

Fall 2022

Evaluating the Impact of Reciprocal Teaching Embedded Within a Web 2.0 Tool Upon Fifth-Grade Students' Reading Comprehension During Integrated Readers' Workshop at a Professional Development School

Aisja Jones

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EVALUATING THE IMPACT OF RECIPROCAL TEACHING
EMBEDDED WITHIN A WEB 2.0 TOOL UPON FIFTH-GRADE
STUDENTS' READING COMPREHENSION DURING INTEGRATED
READERS' WORKSHOP AT A PROFESSIONAL DEVELOPMENT
SCHOOL

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Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Education in

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2022

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DEDICATION

My granddaddy, who passed away in 2021, would always say, “don’t let yourself down.” He was a firm believer that I had everything I ever need to be successful hidden in me. Under his love and support, I grew up knowing that I wanted to make my granddaddy proud of me. I think my granddaddy would agree that I far exceeded our dreams!

To my mother, you have always been a source of strength and dignity. By watching you return to college at age 27 and complete your degree, I learned that anyone can succeed with perseverance and determination. Today, as I look back on it all, I realize how closely your achievements parallel mine. I watched you attend college for the first time in your 20s and observed the resulting positive life. Some 16 years later, I followed in your footsteps and look at us now. To my children, Chant, Amari, and Chazi, I am grateful for the many hours we spent reading when you were growing up. You didn’t know it, but those hours taught me that school wasn’t so bad.

I would like to thank my husband, Curt, for his unwavering support during the writing of this book. Thank you for your willingness to join me on this journey, for providing me with a steady hand and a listening ear when I needed it most, and for being of immeasurable assistance in helping me to maintain focus throughout the research and writing process. I love you!

ACKNOWLEDGEMENTS

An ancient writer referred to the encouragement and subsequent endorsement one receives from being in good company. Paul, in the book of Hebrews, urges us:

Since we are surrounded by so great a cloud of witnesses, let us also lay aside every weight and the sin that clings so closely, and let us run with perseverance the race that is set before us, looking to Jesus the pioneer and perfecter of our faith. (Hebrews 12:1–2)

Throughout this journey, I have been surrounded by such a great cloud of witnesses. My children's teachers, Susan Taylor, Mrs. Azeh, and Principal Brunson. First, Susan Taylor, the media specialist at my children's elementary school, Geiger, opened her media to me by allowing me to create a Reading Counts account in 2006. In turn, I convinced my husband to join and for a couple of years, we earned the title of Top Reading Parent in the district for multiple years. What she didn't know then was that she planted a seed of loving literacy that bloomed into my initial matriculation through college at 36 years old. In 2017, when it was time to earn my licensure, I was met with math challenges. Mrs. Azeh, my children's high school math teacher at Fairfield Central tutored me and I was able to pass the Praxis on my fourth try. Later in 2018, when I applied to the Learning Design and Technology (LD&T) program, I reached out to Principal Brunson for tutoring on the Miller Analogies Test and we met through FaceTime to practice. I thank all of you for taking the time out of your lives to help a parent become successful!

Another set of witnesses are my colleagues. They would listen with an earnest interest in my spiel about whatever I was learning in the program. My grade-level team encouraged me through smiles and texts. Even when tough moments due to the pressure of working and creating a dissertation became stressful, my team would console me and let me know #yougotthis. Mrs. Nancy Diggs, you are a gem! I am forever changed by your wholehearted support of my journey. Thank you for introducing me to Dr. Thompson and speaking life over me. I am truly a better person because of the collegial support I received.

In addition to colleagues, I was surrounded by cheer readers. Cheer readers is a term penned by Dr. Melisa Baker. Cheer readers are intrepid souls who read your very rough drafts and provide feedback. When asked to be my cheer reader, each one of you enthusiastically responded with, “YES!” Thank you, Dr. Thompson, Dr. Hayden (my auntie), Dr. Currin, and Dr. James. Dr. Thompson served as both my mentor and copresenter during my professional development school. He read my drafts and provided constructive criticism, as well as encouragement when I needed it most. In addition, Dr. Elizabeth Currin (PDS Fellows Advisor) provided timely feedback on my proposals and manuscript, which helped me prepare for the PDS public presentation. This work was in addition to the dissertation feedback. Many hands really does make the work light, thank you!

I would like to thank my committee members, Dr. Lima de Vasconcelos, Dr. Grant, and Dr. Anna C. Clifford for your careful reading of this dissertation, which has led to improvements in its organization and presentation.

Finally, I would like to thank my dissertation chair, Dr. Arslan-Ari. Her gentle nudging helped me to shape my dissertation into a unique contribution to the field. Your time and sage advice were invaluable as I worked through this process.

ABSTRACT

Historical data showed evidence of repeated poor performance on end-of-year (EOY) state tests (South Carolina Department of Education [SCDE], 2017, 2018, 2019). For this study, 12 fifth-grade students read expository text, employed reciprocal teaching strategies, collaborated face to face and online using a Web 2.0 tool during the reading workshop. The purpose of this action research was to evaluate the impact of reciprocal teaching embedded in the Wakelet Curation Tool, a Web 2.0 tool, on fifth-grade students' reading for comprehension, reading attitudes, and perceptions of the innovation in an integrated reading class at an urban characteristic (Milner et al. 2018) professional development school (PDS) (National Association for Professional Development Schools, 2021) site. This action research answered the following three research questions: (a) how and to what extent does reciprocal teaching embedded within Wakelet Curation Tool impact the reading comprehension of fifth-grade students? (b) what are fifth-grade students' overall perceptions about the use of reciprocal teaching embedded with Wakelet Curation Tool during the reading workshop? (c) how does reciprocal teaching embedded in the Wakelet Curation Tool impact fifth-grade students' attitudes toward reading?

This action research followed a convergent parallel mixed-methods design. Two quantitative data collection instruments were used: (a) Comprehension Content Knowledge Pre and Posttest reading passages and (b) Elementary Reading Attitude Survey (ERAS; McKenna & Kear, 1990). Inferential and descriptive statistical tests were run to analyze quantitative data. Findings showed the posttest scores for the

Comprehension Content Knowledge test were not significantly higher than the pretest scores, but there was an increase from pre to posttest. ERAS scores showed there was not an increase from pre to postsurvey. In addition to quantitative data, qualitative data were collected and analyzed using inductive analysis. Four individual semistructured interviews yielded the qualitative data for this study. Four themes were identified over the course of two coding cycles: (a) contributions of fifth-grade students' perceptions about the innovation, (b) affective contributions, (c) reading achievement, and (d) suggestions for future use. The data suggested participants acquired content-specific knowledge and strategies for monitoring and assessing their comprehension.

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CHAPTER 1

INTRODUCTION

National Context

Web 2.0 tools shift classroom instruction from teacher-centered to student-centered, promote engagement, and provide a multimedia platform to meet the cognitive and technological needs of students today (Rahimi et al., 2015). Educational technology broadly and Web 2.0 tools specifically enhance autonomy and creativity by giving students freedom to use embedded applications as needed (del Barrio- García et al., 2015). For almost 2 decades, a national decree has encouraged integrating technology in reading classrooms. In 2009, the International Reading Association recommended developing instruction that integrates literacy and technology. Eleven years later, *The Horizon Report* documented using and creating technology tools to deliver personalized learning to meet individual student needs (Brown et al., 2020). These reports have amplified the need for relevant instruction in the classroom. Further, in 2016, International Society of Technology and Education (ISTE) members revamped standards to reflect teacher and student technology competencies (Trust, 2018). The revised standards guide educators in creating and sustaining instruction in a technology ecosystem; for example, ISTE Standard 5 directs educators to design authentic learner-driven activities and environments that recognize and accommodate learner variability (Crompton & Sykora, 2021; Gomez et al., 2022). Collectively, these standards outline various teacher tasks and student actions.

Another persistent problem in elementary school is the inability to read expository text for comprehension (Bos et al., 2016; Jiménez-Fernández, 2015; Lupo et al., 2019). Globally, the Progress in Literacy Study (PIRLS) measures reading assessments of fourth-grade students, and students from the United States recently scored below the 50th percentile (Warner-Griffin et al., 2017, p. 5). Since 1992, national language arts scores for fourth-grade students have not been stable, and in a 2019 National Assessment of Education Progress (NAEP) report, less than one third of fourth-grade students scored at or above proficient in reading comprehension (National Center for Education Statistics [NCES], 2019). Literacy scores of fourth-grade students remain lacking globally and nationally (NCES, 2019; Warner-Griffin et al., 2017).

In response to these trends, high-quality literacy education has been a priority at the federal and state levels. In 2009, under then-President Obama, the U.S. Department of Education created the Race to the Top-Early Learning Challenge, a grant that funded rigorous and high-quality literacy curriculum for elementary grades at urban schools in exemplar states (McGuinn, 2012). This federal policy sought to disrupt ineffective practices by funding innovation and supporting teacher agency (Woodard & Rao, 2020).

Technology has been shown to positively impact literacy instruction (Evmenova & Regan, 2019; Moon et al., 2017). Moon et al. (2017) found when fifth-grade students learn with technology, they are motivated to learn. Evmenova and Regan (2019) found students with disabilities improved their writing when paired with writing scaffold technology. Because existing instructional techniques that integrate technology and reading comprehension teaching are ineffective, I decided to investigate this problem of practice (PoP) in my elementary classroom and in my professional practice (Mertler,

2020) at a professional development school (PDS). As a classroom teacher, I was aware of the difficulties my fellow instructors and I had encountered when integrating technology into our lessons. Using this study, I aimed to include technology in my curriculum, specifically focusing on reading for expository text comprehension.

One way to reimagine literacy instruction is by integrating technology into the reading for comprehension (Ciampa, 2016; Cope & Kalantzis, 2013; Rybacki, 2011; Tan, 2017). This new curricular stance assumes control of evaluating and describing how students use literacy and technology to facilitate reading achievement. Ciampa (2016) implemented professional development by using a workshop model that integrated technology for urban schools. The New London Group, founded in 1996, advocated for the continued use of the internet and communication technology in all classrooms and defined *new literacies* as an evolving theory of ever-changing literacy and technology (Cope & Kalantzis, 2013). The term conveys the understanding that literacy is social and occurs across a variety of contexts (Freire, 1970, as cited in Martin & Beese, 2017) and in an internet-connected environment (Tan, 2017). Project Stretch, an exploratory initiative between graduate students and K–12 teachers in New York City Public Schools, identified successes and challenges with integrating technology in urban classrooms (Rybacki, 2011). Innovative reading comprehension instruction can be achieved when stakeholders make structural changes to an existing curriculum.

Several researchers have asserted that embedding technology into the curriculum is beneficial in the classroom (Beucher et al., 2020; Jamshidifarsani et al., 2019; Shin, 2014). One researcher sought to explain how students and teachers evaluated technology and coconstructed meaning from diverse perspectives in an active learning environment-

(Beucher et al., 2020). Findings from studies that integrated technology and literacy in urban schools provided successes and challenges to implementation (Shin, 2014). In support of Web 2.0 tools and literacy instruction in urban schools, Shin's (2014) qualitative study demonstrated how technology-enhanced lessons afforded students opportunities to interact and negotiate in a literacy classroom with diverse students.

Despite such benefits, using Web 2.0 tools during instruction can also pose challenges. Recent literature has highlighted disadvantages related to time, lack of training, and teacher beliefs (Doyle-Jones, 2019; Gashi Shatri, 2020; Hsu, 2016). A qualitative study of 10 elementary writing teachers in Canada reflected the amount of planning and writing involved in integrating Web 2.0 tools (Doyle-Jones, 2019). To make learning real to students, teachers must develop their professional toolbox with innovative pedagogical practices, which takes time and willingness. For example, I have struggled to embed technology into every subject area. I teach all core content and am often overwhelmed by the amount of preparation necessary to provide instruction that is both real and innovative for students.

Furthermore, Gashi Shatri's (2020) quantitative study of fifth- through ninth-grade students asked participants' opinions about technology. Participants held both positive and negative opinions. Two elements that led to negative opinions were that technology was difficult to "research and communicate" (Gashi Shatri, 2020, p. 427), suggesting a lack of experience in using Web 2.0 tools in formal settings stifles students' creativity and motivation to complete tasks. Lastly, Hsu (2016) conducted a mixed-method study of a university and partner elementary school and examined teachers' beliefs about technology integration. When teachers had positive views of student-

centered learning and held positive views about technology integration, implementation was difficult to achieve, either due to years of service and/or deeply held limiting beliefs. This evidence demonstrates that challenges related to time, a lack of training, or teacher beliefs can be salient disadvantages of Web 2.0 tool integration into the curriculum.

In addition, third- and eighth-grade curricula still emphasize testing on reading, but Every Student Succeeds Act (ESSA) legislation has tasked educators to simultaneously prepare students (Adler-Greene, 2019) to be college and career ready. The Common Core State Standards (CCSS), an initiative endorsed by governors and stakeholders, is a common set of goal-based standards intended to prepare all U.S. children to be college or career ready upon graduation (Common Core State Standards Initiative, 2019); however, the CCSS do not describe instructional strategies. Additionally, governors from multiple states have agreed that the adoption of CCSS would facilitate a common literacy goal across state lines to promote global competitiveness regardless of students' backgrounds (National Governors Association [NGA] & Council of Chief State School Officers [CCSSO], 2010). Prioritizing literacy and the climate in schools indicates reading matters and students' experiences with literacy are a nationwide concern.

Local Context

Like teachers nationwide, South Carolina educators have been tasked with preparing students to be global citizens upon graduation, a process that begins in elementary school. The "Profile of a South Carolina Graduate" (n.d.) outlined college and career readiness and included being proficient in using technology as a tool to collaborate and produce artifacts of learning. Technology policy integrated with literacy instruction

has still left some South Carolina students lacking in literacy instruction. The inability to read for comprehension is not only a problem in elementary school in general, but specifically in the African American majority urban characteristic (Milner et al. 2018) school in this study, Busy Street Elementary School (BSES). In my 3rd year of teaching, I noticed 7 out of the 19 students in my class required scaffolding to break down reading for comprehension prompts for both expository and literary texts and further scaffolding to answer reading for comprehension questions. The state curriculum encompasses over 30 standards for fifth-grade instruction (South Carolina Department of Education, n.d.-c). Within this framework, I concentrated on the English language arts curriculum and sought to establish a technology-embedded classroom practice to measure students' perceptions on reading and reading for comprehension achievement.

Several reading initiatives in South Carolina, such as the South Carolina Reading Initiative and a partnership with the Florida Center for Reading Research, provide reading curriculum, books, resources, professional development, and evidence for best practices to build capacity in reading for comprehension in South Carolina's students. The South Carolina State Reading Initiative seeks to implement evidenced-based professional development that provides access to robust reading development in schools (College of Information and Study, n.d.). The Literacy Initiative established by the research university seeks to involve higher education with K–12 school efforts to eliminate reading deficiencies in South Carolina's students.

In addition, the Office of Early Language and Literacy (OELL), a division of the South Carolina Department of Education (SCDE), has created professional development opportunities to increase literacy effectiveness skills for educators and subsequently

impact curricular decisions. One way for teachers to develop professionally is to employ evidence-based teaching in their classroom curriculum. The goal of these opportunities is to create evidence-based strategies that foster reading comprehension across the state.

The research site for this inquiry was BSES, a public school with 691 enrolled students in prekindergarten through sixth grade. The demographics of BSES are aligned to Milner et al.'s (2018) description of a is an urban characteristic school. Milner et al. (2018) described this type of school population as having abundant diversity of religions, languages, and cultures, and wherein most students are of the global majority and the city's population is small relative to cities such as Detroit, Michigan. BSES has 60 certified teachers on staff, with six teachers per grade level in Grades 3 through 5. BSES is a PDS that partners with a large research university. Several school initiatives in conjunction with the PDS model create a strong culture for innovation. Those innovations provide the basis for annual presentations at the local, regional and national levels.

Of the nine essential elements of a PDS to support our school's inquiry stance, I used two: (a) Essential 3A: PDS is a context for continuous professional learning and leading for all participants, guided by need and a spirit and practice of inquiry; and (b) Essential 4A: PDS makes a shared commitment to reflective practice, responsive innovation, and generative knowledge (National Association for Professional Development Schools, 2021). Teachers along their spectrum of service participate in a curriculum that develops students' abilities to construct knowledge about teaching and learning. Further, through this mature partnership, BSES hosts a once-per-week science methods course taught on site by the university liaison, a tenured professor, to develop preservice teachers' efficacy in teaching science in an African American majority urban

characteristic school setting (Milner et al., 2018). Because BSES has built a strong culture of developing leaders, BSES received the PDS Exemplary School Award in 2020.

Even with so much preparation and progress monitoring tools, I noticed a need to retool the comprehension curriculum. Students at BSES in 2019 scored below 50% in literacy on the state end-of-the-year exam, SC Ready (NCES, n.d.). SC Ready is an end-of-the-year (EOY) state assessment that meets the requirement of ESSA, ensuring rigorous accountability of teaching and learning in South Carolina (South Carolina Department of Education, n.d.-b). In 2019, the SC Ready assessment was administered to 471 students in Grades 3 through 5, and only 25.1% met expectations for the reading and writing portion. Compared to schools around the state, BSES's scores were lower in the areas of reading and writing (SC School Report Card, 2022). In 2021, 16% of students in Grades 3 through 5 scored proficient on the EOY, and of the 16%, 24.4% were fifth-grade students. These data pointed to a persistent literacy instructional problem; students were not using comprehension strategies when reading independently (i.e., state tests and classroom assessments).

Suburban School District (SSD) administers multiple quarterly literacy assessments to monitor progress, such as the Northwest Evaluation Association Measures of Academic Progress (NWEA MAP) for reading and mathematics and Mastery Connect. Students in Grades 3 through 5 take the NWEA MAP assessment via Chromebook. The NWEA MAP assessment has a high correlation to proficiency on SC Ready (Northwest Evaluation Association, 2016). Data from this assessment inform teachers and the school literacy teams which students may qualify for Response to Intervention (RTI). The other benchmark assessment, Mastery Connect, is administered via Chromebooks three times a

year: in the first 12 weeks of school, in late fall, and in late spring. The assessment monitors the progress of students toward mastering South Carolina's standards for that quarter in all core subjects, including English language arts. In addition, an outside vendor prepares the test items for the benchmark because the Mastery Connect platform can function as preparation for the state assessment, SC Ready, as they correspond with depth of knowledge and rigor embedded in SC state standards. In addition to the ways teachers use Mastery Connect for district purposes, they can use the assessments during classroom instruction. Teachers use this website to create, share, upload, and administer tests throughout the year during classroom instruction. Students in SSD receive rigorous literacy instruction and are assessed with the reliable assessment tools of NWEA MAP and Mastery Connect.

Even with such a rich tapestry of community support, South Carolina's elementary students have struggled with attaining reading proficiency. Fourth graders in South Carolina have scored less than 30% proficiency on the NAEP reading assessment since 1998 (National Center for Education Statistics, n.d.). NAEP provides common assessments to provide "a common measure" of achievement nationwide (NCES, n.d.). In 2018, only 24% of the 60,319 fourth graders in South Carolina met expectations on SC Ready (NCES, n.d.). Furthermore, only 28.9% of the 59,902 third graders in South Carolina met expectations on SC Ready (South Carolina Department of Education, n.d.-b).

