I did was on logic and reasoning. I modeled for students, finding facts in a nonfiction article supporting one side of a debate. Then after some practice students, used a t-chart to research the two different sides to the question, “Should the US have dropped the atomic bombs to end WWII?” I then used the logic and reasoning rubric (see Appendix F) to evaluate their t-chart for higher-order thinking. I found 48% of students were secure in their logic and reasoning, 40% were developing, and 12% were beginning.

88% of students were able to identify facts supporting both sides of the argument. 52% of students needed more explanation of their thoughts. Much of my feedback was about using specific names, places, and numbers to strengthen their evidence. Sometimes students did not use all the different aspects of the bombing, such as the radiation poisoning afterward, the rebuilding of the cities of Nagasaki and Hiroshima, President Truman’s perspective, and the Soviet Union. I surmised with more practice students could recognize when their facts, logic, and reasoning could be stronger by discussing all aspects of the topic and finding reliable sources.

Guided Reading Results

During guided reading sessions, I met with small groups of seven to nine students twice a week to discuss the chapters they just read. I used the higher-order thinking questions and text-dependent questions found in Appendices A and B, and I video recorded parts of each session to capture students’ oral responses and understanding of

the text. Afterward, I made transcripts of our discussions. All students' identities were protected by using pseudonyms.

In one of the first sessions I did with the *Parallel Journeys* group, I asked a question I also asked online. The question was, "Why did Germans pay 'little attention to their hero's darker side' (25)?" Online only one out of eight students responded securely. Here are some written responses, which were rated developing.

- Because he was powerful and he could do bad things to people who stand up against him.
- Because they adored him so they didn't want anyone to make him look bad. Also they wanted to be part of his master race.
- Because Hitler was their leader and they would give their life to him [meaning they would die for him]. He was their leader and was very powerful and was the leader of the Nazi party.

These aspects were true, but were vague and general. A secure response would have used more specific text evidence, such as: Hitler gave the German people jobs, made their lives easier, promised they were the greatest race in the world, and gave them someone to blame for their troubles and poverty - the Jews. When I met with these same students to discuss this same question they stated the following during our guided reading session, which occurred after they completed their written response.

Student B: Well, because he created jobs and things. Like the Germans would think first about that because it benefits them and then they'd think about the stuff that affects other people. Because like the things that affect them are mostly good, but the things that affect the Jews aren't.

Student C: He promised them a glorious future and like they'd be rich and stuff and they're amazing and they're the best race ever. They're the master race.

Student E: He was telling them that the Jews were what, so he's pretty much doing all the bad stuff, but then he's blaming it on the Jews. So, then they think that the Jews actually did it. So pretty much they think the Jews are doing it. So, they wouldn't care about his dark side.

I observed by meeting in a small group and discussing this question orally, students stated the specific reasons why the German people ignored Hitler's dark side. This made me wonder if the mode in which students' responded, was a factor in the results of the action research. It impacted my teaching since completing the action research project. I moved away from online individual responses toward more guided reading sessions where I continued to hone my craft of leading discussions and giving students feedback on their responses. It was interesting to see given the same question these same students were able to be specific and accurate during an oral guided reading session, but could not do that on an individual online format. This could be because students were responding to questions online instead of out loud. It could also be because students were working on this independently and guided reading groups are collaborative. I'm not sure which variable impacted students' results. This could be a continuing action research project to discover how online versus oral responses affects readers' responses, and/or how collaborative versus independent reading responses affects students' reading comprehension. For the full transcript of the conversations see the Appendix H.

I saw a similar occurrence with the *Code Talker* group when I asked them, “What were other ways that the U.S. was trying to defeat Japan, other than typical weapons and bombs and things?” 55% of the students’ online written responses were rated developing or beginning. They wrote things like:

- They dropped the atomic bomb and killed thousands of people in the cities [cities] of Hiroshima and Nagasaki. It also said they were going to bomb Tokyo's factory's and cities.
- They tried to use airstrikes to bomb Japan but since Japan has weapons locked on the planes they need to make an airfield to place the planes since when the planes try to leave Japan they can hardly fly back almost half way around the world to the airfield. So the Americans are making an airfield close to Japan.

Yet, during our guided reading discussion students were able to see what “other ways” the US was using to defeat Japan. For example, here’s what two students said:

Student A: Well, I thought one way, well first of all they used, they sunk all the ships that well, Japanese first had to import food, cause they didn’t have enough food in their factories. Umm, so the Americans or marines stopped the ships from importing food. Umm and I was also thinking just a little more, it could have been to get the Japanese weaker too, so they didn’t fight as good on the battlefield. Cause like if you’re really tired on the battlefield, you don’t really get, hit as much of the targets. And also, one was to drop little leaflets saying, ‘we’re going to bomb your city’. And either try to scare them and then they would drop bombs on their factories to make even less food. But none of the food

really got through, cause either the marines stopped the ships or the factories couldn't make anymore.

Student B: They were going to use propaganda which would send fear through their civilians, though they were afraid it may not work, because there were the suicidal missions that the Japanese would send their citizens to. So, they had fear that it would not work, they would not surrender, they're already sending most of their citizens out to kill themselves, so it may not even work.

I observed when I asked the question orally, students were able to give a more detailed, thoughtful response, compared to their individual, online written work. After completing my action research, I dedicated more class time to guided reading and whole group discussions, so students could build on one another's responses, get feedback from me, and touch on deeper themes in the novels we read. I noticed I was able to guide my students to a higher level of understanding during our guided reading session through follow up questions and feedback, allowing for student generated questions, and prompting to take the conversation further.

One example of using follow up questioning happened with the *Code Talker* group. As we chatted I helped them see you can look at an event from two different perspectives and characters have different perspectives. We also talked about how questions can have more than one answer.

Teacher: The question was, why were no code talkers ever raised above the rank of corporal?

Student A: I think at that time, white men didn't respect Navajos the way they are now, and still sometimes they are not respected as much. I think that's why.

Student B: I was thinking it was probably for their identity, since they wanted to keep it so secret. If they became a sergeant or a general, they'd be more worth to the Japanese to kill. If they stayed in the lower ranks, they would think to go kill sergeants and generals, cause that would do more effect. But really if they were killing the corporals and privates, then it would actually probably help the Japanese win the war, but they didn't think that way.

Teacher: I have a follow up question for all of you. Student A mentioned something about the reason that they weren't raised above that rank is because that they were Navajo and the white men did not respect them. And Student B mentioned it was to keep them more secret, because the code was so much of a secret. So here's my follow up question. Thinking of the white person's perspective and the Navajo perspective. Which one of these two (responses) do you think is the white person's perspective and which one is going to be the Navajo perspective?

Student C: That one is going to be the white perspective (pointing to Student B), because umm, this one is talking about how the White men are not being nice to the Navajo, and the white man doesn't want to think about like that, like they are being the bad guys. So they want to make it like they're being secret. They don't want anyone to know. That they just don't want Navajo being a General or Sergeant, because it would be bad for their reputation.

I think guided reading was more powerful than the written responses, because it was more dynamic and could change in a moment to meet the needs of the students.

I noticed sometimes students generated questions based on what was confusing to them or what they were curious about. For example, when I asked the *Code Talker* group, “Why in the world would a Japanese citizen sign up to be a kamikaze pilot?” we discussed it for a little while and then a student stated, “What kind of confuses me is when they use the propaganda to make like the kamikaze look really good. I’m kind of confused on why they would do that, because they know it’s ineffective and they need to use the propaganda, why would they do it, if it’s just going to be a little thing and you know people are going to die doing it?” As a group we talked about why they used the kamikaze technique if it wasn’t very effective, but didn’t come to a consensus. This is where I told the students to do some research and get back to the group. This was a good example of authentic inquiry during guided reading, when students really were invested and creating their own questions and knowledge.

Overall, as I analyzed the transcripts during our guided reading session, I noticed the effect of turning and talking to a partner had on helping students think through the question. Students were asked to talk to a neighbor at least 75% of the time. I listened in on their side conversations and found when one student wanted to speak right away to share their answer, at times, the other student didn’t have anything to say. But with teacher prompting, sentence starters, and page numbers as a hint, those students were able to add to the conversation. The discussion techniques I referenced in my literature review helped reluctant participators to build on others’ ideas. Guided reading offered a time for us as a group to combine our ideas, look at things through different lenses, ask follow-up questions, and wonder about unanswered questions. I felt guided reading helped us go deeper than the written responses did.

Observational Journal

During the first lesson on student generated questioning I realized partway through the picture book *The Wretched Stone* by Chris Van Allsburg I used, over 75% of the class had already done a book study the previous year. The book was chosen because of its confusing and mysterious parts. Unfortunately the students already knew what the mysterious parts of the book were and it really created some behavior issues. Students had a hard time focusing and creating questions, because I think they felt like they already knew everything about the book from last year. I encouraged them to write questions, pretending like they were the teacher. What would they ask the students about the book? That seemed to help. Upon looking at the questions, I found they were fairly low level questions. I decided I needed to redo the lesson using different material and show students what higher-order questions were like.

The next lesson on developing higher-level thinking questions went fantastically. I gave students question starters in the applying, analyzing, evaluating, and creating levels. Students were using the question stems to come up with really thought provoking questions using the book *Who's Who in WWII?* by Alison Hawes. I wanted to see if they could identify which higher-level skill their question was, so I asked them to sometimes label their question. Many students were participating and raising their hands to share their question with the class. It was a really powerful lesson. I encouraged the students to pick their favorite thought-provoking question and to use it as their end of the book project.

Our fourth lesson was on analyzing WWII posters. Students practiced with familiar advertisements and examined six different propaganda types. Students were

engaged and we discussed which propaganda types were the easiest to identify and which ones were the hardest. Later a few students of mine found other pictures of WWII propaganda in a reference book in our room. It was great to see students taking the initiative and wanting to discuss the ways in which governments persuaded their populations to believe different ideals and values. We continued the conversation during our guided reading sessions. The Code Talker groups discussed the different flyers and pamphlets the US and Japan dropped for Japanese civilians to read. It was a really good conversation.

When we worked on bias and evaluating bias, students were actively engaged in an activity to identify different biases in an everyday scenario. Then we applied what we learned to a WWII article we had previously read about the parallels of today's refugee crisis and the Jewish refugees during WWII. I observed students found it easier to identify the bias in a fictional situation than a nonfiction news article. If I were to do this lesson again, I think I would choose a different news article for them to evaluate for bias, because this article was a very difficult reading level. It required students to have a lot of background knowledge on today's refugee crisis, which some students did not have if they didn't watch the news or read current events.

When teaching a lesson on logic and reasoning, I modeled for the class how I would find evidence from a reliable source to look at both sides of an issue for debate. We used a football article about the benefits and consequences of the sport. We created a T-chart together using the question, should kids play football? Yes or no? As I started to have the students chime in with what their thoughts, I noticed many of them were over relying on their background knowledge, and not using specific facts from the article. I

pointed it out to my students and only wrote down the strongest facts they stated on our poster. Many caught on and began finding evidence in the article. We found facts and arguments for both sides of the issue. I emphasized it is important to look at an issue from multiple perspectives before making a decision. I observed students seemed to enjoy going online to the articles I provided to research the topic of the atomic bomb. I presented them with the question, “Should the US have dropped the atomic bombs to end WWII?” It took us a few days to research. Students used bullet points to organize their arguments and facts. I rotated around the room to give them feedback and let them know when they needed more facts. I wished I would have added an element to the lesson where I asked the kids, “What makes a fact or piece of evidence a strong one?” I thought that could have helped them be more specific with their facts.