Furthermore, this study's participants were exclusively African American ($n = 12$). Despite several literacy programs from the district and state agencies in support of reading comprehension, the curriculum I use needed reimagining. The participants in this

study were my students, and I sought to provide them with a relevant reading curriculum. Evidence exists that students of color thrive when allowed to display accomplishment through a teacher's curriculum redesign (Johnson et al., 2019; Ladson-Billings, 2006). When school regulations only examine one data point to gauge academic progress (i.e., one EOY test statistic), opportunities for students are limited. Further, students' identities are harmed when labeled as struggling readers and at risk (Johnson et al., 2019) when gauged by one data point, rendering them ineligible for advanced classes in middle school, college prep courses in high school, and college entrance after graduation (Martin & Beese, 2017). In this study, I divided participants into five groups of four: two experienced readers and two novice readers. As the teacher-researcher, instructional designer, and curriculum developer for this study, I was interested in portraying a full picture of achievement, or a lack thereof—one that captured the reading attitudes, reading achievement, and experiences of participants during a technology-enhanced reading lesson in an urban school.

Statement of the Problem

Local reading high-stakes scores indicated reading instruction needs to be reimagined (SCDE, 2017, 2018, 2019). Specifically, fifth-grade students at BSES do not possess skills and strategies to read an expository text for comprehension. Consequently, there was verifiable information emphasizing students' poor execution of reading for comprehension on EOY state tests (SCDE, 2017, 2018, 2019). The ability to comprehend expository texts is crucial for elementary students, especially children in urban contexts, who share a cultural heritage of literacy that includes collaboration and social responsibility (Johnson et al., 2019; Milner et al., 2018; Muhammad, 2020). Curricular

reform should seek to meet the needs of the students for whom the reform was enacted. Impactful instructional decisions grounded in professional development, policy change, partnerships, and action by classroom teachers are needed to create relevant literacy instruction (Ciampa, 2016; Cope & Kalantzis, 2013; Rybacki, 2011; Tan, 2017). One such curricular reform is embedding literacy into a Web 2.0 tool (Beucher et al., 2020; Shin, 2014). *Embedding*, according to Dictionary.com (n.d.), means to fix firmly and deeply in a surrounding mass. In previous studies, embedding literacy with technology posed opportunities for students and instructors to create a learning environment that meets both academic and social needs in a literacy classroom (Beucher et al., 2020; Jamshidifarsani et al., 2019; Shin, 2014).

Purpose Statement

The purpose of this action research was to evaluate the impact reciprocal teaching embedded within the Wakelet Curation Tool on fifth-grade students' reading comprehension, reading attitudes, and perceptions about a reading comprehension innovation at an urban characteristic PDS site.

Research Questions

The following research questions were explored in this convergent parallel mixed-methods study:

1. How and to what extent does reciprocal teaching embedded within Wakelet Curation Tool impact the reading comprehension of fifth-grade students?
2. What are fifth-grade students' overall perceptions about the use of reciprocal teaching embedded with Wakelet Curation Tool during the reading workshop?

3. How does reciprocal teaching embedded in the Wakelet Curation Tool impact fifth-grade students' attitudes toward reading?

Statement of Research Subjectivities and Positionality

I am an upper middle-class African American woman born to teenage parents. For as long as I could remember, I always thought intelligent people enrolled in college; thus, after high graduation, I went to work at a grocery store. All I remembered wanting was a car; I was incredibly lost and an unmotivated teenager. Years later, I realized through a conversation with a professor that I was “immature” at that time in my life. Fortunately, I realized at the age of 36 years old, intelligent people do not enroll in college; wise people do. My educational experiences also put me at a disadvantage. I was a below-average student who did not comprehend text because I lacked a solid structure of social and structural understanding of how reading works. I formed deficit thinking early in life that I was not college material. I grew up on the east side of Detroit, Michigan, and moved to Charlotte, North Carolina when I was 15 years old.

It would be another 20 years until I began my matriculation through college. These incidents are memorable in my life and have related to my emerging and enlarging philosophy for teaching. It was not until I realized that I determined who I wanted to be that my life started to change for the good. My lived experiences have qualified me to amplify my voice around debunking deficit thinking. Although it took time for me to develop a strengths-based mindset, I understand with time, effort, and mental fortitude from both the teacher and the learner, students can realize confidence and motivation to learn. I believe a student is more than the grade they earn. I also think all children can and do learn. Finally, I believe learning is cumulative, and it may take a lifetime for an

individual to realize their potential. As such, I pledge to use the resources I have access to inform, advocate, and empower people who cross my path.

Because I am both African American and was raised in an urban environment, I had and have continued to have similar cultural experiences as the participants in this study. The participants and I understood the same kind of idioms, we shared mannerisms, and we were comfortable speaking both standard English and African American vernacular. Still, I lacked understanding of what it is like to be an elementary-aged African American student who uses educational technology as a tool for learning. I sought to understand how elementary-aged students fostered and monitored their comprehension while reading in a social context and how they perceived their teacher's innovative stance as inquiry into learning.

I pursued a degree in educational technology because I am committed to leadership by embracing innovative practices that promote teaching and learning. I have observed the positive impact of technology integration on students' motivation to attend to instruction. For example, during an argumentative writing session, I introduced a technology-based graphic organizer to my students. All students became immersed with the tool. They quickly noticed the scaffolds and were better equipped to add their thoughts to the graphic organizer and were eager to share their writing. As a result, I was able to teach and students were able to learn because I integrated educational technology into a writing class. In addition, I pursued this degree to become an agent of change in the educational technology space. The capstone experience for this degree was an action research (AR) dissertation; I decided to pursue this degree so my research could be replicated or used as a reference for other action research studies with an African

American majority at urban characteristic (Milner et al., 2018) schools elsewhere. In sum, I pursued this degree in educational technology to support the teaching profession.

An ideal educational technology professional supports and enhances the people they lead. One way to support and enhance the strength of the people they lead is to recognize teacher readiness for implementing educational technology. I provide differentiated professional development because I realize every teacher is at a different stage of readiness (Ciampa, 2016). Another way for an ideal educational technology professional to support and enhance the strength of the people they lead is to share their work. Researchers have many opportunities to share their work, such as writing a narrative or AR for an educational journal.

I have been quite involved in professional development. I have led professional development opportunities on educational technology at my district's teacher in-service sessions, I have presented in concurrent and roundtable presentations at regional and national conferences, and I have published a narrative account of my teaching experiences in an educational journal (Jones, 2021). Further, I have already joined professional learning communities and have taken advantage of mentor opportunities with tenured professors through a university partnership that BSES has maintained for the last 20 years. Upon having my degree conferred, I will continue with this forward momentum by using professional development opportunities to collaborate with colleagues and critical friends to create learning opportunities that meet the needs of students on the learning continuum from in-service to veteran teachers in the K–12 or university settings. Ultimately, I have interest in K–12 teachers and their students' attitudes and perceptions on innovative practices because they receive the innovation.

Their voice matters if the innovation is to be successful. My academic training as an educational technology professional has prepared me to use my knowledge to support teacher and student growth.

My research interests include the use of emerging technologies in the classroom, and instructional strategies that integrate easily into an internet connected environment. As a teacher–researcher, I have one interpretation of knowledge that is uniquely mine (Merten, 2009). I had a classroom of students who required a context-specific reinvented literacy curriculum to address a historical literacy problem. As such, a pragmatist paradigm was an excellent research design to use (Arslan-Ari et al., 2018). Change is good, and as I sought professional development and practiced reflexivity, my instructional delivery changed. A convergent parallel mixed-methods design answered my research questions, as pragmatism uses a mixed-methods methodology. The participants in this study were integral to the knowledge-generation process, and the study was conducted in the classroom. The action I sought was a change in the curriculum to impact teaching and learning in this context.

I used a convergent parallel mixed-methods design that provided a robust understanding necessary to answer the research questions (Creswell & Creswell, 2018). There are four types of mixed-methods designs: experimental, social justice, case study, and explanatory (Creswell & Creswell, 2018). A mixed-methods design converges quantitative and qualitative data and is aligned with pragmatic methodologies (Mertens, 2009). In this research, the quantitative data I provided entailed numerical analyses from a reading attitude survey and comprehension content assessment. I used two sources for the qualitative data methods that aided in describing contextual experiences: four

individual semistructured interviews and a researcher's journal (Ozano & Khatri, 2018). These data methods aligned with my paradigm in that I simultaneously built relationships, reported on the interpretations of all participants, and answered all research questions appropriately (Mertler, 2020).

Reeves and Reeves (2015) reported through the instrumentation process, data emerges that describe the “complexity” (p. 26) of learning as it relates to the integration of educational technology into the classroom. I practiced reflexivity by sharing my thoughts in a researcher's journal (Creswell & Creswell, 2018; Tracy, 2020). As a researcher and participant in this study, I was the main conduit for information gathering. The accounts I constructed from my experience and those of the participants' experiences were dynamic and authentic (Achirri, 2020); therefore, I used my anecdotal field notes and individual semistructured interviews to compose a deep, rich analysis of participants' responses to research questions (Grant, 2019; Tracy, 2020).

My research paradigm related to the definition of educational technology. Educational technology, as defined by Januszewski and Molenda (2013) and approved by the Association for Educational Communications and Technology (AECT), is “the study of ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources” (p. 122). The technological processes and resources, such as using the internet to collaborate, comprised the strategies and methods I used to design the innovation.

I connected my research questions to the purpose and goals of my research, which was to raise the level of comprehension strategy used in my literacy classroom by embedding reciprocal teaching instruction in the Wakelet Curation Tool and to answer

my research questions (Arslan-Ari et al., 2018). Burdina et al. (2019) reported teacher support in an e-learning environment increases learning outcomes. Because the participants were students in my classroom, I sought to redefine their learning experiences and my professional practice through this innovation (Albeanu & Popentiu-Vladicesu, 2019).

Definitions of Terms

Action research (AR) is practitioner-based research into a specific problem of practice that has a particular emphasis on the researcher's reflexivity (Mertler, 2020).

Community members, for this study, comprised a small group of four students who worked together to help each other with their academic needs and social needs.

Expert readers are students who are most likely to use comprehension strategies before, during, and after the reading process (Royanto, 2012).

Inferences are logical conclusions induced by the reader. The reader has to combine textual evidence with prior knowledge to make a logical conclusion (Cain & Oakhill, 1999).

Innovation, for this study, entailed the successful implementation of creative ideas, procedures, theories, and strategies.

Novice readers are students less likely to use comprehension skills during the reading process (Royanto, 2012).

Perceptions are the factors that facilitate or hinder a user's experience of utility, effectiveness, and satisfaction with an innovation (Han, 2021; Kennedy, 2020; López-Pérez, et al., 2011).

Reading is “the ability of a reader to decode and maintain linguistic comprehension while reading texts” (Graesser et al., 1994, p. 260).

Reading achievement is the application of the reader’s skill set and attention to a reading activity (Gentilini & Greer, 2020).

Reading attitudes are individual readers’ positive or negative feelings toward reading (Downs et al., 2020; Simsek & Müldür, 2020).

Reading comprehension is the “construction of a multilevel representation of a text” (Graesser et al., 1994, p. 373). The multilevel representation is the “harmony of the author’s intent, the explicit meaning, and the reader’s construction of the text” (Graesser et al., 1994, p. 374). Comprehension requires making connections (Kocaarslan, 2016). The goal of this multilevel representation is to gain meaning from the text through inferencing, background knowledge, and the reader’s involvement with the text (Cho et al., 2019).

Web 2.0 tools are open internet (Coiro, 2009), read–write web (Ozcinar et al., 2020), and social networking (Shin, 2014) websites that facilitate knowledge generation (Kırıkkaya & Yıldırım, 2021).

CHAPTER 2

LITERATURE REVIEW

The purpose of this convergent parallel mixed-methods study was to evaluate the impact of reciprocal teaching embedded in a Wakelet Curation Tool upon fifth-grade students' reading comprehension, their perceptions about the innovation, and their reading attitudes at an urban characteristic (Milner et al. 2018) professional development school (PDS) site. Three research questions guided this literature review:

1. How and to what extent does reciprocal teaching embedded within Wakelet Curation Tool Curation tool impact the reading comprehension of fifth-grade students?
2. What are fifth-grade students' overall perceptions about the use of reciprocal teaching embedded with Wakelet Curation Tool Curation tool during the reading workshop?
3. How does reciprocal teaching embed in Wakelet Curation Tool Curation tool impact fifth-grade students' attitudes toward reading?

Methodology

A literature review evaluates, describes, and synthesizes scholarly research (Galvan & Galvan, 2017). In this literature review, I determined research criteria, chose keywords to gather relevant peer-reviewed studies, and searched multiple databases. Of the 29 online databases for education available through the university's Thomas Cooper

library, I choose four: ERIC, Academic Search Premier, Google Scholar, and Education Source.

Inclusion Criteria

Inclusion criteria refers to the methods I used to select empirical research. I searched for empirical articles that were either narrative and case-study qualitative or experimental and intervention quantitative, mixed methods, and action research (AR). Further, I searched for empirical studies where: (a) the sample consisted of students between the ages 2–18, (b) I could replicate the task in a classroom, and (c) the peer-reviewed research was conducted between the years of 2010–2021. Lastly, I mined the citation references of peer-reviewed articles to find relevant information on the topic.

Search Terms

I used specific words to search for relevant empirical research: *Web 2.0 tools* [AND] *elementary* [AND] *perceptions*, *reciprocal teaching* [AND] *elementary* [AND] *reading achievement*, and *attitudes* [AND] *K–12* [AND] *innovation*. To broaden my search, I interchanged *Web 2.0 tools* with *technology*, *one-to-one*, *mobile learning*, *computer learning*, and *internet communications technology*.

This chapter reviews the results of my search and is organized into five major topics: (a) Web 2.0 tools as educational technology, (b) theories for technology integration, (c) reading comprehension, (d) reading attitudes, and (e) chapter summary.

Web 2.0 Tools as Educational Technology

This section presents Web 2.0 technologies in the context of educational technology in K–12 classrooms. After defining educational technology, I discuss how Web 2.0 technologies have been used in a reading classroom. Next, I discuss both teacher

and student perceptions about Web 2.0 technology use. Finally, I discuss theories for technology integration into a reading classroom and their implications on learning.

Educational Technology as Web 2.0 Tools

Web 2.0 tools are technological multimodal websites and applications (or tools) that require the use of the internet. The term Web 2.0 tools originated in the business sector, and O'Reilly (n.d.) acknowledged a website is a database allowing users to communicate with the database and other users. Web 2.0 technologies include open internet (Coiro, 2009), social networking (Shin, 2014), and collaborative websites that facilitate knowledge generation (Kırıkkaya & Yıldırım, 2021). Due to widespread availability, most schools use Web 2.0 tools as educational technology (Kaman & Ertem, 2018) to create artifacts of learning from both the teacher and student perspective.

Web 2.0 Tools in the Classroom

National and local reading scores have indicated a need to reimagine reading instruction (South Carolina Department of Education [SCDE], 2017, 2018, 2019; Warner-Griffin et al., 2017). As previous researchers have noted, integrating Web 2.0 technologies into a reading classroom can promote reading fluency, ensuring all students extend and share knowledge, and increase collaboration (Price-Dennis et al., 2015; Thoermer & Williams, 2012). Web 2.0 tools are cloud-based applications for instructional resources teachers use to communicate with students, for students to communicate with teachers, and for students to communicate with their peers.

Using Web 2.0 tools as educational technology in K–12 classrooms can enhance collaboration and reimagining of literacy tasks (Caliskan et al., 2019; Chiu et al., 2016), such as blogging (Chew & Lee, 2013), podcasting (Cain et al., 2021; Ducate & Lomicka,

2009), and the creation of interactive slide decks (Gregor & Muscelli, 2016). Serafini and Youngs (2013) reported Web 2.0 tools allow readers to share thoughts about content, make notes, conduct inquiries about authors, create presentations, and explore text interactively.

Researchers have used Web 2.0 tools as instructional resources to reshape the literacy curriculum (Chiu et al., 2016; Hutchison & Beschorner, 2015; Kaman, & Ertem, 2018; Park, 2013; Sharma & Unger, 2016; Tsuei et al., 2020). For example, Kaman and Ertem (2018) found reading digital texts positively impacted reading fluency in a fourth-grade classroom. Sharma and Unger (2016) integrated a Web 2.0 tool during vocabulary instruction and found students became autonomous during content instruction. In light of these findings, Web 2.0 technologies have emerged as a valuable tool to enhance literacy in classrooms.

Web 2.0 technologies are cloud-based applications that operate on internet-connected devices such as iPads, e-readers, smartphones, and Chromebooks. Cloud-based applications (e.g., www.flip.com, www.nearpod.com, and www.voicethread.com) are Web 2.0 tools teachers have used in their reading classrooms (Stover et al., 2015). Of the many cloud-based applications, I chose the Wakelet Curation Tool platform for several reasons. First, the platform is free and has real-time collaboration features. My students could visit the website after school and make comments at their convenience by adding text or GIFs, uploading documents, and embedding slide decks and hyperlinks. The Wakelet Curation Tool also has customizable interfaces resembling a whiteboard, columns, and a social media feed, and the platform's interface is easy to use and navigate for young learners. I could invite students to the Wakelet Curation Tool through my

learning management system, QR code, alphanumeric code, or weblink. The longevity of the Wakelet Curation Tool is unclear, but at the time of this study, it was accessible, free, and there were many YouTube tutorials to orient novice users. This platform was thus ideal for this study.

Educators use Web 2.0 technologies such as the Wakelet Curation Tool in classrooms to create content, read text, and collaborate online, allowing users to curate a collection of links and save them for future use. A Wakelet Curation Tool can be compared to a WebQuest, virtual discussion wall and a virtual white sheet. WebQuests are educational technology tools, student-centered collections of links, and assignments used to teach a unit of study in a classroom. In a recent study on comprehension and educational technology, Oulousidou (2018) found fifth graders' comprehension greatly improved when WebQuests were used to teach reading. WebQuests are not the only tools researchers have used to enhance the literacy class. Similarly, Padlet, a virtual discussion wall, facilitates a fun learning experience that motivates students to learn fractions in a math class (Azid et al., 2020). Chiu et al. (2016) also evaluated Google Documents on a notetaking strategy. This research has suggested teachers are open to integrating new Web 2.0 tools into their literacy classrooms; yet, to date, no researchers have documented use of the Wakelet Curation Tool platform. As such, this study filled that gap, as I sought to use one tool and measure its impact on reading comprehension in a face-to-face and online reading innovation in a fifth-grade classroom.

Perceptions About Web 2.0 Technologies

Perceptions are factors that facilitate or hinder a user's experience of utility, effectiveness, and satisfaction with an innovation (Han, 2021; Kennedy, 2020; López-

Pérez, et al., 2011). Within a reading community, teachers can plan instruction and learners can learn with technology. Understanding their perceptions is important because teacher perceptions influence innovative practices and student perceptions influence achievement and engagement. This section demonstrates teachers and students have had both positive and negative perceptions when using Web 2.0 technologies.

Teacher Perceptions

Research has demonstrated clearly that teachers often have negative experiences using Web 2.0 tools during instruction (Kormos, 2018; Martin, 2021; Stover et al., 2015). For example, Martin's (2021) teacher respondents identified the time needed to learn the Web 2.0 tool as a negative experience, echoing the teachers in Stover et al.'s (2015) research. Some factors that led to their negative perceptions were the newness of the tool and previous training in college methods preparatory courses. The teachers' years of service also played a role in literacy and Web 2.0 integration during a collaborative reading exercise (Beucher et al., 2020). These factors can result in teachers being less likely to embed Web 2.0 tools in their literacy class; however, students' perceptions were mostly positive.

Student Perceptions

Researchers have found students generally hold positive perceptions about Web 2.0 technology use in the classroom. Some factors indicative of their positive perceptions were collaboration, communication, and interest. Several researchers found students had positive perceptions about learning with Web 2.0 technologies (Azid et al., 2020; Chiu et al., 2016; Kaman & Ertem, 2018). In an experimental study of the role of Web 2.0 tools in a fourth-grade math class using Padlet, students reported being engaged, motivated,

and loving math (Azid et al., 2020). Similarly, Chiu et al. (2016) investigated electronic collaborative notetaking and their student participants reported putting more effort into their work and reviewing the work of their peers. In a study by Kaman and Ertem (2018), fourth-grade students reported positive perceptions of using technology to read for comprehension and noted that using technology was fun.

Still, students' perceptions of technology's impact on their reading experiences have vacillated between positive and negative factors (Balkan Kivici, 2018; Cain et al., 2021; Gün & Yılmaz, 2020; Kaman & Ertem, 2018; Unal & Unal, 2017). Turkish fourth-grade students in one study regarded technology favorably, allowing them to learn (Balkan Kiyici, 2018). In another Turkish study, when eighth-grade students were asked to describe their satisfaction with Web 2.0 technologies using a metaphor, they demonstrated both positive and negative beliefs, referring to the technologies as a "miracle" and "an information box" (Gün & Yılmaz, 2020, p. 159). Unal and Unal (2017) also recorded mixed responses from fourth- through 10th-grade students in a southern U.S. state. However, to some students, technology is the source of problems (Balkan Kiyici, 2018), Web 2.0 technologies are slow to load (Gün & Yılmaz, 2020), and embedded tools take away from other tasks (Unal & Unal, 2017). Students' opinions of technology influence how they perceive its usefulness as a facilitator of learning in the classroom. With careful planning and a dedication to novel techniques, such as integrating a literacy innovation with Web 2.0 technology, students' perceptions of technology's usefulness are mostly positive.

Theories for Technology Integration

Constructivists have asserted knowledge is based on practice (Hof, 2021) and students learn by actively building knowledge through social interaction in a natural context (Ertmer & Newby, 1993; Nagowah & Nagowah, 2009). In a constructivist classroom, students get to accomplish tasks their own, which enables them to learn (Cain et al., 2021; Hof, 2021, Paily, 2013). In a Web 2.0 technology-enabled constructivist classroom, students have time and tools to create learning scenarios.

Previous studies have demonstrated the effectiveness of a constructivist classroom (Balci Comez et al., 2022; Cain et al., 2021; Moon et al., 2017). For example, eighth-grade students who received social studies instruction using a Web 2.0 technology reported enjoying that the instruction was student centered. In Moon et al.'s (2017) action research, 47 fifth-grade students completed reading comprehension activities using iPads and college reading buddies read with one to two students for 35 minutes over eight sessions. Students used iPads to show their learning, illustrating how in constructivist classrooms, learners use tools to build knowledge. The researchers found learners had more motivation to use tech tools alongside classroom activities and were more motivated to use tech tools alongside classroom activities in a constructivist classroom. One of the scaffolds I used in this study was embedding helpful links in Web 2.0 technology tools and providing an apprenticeship model for reading for comprehension.

Implications of the constructivist learning approach is that learning with Web 2.0 technologies ensures students are at the center of learning. Constructing knowledge leads to creating new ideas (Moon et al., 2017). In educational technology environments,

teachers merge learning theories and instructional theories so both processes and products are given equal importance.

Reading Comprehension

This section situates the PoP to investigate an evidence-based, innovative literacy curriculum that provides a student-centered comprehension modeling and instructional framework in a fifth-grade classroom. In the following paragraphs, I define reading comprehension. Next, I discuss reciprocal teaching, an instructional framework and its implications on learning. Finally, I review literature on teacher implementation of reciprocal teaching.

As the teacher of record in a fifth-grade classroom at Busy Street Elementary School (BSES), I observed that my students experienced challenges during reading for comprehension tasks. Of 15 students, in the past, seven required scaffolding to understand the questions and further scaffolding to answer prompts. According to the Common Core State Standards (CCSS), tasking students with additional challenging content makes them college and career ready (Common Core State Standards Initiative, 2019; Desimone et al., 2019). In one fifth-grade standard: 5.R.I. MCC: Standard 5: students are asked to predict, clarify, question, and summarize. This standard tasks students to ask and answer literal and inferential questions to determine the meaning of informational and literary texts. In 2019, students at BSES in Grades 3 through 5 scored below 50% in literacy on SC Ready, and only 25.1% of the 471 students met expectations for the reading and writing portion of the exam (SC School Report Card, 2022). These results suggested a need for lesson planning that provides cognitive and metacognitive comprehension modeling and instruction.

Practitioners have employed action research and case-based methods to enhance comprehension through Web 2.0 tools in their classrooms (Hutchison & Beschorner, 2015; Leaman & Corcoran, 2018; Moon et al., 2017). For example, a fourth-grade teacher used different iPad applications to enhance literacy classroom and found iPad usage shifted how students learned (Hutchison & Beschorner, 2015). Similarly, a teacher conducted action research to examine the impact of iPad applications on the social studies curriculum and found students robustly used applications to engage with the content (Leaman & Corcoran, 2018). Additionally, in a fifth-grade classroom, a teacher used iPad application and college buddies as a student-centered approach to enhancing her comprehension curriculum and found students gained confidence in comprehension skills over time (Moon et al., 2017). Classroom teachers' interest in solving comprehension problems through technology integration have been met with positive experiences for stakeholders in their own context.

Science Behind Reading Comprehension

Even though, Lev Vygotsky passed away before his work was published many authors quote him since he is the founder of the sociocultural theory of development. In his original work Vygotsky did not make a connection between reading and development, but many researchers, myself included, see a strong connection between holistically and community based reading and the sociocultural theory of development. Vygotsky's (1978) sociocultural theory of development align with a constructivist view of reading for comprehension and posits a learner's cognitive development is amplified through mutual sharing during social and cultural interactions (Hodges et al., 2016; Pitman & Honchell, 2014; Tarchi & Pinto, 2016; van Rijk et al., 2017). According to Vygotsky (1978), an

observant adult can positively impact a learner's cognitive development by carefully orchestrating three constructs into a learning experience: a more knowledgeable other (MKO), a learner's zone of proximal development (ZPD), and scaffolds.

MKO

A MKO is a participant who has more knowledge at any stage of a conversation and uses dialogue to help a learner understand by sharing that knowledge (Vygotsky, 1978). The MKO's role vacillates between teacher, peer, and learner to provide a community of learning where all benefit from a conversation around a shared topic in the reader's ZPD or the space where the reader needs help to reach a reading goal.

ZPD

The ZPD is the cognitive space where teacher help is beneficial because the task is too challenging for a student to complete independently, this finding is aligned to Vygotsky's, (1978) construct of the role of ZPD. The role of strategy instruction during RT is for the teacher to release control of strategy use to students. In this study, work in students' ZPD was evident when I monitored the room for progress and assisted when students could not process content independently.

Scaffolds

The final construct of the sociocultural theory of development scaffolding refers to instructional support that is chunked and pulled away as needs decrease (Baker & McEnery, 2017; Barnyak & McNelly, 2016). Reciprocal teaching as an instructional method is itself a scaffold. As a facilitator of instruction, I supported readers through video-based think-aloud: I modeled the thinking process out loud, providing a meaningful context for reading. In addition, I grouped readers in a peer scaffolding context, such as

pairing novice readers with expert readers (Belland, 2014). In this instructional context, readers of differing abilities used reciprocal teaching strategies as a scaffold to comprehend. All students had talking opportunities and were provided technology-enhanced pictures, words, and graphic organizers to support their comprehension.

Sociocultural theory supports innovation in three ways: (a) all learners read grade-level texts in accordance with district and standard expectations for fifth grade; (b) each reader has potentially three people with whom to form reading communities and who can potentially provide another perspective on the reading; and (c) all readers have scaffolds to access meaning, conjure motivation, and become unstuck when they read grade-level expository texts (Lupo et al., 2019). Polman et al. (2021) argued instruction based on sociocultural theory involves experiences where the learner is an active participant and becomes adept at integrating past knowledge with new experiences to enhance their own agency.

Reading Comprehension and Reciprocal Teaching

Reading for comprehension, for this study, involved the “construction of a multilevel representation of a text” (Graesser et al., 1994, p. 373). The multilevel representation is the harmony of the author’s intent, the explicit meaning, and the reader’s construction of the text (Graesser, 1994). Teaching students the reading process requires they read for comprehension (Moon et al., 2017). Because reading achievement is an outcome of comprehension, I referred to reading achievement in this study as the ability to apply strategies as needed when reading to facilitate comprehension. Reading for comprehension is a multiplex construct (Catts & Kamhi, 2017; Elleman & Compton, 2017). Reading for comprehension involves interacting and responding to the text by

building understanding using relevant tools (International Reading Association, 2009).

Reading for comprehension is social (Oulousidou, 2018) and happens across the span of an instructional day. Reading for comprehension is a language learning task.

Comprehension empowers students to aspire, dream, hope, and become a version of themselves they never thought possible.

Reciprocal teaching is a student-centered reading for comprehension instructional strategy. Palinscar and Brown's (1984) reading for comprehension strategy situates the teachers as a model and guide, active observer, and supporter while students are tasked to "try on" strategies by themselves. In sum, reciprocal teaching incorporates dialogue between members of a reading community as a scaffold to improve comprehension.

Reciprocal Teaching

As a literacy-based instructional model, reciprocal teaching enables teachers to model cognitive strategies and scaffold reading instruction to increase text comprehension (Palinscar & Brown, 1984; Rosenshine & Meister, 1994; Stricklin, 2011). Rosenshine and Meister (1994) explained such "instruction takes place in the form of a dialogue between teacher and student" (p. 480). Comprehension strategies—including predicting, questioning, clarifying, and summarizing before, during, and after reading segments of text—enable learners to create meaning from the text in a social environment (Palinscar & Brown, 1984).

Since the seminal study, reciprocal teaching has been implemented in numerous studies in elementary schools (Kula & Budak, 2020; Roop, 2019; Tarchi & Pinto, 2016), secondary schools (Gilbert, 2018; Okkinga et al., 2018; Qutob, 2020), and in inclusive settings (Hovland, 2020). Reciprocal teaching has an effect size of .74 (Fisher et al.,

2017; Oczkus, 2018) which signifies its positive impact on students' reading for comprehension. Ideal effect sizes "are greater than .4" (Fisher et al., 2017, p. 3) and demonstrate the impact of innovation extends beyond what one can learn in 1 school year. Reciprocal teaching is evidence-based and collaborative, for the teacher switches roles with the students as both parties take turns reading a small piece of text and employing four holistic comprehension strategies: two fostering strategies and two monitoring strategies (Rosenshine & Meister, 1994).

Comprehension Fostering Strategies. To initiate comprehension, readers engage in strategies such as predicting and clarifying (Palinscar & Brown, 1984). Predicting involves using background knowledge to speculate about a text. Predicting motivates readers to generate comprehension through an initial examination of titles and illustrations and subsequent use of titles, illustrations, and words to confirm or change predictions as readers progress through the text. Predicting also generates inferences as readers envision what may happen next based on the previous text and the readers' thoughts (Qutob, 2020). In addition to predicting, readers clarify to foster comprehension. Clarifying also fosters comprehension as students use strategies to ensure they understand vague references in a text. Students can refer to words or phrases in the text that are difficult, and teachers can direct students to solve the problem through rereading or consulting a dictionary or their group to clarify the difficult piece of text.

Comprehension Monitoring Strategies. To ensure comprehension occurs, readers use strategies such as questioning and summarizing (Palinscar & Brown, 1984). Asking why and how questions after reading one paragraph that students or teachers can answer is a type of formative assessment (Aslam et al., 2021). Alongside questioning,

readers summarize to monitor comprehension. Summarizing is the strategy readers use to condense the main ideas of a text into their own words.

For my innovation, I introduced and modeled comprehension strategies to the whole class. Because reciprocal teaching involves “explicit comprehension instruction” (Pearson & Dole, 1987, p. 5) that helps struggling readers through dialogue and scaffolded strategies, I embedded a minilesson video and PDFs into the Wakelet Curation Tool. During the innovation, all students worked in small, peer-led shared reading groups. While they practiced and applied comprehension strategies to a grade-level text, I was nearby to facilitate and scaffold instruction through dialogue. In addition, Lupo et al. (2019) recommended teachers consider incorporating talk during reading class. The artifact, their typing on the Wakelet Curation Tool platform, demonstrated students constructed meaningful ways of applying comprehension strategies to their reading.

Reading Community Members

A reading community, for this study, comprised a small group of four students who worked together to help each other with their academic needs and social needs. The participants were a diverse group of 12 fifth-grade students in one classroom: seven girls and five boys. Four of the students received Mutli-Tiered Systems of Support (MTSS) push-in services for 30 minutes every day for reading, which I led, and two had an individualized education plans (IEPs) and received instruction in special education for reading and math outside of the classroom. No students participated in the gifted and talented program. The remaining nine students who received general education instruction embodied a wide variety of literacy skills and abilities. All students had experiences with being collaborative, using creativity during the literacy block, and

working in small groups that were teacher led or peer led. For clarity and to avoid a deficit perspective in this study, I refer to participants in this inclusive setting as either novice or expert readers.

Novice Readers. Novice readers, for this study, were students who were unaware of reading strategies and did not apply them while reading (Bulut & Ertem, 2018; Cobb, 2017; Royanto, 2012; Yeari & Lantin, 2021) and who were less likely to engage in a reading lesson (Merga, 2020). Novice readers were students who scored below the Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) cutoff score that indicates proficiency in reading for comprehension. Novice readers were those who were not at grade level according to state and district benchmark exams (Pittman & Honchell, 2014).

Expert Readers. Expert readers, for this study, were students who were aware of strategies and applied them while reading for comprehension (Bulut & Ertem, 2018; Cobb, 2017; Royanto, 2012). Expert readers were students whose scores met or were above the NWEA MAP cutoff score that indicates proficiency in reading for comprehension. Expert readers were on grade level according to state and district benchmark exams.

Teachers in inclusive settings integrate Web 2.0 tools to address students' literacy needs (Bulut & Ertem, 2018; Evmenova & Regan, 2019; Hall et al., 2019; Price-Dennis et al., 2015). For example, Evmenova and Regan (2019) advocated for using technology tools to scaffold writing instruction and meet students' social and emotional needs. Likewise, Price-Dennis et al.'s (2015) case study of one fifth-grade teacher explored the impact of technology on literacy in an inclusive classroom and found when students of

different abilities had time to inquire, process, and share information, they became digitally literate and developed a sense of belonging. Additionally, Hall et al.'s (2019) mixed-methods study included a treatment group that read a novel online with embedded reciprocal teaching scaffolds to support comprehension while the control group read the novel offline; students with disabilities in the treatment group outperformed students with disabilities in the control group. This body of research suggests teachers can enhance literacy instruction for all learners by integrating Web 2.0 technology.

Reading Attitudes

Many factors construct and support reading attitudes and beliefs that direct one's desire to read (Petscher, 2010). Reading attitudes, for this study, were individual readers' positive or negative feelings toward reading (Downs et al., 2020; Simsek & Müldür, 2020) and their correlation to reading achievement (Downs et al., 2020; Petscher, 2010). Oulousidou (2018), in her case study of the comprehension of fifth graders, included a treatment group that completed a WebQuest. Oulousidou (2018) found WebQuest readers developed positive attitudes toward reading. This study illustrated when teachers provide innovative reading methods, readers construct positive attitudes toward reading; however, because readers' attitudes are influenced by context, readers' attitudes have been shown to wane over time (Ball & Skrzypek, 2019; Downs et al., 2020, Nootens et al., 2019).

Instruments Measuring Reading Attitude

Several researchers have measured the impact of technology integration on reading attitudes in elementary classrooms using Elementary Reading Attitude Survey (ERAS) data and participant interviews (Barnyak & McNelly, 2016; Cetinkaya Ozdemir & Akyol, 2021; Long & Szabo, 2016). Barnyak and McNelly (2016) compared three

groups of scaffolded reading instruction with the teacher, with an iPad, and with a trade book. They measured reading motivation using ERAS and found no statistical significance between presurvey and postsurvey for all groups on the academic reading or recreational reading subscales Cetinkaya Ozedemir and Akyol (2021) investigated the impact of augmented reality as a reading intervention on the reading attitudes of fourth-grade students in Turkey through a sequential explanatory mixed method design and found their reading attitudes increased. The researchers revealed 80% of participants' reading attitudes attributed to the innovation and found no statistical significance between presurvey and postsurvey for all groups on the academic reading or recreational reading subscales (Cetinkaya Ozdemir& Akyol, 2021). In another study, Long and Szabo (2016) investigated the impact of technology integration during guided reading on the reading attitudes of fifth-grade students in Texas. They compared reading instruction using an e-reader to a non-e-reader group and found students in the e-reader group had a negative gain in reading attitudes as measured by the ERAS; however, participant interviews provided more context. These studies demonstrated how corroborating ERAS data with participant interviews can facilitate a thick description of reading attitudes.

Chapter Summary

This chapter presented recent research that amplified the success and challenges of implementing innovation in a literacy classroom using Web 2.0 tools and reciprocal teaching. Instructional methods that employ both the constructivist and sociocultural learning theories have been integral in enriching the literacy curriculum and are proven to support teaching and learning to read for comprehension. This information informed the research design presented in Chapter 3.

CHAPTER 3

METHODS

Chapter 3 of this problem of practice (PoP) covers how I developed and executed the innovation (Mertler, 2020). Fifth-grade students at Busy Street Elementary School (BSES) do not possess the skills and strategies to read an expository text for comprehension. Historical data emphasized repeated poor performance on end-of-year (EOY) state tests (South Carolina Department of Education [SCDE], 2017, 2018, 2019). I observed students who were disengaged and exhibited poor reading attitudes. The methods discussed in this chapter sought to improve reading for comprehension instruction in a fifth-grade classroom. The purpose of this action research dissertation was to evaluate the impact of reciprocal teaching embedded in a Wakelet Curation Tool on fifth-grade students' reading comprehension, reading attitudes, and their perceptions about the innovation at an urban characteristic (Milner et al. 2018) PDS site. Three research questions guided this study:

1. How and to what extent does reciprocal teaching embedded within Wakelet Curation Tool impact the reading comprehension of fifth-grade students?
2. What are fifth-grade students' overall perceptions about the use of reciprocal teaching embedded with Wakelet Curation Tool during the reading workshop?