During my first few guided reading lessons with the *Parallel Journeys* group, we discussed the question, “Do you agree with the choice Helen and her husband made to give up their daughter and how they treated her toward the end?” and we practiced doing the word solving steps to help us find the meaning to unknown words using context clues. I did not have time to ask higher-level questions. Next time I met with them, I started with the higher-level questions first, then move into more text-dependent questions. I wondered if it would make a difference. In the literature review, some researchers suggested turning Bloom’s taxonomy pyramid upside down and start with the higher-level questions. I observed when we started with the higher order thinking questions, they took more time to discuss, but we were able to go deeper in our understanding.

In one of my first meetings with the *Code Talker* group, the students seemed really engaged in the story and wanted to read faster than I was assigning chapters. We discussed irony. I discovered my students didn't know what irony was. We then talked about the quote, "Hitting another person with my fists never seemed natural to me," and what it tells us about Ned. For their higher-level thinking, I had them read and compare the Navajo's Long Walk and the Cherokee's Trail of Tears. I wished I had had time to read those articles together to find the similarities and differences. Time was always a factor in how deep and how far we could get when discussing the books and issues within.

Patterns and Trends

My goal in completing this research was to see the effects of *critical thinking and higher-order questioning on fifth graders' reading comprehension*. I found inconclusive evidence that critical thinking skills and higher-order questioning leads to greater comprehension in reading. The guided reading transcripts confirmed what I learned in the literature review: the value of student-generated questions, discussion techniques like wait time and follow-up questioning, and using higher-order questioning for deeper meaning in a text.

This action research showed how well students performed the higher-order thinking skills of understanding, applying, analyzing, evaluating, and creating. This was helpful information for me, the students, and their families. The research also revealed how much more valuable guided reading and discussion were to helping kids think more critically and comprehend the text compared to written responses. When compiling the written online responses, the guided reading transcripts, and the critical thinking

activities, it appeared the skill of analyzing is an area more students need work on. I found evaluating was a little bit easier for students to do, but they needed more practice with using criteria as the basis of their evaluation. I observed the skill of creating required more time, effort, and some sort of checklist to guide students. I think had project-based assignments been used, I may have seen better results in the area of creating. The skill of applying was one I did not incorporate much into my WWII unit, which showed me I needed to work on building opportunities for students to apply what they've learned to new situations. I observed the understanding level questions and responses may have been influenced by the text complexity and content.

Overall, it was difficult to find a direct correlation between questioning, critical thinking, and reading comprehension. My findings included:

- My ability to ask a broad range of higher order thinking questions increased after learning from my literature review. Asking questions in the create and apply categories are an area for improvement.
- Student responses were strongest in the questions requiring remember, evaluate, or apply level thinking. Conversely, understand, analyze, and create were more difficult higher order thinking questions for students.
- Teaching critical thinking lessons yielded 45-50% secure responses from students. The universal area of need was for students to explain their thinking and use specific evidence, no matter higher order thinking skill they were performing.

- Guided reading sessions produced more detailed and well-supported responses from students and allowed for more teacher guidance and feedback compared to the online written responses.

Conclusion

In this chapter I revealed the results of my research using written online responses, oral guided reading discussions, and critical thinking lessons. Individual online responses improved slightly for some students and groups throughout the WWII unit. Guided reading discussions led to more questions, deeper understandings, and specific, secure comprehension. Critical thinking lessons provided me with valuable data of students' critical thinking skills. In my observational journal I found the use of critical thinking skills in the classroom led to engaged students, and with more opportunities to practice these skills throughout the year, I thought students would improve their reading comprehension. In the next chapter I will discuss my new understandings, the implications of my research for teachers, next steps based on the research, and future research projects.

CHAPTER 5

Conclusion

In this chapter I will discuss what I learned from the research, implications for others, my next steps as I continue to teach reading, and possible future research projects. My action research on *how I can increase fifth graders' reading comprehension through the use of critical thinking and higher-order questioning* led me to a deeper understanding of critical thinking skills and how I can help my students engage in high-order thinking to strengthen their comprehension.

After reflecting on my desire to learn more about questioning and critical thinking skills in chapter one, I learned a lot about the taxonomy of thinking, discussion techniques, questioning, and reading strategies during my literature review. That chapter helped me reflect on my own teaching and improve my higher-level questioning. In my methods chapter I discussed my qualitative approach to my action research by collecting data using a journal, student online responses, critical thinking activities, and transcripts from guided reading groups. My results chapter detailed the data gathered from student written and oral responses, teacher questioning, rubrics used, and observations during the research period. The critical thinking lessons had a lot of student engagement, and I observed it was a valuable focus for my students. Guided reading groups had great, higher-level conversations, which showed the importance of discussion and questioning

techniques. In my conclusion I will connect what I learned in my literature review to what happened during my action research.

New Learning

When I began this action research project, I did not realize how interconnected questioning and student thinking was. Walsh and Sattes' (2005) Rubric for Formulating and Assessing Quality Questions helped me self-reflect on my questions. I also observed students seemed more engaged when asked different types of questions. The work done by Anderson et al (2001), caused me to reflect on different levels of questioning. As a teacher, I never thought of incorporating different types of questions. My results helped me see I needed to work on formulating more apply and create questions for students to wrestle with. My students' responses also showed me the need to work with them more on analyzing and creating. I reflected on all the critical thinking skills and higher-order thinking levels and felt they were fundamental to helping students be successful in postsecondary and the 21st Century workforce.

Overall, students' online responses were not what I had anticipated. Before conducting my research, I hypothesized higher-order questions would lead to greater reading comprehension if I made sure to explicitly teach them critical thinking skills. Online student responses did not support my hypothesis. I did find guided reading sessions elicited more dynamic opportunities for the students and me to listen to one another's thoughts, build on ideas, fix comprehension errors, and highlight critical aspects of the text. I think written response to literature is important, and I will continue to have students respond using reader's logs, but just as Fountas and Pinnell (2001)

pointed out, guided reading helped students tackle challenging texts and gain comprehension through discussion.

Because of my research, my questioning techniques have improved while guiding discussions. I noticed as a teacher I used wait time more (Rowe, 1986). I had to tell students to wait a moment and really think before answering, because some were very quick to raise their hands. When given more time, I thought students came up with more thoughtful, well-supported responses. I also observed I implemented Barell's (2003) idea of probing students and asking them to explain their thinking more, in order to find errors in their logic and fix misconceptions. All of these techniques were utilized during guided reading time.

I found it interesting many of my students could not respond to text dependent questions in a detailed, proficient way. I was not sure of the reasoning behind this. I observed some students resisted going back into the book to find information. This taught me I needed to put more emphasis on rereading for different purposes. Gallagher (2004) believed second-draft reading can lead to deeper comprehension by focusing on what the text says and what it does not say. Similarly, during guided reading discussions and critical thinking assignments, students sometimes used too much background knowledge and did not use the most convincing piece of evidence, such as finding quotes and paraphrasing from the text to back up their thinking. This showed me I need more emphasis on modeling and finding text evidence.

This action research project forced me to analyze questions I asked students and if I was getting the higher thinking levels I desired. I learned I needed more application and creation opportunities for my students to engage. I discovered which students could

analyze, evaluate, and reason logically through critical thinking lessons. I found one lesson per higher-order thinking skill only created a small snapshot in time. If I were to do this research again, multiple lessons and activities to show growth over time would be beneficial, increasing the timeline of the research. The written online questions did not yield much comprehension growth, but I was able to tell which higher-order thinking areas myself and my students could improve upon. Looking back at the format in which I asked questions online, I wish I did more project-based learning. I think project formats lead to more student engagement, and it might have shown more of what students can do in higher-order thinking levels. Though it made it easier for me to track students daily independent comprehension, I found my online format of asking questions via Google Forms was merely a substitution for paper/pencil worksheet responses.

In the future, I would use the higher-order thinking questions in our discussions during guided reading sessions. This would ensure students could listen, share, and comprehend the text with my support. If I had students do online response format, it would be after much discussion and practice of the text and skills. Because of its independent nature, the skill of applying our learning to something new would be best suited for an online response. Independent work time for students to generate questions would allow for more metacognition and reflection. These questions and reflections would guide my instruction when we met in person.

I believe higher-order thinking and questioning can lead to deeper comprehension and with more time I think the results would have supported my hypothesis. My research did give me insight into students thinking abilities and helped me craft well-developed questions aimed at a deeper understanding of the text. I felt after each guided

reading session, students could answer fully and in detail the higher-order thinking questions. The *Code Talker* and *Parallel Journeys* groups read and comprehended harder texts. I believe the questions they responded to were more difficult than the questions I created for the *Someone Named Eva* group. By conducting this action research and learning from my literature review, I was able to increase the rigor of questioning for those two higher books.

The capstone process taught me how to analyze my questions and become more metacognitive while teaching. This allowed me to utilize important strategies, such as wait time (Rowe, 1986), visible student thinking (Ritchhart et al, 2001), and think alouds for higher-order thinking skills (Harvey, 1998). I found just asking a higher-order thinking question was not enough. Students needed follow up questions, added support, sentence starters, modeling, and exemplars along the way. A teacher is an integral part of the critical thinking process. Although I did not definitively prove critical thinking and higher-order questioning would lead to increased reading comprehension, I believed with more support, time, and practice, students would begin to apply these skills independently to the books they were reading, which would lead to greater comprehension.

Overall, I learned valuable information about my professional practice in terms of questioning and critical thinking. I found:

- As a teacher it is important to engage all students in all six different levels of higher order thinking and provide them with practice, feedback, and support.
- Reflecting and self-assessing questions helped me find my areas of strength and weakness, as well as highlighted my discussion techniques.

- Teaching and evaluating for critical thinking builds a deeper layer of skills for students to improve upon and gives valuable feedback to students and families.
- Guided reading sessions produced invaluable information on students' reading comprehension and thought processes. This allowed me to do more guiding using different discussion techniques to help students dig deeper into the text and back up their thinking more with evidence.
- Higher level questioning leads to higher expectations for students. It's important to partner this with scaffolding and modeling and build in time and multiple opportunities for students to practice the different levels of thought.

Implications

My findings implied students need a lot of time, modeling, and practice to hone their higher-order thinking skills. Teachers must be well-versed in different types of questions and activities to develop their lesson plans, so all students are engaged and challenged in a rigorous way. For example, since completing my research, I did other units with my reading class. In a Native American unit my reading class read *Island of the Blue Dolphins*, *Sign of the Beaver*, and the *Birchbark House*. We learned, discussed, and applied what students knew about Manifest Destiny to their chapter books. Students analyzed the symbolism in John Gast's 1872 painting called *American Progress*. While planning, I thought about what I was asking them to do and what level of thinking was required of students. By teaching critical thinking skills and asking students different higher-order thinking questions, I believe teachers can reach more students and prepare them well for postsecondary success and beyond.

In our current reality of Minnesota State Standards and the Common Core, I think it is important we do not forget students need instruction in higher-order thinking skills, which will benefit them and help them be great thinkers employers look for. Much of what teachers do could be remedial, requiring only lower-level thinking skills. It is important to guide students understanding to higher-levels of thinking and show them how you got there (Meyers, 1986). Students must see a more sophisticated mind tackle a problem using those critical thinking skills. Teachers must have high-expectations for themselves and their students and one way we can do this is to plan lessons that engage students in high-levels of thinking.

I thought the time constraints and singular unit of study were limitations in my action research. I believed it would be more telling to look at students' high-order thinking skills over the course of a full school year to see if it affected their reading comprehension. I think if teachers track the questions they use and carefully craft, they can be more reflective over a year, build engaging, higher order thinking lessons, and meeting student needs within the different question types.