3. How does reciprocal teaching embedded within the Wakelet Curation Tool impact fifth-grade students' attitudes toward reading

This section is divided into three sections. In the first section, I introduce the research methods, participants, and the setting. In the second section, I explain the innovation, data sources, and data analysis. In the last section, I address my plan to ensure rigor and trustworthiness and disseminating my findings.

Research Design

Educators conduct action research to solve a researchable problem in their control. Action research is a systematic study into an educator's practice and context and was an appropriate research design for this study (Mertler, 2020). First, action research is practitioner research, where the teacher-researcher is a participant who leads change by "cultivating" knowledge and "mobilizing" participants into action (Tracy, 2020, p. 282). The practitioner works full time in the research setting and, by extension, is both researcher and participant in the study. Second, action research is a reliable, systematic, evidence-based research methodology to communicate findings on a micro level on the impact of classroom-based inquiry (Benson et al., 2017). Those findings are not generalizable as they answer questions pertaining to a specific population. Germane to action research, practitioners investigate their practices, which require research, leadership, and reflection capabilities (Mertler, 2020; Stacy, 2013; Taylor, 2017). Finally, action research affords educators space to practice reflexivity, a deeply reflective process where the researcher seeks to revise and reiterate their research in an infinite cycle of enhancing teaching and learning.

Action research, like traditional research, is empirical and employs rigorous methods to answer research questions in a systematic scientific method. Both forms of research manipulate variables, both independent and dependent, on design interventions. In addition, action and traditional research can be either qualitative, quantitative, or mixed methods in approach (Creswell & Creswell, 2018; Merlter, 2020). In addition, traditional research and action research have been employed in various studies; for example, practitioner Self Rykard (2020) employed a descriptive study in their action research dissertation, whereas another practitioner, Meyers (2021), employed an intervention study. Oulousidou (2018) employed traditional research using a control group case study approach to investigate the impact of WebQuests on students' comprehension. Similarly, Ari et al. (2022) carried out an exploratory study about preservice teachers' perceptions towards computer science. Most importantly, both types of research (i.e., traditional research and action research) are replicable due to the extensive and comprehensive methodology sections embedded in the journal writings.

Unlike action research, traditional research is conducted by a researcher who works for an outside entity. Their professional dispositions are unaffected by the study's outcomes (Achirri, 2020) as they are not educators in charge of achievement. Some traditional research employs control and experimental groups, where the intervention is withheld from some participants to measure the effect of the intervention. Due to its larger sample sizes, the findings of traditional research are generalizable (Creswell & Creswell, 2018).

Action research was the best fit for this study for several reasons. First, action research is practitioner-based research into a specific PoP that has a particular emphasis

on the researcher's reflexivity (Mertler, 2020). For this action research, I followed a four-cycle approach to answer research questions for a practitioner's research; those four cycles were acting, planning, developing, and reflecting (Mertler, 2020). Second, the enactment of these cycles occurred during a research cycle in a specific context; in this study, the context was my classroom with 12 participants to find creative answers to persistent problems. Finally, action research neither distracts nor disrupts the learning environment. All participants received the innovation and therefore all may benefit from the innovation.

I was both researcher and participant in this study and worked full time for a school district. The participants in this study were enrolled in my classroom. I sought to make a change for this specific group of students in the 2021–2022 school year. My professional dispositions were fortified as I learned how to systematically identify and solve specific problems in my practice (Stacy, 2013). For these reasons, action research was appropriate to carry out the research process for this study. To best answer my research questions, I collected and simultaneously analyzed both quantitative and qualitative data.

I used a convergent parallel mixed-methods design in this dissertation study. Either qualitative and quantitative or mixed-methods designs can be used in action research (Mertler, 2020). Qualitative designs triangulate narrative data to provide a rich and thick detailed description from which an inductive analysis derives narrative findings (Achirri, 2020). However, quantitative designs extract numerical and categorical data to provide statistical data analysis. A convergent parallel mixed-methods design allows the researcher to collect both qualitative and quantitative data simultaneously, analyze the

data separately, and combine analyses to provide a comprehensive understanding of the data (Creswell & Creswell, 2018; Mertler, 2020).

Setting

This action research took place in a fifth-grade classroom. At the entrance to my classroom, there is a classroom schedule, QR code that links to the lesson plan, and an inspiring quote on the wall beside the entrance. The square footage of the classroom is 33% larger than 90% of the classrooms in the building. In addition, there is an observation room with a two-way mirror that connects this classroom to an identical classroom. My classroom is equipped with a restroom, a double sink outside of the restroom, and counters that run the length of the back wall. I have several windows that provide natural lighting, and there is an equal amount of carpet and vinyl flooring. There are multiple lamps in the room, and soft music is always playing in the background. The room is decorated with live plants, which are natural air purifiers. There is ample wall space. Two whiteboards surround a 96-inch Smartboard on the focal wall. At BSES in Grades K–5, each student is issued a Chromebook, and I am issued a Chromebook and wireless keyboard to operate the Smartboard. In the back left corner of the room is a nook I use as a classroom library and writing station. There is a 106-inch bulletin board that hangs above the classroom library. I decorate the bulletin board with several quotes and QR codes to their corresponding books. The classroom library has a large, equipped, and comfortable reading and writing space. In the reading corner is one large bookshelf, one small bookshelf, and six crates of books containing multiple Lexile levels.

In addition, the writing center has a variety of paper, pencils, and pens during the instructional day. Anchor charts are placed judiciously around the room. Lastly, the desks

in the room are triangle-shaped, and they are arranged together to make tables. These triangle quads form learning clubs. Learning clubs are places where students sit for small, peer-led groups and regular classroom activities. In the front left corner of the room is my workspace, a large kidney-shaped table that serves as both my desk and small-group station during the instructional day.

Reading Workshop

Reading comprehension instruction in my class was conducted during the reading workshop through a balanced literacy model of instruction. Balanced literacy is the eclectic mix of language arts instruction that focuses on writing, vocabulary, reading, and reading for comprehension through different instructional delivery modalities (Calkins & Tolan, 2010; Fisher et al., 2017, 2019). In South Carolina's standards, reading instruction is grouped under a section called Fundamentals of Reading (South Carolina Department of Education [SCDE], n.d.-a) for both literary and informational texts. Two larger categories emerge under this group: meaning and context and language and craft. In the meaning and context section, students are tasked to determine, summarize, and analyze text to identify themes and central ideas by making predictions and providing evidence. Conversely, in the language and craft section, students are tasked with interpreting and analyzing words and ideas in relationship to the text.

To determine which students need explicit instruction in either of these strands, I used Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) Rasch Unit (RIT) scores and Lexile levels. The NWEA MAP RIT score represented the level of instruction that students are ready to learn. I also used EasyCBM progress monitoring percentiles, and anecdotal notes as data points and references to identify

intervention needs for students in my classroom. I addressed those needs and personalized instruction through one of four instructional frameworks inside of the reader's workshop. Reading workshop is a daily workshop that incorporates whole-group and small-group instruction over four large segments: read-aloud, independent reading, guided reading, and shared reading (Fisher et al., 2017, 2019).

Read Aloud

During the read-aloud portion, I selected a portion of the text to read and practiced a reading skill. I modeled for students my thinking using a think-aloud. I then asked students to help me use that strategy in another portion of the reading. The read-aloud portion introduced students to a reading strategy and provided them a skill they may want to use while reading.

Independent Reading

Independent reading helped students practice reading skills in a differentiated environment and followed the read-aloud portion. Differentiated meant students read on their Lexile levels or independent levels as identified through multiple data points. During this time, my students and I had multiple roles. I conferred with students. I provided opportunities to develop habits of responding to texts by providing student choice boards to complete during the reading workshop. Conversely, students recorded themselves reading digital or print-based books in Vocaroo.com. Students visited the classroom library to get a book on their Lexile level, or students in my class had access to a digital library of grade-level texts in EPIC book and Storyline Online.

Shared Reading

Shared reading was the portion of the balanced literacy model where all students read the same text and worked on a specific skill. This portion of the reading workshop was grade-level instruction. I modeled foundations of reading and practice, and supported students' exploration of skills through reciprocal teaching. I used high-order questions to help students make meaning while reading a shared text. At the time of this study, reciprocal teaching was used without embedding technology and was a school-wide Tier I intervention because it was evidence-based and a part of the district's AVID goals for fifth-grade students. After the mini lesson, students practiced the skill in a collaborative environment in small groups. My role was to facilitate discussion when needed, but students were tasked with the peer-led practice of reading comprehension skills. After the peer group practice, I provided closure. Because I had never integrated a reading instruction strategy embedded in a Web 2.0 tool to read expository texts, I was curious to evaluate students' perception of using reciprocal teaching embedded within the Wakelet Curation Tool, a Web 2.0 tool.

Guided Reading

Guided reading involves small-group instruction comprised of teacher- and student-led strategy groups (Fisher et al., 2019). In my classroom, small-group instruction took place in a reading workshop during the guided reading portion of the balanced literacy model. In the 2021–2022 academic year, I was tasked with leading Tier II instruction with my students. This task meant I used an intervention created by Fountas and Pinnell (2011), leveled literacy intervention (LLI), with students who scored below grade level using multiple data points. I made a data-based decision using multiple data

points when I considered student eligibility. One data point I considered was the proficient reading (PR) percentile in EasyCBM; any student who scores below the 25th percentiles in PR are eligible for intervention. And another data point was NWEA MAP RIT score; any student who scored below 200 according to the NWEA MAP score was eligible. I had a total of four students who met this criterion; therefore, I met with these students five times a week for 30 minutes of individual semistructured instruction in the fundamentals of reading, which were (a) meaning and context and (b) language and craft using a variety of texts.

Students worked on computer-led literacy workstations while I met with students for guided reading. I had access to paid and free Web 2.0 tools in my classroom. My district purchased a subscription to Wevideo, VoiceThread, and Screen Castify for recording audio and video texts. My school also purchased a subscription to an interactive slide deck presentation tool called Nearpod. I used Nearpod during the whole-group and small-group portions to document learning progressions. I also had access to Book Creator and Google Slide for students to use alternative methods for presentations.

Participants

There were ($n = 12$) fifth-grade students enrolled on my roster who were the participants of this research. I chose purposive sampling to select participants. According to Creswell and Creswell (2018), a purposive sample is appropriate when the participants are accessible and specific to the research site. Of the 12 students, 58% were female students, and 42% were male students. The complete 100% of the sample identified as African American. Table 3.1 shows the participant population and baseline data. Due to the COVID-19 global pandemic, there were many changes to the way participants

experienced school. First, all students received free lunch, so I did not provide lunch status data in this research or socioeconomic status data. Next, participants were in third grade when COVID-19 protocols shut down the school for emergency protection of all. During the initial shutdown, students continued schooling online. Beginning the 2020–2021 school year, students began school online which was a seminal experience for most, if not all. School buildings began to reopen to in-person learning in October 2020 and only half of the students elected to return to face-to-face learning. During the 2021–2022 academic year, all students and personnel returned to school and received face-to-face instruction. I sought to use this innovation to help answer the research questions by evaluating the impact on reading comprehension using reciprocal teaching embedded with a Wakelet Curation Tool. Aside from my responsibilities as the participants’ teacher, I invited four students to share their experiences about the innovation and their reading attitudes toward comprehension (Palinkas et al., 2015).

Table 3.1

Student Population and Baseline Data

Student	Gender	Race	Lexile	Fall RIT NWEA MAP score
Carmen	Male	African American	1050+	224
Angie	Female	African American	1050	221
*Karrin	Female	African American	849-990	213
*Kemmi	Male	African American	800-950	211
Labrent	Male	African American	800-950	211
Jamond	Male	African American	725-875	207
Laquasia	Female	African American	610-760	201
*Ky’ree	Male	African American	630-780	202
Chyna	Female	African American	550-700	198
Kamari	Female	African American	530-680	197
*Jaylen	Female	African American	415-625	191
Toni	Male	African American	455-605	193

Note. *Participated in the semistructured interviews

Another critical aspect of a mixed-methods design is that it aligns with a purposive sampling strategy. I selected my class of upper elementary students to improve their comprehension strategy use. A purposive sampling strategy was appropriate because the students were in my class (Palinkas et al., 2015). As my students progress through school, reading for comprehension instruction continues to advance into more complex and abstract ideas. By the end of this innovation, fifth-grade students on my enrollment benefitted from having a toolbox of comprehension strategies that they used with automaticity.

At the beginning of the 2021–2022 school year, students took two benchmark assessments, NWEA MAP and Easy Curriculum Based Measurement (EasyCBM), and took these benchmarks twice more in the winter and spring. NWEA MAP is a norm-referenced adaptative assessment that measures students' mathematics and reading proficiency. Further NWEA MAP scores are disseminated through a RIT score. The RIT score is three-digit number that calculates students' current achievement with estimated instructional levels in grade level proficiencies. Students entering fifth grade are expected to have a reading achievement RIT score of 208, signaling they are at or above grade level and projected to pass the end-of-year (EOY) state exam, SC Ready. Students' scores are grouped into percentages based on Hi/Avg, Lo/Avg, and Lo. Students' percentile and ranges were as follows: 31% scored Hi/Avg, 54% scored Lo/Avg, and 15% scored in the Lo range. Moreover, I provided Tier II Response to Intervention (RTI) instruction for students who scored below 25% in reading proficiency according to EasyCBM for 30 minutes five times a week. EasyCBM is an easy-to-use curriculum-based measurement teachers use to monitor the progress of students who have a

composite score in the 10th–25th percentile range on three reading skills: fluency, vocabulary, and reading. These scores signal students are two grade levels behind and need targeted intervention in reading skills. Students who scored below 25% in any of the three areas received targeted small instruction in Fountas and Pinnell’s (2011) LLI system. Of the 19 students in this class, 38% scored at or above grade level, which means they did not need progress monitoring. Another 50% scored in the 26th–89th percentile range, which signaled they may benefit from Tier I instruction. However, 10% scored between 10th–25th percentile, which signaled they had Tier II instructional needs. These were the students who received targeted small instruction in LLI. Furthermore, one student had an individual education plan (IEP). This student received pull-out services 5 days a week, so I did not include his data in this study.

Of the 12 students, four students were involved in the individual semistructured interview. The students assigned to the individual semistructured interviews were a sample of the classroom population and met three criteria: (a) NWEA MAP RIT scores, (b) gender, and (c) seat pod arrangement.

Innovation

The purpose of this action research was to evaluate the impact of reciprocal teaching embedded in Wakelet Curation Tool on fifth-grade students’ reading comprehension, reading attitudes, and perceptions about reading comprehension innovation at a urban characteristic (Milner et al., 2018) PDS site. Because I served as the teacher of record, this innovation took place during the reading workshop in my classroom. To answer my research questions, participants used reciprocal teaching elements to collaboratively read grade-level passages embed in Wakelet Curation Tool,

discuss the passages offline in face-to-face reading communities, and answer comprehension questions online in the Wakelet Curation Tool. The innovation lasted 8 weeks and occurred over three stages.

This section begins with an explanation of the reciprocal teaching elements embedded in Wakelet Curation Tool. Next, I describe the three-stage implementation of the innovation. Table 3.2 illustrates the lesson plan format for the innovation. Finally, I end by summarizing the purpose of this action research.

Table 3.2

Lesson Format to be Used During Stage 2: The Innovation

Phase	Innovation	Time
Phase 1: Model	Review reciprocal teaching strategy in a recorded video minilesson. The recorded minilesson provided a purpose for the session and set norms for the RT session.	5 minutes
Phase 2: Practice	Students break into small groups. Use reciprocal teaching strategies to build understanding in the text. This phase provides students the opportunity to read and take on comprehension roles in a social setting.	15 minutes
Phase 3: Apply	Independently students answer comprehension questions. They post their response on the Wakelet Curation Tool. It is during this phase students apply reciprocal teaching skills to their reading and reasoning.	10 minutes
Phase 4: Synthesize	Students discuss and give support to their answers to the comprehension question by responding to two of their classmates' posts. In this phase, students are using the Wakelet Curation Tool to engage in discussion, expression, and understanding around the text.	10 minutes
Phase 5: Closure	I end the session by asking what if any strategy help students understand the text. This phase provides closure to the lesson.	5 minutes

In addition to reading comprehension, reciprocal teaching involves cooperative learning strategies. Cooperative learning occurs when students are placed in groups to complete tasks (Ghanbari & Abdolrezapour, 2020). Students in this research were sorted into four groups of four based on their Lexile levels, RIT scores, and their ability to get along; each group contained two expert readers and two novice readers.

Lastly, reciprocal teaching emphasizes the role of communication between peers (Palinscar & Brown, 1984; Stricklin, 2011). In this study, after students had read the prescribed amount of text, they referenced a graphic organizer called a Quad Squad. The Quad Squad had four quadrants corresponding to their role, along with a graphic organizer and sentence frames to help participants answer and respond to the text (Oczkus, 2018; see Appendix A). The tiny teacher leads the small group by reading the expectations and reiterating group norms: to fulfill your role, read the passage, and use your comprehension as a discussion tool when it is time to discuss. After the reading, the tiny teacher directed the comprehension conversations. The participants referred to the Quad Squad to answer their questions. After each participant spoke, they continued reading and followed the same sequence of comprehension conversations until the passage was read. During this time, students also answered comprehension questions on the Wakelet Curation Tool.

Implementation of Innovation

Before this study, participants were taught how to use reciprocal teaching strategies as a school-wide Tier I intervention. The essential elements of this action research align to the original use of reciprocal teaching to include gathering in groups of

four, assuming a role, discussing comprehension strategies corresponding to a reciprocal teaching role, and producing learning artifacts. The innovation took place in four stages.

Stage 1: Pre-Innovation

The pre-innovation part of the research took 2 weeks. This time was used to prepare participants for the innovation. On the 1st day of Week 1, I emailed and sent home hard copies of the consent forms to parents (see Appendix B). I requested they be returned or emailed back by the following week on Friday; parents were allotted 10 days to respond.

During Week 2 of the research, I introduced students to the Web 2.0 tool, administered the Comprehension Content Knowledge Pretest, and ERAS presurvey. First, I introduced students to Wakelet Curation Tool on Day 1 of this week; I created a trial Wakelet Curation Tool so students could freely interact with the interface and explore its functions (see Appendix C). I gave students 10 minutes to explore the website, followed by a 20-minute explanation of the tools embedded for discussion. Wakelet Curation Tool is a multimodal Web 2.0 tool that incorporates text, URL links, and Flipgrid for alternate ways to respond to a prompt. I chose this website because it resembles real-life reading events, is not controlled by teachers, is easy to navigate, and lets students upload multimedia with relative ease. I demonstrated how to use the interface, post a response, and edit a reply. Additionally, I uploaded the *Studies Weekly* newspaper (i.e., a social studies publication based on fifth-grade curriculum) to the website and showed students how to open the file and read the newspaper online. During this stage, I placed students in heterogeneous groups. On the same day, I administered the ERAS presurvey. On the 2nd day of the 2nd week, I administered the Comprehension Content Knowledge Pretest.