If teachers carefully prepare a wider variety of questions and analyze for higher-order thinking used (Anderson et al, 2001), they will discover their strengths and weaknesses in questioning. From there a teacher could develop quality questions requiring students to understand, apply, analyze, evaluate, and create, as well as use logic and reasoning to check and defend their responses. Videotaping discussions could also help teachers self-assess and grow their discussion techniques.

Professional Growth

I believe it is important to note some of the professional growth I had since completing my action research. During the 2015-2016 school year, I took some classes at Hamline University for my K12 Reading License. My district also began a literacy reset. With the help of literacy coaches and my principal, staff received monthly trainings on balanced literacy practices. I learned to start with a mini lesson that models and scaffolds a strategy and skill we are learning. Then students move into independent time, while I work with small guided reading groups on short texts or book club books they are reading. I may also pull small strategy groups when students are making common errors or confer with individual students and give them feedback on their reading and journal entries. Our district also adopted and implemented Lucy Calkin's Units of Study (2010).

Students in my class now have focused responses to the literature they are reading. Rather than answer questions, they are stopping to jot down ideas as they read. I taught them to notice important things, analyze, and interpret information to name a few. From there, each day students complete a reading notebook entry expanding on what they were thinking about while they read. These new practices tie perfectly into the knowledge I gained from my action research project. I'm using the higher order thinking questions during guided reading discussions, so I can challenge and guide them to higher levels of thought. They also have to be metacognitive to be able to notice and jot down what they are thinking about while they read.

Through these professional development opportunities, my practice has changed and improved. When I conducted my action research I regularly delivered whole group lessons. Since then, I've increased my capacity to do targeted guided reading sessions

every day. Guided reading sessions are not just about answer questions, I state and model the reading strategy they can use to comprehend higher level texts. We discuss and practice the teaching point, vocabulary, and work on fluency. Using Jan Richardson's (2009) Guided Reading Lesson Plan template, I now create focused guided reading sessions and add in my higher level thinking questions to facilitate discussions around the issues and books we are reading.

My practice also altered because of my experience with trying online responses to literature. In my action research this did not go as I had anticipated. Students were not very engaged to complete the questions and struggled with them. I felt that format was a glorified worksheet and I did not want to be the kind of teacher that just gave their students busy work. Students now engage in more meaningful tasks with the literature they're reading. Through guided reading discussions, projects that tie to a higher order thinking skill, and purposeful writing, students are responding to literature in valuable ways.

Next Steps

Moving forward, I will continue to do guided reading groups with my reading students to engage them in deeper understanding of the text and provide opportunities for them to ask questions they are wondering, as well as follow up questions I ask. My ultimate goal is for students to develop more independent learners and a capacity to facilitate their own discussions. I will be very purposeful about what I assign students, so it requires higher-level thinking and metacognition. As a young student, I remember big research projects I did in elementary through high school: Benjamin Franklin, the ozone layer, the state of Montana. I think I remember them so fondly because of the

time and effort I put into them, as well as the level of thought required to complete such projects.

My students are currently reading and learning about the Civil Rights Era in reading class. I plan to engage them in higher-order thinking skills through analyzing characters, applying Civil Rights Movement tactics to other current event situations, evaluating author's craft, and creating visual displays showing new understanding. I would also like to continue to work on critical thinking skills with my students, through more lessons, think alouds, and activities. I believe all my students can apply, analyze, evaluate, and create. They just need more time and opportunity to work in these different realms of thinking. I will continue to model, think aloud, and support students as they critically think about the books we read. I will use the different taxonomies of thinking to develop lesson and assignments requiring higher-order thinking. My ultimate goal is to create independent higher-level thinkers that dig deeply into texts.

Future Research

If I were to continue my research, I would teach more lessons in higher-order thinking to continue gathering data as students understand, analyze, apply, evaluate, and create, to look for an upward trend in their critical thinking abilities and their reading comprehension. More time would have yielded more data and given students more time to master higher level thinking skills. I think smaller action research could be done on individual components of this research such as:

- effective discussion techniques, including how teachers' responses affect students' growth and understanding

- using metacognition and reflection to improve reading comprehension through reading logs and think alouds
- the effects of online versus written responses to literature on students' reading comprehension
- the impact of guided reading sessions on students' reading comprehension
- the effects of direct instruction of critical thinking skills

Many of the books from my literature review had great information I think I could use in mini action research projects. My teammate and I really like the book by Gallagher (2004), and I think we will do some research around the strategies and activities he suggests to lead students to greater comprehension. I enjoyed Brookhart's (2010) book on assessing higher order thinking and I'm looking forward to reading Brookhart's (2017) new book on giving students effective feedback, which can help me become better at providing timely and powerful feedback to students on their work. As a fifth grade team, we are diving into Calkin's (2010), Serravallo's (2010), and Richardson's (2009) books to continue our literacy reset and reach our goal of successfully implementing balanced literacy in our classrooms. It is so important that we continue to grow as professionals to improve our craft, so students' understand and achieve more. I feel like I've grown so much in my questioning skills from completing this action research project, and in the area of balanced literacy through my K12 reading licensure classes, and my districts' literacy training.

It is critical for teachers to examine their practice in the area of higher order thinking, to ensure students are challenged and exposed to critical thinking. I hope all teachers will reflect on their questioning techniques and adjust to meet the needs of their

students. We need our future adults to be critical thinkers who can solve problems, create, analyze, apply knowledge, evaluate, and understand. My wish is for educators to continue this work in higher order thinking and reading, as I will, to improve students' critical thinking and comprehension.

Conclusion

My action research project examined the effects of critical thinking and higher-level questioning on reading comprehension. The literature review revealed many aspects to discussions and questioning, as well as guided reading techniques. My qualitative method involved an analysis of written responses, my informal observations of critical thinking lessons, critical thinking activities, and guided reading transcripts. What I discovered was critical thinking lessons and higher-level thinking questions are not enough to lead to greater comprehension. Discussions around books are very important to help student understanding. I hypothesized students need not only higher-order questions to wrestle with, but also support, modeling, and many opportunities to build their critical thinking skills, which lead to increased comprehension. I will continue to search for ways to increase my students' reading comprehension through best practices and continue to challenge them with higher-order questions that stretch and cause them to wonder.

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Appendix A

Text Dependent Question Bank

Code Talker by Joseph Bruchac

Discussion Questions - Participants answered some of these questions orally during guided reading times. Some questions were used for online student responses. For Google form questions, participants gave their written/typed responses.

Chapters 1-3

Who's telling the story, and what point of view is the story being told from?

Why did Kii Yazhi's mother dress up for him?

What was the greater purpose for Kii Yazhi to go to school?

"There is no word for good-bye in Navajo." What does that tell you about the Navajo culture?

What can you infer about the Navajo culture?

Why did the school force the Navajo boys to cut their hair if they knew the Navajo beliefs?

Infer Kii Yazhi's perspectives of the whites.

How would you feel if you had to go through what Kii Yazhi (Ned) went through?

Chapters 4-7

What connection do you have to Ned and the soap incident?

What can you infer about Ned? (Use evidence from p.26)

How did the teachers help the Navajo children “progress”?

How did Ned survive school?

What were two good things about Ned’s high school experience?

Ned chose to research Japan. What does his choice in topic tell us about him?

What does this quote mean? ”Strong words outlast the paper they are written upon.”

How would you feel in a dunce cap?

Who are the Allied and the Axis powers and what are they fighting for?

Chapters 8-10

What would it be like if you signed up for something but didn’t know what you were signing up for?

How does Ned view Johnny Manuelito?

Why could the Navajo on special duty not communicate with anyone?

Why was Johnny chosen to recruit?

What cultural inferences can you make about the Blessingway?

Why was Ned nicknamed “ant”?

How would you feel if a Blessingway was done for you?

Find an example of irony in chapter 10.

What did the drill instructor expect?

How would you feel going through boot camp?

Ned says, “Hitting another person with my fists never seemed natural to me.” What does that tell you about him?

What are 3 powerful lessons Ned learns in chapter 10?

Chapters 11-12

What strange tasks were Ned and his platoon mates asked to do?

Read the paragraph on p.75. Why did the author write this paragraph?

Why were the Navajo chosen by the US Army?

Have you ever had a secret you had to keep from everyone? What did that do to you?

Why did the code talkers have to change the words they used?

How did code talking alter Ned's life?

How did the Navajo and the white soldiers get along?

Chapters 13-14

Why were NO code talkers ever raised above the rank of corporal?

Why was Ned not so worried about the Japanese?

Put yourself in Ned's shoes. How would you feel getting onto that ship?

Why did the code talkers have to prove themselves?

What were some of the Navajo beliefs about death and corpses?

What are the 5 rules of combat for the Japanese? What are your reactions to those rules?

How would you feel if you had to fight someone who followed those rules?

Chapters 15-17

Do you agree with the water trick Ned and the other Navajos pulled?

How do you expect the unexpected?

What are some connections Ned makes to the natives living on the Solomon Island?

What was the aim of Operation Cartwheel and why did they call it that?

Why do soldiers nickname things?

Discuss this quote, “A sense of humor can be just as important for a soldier’s survival as a gun or a foxhole”.

Which keywords on p. 107 tell you what might happen next?

Why do Marines resent the Navy?

What does this quote tell you about the Japanese, “You weren’t allowed to light even a match.”?

How did Ned survive that first landing both physically and mentally?

What would you do in that situation?

“All that fighting happened without seeing even one Japanese soldier.” Is that kind of fighting difficult?

Chapters 18-20

“Anyone seen out of a foxhole would be assumed to be an enemy and could be fired upon.” What does this mean for the soldiers?

While on the battlefield, what did the soldiers do to protect the code talkers and why did they do it?

When and why did the commanders begin to depend on the Navajo code talkers?

What were some of the dangers code talkers faced?

What are some of the effects battles had on the soldiers?

How did the soldiers cope with the negative effects of being in battle?

Chapters 21-22

Why do they call Admiral Conolly “Close-up Conolly”?

Why was Guam an important goal for the military?

“They believed only Japanese were real humans. Anyone else could be treated like a dog.” (148) What other times in history has this belief influenced a group of people?

How and why did Guam affect Ned and his friends?

What is it like being in the Marines?

Analyze the theme, “When we must fight other humans, injure and kill them, we also injure a part of ourselves. Our spirits become sick from contact with the enemy” (161).

What is the Enemyway Ceremony?

Chapters 23-25

What do “frogmen” do?

The letters soldiers sent to their loved ones back home were read and sometimes censored. How would you feel if part of a letter you wrote home was blacked out?

Where did the idea of Kamikazes come from?

Why did Japanese sign up to be Kamikaze pilots?

Ned learned a lot about history and other cultures. What can you infer about him based on that?

How did the US try to defeat the Japanese using “other ways”?

What was the new way the Japanese fought in chapter 24?

What is a *sennimbaris*?

Why were the marines angry in chapter 25?

How are the marines feeling?

Chapters 26-27

What did it cost to take Mt. Suribachi?

Why did the men respond like it was New Year’s Eve to the American flag being raised?

“Another friend is another person you might lose at any instant. Every new day, each minute, may be the last one when you will see your friend” (191). Do you agree with Ned? Why or why not?

What do you think seeing Georgia Boy die did to Ned?

What do you think of the famous photo of the marines raising the flag for a second time?

How did secrets and lies keep the war going?

In your opinion, how well did the battle of Okinawa go?

Based on chapter 27, how does the author view Japanese citizens?

What biases does the author have?

What were conditions like for Japanese citizens?

How did the Japanese resist or protest Japanese rule?

Did Emperor Hirohito know what was going on during the war?

Chapters 28-29

What were the effects of the atomic bomb being dropped on Japan?

When Ned came back to the US what were the reactions of the civilians?

What did Ned decide to do after the war?

What is ironic about Ned’s school and war experience?

How did the Navajo retain their sense of self and their culture?

Parallel Journeys by Eleanor Ayers

Chapters 1-2:

How did Hitler come to power?

What is a reich?

What would you do if you were in a “racial science” class?

If you lived back then, what age would you be admitted into the Hitler Youth?

What was it like to be German during that time?

Why did people hate the Jews?

Infer some of Helen’s character traits.

Were you surprised by the response other countries had to the Jewish refugees? Why or why not?

What were some changes and acts Hitler declared?

Why was it so important to join the Hitler Youth?

Chapters 3-4:

Why was it important for leaders of the Hitler Youth to keep careful records?

How did Alfons’s father feel about him joining the Hitler Youth?

What made Hitler Youth so appealing to children?

What bound Alfons “to Hitler until the bitter end” (22)?

What are the pros and cons of making promises?

Why did Germans pay “little attention to their hero’s darker side” (25)?

What are your reactions to what the SA did to Anton’s shoe store?

How can something be “horribly beautiful” and “terribly exciting” (29) at the same time?

How did the Nazis justify *Kristallnacht*?

What was the importance of the *Kristallnacht*? Defend your answer.

How long would you have stayed in Germany if you were Jewish?

How did Fred and his father obtain American visas?

Chapter 5:

What would happen to a juvenile delinquent was expelled from the Hitler Youth?

Why might Hitler Youth make fun of religion in front of children and schedule parades during church hours?

What are the author's biases with the invasion of Poland?

Which countries are Allies and which are Axis powers?

Make a connection between the treatment of the Poles and other groups of people we have studied.

Why did people call WWII a "phony war" (42)?

Why didn't Alfons agree with his grandmother's thoughts about Germany?

Why would the Nazis enforce a strict blackout at night on its own people?

Chapter 6:

Do you agree with the choice Helen and her husband made about their daughter and how they treated her toward the end?

What is the author's viewpoint on Britain?

Why was it a bad military decision for the *Luftwaffe* to target the city of London on September 15?

How did Helen and Siegfried prepare to go into hiding?

Chapters 7-8:

Why was Operation Barbarossa unwise?

Why did most Germans believe the *Final Solution* meant Jewish people were being sent to work as slave labor on farms?

What was the "Night and Fog Degree" (65)?

How did Helen's life change forever?

Chapters 9-10:

What did the Allies fear?

How did technology including aircrafts play a role in warfare?

Why did German boys and even the world envy the *Luftwaffe*?

What changed Alfons into a fanatic believer in Germany?

Why were the Russian and North African campaigns a disaster?

Why do you think they stepped up Hitler Youth pre-military training after their defeat in Russia?

How did the Nazis get Jews to mistrust each other?

How did some people help the Jews?

What are some circumstances loving parents would give up their only child?

Chapters 11-12

What jobs were assigned to older children in Germany?

How did women, children, and men in Germany have to adjust as the war worsened?

Why does the author not tell us which narrator it is, Helen or Alfons?

What were the conditions like in the Ghetto in Warsaw?

What would life be like if you disobeyed one order and it cost your dream?

Imagine what life was like living in hiding, fearing for your life and lives of your loved ones?

What do you think and feel when you see pictures of the Hitler Youth?

Why would people risk hiding Jews?

What was Operation Overlord?

Why was the German military machine failing?

Chapters 13-14

Why was Alfons chosen for a promotion?

What did Nazi political propaganda do to the Hitler Youth?

What happened on D-Day?

What were the effects of knowing you could never let your superiors down?

How was Alfons and the other Hitler Youth changing?

How well did the young Hitler Youth members handle the death of their comrades?

What happened to women when their train reached its destination?

In your opinion, was Helen's dream realistic? Why or why not?

What happened in the plot to assassinate Hitler?

What was it like to meet Hitler?

Chapters 15-16

What does the title "Our Journey to Heaven" stand for?

What caused Alfons to cry?

What wish finally came true for Alfons?

What's the real reason the Germans destroyed the crematorium?

What were some things prisoners did to survive and why did they continue to do them even after they were freed?

Who benefited from delousing?

Why was Alfons so upset over the loss of his animals?

What happened during the Battle of the Bulge?

Chapters 17-18

Why were the orders to punish deserters not always followed?

Why does Alfons only claim to be part of the *Luftwaffe*, not Hitler Youth?

Why was it hard to travel after the war ended?

After the war ended, anti-semitism did not end. Why? What was still going on?

Infer what Helen was feeling after she was freed?

How did Alfons' family treat him after the war?

What did Alfons have to do to protect himself after the war ended?

Chapter 19-epilogue

What did the "rubble women" do?

Why did Alfons and other Hitler Youth not believe Hitler's Final Solution?

Why was Jo Vis considered a hero?

How had school changed for Alfons after the war?

Why was it so important for Alfons to attend the Nuremberg Trials?

Why was Baldur von Schirach of interest to Alfons?

How did life change for Helen and Doris?

What is ironic about Waterford's relationship with the Jews?

***Someone Named Eva* by Joan M. Wolf**

Chapters 1-2

What is life like for Milada and her family in the beginning of chapter 1?

Infer some of Milada's character traits.

What changed when the Nazis came to Czechoslovakia?

Why did Babichka pack nothing and give the pin to Milada?

How do you think Milada handled being taken away?

Why does it matter if Milada and those from her village are Jewish or not?

What would it be like to be surrounded by 50 soldiers?

What do you think the doctors wanted with Milada?

How do you think Milada handled being taken from her home and family?

Chapter 3

What are some things Milada had to do at her new home in Poland?

Infer how that must have felt.

What does the star pin Milada's babichka gave her symbolize?

Imagine you are being told you are not you anymore and you can't speak your language anymore and you are a new and different person. What would that be like? How would you react?

Chapter 4

Why were the girls treated well?

Why did Franziska want to impress the teachers and make the other children look bad?

What purpose would that serve?

Compare Eva to Franziska and Heidi. Who do you think dealt with their situation the best? Why?

Chapter 5

How do you know the time of year has changed?

Why do you think the Germans told the girls their families had been killed in an allied air raid rather than the truth?

Chapter 6

Do their choices in friends tell us more about Eva and Franziska?

How does Franziska use her power?

In your opinion, did Liesel's family give her away? Why do you think that?

Where did Heidi and Elsa go?

What changed inside of Eva at the end of the chapter? How was she different?

Chapter 7

How would you react if you were being told you have a new family? What would you say, do, and think?

Why does it smell at the Werner's house?

Predict, what happened to Eva's family? Where are they?

Why did Fraulein Kruger tell Eva's new family that her real parents were lost in an air raid?

Chapter 8

What is Herr Werner's job?

When Eva received the letter from Franziska how did she react and why?

Chapter 9

As Eva becomes closer to her new family, what is she losing?

What is the smell from the camp?

What is the League of German Girls?

Imagine you are in Eva's position. What would you do? How would you act?

Chapter 10

Why do the German women get medals for having children? What's the hidden motivation?

Chapter 11-12

What are some clues that things are going to change for the Werner family?

How does Eva react to these changes?

Chapter 13

On a scale of 1-10, what would you rate this book and why? Give examples from the text to back up your evaluation.

What surprised you about the ending?

What questions do you want to ask the author Ms. Wolf?

If you could change something about the book, what would you change? How would it affect the story? OR Create one more chapter about Eva's life after the war.

Appendix B

Higher-Order Thinking Question Bank

Code Talker by Joseph Bruchac

Chapter 2-3:

ANALYZE: Research other time periods and conflicts. Find patterns of how minorities are treated by the majority.

Chapter 4:

EVALUATE: Do you agree that, “Tradition is the enemy of progress” (23)? Why or why not?

APPLY: Have you ever had an experience in your life where someone (or society) tried to change something about you and/or your beliefs? If so, what did that do to you? How did you react?

APPLY: Find a current example of something the media does to try to change you and your views. Was it effective?

EVALUATE: Rate the effectiveness of the white school’s persuasiveness and find evidence to back up your evaluation.

Chapter 6:

ANALYZE: Examine the elements that affected Japan and caused it to join WWII.

Chapter 7:

ANALYZE: Examine the strengths and weaknesses of the Axis vs. Allied powers

Chapter 10:

ANALYZE: Compare the Navajo's "Long Walk" of 1863 to the Cherokee's "Trail of Tears".

Chapter 11:

ANALYZE/CREATE: Crack codes and write messages of your own.

EVALUATE: Critique the author, Joseph Bruchac's writing style. What do you like and not like? He keeps switching between first and second person, and sometimes even third person! What does that do you, the reader? Sometimes the author tells you his reaction BEFORE he tells you what happened to him. Is that a good writing technique? Why or why not? Is the author good at building suspense and anxiety?

Chapter 12:

ANALYZE: What themes can you infer from the book so far?

Chapter 13:

CREATE: Make a RISK type game board of WWII including actual events and "what if" events.

CREATE: Make a diagram of how code talkers worked in the battlefield.

Chapter 16:

EVALUATE: How well does the author use the five senses to tell the story?

Chapter 18:

EVALUATE: What military tactics are most effective on the battlefield? In your opinion, is a banzai attack worth it strategically? Why or why not?

EVALUATE: Wilky states, “Kill every enemy twice.” Is this good advice or disrespect?

Chapter 22:

Explore Battle fatigue/ PTSD for veterans past and present

Chapter 23:

Examine the Geneva Convention

Explore Japanese culture and tsunami

Chapter 26:

EVALUATE: Determine the effectiveness of WWII propaganda.

Chapter 27:

Compare and contrast Operation Iceburg vs. Normandy

Explore the role FDR played in WWII

What was the Japanese perspective?

Examine America’s use of Japanese Internment Camps

Chapter 28:

EVALUATE: Debate the use of the atomic bomb during WWII. You and your partner each take opposing sides.

CREATE: Write a plan for nuclear arms reduction.

CREATE: I wonder what would have happened if the atomic bombs had NOT been dropped on Hiroshima and Nagasaki?

Parallel Journeys by Eleanor Ayers

Chapter 1-2:

ANALYZE: Compare and contrast the biases Helen and Alfons have?

EVALUATE: Evaluate the propaganda used by the Hitler Youth. What did they do that was very persuasive? What were some of the groups' fallacies?

COMPREHEND: Describe some of the similarities and differences between communism, a dictatorship, and democracy.

APPLY: How would you handle the circumstances Helen and Alfons are in?

Chapter 3-4:

ANALYZE: What assumptions can you make about Hitler Youth's recruitment of children?

EVALUATE: When can a person's beliefs become dangerous?

EVALUATE: What makes someone a good leader? A good orator? Evaluate Hitler's speech for his oratory skills and persuasive content.

EVALUATE: Which is more important, standing up for what you believe is right or protecting yourself and your family?

Chapter 5-6:

EVALUATE: I wonder what happens when a leader's orders are obeyed without question?

EVALUATE: Is it moral to be drafted into a group or organization?

CREATE: Develop a plan or propaganda in response to Hitler's statements that Germany was ready for peace with the Allies, had no claims against France, their attacks were defensive, and they were never acting against the British interests.

CREATE: Do you suppose that Hitler and Germany would have conquered so many countries without Hitler Youth?

ANALYZE: Analyze Adolf Hitler's leadership and Winston Churchill's leadership using famous quotes they made throughout WWII.