Stage 2: Innovation

The innovation stage occurred for Weeks 3 through 6. For every session, I sent an automated email to all participants to access the webpage. Participants navigated to their email, opened it, and found the Wakelet Curation Tool link. Students joined the page by entering their names on the Wakelet Curation Tool homepage. During shared reading in the reading workshop, all students used reciprocal teaching strategies to read a 200–400 word grade-level article from *Studies Weekly*. The use of reading comprehension skills to read any expository material was crucial to this study and reflected South Carolina’s reading standards in Strand 5 for reading content in meaning and context. Under Strand 5, students must be able to predict, uncover implicit information and provide evidence for implicit information, and identify the key or main concept depending on numerous interpretations of any expository reading passage while meeting two requirements in parallel (South Carolina Department of Education, n.d.-c). During the innovation, a tiny teacher directed each small group to read a certain quantity of material. Following the reading of the passage, the tiny teacher facilitated a text discussion by asking participants to reply depending on their understanding of the role; this innovation lasted 45 minutes twice a week. Table 3.3 summarizes Stage 2: The Innovation.

Table 3.3

Lesson Sequence During the Stage 2: The Innovation

Week	Objective	Activities
Week 1: Model Summarization	To determine meaning and develop logical interpretations by summarizing.	Explicit Teach Modeling of Comprehension Strategy Students Read Text Employ Reciprocal Teaching

Week	Objective	Activities
		Strategies online and face-to-face Answer Comprehension Questions on the Wakelet Curation Tool.
Week 2: Model Prediction	To determine meaning and develop logical interpretations by making predictions.	Read Text Employ Reciprocal Teaching Strategies online and face-to-face Answer Comprehension Questions on the Wakelet Curation Tool
Week 3: Model Clarification	To determine meaning and develop logical interpretations by providing evidence.	Read Text Employ Reciprocal Teaching Strategies online and face-to-face Answer Comprehension Questions on the Wakelet Curation Tool
Week 4: Model Questioning	To determine meaning and develop logical interpretations by analyzing.	Read Text Employ Reciprocal Teaching Strategies online and face-to-face Answer Comprehension Questions on the Wakelet Curation Tool.

I began each session with a videotaped strategy lesson using a different article for every day of the innovation in *Studies Weekly* (see Appendices D–K) as a mentor text. This strategy lesson provided students with explicit instruction of a strategy to use. After the mini lesson, students transitioned to small groups. Those activities included navigating to Wakelet Curation Tool and preparing to fulfill their predetermined comprehension role as a predictor, classifier, summarizer, questioner, and or tiny teacher.

The tiny teacher reviewed each of the participant's roles, the talking task, and the recording task posted on the Wakelet Curation Tool board.

Following the reading portion of the *Studies Weekly* article, each participant discussed their response using the sentence prompts and comprehension strategies listed on Quad Squad. Each quadrant contained a comprehension role, an image to remember the roll, and a sentence frame. Graphic organizers in this context served as scaffolding tools that supported students' application of comprehension strategies before, during, and after their reading.

Students spent 35 minutes working in their small peer-led groups. They spent 15 minutes reading the passage. Next, students spent 20 minutes responding to comprehension questions and each other in the Wakelet Curation Tool. While students worked, I circled the room and facilitated conversations as needed. At the conclusion of 35 minutes, I provided closure to the lesson. The closure lasted five minutes. I asked students to share which, if any, strategy helped them to understand the article and therefore helped them to answer the comprehension question.

The proposed innovation occurred during an integrated reading workshop. Because this action research took place in my current classroom, I had to monitor and adjust when needed. For instance, one session was interrupted due to a safety drill and many others due to early dismissals, pull-out academic instruction, and pull-out guidance sessions.

Stage 3: Post-Innovation

During the 7th week, the post-innovation stage, I administered the posttest during the integrated readers' workshop. Simultaneously, I conducted interviews during

dismissal and conducted the posttest and postsurvey during this week. My original plan was to use a video conferencing tool to interview students at home, but the school leadership team recommended all Chromebooks were to remain at school. As such, I had to adjust to the new policy by interviewing students during dismissal. First, I conducted individual semistructured group interviews with four student participants. These interviews lasted between 12–27 minutes. At the conclusion of the interview, I provided closure by thanking all participants for helping me conduct an evaluation of the impact of RT embedded in Wakelet Curation Tool during the integrated reading workshop in our fifth-grade classroom. On Tuesday, I administered the Comprehension Content Knowledge Pre and Posttest reading passage. I followed my final administration of the ERAS postsurvey during the independent reading portion of the reading workshop on Thursday. To administer the ERAS test, I read each prompt item to the participants and then waited for them to respond on a Google Form. I converted the ERAS survey items to a digital format for easier data collection and seamless administration. I adapted the ERAS to digital form by copying assessment prompts and adding Likert-type scale responses to a Google Form. I had paper-based copies available for students if needed.

Stage 4: Data Collection and Preparation

Stage 4 was the conclusion of the innovation stages. During Stage 4, the participants did not have a role. My role was to continue to assemble all the data points I had collected over the previous 7 weeks.

Data Collection

This action research followed a convergent parallel mixed-methods design (Creswell & Creswell, 2018). The data were collected from 12 fifth-grade students in an

integrated reading classroom of the teacher of record. To answer my research questions, I collected both quantitative and qualitative data using four data sources: (a) Comprehension Content Knowledge Pre and Posttest, (b) ERAS, (c) researcher's journal field notes, and (d) individual semistructured interviews. The study occurred over 7 weeks and during that time, I collected data to answer the three research questions that guided this study.

The next section illustrates the alignment of research questions, objectives, and data sources. This action research employed a convergent mixed-methods design. I used both quantitative and qualitative data to evaluate the impact of reciprocal teaching embedded in Wakelet Curation Tool upon reading for comprehension. I begin this section with an alignment table that correlates the research questions to a data collection method (see Table 3.4). I end this section by describing the quantitative and qualitative instruments I used to collect data.

Table 3.4

Research Question and Data Sources Alignment Table

Objectives	Data sources
1. How and to what extent does reciprocal teaching embedded within Wakelet Curation Tool impact the reading comprehension of fifth-grade students?	Comprehension Content Knowledge Pre and Posttest Individual Semistructured Interviews
2. What are fifth-grade students' overall perceptions about the use of reciprocal teaching embedded with Wakelet Curation Tool during the reading workshop?	Individual Semistructured Interviews
3. How does reciprocal teaching embedded within the Wakelet Curation Tool impact fifth-grade students' attitudes toward reading?	Elementary Reading Attitude Survey Individual Semistructured Interviews

Quantitative Data

To assess the effectiveness of a reading innovation, I used two quantitative instruments. The first instrument was a content-knowledge assessment, administered as a pre and posttest. A second instrument was the ERAS (McKenna & Kear, 1990), which measured students' attitudes toward reading before and after participating in the innovation. The following sections describe both instruments.

Comprehension Content Knowledge Pre and Posttest

To measure the effectiveness of the reading innovation, I used two similar comprehension assessments uploaded to the Mastery Connect platform to evaluate the reading achievement of fifth-grade students who used reciprocal teaching embedded in a Wakelet Curation Tool. The formative assessment was created by a teacher who aligned the multiple-choice questions using South Carolina's language arts standards (Assessment to the power of Mastery Connect, n.d.). Both expository tests required the student to respond to comprehension questions concerning the text and identify textual evidence that best represented the responses provided. There were two expository comprehension assessment reading passages, one for the pretest and one for the posttest (see Appendices L & M), to document progress of the instructional strategy.

These reading passages are teacher created and aligned to South Carolina's standards for fifth-grade English language arts. The pretest, "Important Inventions," is on James Watts' invention of the steam engine. The pretest is nine paragraphs and does not have any pictures, nor embedded glossary. The posttest, "A Cowboy's Historical Discovery," is about George McJunkin, a cowboy, who finds the fossils of an ancient bison among human bones in New Mexico. The posttest is six paragraphs long and does

not have any pictures, nor embedded glossary. The students read the passages and then answered the comprehension questions. Each Comprehension Content Knowledge Pre and Posttest passage had six questions with four multiple-choice items. Each of the multiple-choice items scored two points (see Table 3.5 for a sample alignment of objectives and items).

Table 3.5

Sample Alignment of Performance Objectives and Comprehension Content Knowledge Pre and Posttest Items

Objectives	Sample Comprehension Content Knowledge Pre and Posttest Questions
Objective 1. Given a segment of a text, students will apply comprehension skills by predicting.	Based on the information in the selection, what can be inferred about the ancient bison? A. They were smaller than buffalo and cattle that lived during that time. B. They became extinct because of the Indian ancestors and hunters. C. They were slow runners and became easy prey for hunters. D. They lived in the same places where Indian ancestors lived.
Objective 2. Given a segment of a text, students will apply comprehension skills by clarifying.	What are locomotives? A. Automobiles B. Planes C. Ships D. Trains
Objective 3. Given a segment of a text, students will apply comprehension skills by asking questions.	Where would this selection <i>most likely</i> be found? A. an online encyclopedia B. a travel magazine C. a book about the United States Congress

Objectives	Sample Comprehension Content Knowledge Pre and Posttest Questions
Objective 4. Given a segment of a text, students will apply comprehension skills by summarizing.	<p>D. an article in a local newspaper</p> <p>Which statement best describes the author’s conclusion about George’s death in 1922?</p> <p>A. George died while doing significant work at Crowfoot Ranch.</p> <p>B. George died just after he invited Carl to visit the ranch.</p> <p>C. George died before the value of his discovery was recognized.</p> <p>D. George died while he was still young and had a bright future ahead.</p>

ERAS

To evaluate the reading attitudes of the fifth-grade students who used reciprocal teaching embedded in a Wakelet Curation Tool, I administered the ERAS (McKenna & Kear, 1990; see Appendices N & O). McKenna and Kear (1990) created a public domain survey to provide reading educators with a two-part survey to evaluate elementary students’ reading attitudes toward reading for recreation and for academic purposes (Kazelskis et al., 2004; McKenna & Kear, 1990).

The ERAS contains two parts: (a) reading for leisure or reading based on choice outside of school or in an informal setting, and (b) reading for academics based on teacher or grade-level expectations in a formal setting (Nootens et al., 2019). For this study I only used the second part, the academic reading attitude survey. The possible maximum score for academic reading attitude was 40 points and the minimum score was

10. The reading attitude survey consists of 10 pictorial-based items that correlate to a four-point Likert-type scale ranging from (4) *very happy* to (1) *very sad* (Kazelskis et al., 2004; see Figure 3.1).

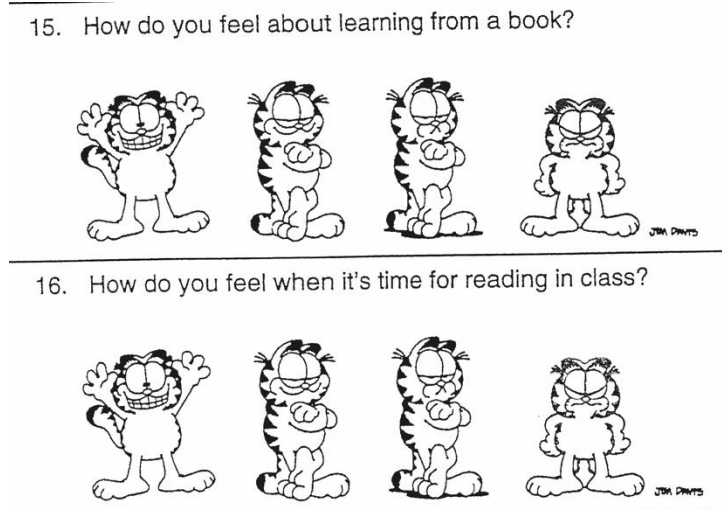


Figure 3.1

Two Elementary Reading Attitude Survey Sample Items

Note. Figure reprinted from “Measuring Attitude Toward Reading: A New Tool for Teachers” by M. C. McKenna & D. J. Kear, 1990, *Reading Teacher*, 43(9), 626–639. (<https://doi.org/10.1598/RT.43.8.3>)

Numerous researchers have reviewed the ERAS to ensure reliability (Kazeleskis et al., 2004). The ERAS is rated highly reliable with a Cronbach’s alpha of .80 (Kazelskis et al., 2004). McKenna and Kear (1990) recommended teachers use the survey in conjunction with observations and interviews to determine a holistic view of readers’ attitudes.

Reliability measures if an instrument yields the same results in different settings. The statistic I used to measure reliability was Cronbach's alpha. Cronbach's alpha measures internal consistency. For Pyrczak and Tcherni-Buzzeo (2019), alpha values lower than .70 suggest the instrument measures more than one construct. In this study, I evaluated the impact of the innovation upon students' attitudes toward reading using the ERAS. Other researchers have reported the reliability of the survey at .80 (Kazleskis et al., 2004); however, I did not use the whole survey, so this Cronbach's alpha value was not applicable. Still, it is important to note there is statistical evidence to suggest ERAS measures a suggestion of readers' attitudes toward reading for recreation or academic purposes.

The Content Knowledge Pre and Posttest is teacher created and aligned to the 5. RI. MCC:5: to predict, clarify, question, summarize and (b) 5. RI. MCC:6: to summarize standards. I asked two teachers in my building, a fifth-grade teacher and a reading coach, to review the pretest and posttest items to ensure content validity. I used their comments to finish any revisions because both teachers were experts who were familiar with my students. The fifth-grade teacher and the reading coach both agreed no changes were required.

Qualitative Data

To gather data related to the reading attitudes and perceptions of fifth-grade students who use reciprocal teaching embedded in a Wakelet Curation Tool, I conducted four individual semistructured interviews. Interviews are important to establish

participant voices and perceptions about the innovation. More importantly, participants' perspectives of the intervention were noted for others to learn from for years to come.

Individual Semistructured Interviews

Individual semistructured interviews were distributed to individual students and were open ended. The open-ended structure provided space for me to ask follow-up questions when I needed a participant to clarify their response (Mertler, 2020). Individual interviews were suitable for this group because I wanted the perspectives of students without the influence of others. Because this innovation occurred during the instructional day, I conducted these interviews during the close of the instructional day.

Of the 12 participants, I selected four to participate in individual semistructured interviews. The students assigned to the individual semistructured interviews were a sample of the classroom population and met three criteria: (a) NWEA MAP RIT scores, (b) gender, and (c) seat pod arrangement. RIT scores measure students' achievement over time using a calibrated model (Northwest Evaluation Association, 2013). Students in this class fell into one of four categories that correspond to grade-level percentages as indicated by NWEA MAP (see Table 3.5). All students' names were pseudonyms. These students either measured above grade level, on grade level, approaching grade level, or below grade level.

I used RIT scores to group students for small-group instruction. NWEA MAP test data analyze students' areas for improvement and provide grade-level tasks based on RIT score-sensitive assignments. I assigned two novice readers with two expert readers to answer my research questions about students' experiences of reading while using the innovation. The innovation was for students of all abilities to read together and to

construct meaning out of grade-level tasks, which they are required to do even when personalized and modified learning plans are in place.

Of the four participants, each had a different RIT score range. I selected two novice readers and two expert readers to participate in the individual semistructured interview. This selection was important, as I sought to evaluate the achievement and experiences of participants who were either novice or expert readers. A reader's achievement is measured through RIT scores and Lexile level; both are appropriate to measure reading achievement. Additionally, of the 12 participants, seven were girls and five were boys. I chose two female students and two male students to represent the classroom population. The individual semistructured interview occurred after school during afternoon dismissal. These interviews helped answer the research questions (see Table 3.6). The individual semistructured group interview lasted between 12–27 minutes and I followed an interview protocol (see Appendix P). Finally, I used the voice memos on Google Docs to record the interview and take notes as the students spoke (Achirri, 2020; Taylor, 2017). As a backup feature, I recorded the interviews with audio features on the video conferencing tool.

Table 3.6

Interview Alignment Table

Research questions	Interview questions
RQ. 1. How and to what extent does reciprocal teaching embedded within the Wakelet Curation Tool impact the reading comprehension of fifth-grade students?	1. What experiences did you have while reading using reciprocal teaching? 1. a. Could you provide examples? 4. Would you prefer to read and answer comprehension questions using the Wakelet Curation Tool?

Research questions	Interview questions
RQ. 2. What are fifth-grade students' overall perceptions about the use of reciprocal teaching embedded with the Wakelet Curation tool during the reading workshop?	<p>4. a. Would you please provide examples?</p> <p>2. What did you like most about using reciprocal teaching and the Wakelet Curation Tool, the Web 2.0 tool?</p> <p>2. a. What were some positive experiences?</p> <p>2.b. What were some negative experiences?</p> <p>3. I call reciprocal teaching to embed in Wakelet Curation Tool innovation. Did this innovation take away from your learning experiences?</p> <p>3. a. Could you please provide examples?</p> <p>8. What, if any, changes would you make to the innovation?</p> <p>9. Would you recommend your teacher embed reciprocal teaching in a website for your new school year?</p> <p>9. a. Could you list some reasons?</p>
RQ. 3. How does reciprocal teaching embedded in the Wakelet Curation Tool impact fifth-grade students' attitudes toward reading?	<p>5. How has using a Wakelet Curation tool motivated you to learn?</p> <p>5.a. Would you please provide examples?</p> <p>6. What was helpful to you while using the reciprocal teaching and using the Wakelet Curation Tool 1 to read and answer questions?</p> <p>6.a. Could you provide examples?</p> <p>7. What was challenging to you while using reciprocal teaching and the website to read and answer questions?</p> <p>7.a. Could you provide examples?</p>

Data Analysis

This research was guided by three questions and answered through both qualitative and quantitative data sources (see Table 3.7). I triangulated four data sources to provide a thick, rich description to evaluate the impact of the innovation upon fifth

graders in an integrated reading classroom (Creswell & Creswell, 2018; Mertler, 2020). I began and end this section by explaining how I analyzed and displayed quantitative data.

Table 3.7

Research Questions and Data Sources Alignment Table

Research questions	Data sources	Method of analysis
1. How and to what extent does reciprocal teaching embedded within Wakelet Curation Tool impact the reading comprehension of fifth-grade students?	<ul style="list-style-type: none"> ● Comprehension Content Knowledge Pre and Posttest ● Semistructured Interviews 	<ul style="list-style-type: none"> ● Wilcoxon signed-rank test ● Descriptive Statistics ● Inductive analysis
2. What are fifth-grade students' overall perceptions about the use of reciprocal teaching embedded with Wakelet Curation Tool during the reading workshop?	<ul style="list-style-type: none"> ● Semistructured Interviews 	<ul style="list-style-type: none"> ● Inductive analysis
3. How does reciprocal teaching embedded in the Wakelet Curation Tool impact fifth-grade students' attitudes toward reading?	<ul style="list-style-type: none"> ● ERAS ● Semistructured Interviews 	<ul style="list-style-type: none"> ● Wilcoxon signed-rank test ● Descriptive Statistics ● Inductive analysis

Quantitative Data

For this action research, quantitative data came from the Comprehension Content Knowledge Pre and Posttest reading passages and the ERAS. I analyzed quantitative data using both a nonparametric statistical hypothesis test, which provides an explanation of the data set; and descriptive statistics, which provides a summary of the data set (Adams

& Lawrence, 2018.) The following section provides an in-depth explanation of the statistical analysis procedures.