Chapter 7-8:

EVALUATE: How does the author's use of third person and multiple first person accounts affect you the reader? Rate the author's writing techniques.

EVALUATE: Debate - should everyone serve their country in one way or another? Defend your position.

ANALYZE: Analyze FDR's speech after the attack on Pearl Harbor. What was his intent? I wonder if the attack had not happened, what would the US have done?

Chapters 9-10:

EVALUATE: Is world domination possible? Defend your position. If not, why do groups and leaders still try to achieve world domination?

CREATE: The author states that Hitler's Youth were blind to his dark side and the future. Do you suppose there is anything we are blind to?

EVALUATE: What does the author do to you when they switch to a first person account, but don't tell you whose experience it was?

Chapters 11-12:

CREATE: I wonder why the Jews in the ghettos resisted the Germans?

EVALUATE: Which fate is worse, to live in hiding, to live in the ghettos, or to be sent to the concentration camps? Why?

ANALYZE: How does war change a person?

CREATE: Create a new title for the chapter called "Discovery and Deportation". Why did you give it that name?

Chapter 13-14:

CREATE: If you were imprisoned like Helen what would you do?

CREATE: Change one element of WWII and create a diagram, using pictures and words, of how that would have changed things and possibly the outcome of the war.

Chapter 15-16:

CREATE: What could the Red Cross have done differently?

ANALYZE: What themes did the author include in this book?

Chapter 17-18:

APPLY: How would you handle deserting or quitting?

ANALYZE: Why do humans categorize each other? Why do some people hate others so much?

APPLY: Does the German anti-Semitism remind you of any other point in history? How so?

Chapter 19-20:

EVALUATE: Debate - Should people under the age of 18 be held responsible for their actions during the war? Defend your position.

ANALYZE: Compare and contrast Alfons and Helen's perspectives.

EVALUATE: Did Helen make the right choice by taking her daughter with her?

ANALYZE: Analyze the Nuremberg Trials.

End of the book questions:

During the speaking tours that Helen and Alfons made, audiences were sometimes angry at Helen. They thought she should not be so forgiving toward a former member of the Hitler Youth.

ANALYZE: Why do you think that Helen believes so strongly that we should not hate all the members of any group?

EVALUATE: Do you agree with Helen?

ANALYZE: I wonder why the author chose to tell both Alfons' and Helen's stories together? What did you gain from hearing both stories?

Appendix C

Online Student Response Results:

Parallel Journeys Group

Beginning = 1, Developing = 2, Secure = 3

Question:	Type of Question:	Average Student Response:	Mean Score:
How did Hitler come to power?	Understand	DEV	2.5
What is a reich?	Remember	SEC	2.6
What was it like to be German during that time?	Understand	DEV	2.4
Infer some of Helen's character traits.	Analyze	DEV	2.4
What were some changes and acts Hitler declared?	Remember	SEC	2.6
Why was it important for leaders of the Hitler Youth to keep careful records?	Evaluate	DEV	2.4
What made Hitler Youth so appealing to children?	Understand	SEC	2.6
What bound Alfons "to Hitler until the bitter end" (22)?	Analyze	DEV	2.5
Why did Germans pay "little attention to their hero's darker side" (25)?	Evaluate	DEV	2.1
How can something be "horribly beautiful" and "terribly exciting" (29) at the same time?	Create	BEG	1.8
How did the Nazis justify Kristallnacht?	Understand	DEV	1.8
What was the importance of the Kristallnacht?	Evaluate	DEV	1.8

Defend your answer.			
How did Fred and his father obtain American visas?	Remember	DEV	1.6
What is the author's viewpoint on Britain?	Evaluate	DEV	2.3
Why was it a bad military decision for the Luftwaffe to target the city of London on September 15?	Evaluate	DEV	2.1
Develop a plan or propaganda in response to Hitler's statements that Germany was ready for peace with the Allies, had no claims against France, their attacks were defensive, and they were never acting against the British interests.	Create	BEG	1.6
Why did most Germans believe the Final Solution meant Jewish people were being sent to work as slave labor on farms?	Analyze	DEV	2.1
Why was Operation Barbarossa unwise?	Evaluate	SEC	2.8
How does the author's use of third person and multiple first person accounts affect you the reader? Rate the author's writing techniques.	Evaluate	SEC	3.0
Debate - should everyone serve their country in one way or another? Defend your position.	Evaluate	DEV	2.4
How did technology, including aircraft, play a role in warfare?	Analyze	DEV	2.3
What changed Alfons into a fanatic believer in Germany?	Analyze	SEC	2.5
Why do you think they stepped up Hitler Youth pre-military training after their defeat in Russia?	Analyze	DEV	2.4
How did the Nazis get Jews to mistrust each other?	Understand	DEV	2.4
The author states that Hitler's Youth were blind to his dark side and the future. Do you suppose there is anything we are blind to?	Create	SEC	2.8
What were the conditions like in the Ghetto in Warsaw?	Remember	SEC	2.7

What do you think and feel when you see pictures of the Hitler Youth?	Evaluate	SEC	2.6
Why was the German military machine failing?	Analyze	SEC	2.4
Which fate is worse, to live in hiding, to live in the ghettos, or to be sent to the concentration camps? Why?	Evaluate	SEC	2.6
What did Nazi political propaganda do to the Hitler Youth?	Analyze	SEC	2.6
How well did the young Hitler Youth members handle the death of their comrades?	Evaluate	DEV	2.2
What happened to women when their train reached its destination?	Understand	SEC	3.0
Change one element of WWII and construct a diagram, using pictures and words, of how that would have changed things and possibly the outcome of the war.	Apply	DEV	2.3
What does the title "Our Journey to Heaven" stand for?	Analyze	SEC	3.0
What were some things prisoners did to survive and why did they continue to do them even after they were freed?	Analyze	SEC	2.9
Why were the orders to punish deserters not always followed?	Analyze	DEV	2.4
Why does Alfons only claim to be part of the Luftwaffe, not Hitler Youth?	Analyze	SEC	2.7
Infer what Helen was feeling after she was freed?	Understand	SEC	2.9
What could the Red Cross have done differently?	Create	SEC	2.6
Why do humans categorize each other? Why do some people hate others so much?	Analyze	DEV	2.6

Beginning = 1, Developing = 2, Secure = 3

Question:	Type of Question:	Average Student Response:	Mean Score:
Who's telling the story, and what point of view is the story being told from?	Understand	SEC	2.7
Why did Kii Yazhi's mother dress up for him?	Understand	SEC/DEV	2.4
What was the greater purpose for Kii Yazhi to go to school?	Understand	DEV	2.0
"There is no word for good-bye in Navajo." What does that tell you about the Navajo culture?	Analyze	DEV	1.8
Why did the school force the Navajo boys to cut their hair if they knew the Navajo beliefs?	Analyze	DEV	2.2
What can you infer about Ned? (Use evidence from p.26)	Analyze	SEC	2.6
How did the teachers help the Navajo children "progress"?	Remember	SEC	2.3
How did Ned survive school?	Remember	DEV	2.5
Ned chose to research Japan. What does his choice in topic tell us about him?	Analyze	DEV	2.3
What does this quote mean? "Strong words outlast the paper they are written upon."	Analyze	DEV	2.1
How would you feel in a dunce cap?	Apply	SEC	2.7
What were two good things about Ned's high school experience?	Understand	DEV	1.8
Find an example of irony in chapter 10.	Apply	SEC	2.7
What are 3 powerful lessons Ned learns in chapter 10?	Understand	DEV	2.3
Read about the Navajo's "The Long Walk" of 1863 to the Cherokee's "The Trail of Tears". Then compare these two historical events.	Analyze	DEV	1.9

Why did the code talkers have to prove themselves?	Analyze	DEV	1.9
What were some of the Navajo beliefs about death and corpses?	Understand	DEV	2.3
What are the 5 rules of combat for the Japanese? What are your reactions to those rules? How would you feel if you had to fight someone who followed those rules?	Evaluate	DEV	2.2
On a separate piece of paper or on google drawings, make a diagram of how code talkers worked in the battlefield. Use pictures and words. Be sure to label and draw arrows if necessary.	Create	DEV	2.0
Do you agree with the water trick Ned and the other Navajos pulled? Why or why not?	Evaluate	SEC	2.7
What are some connections Ned makes to the natives living on the Solomon Island?	Analyze	DEV	2.4
Why do you think soldiers nickname things?	Understand	SEC	2.6
How did Ned survive that first landing both physically and mentally?	Understand	DEV	1.9
While on the battlefield, what did the soldiers do to protect the code talkers and why did they do it?	Understand	DEV	2.1
What are some of the effects battles had on the soldiers?	Understand	DEV	2.4
What military tactics are most effective on the battlefield? In your opinion, is a banzai attack worth it strategically? Why or why not?	Evaluate	SEC	2.8
Wilky states, "Kill every enemy twice." Is this good advice or disrespect? Explain.	Evaluate	SEC	2.8
Why did Japanese sign up to be Kamikaze pilots?	Remember	SEC	2.5
Ned learned a lot about history and other cultures. What can you infer about him based on that?	Analyze	SEC	2.4

How did the US try to defeat the Japanese using “other ways”?	Understand	DEV	2.2
Read the article about the Geneva Convention. The Geneva Convention was an agreement between nations. Evaluate the Geneva Convention. What does it do well? What do you think needs to be added to the convention?	Evaluate	DEV	2.0

Someone Named Eva Group

Beginning = 1, Developing = 2, Secure = 3

Question:	Type of Question:	Average Student Response:	Mean Score:
What is life like for Milada and her family in the beginning of chapter 1?	Remember	DEV	2.3
Infer some of Milada’s character traits.	Analyze	DEV	2.0
Why did Babichka pack nothing and give the pin to Milada?	Analyze	BEG	1.5
What do you think the doctors wanted with Milada?	Understand	SEC	2.4
What are some things Milada had to do at her new home in Poland?	Remember	SEC	2.8
Infer how Milada is feeling.	Understand	SEC	2.6
What does the star pin Milada’s babichka gave her symbolize?	Analyze	DEV	2.1
Imagine you are being told you are not you anymore and you can’t speak your language anymore and you are a new and different person. What would that be like? How would you react?	Understand	SEC	2.6
Why are they only taking young girls?	Analyze	DEV	1.9
Is Milada going to lose herself and forget everything?	Understand	DEV	2.1

Where did Elsa and Heidi go?	Analyze	SEC	2.4
What is going to happen after Eva and other girls are done at this school?	Understand	DEV	2.0
What does their choice in friends tell us about Eva and Franziska?	Analyze	DEV	2.2
How does Franziska use her power?	Understand	SEC	2.7
What's going on on p.86? What does the word lavished on p.86 mean?	Analyze	DEV	2.0
How would you react if you were being told you have a new family? What would you say, do, and think?	Understand	DEV	2.2
Predict, where is Eva's real family? What happened to them?	Understand	SEC	2.4
Why did Fraulein Kruger tell Eva's new family that her real parents were lost in an air raid?	Analyze	DEV	2.1
As Eva becomes closer to her new family, what is she losing?	Understand	DEV	2.4
What is the smell from the camp?	Understand	SEC	2.8
What is the League of German Girls?	Remember	DEV	2.0
Imagine you are in Eva's position. What would you do? How would you act?	Understand	SEC	3.0
On a scale of 1-10, what would your rate this book and why? Give examples from the text to back up your evaluation.	Evaluate	SEC	2.7
What surprised you about the ending?	Evaluate	SEC	2.7
What questions do you want to ask the author Ms. Wolf?	Create	DEV	2.4
If you could change something about the book, what would you change? How would it affect the story? OR Create one more chapter about Eva's life after the war.	Create	DEV	2.2

Appendix D

Individual Online Student Response Results:

Code Talker Group

Beginning = 1, Developing = 2, Secure = 3

Student #	Ch. 1-3	Ch. 4-5	Ch. 6-7	Ch. 10	Ch. 15-17	Ch. 18-20	Ch. 21-22	Ch. 23-25	Trend (+, -, N)
1	DEV 2.2	DEV 1.8	BEG 1.5	DEV 2.0	DEV 2.5	SEC 2.8	DEV 1.8	DEV 1.5	N
2	SEC 2.8	DEV 2.0	DEV 1.8	n/a	DEV 2.5	SEC 3.0	DEV 2.5	DEV 2.0	N
3	DEV 2.0	DEV 2.5	DEV 2.3	DEV 2.0	DEV 2.5	DEV 2.3	BEG 1.5	DEV 1.8	N
4	SEC 2.8	SEC 2.0	SEC 3.0	SEC 3.0	DEV 2.3	SEC 2.8	SEC 3.0	SEC 3.0	N
5	DEV 2.0	DEV 2.3	SEC 2.5	SEC 2.7	DEV 2.5	SEC 2.8	SEC 2.5	SEC 3.0	+
6	DEV 2.4	SEC 2.8	n/a	SEC 2.7	SEC 2.8	SEC 3.0	SEC 2.5	SEC 2.8	+
7	DEV 2.6	SEC 3.0	DEV 2.3	SEC 2.7	DEV 2.0	SEC 3.0	SEC 3.0	SEC 2.8	+
8	DEV 2.4	SEC 2.5	DEV 2.0	DEV 2.3	DEV 2.5	DEV 1.75	DEV 2.5	DEV 2.0	N
9	DEV 2.2	SEC 2.8	SEC 3.0	DEV 1.7	DEV 2.5	SEC 3.0	SEC 2.8	n/a	+
10	BEG	SEC	DEV	DEV	n/a	DEV	DEV	DEV	N

	1.6	2.8	2.3	2.3		2.0	1.8	1.8	
11	DEV 2.2	n/a	n/a	DEV 2.3	DEV 2.5	n/a	DEV 2.5	n/a	N
12	DEV 2.0	n/a	n/a	DEV 2.0	DEV 2.5	DEV 2.0	DEV 2.3	SEC 2.5	N
13	DEV 1.6	DEV 1.8	BEG 1.5	BEG 1.7	BEG 1.8	DEV 2.0	SEC 2.8	DEV 2.0	N

Parallel Journeys Group

Beginning = 1, Developing = 2, Secure = 3

Student #	Ch. 1-2	Ch. 3	Ch. 4	Ch. 6	Ch. 7-8	Ch. 9-10	Ch. 11-12	Ch. 13-14	Ch. 15-18	Trend (+, -, N)
14	SEC 2.6	DEV 2.5	DEV 1.5	DEV 1.7	DEV 2.5	SEC 2.8	SEC 3.0	DEV 2.3	SEC 2.7	+
15	SEC 2.8	DEV 2.5	DEV 2.0	SEC 2.3	SEC 3.0	SEC 3.0	SEC 2.8	SEC 3.0	SEC 3.0	+
16	SEC 2.6	DEV 2.5	DEV 2.0	SEC 2.3	SEC 2.5	DEV 2.4	DEV 2.0	SEC 2.8	SEC 3.0	N
17	DEV 2.2	DEV 2.5	DEV 2.0	BEG 1.3	DEV 2.5	SEC 2.8	SEC 2.8	DEV 2.3	DEV 2.6	N
18	SEC 2.6	DEV 2.3	DEV 2.3	BEG 1.7	SEC 2.8	DEV 2.4	DEV 2.5	SEC 3.0	SEC 2.7	+
19	DEV 2.2	DEV 2.3	BEG 1.3	SEC 3.0	SEC 2.8	SEC 3.0	SEC 3.0	SEC 2.5	SEC 2.4	+
20	DEV 2.4	DEV 2.0	DEV 1.5	BEG 1.0	DEV 2.3	BEG 1.6	n/a	n/a	n/a	-
21	SEC 2.6	DEV 2.8	BEG 1.3	SEC 1.7	DEV 2.3	BEG 1.6	DEV 2.0	DEV 1.8	SEC 2.7	N

Someone Named Eva Group

Beginning = 1, Developing = 2, Secure = 3

Student #	Ch. 1-2	Ch. 3	Ch. 4	Ch. 6	Ch. 7	Ch. 9	Ch. 13	Trend (+, -, N)
22	BEG 1.75	BEG 1.3	BEG 1.5	DEV 2.3	DEV 1.7	DEV 2.0	DEV 2.0	+
23	SEC 2.8	SEC 3.0	DEV 2.3	DEV 2.0	SEC 2.7	SEC 3.0	SEC 2.5	N
24	SEC 2.5	SEC 3.0	SEC 2.8	SEC 3.0	SEC 2.7	SEC 2.5	SEC 3.0	N
25	DEV 2.3	SEC 3.0	DEV 2.3	DEV 2.3	DEV 2.0	DEV 2.5	DEV 2.5	N
26	DEV 2.3	DEV 2.5	BEG 1.3	DEV 2.3	DEV 2.0	SEC 3.0	SEC 2.8	+
27	DEV 2.3	DEV 2.3	SEC 2.8	DEV 2.3	SEC 2.7	SEC 2.8	SEC 2.8	+
28	BEG 1.5	n/a	n/a	BEG 1.3	n/a	n/a	n/a	N
29	DEV 2.0	DEV 2.5	BEG 1.5	SEC 2.7	DEV 1.7	DEV 2.5	DEV 2.0	N
30	BEG 1.5	DEV 2.3	n/a	DEV 2.0	DEV 2.0	DEV 2.3	DEV 2.5	N
31	DEV 2.3	SEC 2.8	DEV 2.5	SEC 2.7	SEC 3.0	SEC 2.5	DEV 2.5	+

Appendix E

Backward Design Lesson Plans

Lesson #1: Student Generated Questioning

Grade Level: 5th

Step 1—Desired Results (What students will learn...)	
<p>Reading Standard: 5.1.2.2 Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.</p> <p>Higher Order Thinking Goal: I can create questions that help deepen my understanding and reading comprehension.</p> <p>Big IDEAS - The nature of humanity and curiosity</p> <p>Essential Questions - What are you wondering about? When can people lose their humanity?</p>	
Step 2—Assessment Evidence (Summative/Formative check for learning)	
<p>Students will create questions based on what they read and heard about in <i>The Wretched Stone</i>.</p> <p>They will also sort their questions into different categories such as: text-dependent questions, rhetorical questions, divergent questions, convergent questions, recall questions vs. inferential questions, etc...</p>	
Step 3—Learning Plan (detailed enough for another teacher to follow)	
<p><i>Student actions:</i></p> <ul style="list-style-type: none"> • Introductory activity: Predict what the story will be about based on clues. Answer the question, what are you wondering about? What is the format of the story? • Student-centered learning steps: Listen to the story and think about questions you are wondering about the 	<p><i>Teacher actions:</i></p> <ul style="list-style-type: none"> • Ask the students to predict based on the cover and title of the book. • Read aloud to the students. • Pause to think aloud in the beginning of the book to model what I'm wondering about. • Write down questions I'm

<p>stone and the crewmen. Write down questions as you think of them.</p> <ul style="list-style-type: none"> • Closure: What could the stone symbolize? Why did the crewmen change? When can people lose their humanity? 	<p>wondering as teacher reads.</p> <ul style="list-style-type: none"> • Gradually release students to create their own questions while teacher reads aloud.
<p><i>Resources, Timing, and Materials</i></p> <ul style="list-style-type: none"> • <i>A Wretched Stone</i> by Chris Van Allsburg • Note cards or post-its for individual questions to be written on • 30 minutes • See <i>Mosaic of Thought</i> by Keene and Zimmermann for more details 	

Adapted from Tomlinson and McTighe, *Integrating Differentiated Instruction + Understanding by Design*, ASCD, 2006.

Lesson #2: Student Generated Questions and Levels of Thought Grade Level: 5th

<p>Step 1—Desired Results (What students will learn...)</p>	
<p>Reading Standard: 5.2.2.2 Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.</p> <p>Higher Order Thinking Goal: I can create higher-order thinking (HOT) questions that help deepen my understanding and reading comprehension.</p> <p>BIG Ideas: Questions and our thinking can have different levels of difficulty.</p> <p>Essential Questions: What are the different levels of thinking I can engage in? What are some of the main ideas of the story?</p>	
<p>Step 2—Assessment Evidence (Summative/Formative check for learning)</p>	
<p><i>Performance task</i>—Students will create higher-order thinking (HOT) questions based on what they read and heard about a WWII topic. Students will write questions that fall into the categories of apply, analyze, synthesize, and evaluate.</p>	
<p>Step 3—Learning Plan (detailed enough for another teacher to follow)</p>	
<p><i>Student Actions:</i></p> <ul style="list-style-type: none"> • Introductory activity: What are the different levels of thinking I can engage in? Come up with some questions that are easy and questions that require more thought. 	<p><i>Teacher Actions:</i></p> <ul style="list-style-type: none"> • Introduce the 6 different levels of thought • Give students sentence stems to help them construct higher level questioning

<ul style="list-style-type: none"> • Predict by asking question you think the book will answer. • Write down questions as the teacher reads using sentence stems. • Share your questions with your partner and sort them into categories of thought. • Closure: What are some different levels of thinking I can engage in? What were some of the main ideas of the story? 	<ul style="list-style-type: none"> • Introduce the nonfiction book • Ask students to write a question they think will be answered about this topic. • Read aloud • Pause to think aloud and create questions • Gradually release students to try creating their own questions. • Sort questions according to the level of thought required.
<p><i>Resources, Timing, and Materials</i></p> <ul style="list-style-type: none"> • <i>Who's Who in WWII</i>, by Alison Hawes • Note cards or post-its and poster paper to categorize the questions • 30 minutes • See <i>The Art of Inquiry</i> by Cecil for more information. • Handout - http://goldenwestcollege.edu/wpmu/iec/files/2010/04/Questions-Using-Blooms-Taxonomy.pdf 	

Adapted from Tomlinson and McTighe, *Integrating Differentiated Instruction + Understanding by Design*, ASCD, 2006.

Lesson #3: Metacognition - Monitoring Comprehension

Grade Level: 5th

Step 1—Desired Results (What students will learn...)	
<p>Reading Standard: 5.2.2.2 Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.</p> <p>Higher Order Thinking Goal: I can be metacognitive and think about my own thinking. I recognize strategies I use and if they worked or not.</p> <p>BIG Ideas: Being in control of your thoughts is powerful and can be done for any subject or task.</p> <p>Essential Questions: What's my thinking process? How do I monitor my reading? What do I do while I'm thinking?</p>	
Step 2—Assessment Evidence (Summative/Formative check for learning)	
<p><i>Performance task</i>—Students will create their own graphic organizer based on how their brain organized the information in the article. Students will track what they were doing while reading.</p>	
Step 3—Learning Plan (detailed enough for another teacher to follow)	
<i>Student Actions:</i>	<i>Teacher Actions:</i>

<ul style="list-style-type: none"> • Introductory activity: turn and talk about a time when you reflected on your actions and wished you had done something else. • Listen and watch teacher modeling thinking aloud and catch when she makes a mistake and how she fixes it. • Reads an article on WWII and its connection to today's refugees from Syria. • Mark the article when they notice they are thinking about something. Put down a symbol or code. • Write down what the main idea of the article is. • Closure: Reflect on what it feels like to be metacognitive. 	<ul style="list-style-type: none"> • Introduce metacognition by relating it to a metaphor like driving a car. Driving their brain might mean putting on the breaks, stepping on the gas, etc... • Explain how the brain's axons, neurons, and dendrites work together and make connections using pipe cleaners as a concrete representation. • Model reading and thinking aloud from WWII book. • Show students how to code what they are thinking about. • Invite students to try it with their WWII article. • Closure: Ask, "How did you monitor your own reading? What did you think about?"
<p><i>Resources, Timing, and Materials</i></p> <ul style="list-style-type: none"> • <i>50 Things You Should Know About the Second World War</i>, by Tasha Percy • Note cards • 60 minutes • See <i>Strategies That Work</i> (Harvey & Goudvis, 2006) 	

Adapted from Tomlinson and McTighe, *Integrating Differentiated Instruction + Understanding by Design*, ASCD, 2006.