Inferential Statistics

A nonparametric statistical hypothesis test and descriptive statistics are numerical approaches to analyzing quantitative data. To answer Research Questions 1 and 3, I analyzed quantitative data. First, I evaluated the impact of the innovation on fifth-grade students' reading achievement in the pretest and posttest scores of Comprehension Content Knowledge Pre and Posttest and ERAS using an inferential statistic called a Wilcoxon signed-rank test (Mertler, 2020). The Wilcoxon signed-rank test was run because my data were not normally distributed. I measured the difference between pretest and posttest scores on both the reading for comprehension assessment and the ERAS on the same group of students at different times; therefore, this measure was applicable. I measured the difference by setting an alpha level of .05 (Mertler, 2020). This important statistic, the means derived from the paired test, evaluates the difference of means on nonnormal data set (Mertler, 2020; Travers et al., 2017). This value helped provide important statistical data to make inferences about the impact of innovations in classroom research led by me, the classroom teacher.

Concurrently, I administered the ERAS before and after the innovation. I analyzed the ERAS data using descriptive statistics. Unlike inferential analysis where the researcher makes inferences about numerical data, descriptive statistics describe the participants using numerical references such as mean and standard deviation (Adams & Lawrence, 2018). To describe the participants' reading attitudes, I administered the ERAS. The total of questions, the mean response score, and the standard deviation of the

mean response before and after the innovation were recorded. The numerical values corresponded to the reading attitudes of the participants. The mean scores indicated the reading attitudes of the participants and the standard deviation indicated the distribution of the mean score. Descriptive statistics were appropriate for this research to draw conclusions about the reading attitudes of the participants using a manageable method. Together, both statistical methods provided numerical data to answer Research Questions 1 and 3.

Qualitative Data

Qualitative data are narrative data the researcher must winnow to better understand research questions (Creswell & Creswell, 2018; Mertler, 2020; Tracy, 2020). Further, qualitative data must be organized (Tracy, 2020), and interpreted (Mertler, 2020). Mertler (2020) stated the primary goal in data analysis is synthesis. I achieved synthesis through conducting an inductive analysis using the qualitative data.

In this section, I define inductive analysis. Next, I list the measures for which I used inductive analysis. Finally, I list the procedures for conducting an inductive analysis.

Inductive Analysis

Inductive analysis is a detailed reading approach of narrative transcripts to derive inferences about the population under the study (Tracy, 2020). The researcher performs multiple close reading strategies to derive codes. Once a pattern of metacognition was established and code generation was underway, I categorized the codes based on the first-

cycle coding methods: initial, structural, and pattern coding (Saldaña, 2021). For this reason, I used an inductive analysis of the narrative data in this research.

The narrative data I analyzed were four individual semistructured interviews. Through inductive analysis, I provided authentic perspectives about the innovation from the participants' points of view. First, I uploaded the transcripts into Delve, a qualitative statistical software. Next, in Delve, I labeled each participant's transcript with a pseudonym and wrote a short description. I listened to the recordings of the interviews, read the transcripts multiple times, and decided on a unit of analysis before I began coding. During the first cycle of analysis, I alternated between splitting or line by line and lumping or thought-by-thought analysis because I decided to use structural coding to make sense of the data after I began the initial coding process (Saldaña, 2021). In the second round of first-cycle coding, I applied descriptive and In Vivo coding. Appendix Q for a complete list of In Vivo codes. I read to find any words or ideas that repeated. In the following session, I reread and highlighted any ideas or words that repeated and I wrote those ideas and placed them in a hierarchy column in Delve. Once the coding phase was complete, I placed codes that had commonalities into the same sub-categories and later categories. Finally, I synthesized those categories into emerging themes. Those emergent themes provided a descriptive narrative that summarized my notes and spoke to the fullness I observed, read, and inferred during the innovation (Tracy, 2020)..

Procedures and Timeline

Action research is specific to the context and is conducted by teachers in their instructional practices (Mertler, 2020). One practice is to plan for instruction. In this action research, I scheduled teaching by creating procedures and a timeline to evaluate

the impact of reciprocal teaching embedded in the Wakelet Curation Tool on fifth-grade students' reading comprehension, reading attitudes, and general perceptions of the innovation. In this section, I explain how the innovation was implemented. First, I present a summary of the procedures and the timeline in a table (see Table 3.8), followed by the section narration. The innovation occurred in four stages: pre-innovation, innovation, post-innovation, and data preparation for findings. In the pre-innovation stage, I gathered consenting documents and conducted preassessments before the implementation of the innovation. Next, I spent 4 weeks implementing the innovation. Then, I followed the innovation stage with the post-innovation, where I gathered postassessment data to measure the effectiveness of the innovation. Lastly, during the fourth stage, data collection and preparation for findings, I prepared data for analysis.

Table 3.8

Data Collection Procedures

Stages	Time frame	Participants' roles	Researcher's role
Stages 1: Pre-Innovation	Weeks 1–2	Sign consent form Provide assent through giving a verbal agreement Take Mastery Connect pretest Take Elementary Reading Attitude Survey (ERAS) Explore Wakelet Curation Tool	Email consent forms to parents Read consent form to students Administer Mastery Connect pretest Administer Elementary Reading Attitude Survey (ERAS) Demonstrate how to use the class website Create heterogenous groups and preselect student roles Create fictitious names for student participants
Stage 2: Innovation	Weeks 3–6	Use reciprocal teaching strategies during researcher's workshop	Teach eight reading comprehension strategy minilessons (Oczkus, 2010)

Stages	Time frame	Participants' roles	Researcher's role
		Type answers on learning artifact Answer weekly comprehension questions	Provide closure to each of the eight sessions Write/record field notes after school at 3:45 p.m. (Tracy, 2020) Facilitate peer groups as needed Check website for students' participation Provide weekly comprehension question to Wakelet Curation Tool
Stage 3: Post-Innovation	Weeks 7	Participate in focus group Complete ERAS Google Form Complete Mastery Connect posttest online	Conduct focus groups interview Distribute ERAS through Google Form Distribute the link to Mastery Connect posttest
Stage 4: Data Preparation	Week 8		Transcribe focus group interview Prepare field notes and focus group interviews for inductive analysis Prepare Mastery Connect and ERAS pretest and posttest for inferential and descriptive analysis

Stage 1: Pre-Innovation

Week 1

I emailed parent consent forms in Week 1. The consent forms summarized the research using easy-to-understand terms. I requested the documents be emailed back in 10 business days only if parents did not want their scholar included in data analysis. Seven days after I sent out the consent forms, I administered the Content Comprehension Knowledge Pretest and ERAS.

Week 2

In Week 2 of the innovation, the pretest stage commenced. First, I administered the Mastery Connect pretest during the integrated reading workshop. Mastery Connect is aligned to South Carolina reading standards and measures reading comprehension in multiple formats. The assessment is a reading passage with six multiple-choice questions. I administered each pre-evaluation on two different days. On Monday, I gave the reading comprehension at the beginning of the integrated reading workshop. Mastery Connect is not timed, so as participants completed the assessment, I provided a choice board of activities to complete. I used Mastery Connect data (i.e., the reading comprehension scores) to evaluate the impact of RT embedded in Web 2.0 tools on fifth-grade students' reading achievement. After the completion of the pretest, the students and I practiced using the Wakelet Curation Tool applications through a pre-innovation Wakelet Curation Tool template. We practiced typing, selecting the PDF, selecting the video, and responding to posts in the Wakelet Curation Tool. On Wednesday, I administered the ERAS. After that administration, the participants and I reviewed the practice Wakelet Curation Tool.

Stage 2: Innovation

Week 3

Weeks 3–6 the innovation took place 2 days a week, Tuesday and Thursday. On each innovation day, I began the session with a 5-minute mini lesson on comprehension strategy using an article from *Studies Weekly*, a mentor text, to conduct the mini lessons.

Following the mini lesson, participants spent 2 minutes transitioning into groups. Once in the groups, I set a 30-minute timer. A student participant was the tiny teacher and

led the small group in practicing predicting, clarifying, questioning, and summarizing by collaboratively reading a portion of a shared text, discussing the text and recording their answers to a learning artifact, and responding to students posts on the class Web 2.0 tool. I monitored each group and facilitated discussions when needed. After 25 minutes, I provided a 5-minute closure session. The closure consisted of me asking students which strategy they used to comprehend the article and how it was helpful. After school, when students left for the day, I spent 30 minutes writing in detail using descriptive versus summarization language to explain participation activities during the innovation (Tracy, 2020). During this time, I checked the Wakelet Curation Tool to ensure participants participated.

Weeks 4–6

I continued these weeks' lessons sequence as outlined prior in Week 3.

Stage 3: Post-Innovation

Week 7

Stage 7 marked the end of RT innovation where I collected post-innovation data. Tuesday, during the morning meeting, I distributed the ERAS to all students via Google Forms. On Thursday I administered the Mastery Connect posttest.

Stage 4: Data Preparation

Week 8

The data preparation stage was the final stage for the innovation where I assembled data to evaluate the impact of reciprocal teaching embedded within the Wakelet Curation Tool to answer the three research questions. In this stage, I prepared both the quantitative and qualitative data for analysis.

Rigor and Trustworthiness

To ensure rigor and trustworthiness, I used four strategies: (a) peer debriefing; (b) member checking; (c) triangulation; and (d) thick, rich descriptions. I describe each of the three strategies in the following sections.

Peer Debriefing

Spall (1998) purported peer debriefing is a qualitative method that ensures rigor and trustworthiness. Peer debriefing was helpful to my research in that it authenticated my findings. I attended several peer debriefing sessions with my dissertation chair to interrogate my findings following the data collection process. I articulated my processes of analysis. I was asked probing questions by my dissertation chair about the data collection and analysis to encourage self-reflection. As a doctoral student who was also an educator, I used peer debriefing as a collaborative safeguard against bias while analyzing data because I was researching in my own “backyard” (Creswell & Creswell, 2018, p. 184). Further, I asked a colleague who was also a doctoral student to review data with me. Together, with the advice from my chair and the expertise of a colleague, I provided an authentic illustration of my research context through the dissemination of data.

Member Checking

Mertler (2020) noted member checking is the process of allowing participants access to my “observations and drafts” (p. 137) of their participation in the research. Member checking ensures rigor and trustworthiness. Carlson (2010) reported member checking is used to ensure that participants approve of the researcher’s inferences and interpretations of the data they provide.

In this study, I reviewed the interview transcripts with the four students who were a part of the individual semistructured interviews. The review provided an opportunity for the four participants in the semistructured interview to approve or disapprove of the data they provided. In addition, I shared with them their comments through an email and the themes that emerged.

Triangulation

Mertler (2020) referred to using many sources as triangulation of data to secure rigor and trustworthiness with qualitative data. Data from four separate semistructured interviews were used in my research. I established rigor by investigating emergent codes and patterns and justifying themes and findings.

This convergent parallel mixed-method design was helpful in this research as it provided a complete picture of findings in a fifth-grade classroom (Cook et al., 2019). Because evaluating the impact of the innovation study was a goal of this study, I merged quantitative and qualitative findings into a model where I triangulated and articulated the findings. I used tables and narratives to present my findings.

Thick Rich Descriptions

Thick rich descriptions provided trustworthiness as I showed what happened instead of telling in the research context (Tracy, 2020). Qualitative researchers use thick rich descriptions to narrate their findings. Because I used inductive analysis to make sense of the qualitative data, thick rich descriptions were warranted. Narrative data show what happens through words and ideas. In this study, I provided explicit details about the classroom culture, the exact words participants used to respond, and my inferences in a

rich account that was used to answer the research questions and validate my data analysis methods.

Plan for Sharing and Communicating Findings

Upon completing my research, I disseminated the findings locally, regionally, and nationally in educational technology communities. First, I disseminated research locally. I presented the findings to district personnel, local administrators, and technology learning coaches to illustrate the effectiveness of using action research to identify a PoP and the implications it provides to stakeholders. Second, I presented the findings to grade-level teachers during the planning period. I presented my elevator summary that shows the impactful data I collected that indicate the impact of reciprocal teaching embedded in a Wakelet Curation Tool. Finally, I disseminated the findings of this research at the Association for Educational Communications and Technology conference. I presented my research in a 15-minute presentation. During the presentation, I illustrated how I established “ownership” (Mertler, 2020, p. 258) of my professional development over the entire action research process.

CHAPTER 4

ANALYSIS AND FINDINGS

The purpose of this action research was to evaluate the impact of reciprocal teaching embedded within the Wakelet Curation Tool upon fifth-grade students' reading comprehension, reading attitudes, and perceptions about reading comprehension innovation at an urban characteristic (Milner et al. 2018) professional development school (PDS) site. This chapter presents findings and analysis from quantitative (i.e., Comprehension Content Knowledge Pre and Posttest) and qualitative (i.e., semistructured participant interviews) data sources.

The following research questions grounded this study:

1. How and to what extent does reciprocal teaching embedded within Wakelet Curation Tool impact the reading comprehension of fifth-grade students?
2. What are fifth-grade students' overall perceptions about the use of reciprocal teaching embedded with Wakelet Curation Tool during the reading workshop?
3. How does reciprocal teaching embedded in the Wakelet Curation Tool Platform impact fifth-grade students' attitudes toward reading?

Quantitative Data Analysis and Findings

In this section, I describe the descriptive and inferential analysis of the quantitative data and subsequent findings from the Comprehension Content Knowledge Pre and Posttest and Elementary Reading Attitude Survey (ERAS).

Comprehension Content Knowledge Pre and Posttest

To evaluate the students' reading comprehension, identical Comprehension Content Knowledge Pre and Posttests were administered before and after the innovation. There were 12 students who took the test, ($n = 5$) male students and ($n = 7$) female students. Teacher-created grade-level reading comprehension passages were administered as pre and posttests, both of which were available through the school district's Mastery Connect portal—an online system that provides teachers with formative assessment items aligned to South Carolina state standards. The six pretest questions were divided into two types: five questions on determining the meaning and developing logical interpretations, and one on summarizing details.

For the pretest, participants read a text and subsequently answered questions. Each correct question received a score of two points and incorrect answers received a score of zero, with a maximum score totaling 12 points available to participants. At the conclusion of the study, I administered an identical posttest to the participants. The posttest was also a grade-level passage with six multiple-choice responses. Both sets of questions reflected South Carolina's reading expository texts Standards 5 and 6 for fifth grade: (a) 5. RI. MCC:5: to predict, clarify, question and (b) 5. RI. MCC:6: to summarize standards. To determine if the passage and multiple-choice questions measured the scope of the standards, I conferred with two reading teachers in the building. To ensure content validity, these two reading teachers reviewed the passages and questions. Both teachers agreed the question stems were in the scope of the standards and representative of the types of thinking to which the students were accustomed. Following data collection, I analyzed quantitative data using descriptive and inferential statistical tests.

Descriptive Statistics

Descriptive statistics (i.e., mean and standard deviation) were calculated on the Comprehension Content Knowledge Pre and Posttest data using Jeffery's Amazing Statistical Analysis Program (JASP). Table 4.1 presents the mean and standard deviation of pretest and posttest. The participants' pretest mean of 3.08 was low, whereas their posttest mean of 5.54 was higher, yet was considered moderately low ($SD = 3.07$). The novice group ($n = 7$) improved more from pretest ($M = 1.43$) to posttest ($M = 4.00$) than the expert group ($n = 5$) from pretest ($M = 5.6$) to posttest ($M = 7.2$) on the Comprehension Content Knowledge assessment.

Table 4.1

Descriptive Statistics for the Comprehension Content Knowledge Pre and Posttest

Participants	Comprehension Content Knowledge Pre-Posttest	<i>N</i>	<i>M</i>	<i>SD</i>
All participants	Pretest	12	3.08	2.9
	Posttest	12	5.54	3.07
Expert Readers	Pretest	5	5.6	3.29
	Posttest	5	7.2	2.28
Novice Readers	Pretest	7	1.43	.98
	Posttest	7	4.00	3.06

Comprehension Content Knowledge Pre-Posttest

A total of two similar comprehension content knowledge tests were administered before and after the innovation. All participants completed each test independently. A total of 12 questions from two tests were analyzed. The multiple-choice questions were used as a formative assessment to evaluate the impact of the innovation and to adjust the instructional methods.

Inferential Statistics

To determine the impact of embedding reciprocal teaching embedding within the Wakelet Curation Tool upon fifth-grade students' reading comprehension, I conducted an inferential statistical test. First, the Shapiro-Wilk normality test was checked to test the assumption of normality. Because the results showed the data were skewed or nonnormal and the sample size was small, I ran a Wilcoxon signed-rank test. Table 4.2 provides the inferential statistical scores for the pretest and posttest. The z score is the number of standard deviations an observation is above or below the mean (Adams & Lawrence, 2018).

Table 4.2

Wilcoxon-Sign Rank Scores for the Comprehension Content Knowledge Pre and Posttest

Comprehension Content Knowledge Test	<i>N</i>	<i>M</i>	<i>Median</i>	<i>SD</i>	<i>z</i>	<i>p</i>
Pretest	12	3.08	2	2.90	-1.95	.051
Posttest	12	5.54	6	3.07		

Comprehension Content Knowledge Pre and Posttest

The results of the Wilcoxon signed-rank test revealed students' posttest scores ($Mdn = 6.00$) were not significantly higher than their pretest scores ($Mdn = 2.00$), $z = -1.95$, $p = .051$. Although test scores were statistically insignificant, there was an increase from pretest to posttest. There was an increase in mean scores for participants. However, the population that received the greatest impact were the novice readers. Even though neither group's scores were statistically significant on their Comprehension Content Knowledge pre and posttest, all improved. The novice group ($n = 7$) improved more from pretest (M

= 1.43) to posttest ($M = 4.00$) than the expert group ($n = 5$) from pretest ($M = 5.6$) to posttest ($M = 7.2$) on the Comprehension Content Knowledge assessment.

ERAS

To evaluate the participants' ($N = 12$) attitudes toward reading achievement, I administered the ERAS (McKenna & Kear, 1990) survey before and after the innovation. ERAS is a public domain reading survey created for classroom teacher use. Reliability coefficients, Cronbach's alpha, were calculated to ensure the reliability of this survey. In their large study of reading attitudes of a diverse student body of 718 students in Grades 4 through 6, Kazelskis et al. (2004) found the Cronbach's alpha for the academic reading scale ranged from .83 (African American) to .86 (European American). I also ran descriptive and inferential statistical tests to test the impact of the innovation on students' reading attitudes.

Descriptive Statistics

Descriptive statistics were calculated on the ERAS pre and postsurvey using JASP and presented in Table 4.3. The means for ERAS presurvey was 28.92. The mean for ERAS postsurvey was 26.33.

Table 4.3

Descriptive Statistics for the ERAS

Participants	Elementary Reading Attitude Survey	<i>M</i>	<i>SD</i>
All participants	Presurvey	28.92	5.5
	Postsurvey	26.33	6.07
Expert Readers	Presurvey Scores	27.2	5.40
	Postsurvey	27.6	3.44

Participants	Elementary Reading Attitude Survey	<i>M</i>	<i>SD</i>
Novice Readers	Presurvey Scores	30.14	6.41
	Postsurvey Scores	25.43	7.57

Note. $N = 12$

ERAS

The ERAS includes a total of 20 survey questions and assesses two constructs: recreational reading attitudes and academic reading attitudes. Only questions related to the academic reading attitude were used for this study. The academic reading attitudes portion of the survey consisted of 10 questions. Each question had four Likert-scale emoji answer choices. Each answer ranged from (4) *Happiest Garfield* to (1) *Very Upset Garfield*. A student's maximum possible score was 40 and the minimum score was 10. The analysis revealed neither group's survey scores were statistically significant. The expert readers' ($n = 5$) mean survey scores showed a slight increase from presurvey ($M = 27.2$) to postsurvey ($M = 27.6$); however, novice readers' ($n = 7$) mean scores from the surveys showed a negative gain from pre ($M = 30.14$) to post ($M = 25.43$) survey.