Lesson #4: Analysis - WWII Propaganda

Grade Level: 5th

<p>Step 1—Desired Results (What students will learn...)</p>
<p>Reading Standard: 5.8.7.7 Distinguish among, understand, and use different types of print, digital, and multimodal media. a. Make informed judgments about messages promoted in the mass media (e.g., film, television, radio, magazines, advertisements, newspapers).</p> <p>Higher Order Thinking Goal: I can examine and analyze WWII propaganda for its parts, symbolism, theme, purpose, audience, tone, and type of propaganda technique used.</p> <p>BIG Ideas: Media has an effect on us and how we view the world. Be a conscientious consumer.</p> <p>Essential Questions: What makes something really persuasive? What does it take to get you to change your mind?</p>
<p>Step 2—Assessment Evidence (Summative/Formative check for learning)</p>

<p><i>Performance task— Analyze...</i> For whom is the poster intended? Purpose? Theme? Symbolism? Tone? What type of propaganda is used? Effectiveness of poster?</p>	
<p>Step 3—Learning Plan (detailed enough for another teacher to follow)</p>	
<p>A. <i>Learning activities: Steps for students.</i></p> <ul style="list-style-type: none"> • Introductory activity: Look at propaganda ads and determine what they are trying to convince you to do. • Carousel Walk - Go to all the different stations highlighting 7 different types of propaganda techniques. Complete the packet about each type. • Discuss the different types of propaganda. • Read article on WWII propaganda posters. • Practice with partners how to identify propaganda techniques (without prompts) • Assessment: Pick and analyze one poster from WWII. • Closure: 	<p>B. <i>Notes for Teacher</i></p> <ul style="list-style-type: none"> • Introduce what propaganda is using a PowerPoint. Use authentic, well known advertisements. • Post 8 stations and break students into small groups. • Rotate and help groups as they investigate the different types of propaganda. • Discuss which propaganda techniques are easier to identify and which are harder. • Rotate and guide students determine the propaganda techniques used in WWII posters. • Distribute WWII poster assessment.
<p>C. <i>Resources, Timing, and Materials</i></p> <ul style="list-style-type: none"> • https://www.icivics.org/teachers/lesson-plans/propaganda-whats-message • http://www.nationalww2museum.org/learn/education/for-teachers/lesson-plans/ww2-propaganda-posters.html • 3 - one hour class periods 	

Adapted from Tomlinson and McTighe, *Integrating Differentiated Instruction + Understanding by Design*, ASCD, 2006.

Lesson #5: EVALUATE - Assumptions and Biases

Grade Level: 5th

<p>Step 1—Desired Results (What students will learn...)</p>
<p>Reading Standard: 5.2.8.8 Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).</p> <p>Higher Order Thinking Goal: I can evaluate a source's bias.</p> <p>BIG Ideas: All humans are fallible and are biased. We can be aware of our own</p>

biases and the biases of the media to make better informed decisions and opinions.	
Essential Questions: What bias did you find in the article/document/cartoon? What clues helped you determine the bias? How were you able to evaluate the bias of the source? In what ways are you biased?	
Step 2—Assessment Evidence (Summative/Formative check for learning)	
<i>Performance task— Students will identify and evaluate the level of bias in a news article, cartoon, or primary source document.</i>	
Step 3—Learning Plan (detailed enough for another teacher to follow)	
<p><i>D. Learning activities: Steps for students.</i></p> <ul style="list-style-type: none"> • Introductory activity: Write down a time when someone was biased against or for you. How did that feel? Why do you think they were biased? • Discuss the bias and discrimination faced by the main character as you hear the story. • Students take different Dr. Seuss political cartoons and evaluate the bias. • Shared Reading - Article on how to detect bias in the news. • Students use the Bias Evaluation Worksheet with the Washington Post article. • Closure: Students share the bias they found in their news article. 	<p><i>E. Notes for Teacher</i></p> <ul style="list-style-type: none"> • Read <i>How Baseball Saved Us</i> by Ken Mochizuki. • Ask questions about bias? How do kids know that (find evidence)? • Model how to evaluate bias using a previously used propaganda poster. • Reread Washington Post article looking for bias. • Invite students to find a different article, document, or cartoon and evaluate it for bias.
<p><i>F. Resources, Timing, and Materials</i></p> <ul style="list-style-type: none"> • Article - https://www.washingtonpost.com/news/worldviews/wp/2015/11/17/what-americans-thought-of-jewish-refugees-on-the-eve-of-world-war-ii/ • WWII Political Cartoons • http://mediasmarts.ca/sites/mediasmarts/files/pdfs/lesson-plan/Lesson_Bias_News_Sources.pdf • Resources (where I got my ideas) 	

Adapted from Tomlinson and McTighe, *Integrating Differentiated Instruction + Understanding by Design*, ASCD, 2006.

Lesson #6: Logic & Reasoning - Debate the Atomic Bomb

Grade Level: 5th

Step 1—Desired Results (What students will learn...)
<i>Standards, benchmarks, other objectives as needed. What should students know,</i>

understand, and be able to do as a result of the lesson?

Reading Standard:

5.2.3.3 Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

5.8.4.4 Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; avoid plagiarism by identifying sources; speak clearly at an understandable pace.

Higher Order Thinking Goal:

I can debate by stating my position and backing up my position statement with logic, evidence, and reasoning.

BIG Ideas: Just because we can do something, doesn't mean we should do it.

Essential Questions: When in conflict, when is it time to say enough is enough? Do the ends justify the means?

Step 2—Assessment Evidence (Summative/Formative check for learning)

Performance task—Complete t-chart of both sides of the debate using facts from the readings. Looking for comprehension of Atomic Bomb websites and online articles and ability to know which facts support which side of the argument.

Step 3—Learning Plan (detailed enough for another teacher to follow)

G. Learning activities: Steps for students.

- Introductory activity: Discuss the essential question with a neighbor.
- Students will do a shared reading experience using an article about football.
- As students read along, they are looking for facts to support the different sides of the issue, “Should kids play football?”
- Students share facts they found with turn and talk neighbors.
- Read 4 different websites and news articles on the Atomic Bomb debate.
- Complete the t-chart and use bullet points and strong facts to back up each side of the debate.
- Closure: Discuss the question, “Do the ends (Japan’s surrender), justify the means (death, destruction of Nagasaki

H. Notes for Teacher

- Ask the students the essential question, “In conflict, when is it time to say, enough is enough?”
- Read aloud the football article. Model finding a strong fact and adding it to the t-chart.
- Stop often to discuss with class the facts they found.
- Write student’s evidence on the t-chart. Only include strong facts. Leave out background knowledge.
- Do a quick reflection of what they learned about finding facts to support an argument.
- Distribute t-chart for Atomic Bomb debate.
- Closure: Ask the question, “Do the ends, justify the means?” Guide the discussion. Allow student voices to be heard.

and Hiroshima)? Use their research to back up their opinion.	Encourage the use of their t-chart research.
<p><i>I. Resources, Timing, and Materials</i></p> <ul style="list-style-type: none"> • http://cdn.scope.scholastic.com/sites/default/files/uploads_scope/issues/020115/pdfs/SCOPE-020115-Debate.pdf • http://www.ducksters.com/history/world_war_ii/ww2_atomic_bomb.php • http://www.cnduk.org/campaigns/global-abolition/hiroshima-a-nagasaki • http://teacher.scholastic.com/scholasticnews/indepth/upfront/debate/index.asp?article=0514 • http://www.bbc.co.uk/education/guides/z8y82hv/revision • 2 - 60 minute class periods • Optional: <i>Sadako, and the Thousand Paper Cranes</i> by Eleanor Coerr 	

Adapted from Tomlinson and McTighe, *Integrating Differentiated Instruction + Understanding by Design*, ASCD, 2006.

Appendix F

Critical Thinking Rubrics

Assessing Analysis - WWII Propaganda

	SECURE (3)	DEVELOPING (2)	BEGINNING (1)
Analysis	The analysis is clear and appropriate.	The analysis is mostly clear and appropriate.	The analysis is unclear or incomplete.
Appropriateness of evidence	Evidence is accurate, relevant and complete	Evidence is mostly clear, some parts are not relevant or complete	Evidence is not clear or incomplete.
Reasoning and explanation	The reasoning supports the analysis and is clear, logical, and well explained	The reasoning supports the analysis and is mostly clear and logical. Some explanation is given.	The way in which the reasoning supports the analysis is not clear, illogical, or not explained.
NEXT STEPS:			

Assessing Judgment - Assumptions and Biases

	SECURE (3)	DEVELOPING (2)	BEGINNING (1)
Judgment	The judgment is clear and complete, and answers the question or problem.	The judgment is clear and mostly answers the question or problem.	The judgment is unclear or does not answer the question or problem.

Appropriateness of evidence	Evidence is accurate, relevant and complete.	Evidence is mostly clear, some parts are not relevant or complete.	Evidence is not clear or incomplete.
Reasoning and explanation	The evidence supports the judgment and is clear, logical, and well explained	The evidence supports the judgment and is mostly clear and logical. Some explanation is given.	The way in which the evidence supports the judgment is not clear, illogical, or not explained.
NEXT STEPS:			

Assessing Logic and Reasoning - DEBATE

	SECURE (3)	DEVELOPING (2)	BEGINNING (1)
Logic and Reasoning	The logic is clear and appropriate.	The logic is mostly clear and appropriate.	The logic is unclear or incomplete.
Appropriateness of example and evidence	Evidence is accurate, relevant and complete	Evidence is mostly clear, some parts are not relevant or complete	Evidence is not clear or incomplete.
Soundness of Reasoning and explanation	The reasoning is sound and explained fully.	The reasoning is somewhat sound, but is missing a piece to be complete. Reasoning is mostly explained.	The reasoning is unsound and/or not explained fully.
NEXT STEPS:			

Appendix G

Online Student Response Rubric

	SECURE (3)	DEVELOPING (2)	BEGINNING (1)
Level of Understanding?	The reader's response demonstrated an accurate understanding of the important information	The reader's response demonstrated a somewhat accurate understanding of the text.	The reader's response demonstrated little to no accurate understanding of the text.
Higher-level thinking used?	The reader was able use information from the text to accurately analyze, evaluate, create, or apply.	The reader was able to use information from the text to sometimes accurately analyze, evaluate, create, or apply.	The reader was unable to use information from the text to analyze, evaluate, create, or apply.
Justification?	The reader accurately referenced the text to fully support their thinking.	The reader partially referenced the text and somewhat supported their thinking.	The reader did not reference the text to support their thinking.
Next Steps:			

Appendix H

Guided Reading Transcripts

Code Talker Group Session #1

Teacher: What are other ways that the U.S. was trying to defeat Japan, other than like your typical weapons and bombs and things?

Student A: Well, I thought one way, well first of all they used, they sunk all the ships that well, Japanese first had to import food, cause they didn't have enough food in their factories. Umm, so the Americans or marines stopped the ships from importing food.

Umm and I was also thinking just a little more, it could have been to get the Japanese weaker too, so they didn't fight as good on the battlefield. Cause like if you're really tired on the battlefield, you don't really get, hit as much of the targets. And also, one was to drop little leaflets saying, 'we're going to bomb your city'. And either try to scare them and then they would drop bombs on their factories to make even less food. But none of the food really got through, cause either the marines stopped the ships or the factories couldn't make anymore.

Teacher: Okay. We'll talk about the food in a little bit too. Thank you. What else?

Student B: They were going to use propoganda which would send fear through their civilians, though they were afraid it may not work, because there were the suicidal missions that the Japanese would send their citizens to. So, they had fear that it would

not work, they would not surrender, they're already sending most of their citizens out to kill themselves, so it may not even work.

Code Talker Group Session #2

Teacher: So, why in the world would a Japanese citizen sign up to be a kamikaze pilot? Let's start with you.

Student A: Well, they thought cause the people in the army said that if you signed up for the kamikaze attacks you'd be the savior of Japan. And they would do the, they'd give them a funeral before they left cause they knew they were going to die.

Teacher: Thank you. Anyone want to add to what Student A had to say?

Student B: Umm, and when they gave them there ah funeral, they'd be basically saying oh you're saving your country, but we know you're going to die. Just here's your last dinner, good luck.

Teacher: Anything else? Student C?

Student C: What kind of confuses me is when they use the propaganda to make like the kamikaze look really good. I'm kind of confused on why they would do that, cause they know it's ineffective and they need to use the propaganda, why would they do it, if it's just going to be a little thing and you know people are going to die doing it?

Teacher: That's a great question. Group, what do you guys think of Student C's question?

Student D: What was the question again?

Teacher: (to Student C) Can I rephrase it, or do you want to say it?

Student C: You can rephrase it.

Teacher: So he's basically asking us, why would Japan choose to use this technique of Kamikaze pilots if it wasn't really very effective? (To Student C) Am I saying that correct? (To everyone) Think about that for a moment. Student E, why do you think they were using this?

Student E: Well, I think probably like spirits and then their beliefs were one of them. But then they also made it sound so great to become one, and really the only way that it would work, is if you came down in mass, like a ton of them, or there were a ton of ships, and if you hit it and then it fell it might hit another ship. But it really wasn't worth anything. Cause basically it was signing, if you're just going to die, no matter what.

Student D: Like a death wish.

Teacher: That's definitely why a citizen would do it, right. I think Student C is asking is why would the government or the military decide to use this technique. What do you think Student F?

Note: This conversation went on, but we never figured out why the Japanese government continued to use Kamikaze pilots. Some students thought maybe it was more successful than the book alluded to. Some thought the Kamikaze pilots could strike a ship and then go hit a different one. I encouraged the students to do some research on this topic. And asked them a follow up question about what this told us about what the Japanese government thought of their citizens. I think this is a great example of how discussions can lead to student generated questions and wonderings that go beyond the text.

Teacher: The question is, how well does the author Joseph use the five senses to tell the story? Which sense should we start with? (*Note: students and teacher used a 1-3 scale to evaluate using beginning, developing, and secure*)

Student A: See

Teacher: Sense of sight? So, how well does he describe what Ned and the other soldiers see? Look in your books. Look for some evidence and we'll vote.

Student A: I think I'll give him a 3.

Teacher: What makes you say that? Can you find evidence?

Student A: Cause one, they're describing the weapons, ships and stuff, aircrafts and stuff. Like the fighter jets that are coming in, he describes them really well, because like he says they're really fast right? And umm that some of them can blow you up really easily right?

Teacher: Does anyone else see some evidence in the book? Can you be specific?

Student B: Umm, I remembered this one part, I couldn't find it. But I remember the part where he was talking about him coming in on the U-boat where umm, he saw, he was describing very descriptively about umm the shore and he would describe like the tide just coming in and coming out. And just this little spark of the moonlight on the beaches and then the sand. Umm, you couldn't even see the sand because it was pitch black, just a little glimmer. So I would give him a 3.

Teacher: Let's look at sounds. How does he do at describing sounds?

Student C: I would give him a 3 because like umm he describes when a bomb goes off you can almost, you can really easily imagine how loud that is, and how loud this like, how loud this bombardment is when they attack, when they just bomb the shore.

Teacher: That's a great example. Thank you. Anyone else think of something that really popped out at you as something you could hear, because of how he described it?

Student D: Umm, right here it says, "It was impossible to hear anything other than the constant deep thudding, booms of our bombardment." That's kind of, I like how it kind of describes the sound, like not just like it's really loud but like...

Teacher: The type of sound? What would you give it?

Student D: Yeah, I'd probably give it a two, maybe two and a half.

Note: This is an example of higher level thinking and students using evidence to back up their thoughts.

Code Talker Group Session #4

Teacher: The question was, why were no code talkers ever raised above the rank of corporal?

Student A: I think at that time, white men didn't respect Navajos the way they are now, and still sometimes they are not respected as much. I think that's why.

Student B: I was thinking it was probably for their identity, since they wanted to keep it so secret. If they became a sergeant or a general, they'd be more worth to the Japanese to kill. If they stayed in the lower ranks, they would think to go kill sergeants and generals, cause that would do more effect. But really if they were killing the corporals and privates, then it would actually probably help the Japanese win the war, but they didn't think that way.

Teacher: I have a follow up question for all of you. Student A mentioned something about the reason that they weren't raised above that rank is because that they were

Navajo and the white men did not respect them. And Student B mentioned it was to keep them more secret, because the code was so much of a secret. So here's my follow up question. Thinking of the white person's perspective and the Navajo perspective. Which one of these two (responses) do you think is the white person's perspective and which one is going to be the Navajo perspective?

Student C: That one is going to be the white perspective (pointing to Student B), because umm, this one is talking about how the White men are not being nice to the Navajo, and the white man doesn't want to think about like that, like they are being the bad guys. So they want to make it like they're being secret. They don't want anyone to know. That they just don't want Navajo being a General or Sergeant, because it would be bad for their reputation.

Teacher: So we can look at it from different perspectives and I like that we got both perspectives when we were talking about it, so we can think about how there's more than one way to look at things.

Note: I believe this is a good example of teacher follow up questions that guide student thinking.

Parallel Journeys Group Session #1

Teacher: We are going to do some evaluating. My question for you to think about is, how does the author use third person and multiple first person accounts affect you the reader. Hold on, think about it for a second.

Student A: The first person give you a more understanding about the war. So if you were a Jew you would see what would happen to all the Jews. And if you were a

German, umm how the war would seem like a good thing for you, because you were being treated better after World War I.

Teacher: I'm curious what you guys think. How does that affect you as the reader?

This is your thoughts.

Student B: Sometimes it gets me confused if it's Helen's perspective or Heck's perspectives.

Student C: I actually liked it, cause umm...

Teacher: How does it affect you?

Student C: It affected me in a good way, because they're like telling you what happened to them, and then she's (author) kind of describing it and going out more into more of the bigger areas of what they were saying.

Teacher: So it sounds to me like you prefer the first person. Can you say again why you like that better.

Student C: Because you like, they describe what they're talking about and then she says when she does 3rd person.

Teacher: Is it pretty believable?

Student C: Yeah, you can get someone's opinion...

Student D: Well, it was a little confusing, but I liked it because then you can see two sides of the story and kind of like a neutral side. Because like you could easily write one that just shows you one side of a story, and then they'd make you think like the author, but if you two sides then you can have your own thoughts.

Teacher: Cool. Okay. So you looked at it more from the idea of the different sides, and now you know more of the story, because you got to hear more sides.

Student E: Maybe it goes a little deeper into the story because well, they're telling two sides of the story again and then there's the author that's kind of narrating it. So, it kind of goes deeper into the story and tells more.

Note: I believe this is an example of higher level thinking and students using evidence to back up their assertions.

Parallel Journeys Group Session #2

Teacher: Why do you think Germans paid little attention to Hitler's dark side?

Student A: I think that umm they didn't pay much attention to Hitler's dark side because he told them how like how great he was. And they believed that, so then they were just like, I don't care how bad he is, I just like how he sounds.

Teacher: Okay. Student B, what do you think?

Student B: Well, because he created jobs and things. Like the Germans would think first about that because it benefits them and then they'd think about the stuff that affects other people. Because like the things that affect them are mostly good, but the things that affect the Jews aren't.

Teacher: K, Student C, what do you think?

Student C: He promised them a glorious future and like they'd be rich and stuff and they're amazing and they're the best race ever. They're the master race. And he was pretty nice to them so they kind of like. Like if somebody's really nice to you...Like, this can even happen to us. You can know somebody who's really nice or something, but they are also are kind of mean in another way, like to other kids...

Teacher: Try to think of some things the book said were some facts that we know about Hitler.

Student D: I don't have any facts really but, to add on to Student A, how he said they saw the good things first. I mean if someone told you you were a nice person, you were the nicest person they've ever met, then they go over to someone else to say, that was really rude of you to draw that picture, or something just random like that. You'd probably wouldn't think of that first as them. You'd probably think, well they complimented me. That's just how I thought of it when I read that.

Teacher: What was Hitler telling people? And why might they be ignoring his darker side?

Student E: He was telling them that the Jews were what, so he's pretty much doing all the bad stuff, but then he's blaming it on the Jews. So, then they think that the Jews actually did it. So pretty much they think the Jews are doing it. So, they wouldn't care about his dark side.

Student F: I have a question. But they would know that umm Hitler like umm caused the night of the broken glass, cause why would the Jews choose to destroy their own shops and homes.

Teacher: Remember, what did he say? Why were they even attacking the Jews in the first place? Do you remember what he said about them?

Student T: Because it was their fault that the country lost the war. And that they killed Jesus.

Teacher: What's the propaganda telling the public about them?

Student B: That it was like the Jewish world conspiracy. So, Hitler AGAIN made something up to benefit him. Because if he said that the Jews did something bad, then people are more likely to think that they are just getting punished for what they did. Instead of being punished because they did better like with their businesses and stuff.

Parallel Journeys Group Session #3

Teacher: When can a person's beliefs become dangerous?

Student A: When they believe...let's say, in Hitler's case he hated Jews, because didn't someone in our class say he was raised by umm non-Jewish nuns or something like that. He feels so strongly in his belief that he doesn't care. He just needs other people to follow it no matter how wrong it is and he will hurt other people to do it.

Teacher: So what you're saying is, beliefs can get dangerous when they are strong?

Student A: Yes.

Teacher: Too strong?

Student A: Umm, when they cloud all of your better judgment.

Teacher: Interesting. So beliefs can get dangerous when your beliefs are so strong, that it it clouds your judgment. Can someone build on what Student A has said?

Student B: Well umm, if you have bad beliefs and you tell someone about them, you may stop believing them if they like tell you why it's not true. Or, but if they believe you or just don't say anything about it you'll keep with it and keep telling people. And if a lot of people end up believing your beliefs, if they umm are bad beliefs you may umm, may go too far to umm make them like sort of like Voldemort in Harry Potter. He said

he didn't want umm, what are they called, muggles? And umm, he umm went to destroy. He destroyed the whole wizard world just trying to get muggles.

Teacher: So what you're saying is, if you have beliefs and they're bad ones...

Student B: It can affect a lot of people and people believing them, which is bad. And also people being hurt by them, which is also bad.