Inferential Statistics

A Wilcoxon Signed-Rank test was conducted to determine the impact of integrating Wakelet Curation Tool with RT on fifth-grade students' reading attitudes, because the Shapiro-Wilk normality test indicated the violation of normality assumption. Table 4.4 provides the median and z scores for the pre and post survey.

Table 4.4*Wilcoxon-Sign Rank Scores for the ERAS Pre and Post Survey (N = 12)*

Elementary Reading Attitude Survey	<i>n</i>	M	Median	<i>z</i>	<i>p</i>
Presurvey	12	28.92	27.00	-.142	.156
Postsurvey	12	26.33	25.5		

The results of the Wilcoxon Signed-Rank revealed there was no significant difference between the students' pre ($Mdn = 27.00$) and post ($Mdn = 25.50$) reading attitude scores, $z = -1.42$, $p = .156$. However, there was a slight increase from pretest to posttest ERAS survey scores upon expert reader's reading attitudes.

Qualitative Findings and Interpretations

I used participant interviews to evaluate reading comprehension achievement, perceptions about the innovation, and the reading attitudes of fifth-grade students. Four students were purposively selected for the semistructured interviews. Palinkas et al. (2015) explained purposive sampling is appropriate for qualitative studies and seeks to describe participants' experiences most knowledgeable about the research questions. To protect the privacy of the participants and the school involved, I provided pseudonyms and asked for permission to use photos of the participants before the innovation began. I selected these four candidates based on three criteria: (a) NWEA MAP RIT scores, (b) gender, and (c) seat pod arrangement.

I collected four individual semistructured interviews for the qualitative data in this study. I used Zoom to record and close caption the verbatim transcripts. There were four fifth-grade participants, ($n = 2$) female students and ($n = 2$) male students. Each of the four individual semistructured interviews lasted between 12–27 minutes, and I followed an interview protocol (see Appendix P). I checked the transcripts for accuracy and shared

them with the participants. I emailed the four interview participants to share the transcription results and to get feedback of the data they provided (Mertler, 2020). Once they were checked, I sorted the transcripts in Delve, a computer-assisted qualitative data analysis software (CAQDAS).

Qualitative Analysis

I analyzed four individual interview transcripts through inductive analysis. Inductive analysis is an open-ended, iterative, and ground-up qualitative approach to analyze narrative and visual data (Tracy, 2020). This analysis process is ground-up because codes are not identified by the researcher until after reading transcripts. Codes are words, phrases, or labels I used to assign value to data units. I selected “splitting” (Saldaña, 2021, p. 78), or line by line, as a unit of analysis for most of the initial coding. Splitting was appropriate to carefully code transcripts so I would not miss any nuances or important ideas; therefore, coding was important to inductive analysis strategy as they were the units that informed categories and themes. Table 4.5 displays the types of qualitative data and the number of codes applied.

Table 4.5

Types of Qualitative Data Sources and Number of Applied Codes

Types of qualitative data sources	Number	Total number of codes applied
Interview transcripts	4	96 structural codes 185 descriptive codes 201 In vivo codes
Total	4	482

I began the inductive analysis process after several repeated readings and listening to the data transcripts (Mertler, 2020). An inductive analysis aided in evaluating the impact of the innovation on students' reading attitudes and comprehension achievement and overall perceptions of the innovation. Next, I describe the inductive analysis procedures during the first cycle of coding.

First Cycle of Coding

The first cycle of coding included two rounds of coding. For the first round, I used a “pragmatic eclecticism” (Saldaña, 2021, p. 90) coding scheme for initial coding and structural coding methods. These methods were instrumental in systematically helping me to get started. First, I applied initial coding, which is a coding method beginning researchers employ to open their options during data analysis. After I coded one transcript, I met with my dissertation advisor for a peer debriefing session. Peer debriefing is a collaborative conversation with collegial peer or professor that helps researchers to look at their data from a different perspective (Creswell & Creswell, 2018). During the conference, I decided I needed more structure for my codes, so I deleted those codes and applied the structural coding scheme. Structural coding is an organizational coding method. Because coding is an iterative analysis technique for systematically evaluating data sets and delivering results, I coded data by the research questions that guided this study (Creswell & Creswell, 2018; Saldaña, 2021).

During this round, I coded all data pertaining to research questions: Research Question 1, Research Question 2, or Research Question 3. Figure 4.1 illustrates the total number of structural codes applied during this cycle. In Delve, I alternated between line-by-line and whole-phrase coding as I applied the structural code labels. The first cycle of

structural coding produced 96 codes. Simultaneous with structural coding, I wrote analytic memos (see Figure 4.2). Analytic memos are similar to research journals in that they captured my initial and evolving thoughts on participants' responses (Tracy, 2020). Those ideas became another set of data I used in support of my analysis as they contributed to creating richer codes and answering the research questions.

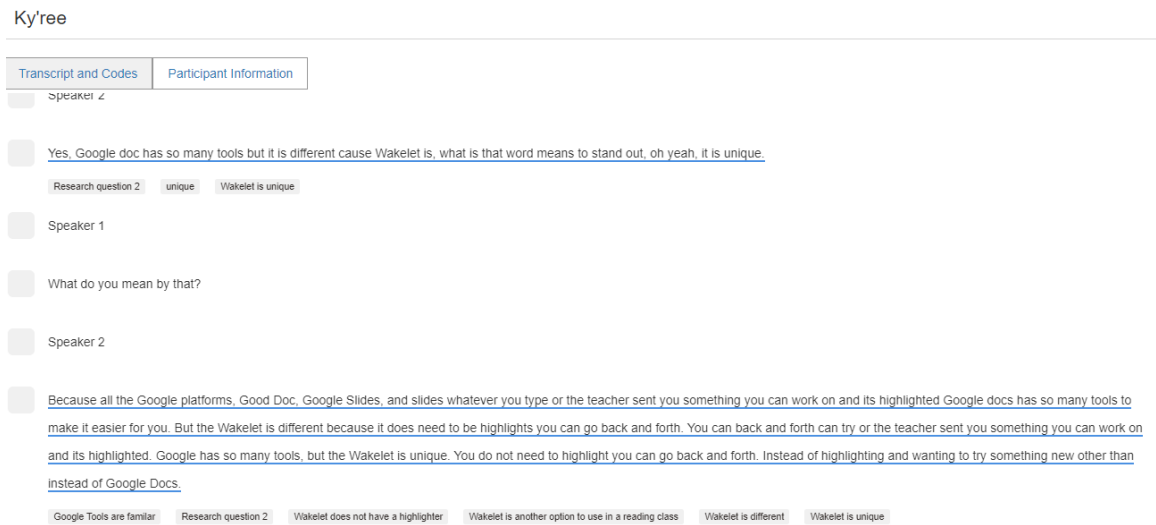


Figure 4.1

Structural Coding

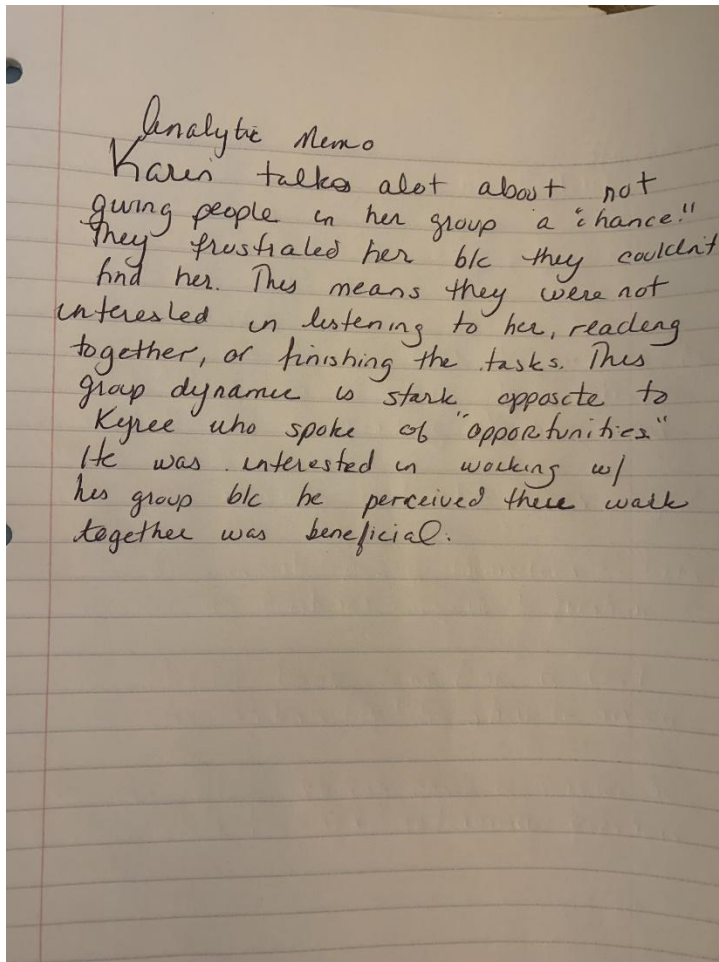


Figure 4.2

Analytic Memo

The first cycle of coding took two rounds to complete. During the second round of the first cycle, I used descriptive and In Vivo coding methods. For this round, I used line-by-line analysis. To ensure I evaluated the reading achievements, reading attitudes, and the perceptions of the fifth-grade participants and to answer my research questions, I simultaneously applied descriptive and In Vivo coding. Descriptive coding is a qualitative coding method to identify and label topics that emerge in interview transcripts. Descriptive codes are short noun phrases that are “factual and objective”

(Saldaña, 2021, p. 135) and used to assess the participants' attitudes and perceptions.

While coding, I asked myself open-ended questions that allowed me to consider multiple perspectives (Tracy, 2020). Figure 4.3 provides a group of descriptive codes nestled together based on similarities. Some descriptive codes identified through this process were “a lot of reading is a challenge” and “uncertainty about strategy applications.”



Figure 4.3

Descriptive Codes

In addition to descriptive codes, I used In Vivo codes during the analysis. In Vivo codes use verbatim words of the participants to corroborate a point. This coding method

was appropriate because I sought to use participants’ own words to answer the research questions. I read participants’ responses and used their verbatim words to create a code (Mertler, 2020). One such In Vivo code that I identified was Kyree’s. He said Wakelet Curation Tool’s contribution to the innovation was “unique” (see Figure 4.1). This quote was important, as these words described a participant’s perception of the innovation. During the first cycle of coding, I coded units and stored code descriptions in Delve. See Table 4.6 for the first cycle of In Vivo codes sample codes.

Table 4.6

First Cycle In Vivo Codes Sample Codes

Coding process	Code names
In vivo code	<ul style="list-style-type: none"> ▪ a lot of steps ▪ able to read ▪ able to work in groups ▪ caused trouble ▪ chances of working ▪ change my attitude ▪ clarifier found a word ▪ ignore ▪ go back in the paragraph to answer it ▪ good evidence ▪ Google has many tools ▪ one specific name ▪ opportunities to learn ▪ opportunity to go to a higher level

Following the first cycle of coding, I participated in a peer debriefing session with my dissertation advisor. My advisor noticed I held coding misconceptions; I used “and” in the code. She recommended I use one specific code name per code. For example, one

code I identified was “strategy use and understanding.” My advisor recommended I separate those codes into two distinct codes (Saldaña, 2021).

Second Cycle of Coding

Next, I began the second cycle of coding using pattern coding methods (Saldaña, 2021). I looked for comparison and contrast codes from the first-cycle coding rounds. I placed similar codes into several categories (Tracy, 2020) on a digital board because I needed to see the groups and move them around. See Figure 4.4 for categories I identified by placing similar codes together. During this peer debriefing session, my advisor, Dr. Arslan-Ari, asked probing questions and made several recommendations. One recommendation was to combine two categories: community and contributions because they contained similar codes. She also advised removing the category COVID-19 because the codes were irrelevant to the current study.

Group 1	<ul style="list-style-type: none"> • Positive Perceptions Benefits of the innovation: Ways participants utilized Wakelet Wakelet's Interface is Different • Negative Perceptions Wakelet's Technical Problems
Group 2	<ul style="list-style-type: none"> • Reading Behaviors • Positive and Negative Reading Attitudes • Communication • Contributions: Ways the Community added their thoughts
Group 3	<ul style="list-style-type: none"> • Acquisition of New Learning • Engagement: Participant's Interest and Investment in the Tasks • Student's role • Community: Feelings Toward Working Together • Ways students comprehended during the innovation: predict, summarize, clarify, and question
Group 4	Suggestions for future Iterations of the Innovation

Figure 4.4

Pattern Coding

Finally, I completed the final round, the second round of second-cycle coding. In this final round, I identified categories and had a peer debriefing session with Dr. Arslan-Ari. Following the third peer debriefing session with Dr. Arslan-Ari, I identified four themes (Creswell & Creswell, 2018). Again, I used a digital whiteboard to organize my thoughts and to create a thematic map. Figure 4.5 displays the thematic map.

Themes	Categories	Subcategories	Quotes
Contributions of fifth-grade students' perceptions about innovation.	<ul style="list-style-type: none"> • Participants sharing ideas • Participants feelings about others comments • Participants interactions while in groups • Technical problem participants experienced 	<ul style="list-style-type: none"> • Positive experiences during the innovation • Negative experiences during the innovation • Wakelet's technical problems 	<p>"Opportunity to learn um from classmates"</p> <p>"Like sometimes Wakelet wouldn't load"</p>
Affective contributions	<ul style="list-style-type: none"> • The ways students reading may be observed • Feelings value and disrespect • Using words and strategies to complete task in a group setting 	<ul style="list-style-type: none"> • Community • Working together • Student's roles 	<p>"We all found one little thing and we put them all together to get the meaning of the word."</p>
Reading achievement	<ul style="list-style-type: none"> • Acquiring new background knowledge • Using reciprocal teaching strategies and talking about its impact on comprehension 		<p>"I learned about um African Americans I never knew"</p> <p>"...we went to the sentence above"</p>
Suggestions for future use	<ul style="list-style-type: none"> • Lists of improvements and upgrade to current interface 	<ul style="list-style-type: none"> • Organization • Motivation 	<p>"Add quotes"</p> <p>"Put the tiles next to your answer"</p>

Figure 4.5

Thematic Map

Themes represent the researcher's interpretation of essential ideas. Table 4.7 displays the themes with their assertions. The subcodes factor Wakelet Curation Tool's technical problems, Wakelet Curation Tool's interface, and benefits of the innovations that affected students' interaction with Web 2.0 technology reading innovation were subsumed into two categories: positive and negative perceptions. Both categories,

positive and negative perceptions, were subsumed into Theme 1: Contributions of fifth-grade students' perceptions of the innovation. For this study, it was essential to find out how participants felt about an innovative strategy instruction using the Wakelet Curation Tool. Their perceptions about the innovation would provide needed insight into the impact of a reading innovation in a reading class. Qualitative analysis showed students responded favorably to a Web 2.0-based strategy instruction group due to sharing the strategies of reading with peers; in contrast, they responded negatively due to the lack of personal fulfillment. The categories of reading behaviors, positive and negative reading attitudes, and communications subsumed Theme 2: Affective Contributions. Another major theme I identified through this study was the ways readers communicated to themselves and others during a Web 2.0-based reading innovation.

I drew upon interview transcripts to identify codes related to readers' feelings and created three categories. Due to a large body of data related to affective constructs, it was necessary for reading attitudes, behaviors, and communications to classify as a theme of their own. The categories of (a) the acquisition of new learning and (b) ways students comprehended reading during the innovation subsumed Theme 3: Reading achievement. In addition to evaluating reading comprehension strategy use as an outcome of reading achievement, I also aimed to evaluate the relationship between reading comprehension strategy use and academic achievement in reading comprehension. Because academic achievement in reading comprehension is lacking, as demonstrated by standardized test scores (National Center for Education Statistics [NCES], 2019; SC School Report Card, 2022; Warner-Griffin et al., 2017), I identified a theme that amplified achievement from the participants' perspectives.

The data suggested participants acquired content-specific knowledge, along with strategies for monitoring and assessing their comprehension. Suggestions for future iterations of a reading innovation represented Theme 4: Suggestions for future use. The subcategories, organization and motivation, were subsumed by the category of suggestions for future iterations of the innovation. In this study, participants used the Wakelet Curation Tool curation tool and a student-centered reading strategy, RT, to read expository texts. During the interview, participants were asked directly what changes they would make to the innovation. Three of the four participants ($n = 3$) gave feedback for future iterations, which highlighted the need for a theme based on their feedback. To motivate group members, participants suggested adding features that would help them work alone and together so everyone could easily understand their digital contributions (see Table 4.7).

Table 4.7

Themes, Assertions, and Categories

Theme	Assertion	Categories
Theme 1: Contributions of fifth-grade students' perceptions about innovation.	Fifth-grade participants found the innovation was effective in learning new content as they incorporated reciprocal teaching to comprehend text and to collaborate despite Wakelet's technical difficulties.	Positive perceptions (Benefits of the innovation; Wakelet Curation Tool's interface is different Negative perceptions (Wakelet Curation Tool's technical problems)
Theme 2: Affective Contributions	Fifth-grade participants felt their reading attitudes improved as they talked through disagreements and misconceptions in a reading	<ul style="list-style-type: none"> ● Reading Behaviors ● Positive and Negative Reading Attitudes ● Communication ● Contributions

Theme	Assertion	Categories
	community. Fifth-grade participants felt their comprehension improved as a result of fostering a positive reading attitude in their reading community.	
Theme 3: Reading Achievement	Fifth-grade participants gained new knowledge about the text and strategy use in a group context.	<ul style="list-style-type: none"> • Acquisition of new learning • Ways students comprehended during the innovation: predict, summarize, clarify, and question.
Theme 4: Suggestions for Future Use	Fifth-grade participants provided suggestions for improvement to Wakelet's interface.	<ul style="list-style-type: none"> • Create an engaging interface • Use organizational features

Presentation of Findings

The themes identified were supported by the codes derived answers to my interview questions, research questions, analytic memos, and several peer debriefing sessions with Dr. Arslan-Ari. In total, four themes were identified. This corroboration from the peer debriefing and the analytic memos enhanced my coding scheme, category, and theme development process by ensuring rigor and trustworthiness, or “qualitative credibility” (Tracy, 2020, p. 275).

Four themes were identified over the course of two coding cycles: (a) Contribution of fifth-grade students' perceptions about the innovation, (b) Affective contributions, (c) Reading achievement, and (d) Suggestions for future use. Throughout this explanation of qualitative findings, I used direct and indirect responses from the semistructured interview transcripts. When I referred to student participants and their school, I used a pseudonym to safeguard their identity and ensure their privacy.

Contribution of Fifth-Grade Students' Perceptions About Innovation

Participants had both positive and negative experiences during the innovation. The experiences of both novice and expert fifth-grade readers were expressed in the individual semistructured interviews. Both groups of readers' perceptions helped them to evaluate the usefulness of this innovation. In this study, I asked participants directly to describe their experiences of using the innovation, the reciprocal teaching embedded in the Wakelet Curation Tool curation tool. They were not asked to compare the innovation to past experiences, but those ideas surfaced during the interviews. Participant responses revealed: (a) positive perceptions and (b) negative perceptions about the innovation.

Positive Perceptions. Positive perceptions are the factors that facilitate a user's experience of utility, effectiveness, and satisfaction with an innovation (Han, 2021; Kennedy, 2020; López-Pérez et al., 2011). Participants expressed their positive perceptions of combining reciprocal teaching strategies and the Wakelet Curation Tool as a technology resource during reading class. Participants in this study had previous experiences using Web 2.0 tools in this classroom in previous grades. During the four individual interviews, I asked participants to evaluate their satisfaction with the innovation by recalling helpful experiences.

Ky'ree had a notable experience in his reading community. He offered, "So Wakelet is an opportunity for us to keep typing as you think, well, um, whether you disagree or agree." Participants were also asked directly what experiences they had while reading for comprehension using reciprocal teaching strategies; for example, Kemmi, a novice reader, referenced an instance when his reading community helped him to summarize and clarify. He gave an example when he recalled that the "clarifying helped

me we're doing my work easier, and, um the summarizer, like helped me understand the main part of the story.” Recent studies have suggested students are satisfied when collaborating with others while online (Oulousidou, 2018; Unal, & Unal, 2017). Participants’ positive experiences with the Wakelet Curation Tool included reading and typing responses in one place.

Another positive experience students mentioned was that combining reciprocal teaching strategies and the Wakelet Curation Tool as one technology resource added to their learning. When asked if the innovation took away from their learning during the interviews, all participants ($n = 4$) responded, “No.” In their study of fourth graders, Balkan Kiyici (2018) found participants perceived technology as a useful source of information. In this study, participants voiced various sentiments. Kemmi stated, “It didn’t take away. When I was like learning, because I still got to work on my group, and the answers to one and some were easy. One and two were easy to get but the hardest was three. Ky’ree noted, “I think it’s added, um to my learning experience. Instead of taking away it added more opportunities and ways and um chances of working. Because it’s an opportunity to learn from your own teammates and classmates group members.”

According to Jaylen, “I learned new things through reciprocal teaching. When you had reciprocal teaching it was easier to understand because you had people to say ok, I pick this, and I clarify that.” Karrin asserted, “it added to it like by helping me to um learn more things. It helped me to like understand more things.” Participants expressed satisfaction with the innovation. The satisfaction stemmed from the many benefits of the innovation in relation to past instructional strategies. Participants added there were (a) benefits of the innovation, and (b) Wakelet Curation Tool’s interface was different.

The innovation allowed participants to use the Wakelet Curation Tool in many ways during group work. In this study, I used Wakelet Curation Tool as a resource to read an expository text, refer to a graphic organizer for talking prompts, and a discussion board to respond to comprehension questions and each other's posts. Figure 4.6 shows the ways different groups used Wakelet Curation Tool during the innovation.

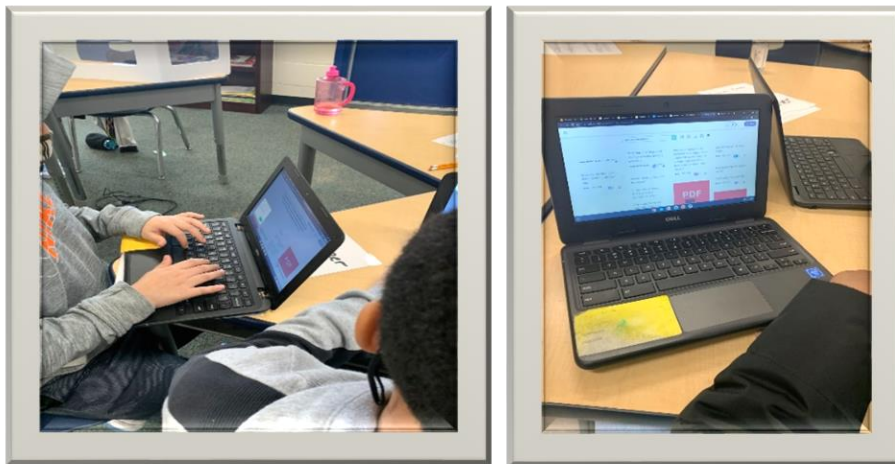


Figure 4.6

Images of Students' Use of Wakelet During the Innovation

During the innovation, participants helped one another by finding evidence. Previous researchers have found reading for comprehension work is a complex task (Kocaarslan, 2016; Lange, 2019). Participants in this study expressed the benefits of the innovation included gathering information from the text and using group members as a resource. Participants mentioned “help” 25 times. Kemmi described a time when his community helped him, noting, “instead of guessing um and trying to find out, the group looked.” Because reading in this study was a social event, it was paramount to hear

participants' experiences. Karrin mentioned the innovation "it helped me learn, to like understand other people and understand other people's um thoughts and feelings." The innovation raised participants' awareness that reading comprehension can be facilitated by a technologically enhanced collaboration.

In addition, the participants in this study had experiences with different Web 2.0 technologies, and they therefore could sort Web 2.0 technologies in to their own ways. I asked the participants what was helpful to them while using the RT and the Wakelet Curation Tool to read and answer questions. Participants' responses varied; however, the consensus was the Wakelet Curation Tool differed from the Web 2.0 tools they had used previously. The Wakelet Curation Tool was considered different because of its interface and the way it scaffolds posting directions for users. First, the interface provides the means in which the learner interacts with the Web 2.0 tool. The navigation panels are on the left side of the screen. Participants selected the links embedded in the Wakelet Curation Tool to access videos, PDFs, writing application, and image library. At the top of each link was a green tool bar that participants used to add content to the tool.

Ky'ree remarked that the "Google has so many tools, but the Wakelet is um what can I say, um like unique, yea, the Wakelet is unique." Jayden agreed the Wakelet Curation Tool differed from the previous Web 2.0 tools they had used. She mentioned the difference between Google Classroom and Wakelet Curation Tool. The second way Wakelet Curation Tool was different involved the scaffolds embedded on the interface telling students where to type. This scaffold made typing easier for Jayden. This distracting behavior can be detrimental to group work in any setting. However, the scaffolds embedded in Wakelet Curation Tool make it user friendly. The type features

only permits participants to type in one tile, unlike a Google Document, where students can type over each other. Therefore, all typed responses have the potential to be read, commented on, and revised for correctness. Participants in the study categorized Web 2.0 tools according to their functionality, suggesting learners have a degree of control over the presentation of their learning.

Negative Perceptions. Negative perceptions are the factors that hinder a user's experience of utility, effectiveness, and satisfaction with an innovation (Han, 2021; Kennedy, 2020; López-Pérez, et al., 2011). The participants expressed waiting as a factor that led to dissatisfaction with the innovation. Ky'ree explained, "If I think one of the answers and they say hold on, hold on, and I have to wait for them to um get what they are doing, I am like, uhh." Karrin corroborated this dissatisfaction with her group members who, as she noted, "kept interrupting" her. Gilbert (2018) reported some unmotivated readers similarly became disruptive during the reciprocal teaching innovation in his study. He used extrinsic motivational methods to redirect them, whereas I used proximity and validation of readers' efforts to redirect students.

Chiu et al. (2016) suggested practitioners pay attention to conflicts and argued collaboration online "deserves attention" (p. 117). Part of the innovation was a face-to-face modality; during those times, participants had to wait for a response from their reading community. I simultaneously observed groups that I noticed had conflicts between reading communities. These negative behaviors were also observed by prior researchers; for instance, Kula and Budak (2020) noted participants cited negative factors related to RT as figuring out group dynamics. During those times, participants became frustrated.

During those times of frustration, participants reflected on their responses by taking ownership of making good choices. When I was nearby to redirect, those times were helpful to remind students to use RT strategies during group time; for some students, this management technique worked (Gilbert, 2018). However, some redirection and teacher-initiated external motivational factors proved to be ineffective; during those times, participants who wanted to read for comprehension decided to persevere in completing the task. Karrin said, “They kept interrupting me by talking, I like still just ignored them.” It seemed waiting was a negative factor in the experience of readers; however, having a face-to-face component was beneficial for some participants, as it led to them developing patience and perseverance in the face of adversity.

Affective Contributions

Another goal of this study was to provide an innovation that used a student-led reading strategy with a Web 2.0 tool to positively impact students’ reading attitudes. Fifth-grade participants expressed how communication and contributions from community members had positive and negative effects on their reading behaviors, reading attitudes, and communication. Contributions of reading attitudes on participants’ reading comprehension were expressed through: (a) reading behaviors, (b) positive and negative reading attitudes, and (c) communications with community members.

Reading Behaviors. For this study, reading behaviors were actions that revealed students’ inward thinking, values, and belief, and feelings about reading. One of the goals of this study was to create a web-based reading innovation supported by social-constructivist principles to model how people read with community members as a resource. Students were required to use comprehension strategies while reading grade-

level texts through both face-to-face and online opportunities. Student responses revealed actions one takes before, during, and after reading for comprehension.

One participant remarked about his prereading behavior, noting he preread questions. Kemmi said, “Reading helped me to learn about the questions so I can answer them correctly.” Another participant remarked about her during-reading behavior, saying she counted the paragraphs. Jaylen said, “I am like done after I read 10 paragraphs . . . with three people it was um easier to read.” Kemmi referenced his after-reading strategy, which involved rereading. Kemmi said he made sure he had the correct answer, noting, “By reading the whole paragraph again to um find the answers.” During the innovation, participants exhibited reading behaviors that positively impacted their reading comprehension. Responses from participants about reading behaviors revealed participants’ reading goals: getting good grades and taking ownership over one’s learning. Kemmi, stated, “Trying to get a um good score so we can like get a good grade,” and Ky’ree stated, “They are going to Question 3, and I said hold on, let me um take charge of this, like let me look for the answer.”

Participants were interested in answering all the questions, taking charge of their learning, and getting good scores. Participants’ reading behaviors were revealed in their reading actions. These behaviors illustrated participants’ reading goals and were strong examples of how reading may look to an observer.

Reading Attitudes. Reading attitudes comprised negative and positive feelings students had toward reading. Previous researchers have asserted that reading attitudes are context specific and wane over time (Downs et al., 2020). One of the goals of this study was to evaluate the participants’ reading attitudes while using a comprehension strategy

instructional framework embedded in Wakelet Curation Tool. Participants were asked directly what was helpful to them while using RT strategies and using the Web 2.0 tool to read and answer questions. s.

Participants made note of positive feelings about reading. Many participants referred to opportunities afforded to them as a result of reading in a group. Ky'ree said using the Wakelet Curation Tool to read and answer questions gave him "um opportunities to learn from your teammates." All participants referred to the help of the teammates as positive. Karrin responded, "it was easier because we like had our own jobs," and Jaylen said, "Um is was easier because she had you had people to ask." Kemmi said, "When I was learning . . . um I still got to work on my group, and like to answer questions, some were um easy."

In this study, I explored readers' attitudes toward reading in a group. A variety of readers participated in each reader community. All communities had two novice readers and two expert readers. Students in this study had diverse academic, social-emotional, and social-economic status.

The diversity had both negative and positive impacts on participants' reading attitudes. Ky'ree shared a positive experience and said, "I feel like I can like work with anybody." However, Karrin had a different experience. She shared, "I would like change my attitude some of the times I did not want to work with them, and like I did not um give them a chance." It was difficult for Karrin to work with her reading community with whom she had many disagreements, yet she shared, "I also helped them because I wanted to um learn." Sharing a reading task impacted Karrin's reading attitude and other readers' attitudes about the people with whom they collaborated. Because one of the goals of this

study was to evaluate the reading attitudes of fifth-grade students, this theme was important to disseminate. Reading attitudes were affected by the ease of the job and by the people with whom the participants read.

Communications in the Community of Readers. A community, for this study, was a small group of four students who worked together and used each other as a resource to help each other with their academic and social needs. Readers in this community ranged from novices to expert readers and used a variety of reading strategies to comprehend text. Learning from the community included knowing people's temperaments and working together to inspire and support diverse perspectives. Because one of the goals of this study was to evaluate the ways readers communicated with each other while reading for comprehension, this category was important to discuss. Previous research has suggested that reading instruction that uses authentic talking opportunities facilitates reading comprehension (Palinscar & Brown, 1989; Tarchi & Pinto, 2016). Participants guided by their online and paper-based graphic organizers used talking prompts during the innovation. See Figure 4.7 for an illustration of participant conversations. These prompts were a scaffold for comprehension instruction (Tarchi & Pinto, 2016).

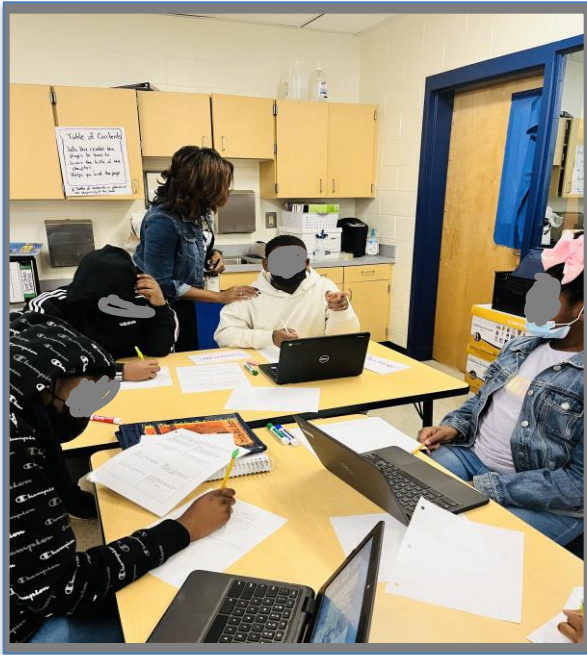


Figure 4.7

Image of Participant Conversations During the Innovation

Participants used communication to synthesize ideas to facilitate comprehension. One method was to put their ideas together to get a full meaning of the words. Karrin said, “We all found one like little thing and we um put them all together to get the meaning of the word.” They shared ideas and listened to other people’s opinions. If they could not understand a word, they, as Karin said, “wouldn’t worry about it.” Jaylen referred to a time when they read and said, “We didn’t know what to um predict, so we tried summarizing.” Finding evidence to synthesize ideas was important; as Ky’ree said, “We go back and find evidence and from the text to find the answer to support with they think at first is um the answer.” Participants’ opportunities to communicate in their reading community positively impacted their comprehension experiences.

Reading Achievement

One of the goals of this research was to evaluate the reading achievement of fifth-grade students. For this study, I defined *reading achievement* as growth in knowledge and application of RT strategies during reading. Growth, for this study, was the acquisition of learning from the text and others in a group setting. Participants referred to social content (i.e., the ways in which community members interacted with each other) throughout their interviews. The following sections elaborate on how participants demonstrated reading achievement as the acquisition of new learning and strategy used for comprehension.

Acquisition of New Learning. Acquisition of new learning for this study was considered learning from texts, which includes recalling literal facts and inferential facts about the content read during the innovation. Participants in this study read eight expository texts that aligned with the social studies curriculum and the district pacing guide. I identified the code “learned” several times from participant responses. Because fewer than 60% of students were not proficient in reading for comprehension (NCES, 2019; SC School Report Card, 2022; Warner-Griffin et al., 2017), it was important to amplify academic achievements from the participants’ recollection of literal facts while reading and answering comprehension questions in their reading communities. When recalling literal facts, Karrin said, “I um learned about the war and like famous African American citizens I never knew about,” and Kemmi said, “Learning about the um wars and people fighting and famous people.” Ky’ree responded:

The 761 Tank Battalion was Black, not Black but African American soldiers and um 36 of the African American soldiers and they earned Bill Clinton’s award, he

like um gave them a celebration for how they supported and fought for their country.

Participants' responses varied in depth and complexity. Throughout Ky'ree's interview, he weaved content knowledge into his responses. He said, "Roosevelt helped America by starting the New Deal, it also helped with the Neutrality Act of 1930 so um the U.S. can have a break." Later, Ky'ree said, "yea, that [Neutrality Acts] stated that the Congress passed it, that means that the Americans have to stay by themselves and independence um um um um goes with neutral." Other participants' responses were less specific. Jaylen referred to her new learning only in terms of "reading and writing." All participants in this study shared a grade-level text and collaborated on and offline to foster and monitor comprehension, yet some were able to recall literal facts, whereas others generalized their new knowledge. For participants, reading achievement was expressed in different ways, but the innovation overall made a personalized positive impact on participants' reading achievement.

Emergence of Historical Reading Skills

Another outcome congruent with reading achievement was the emergence of historical reading skills. This finding was important, because the reading content for this study was social studies based. Students read from *Studies Weekly* using RT embedded in the Wakelet Curation Tool. South Carolina social studies standards prepare students to develop historical thinking skills. Historical thinking skills can be taught through integrating reading skills in during an integrated reading class. Students learn to read expository texts and thus build background knowledge around social studies content that is also aligned to state standards. Although outside the scope of this study, historical

thinking skills were evident. The historical thinking skills that emerged during the interview were cause and effect, periodization, and evidence. Cause and effect as thinking skills require readers determine the causation of effects based on important events in history. When Ky'ree remembered a cause and effect instance from his reading, he demonstrated historical thinking. He said, "Roosevelt helped Americans by starting the New Deal." He made connections to text and life during the interview. These types of questions are not asked of students on end-of-year (EOY) exams because these exams assess reading, rather than social studies standards.

Another historical thinking skill is periodization. *Periodization* is defined as understanding key events to construct an understanding of that period (South Carolina Social Studies College- and Career-Ready Standards, n.d.). Karrin referenced the historical thinking skill periodization in her interview, stating, "I learned about the war and famous African American citizens. I never knew about it." After reading in her community, Karrin constructed new knowledge about African American soldiers and their contributions to United States during WWII. In addition to periodization, students demonstrated historical thinking skills and evidence. *Evidence* is defined as using historical documents to support arguments (South Carolina Social Studies College- and Career-Ready Standards, n.d.). Embedded in the Wakelet Curation Tool was the *Studies Weekly* social studies article that included primary sources (i.e., images of people or their diary entries). These images were large enough for participants to refer to them as evidence supporting a claim. Ky'ree said, "We go back and find evidence from the text to find the answer to support with they think at first is the answer." Participants knew how to use the support embedded in the article to answer a claim.

Facilitating Comprehension Through Strategy Application. Strategy is a mental model readers use to comprehend (Okkinga et al., 2018). Reading achievement for this study was defined as the ways readers used specific strategies while reading for comprehension. Participants used RT strategies to predict, clarify, question, and summarize to facilitate reading achievement. Participants' use of strategy application met their individual needs for reading comprehension and subsequent achievement. Previous research with English language learner (ELL) students and reciprocal teaching has corroborated that using RT strategies has a "positive effect on . . . understanding of expository text" (Casey, 2018, p. 19).

Reciprocal teaching embeds four reading-for-comprehension strategies into a collaborative framework. The term *embeds*, for this study, meant to fix firmly an object. The four reading strategies embedded in the innovation were prediction, clarification, questioning, and summarizing (Roop, 2019). Prediction involved using background knowledge to create speculation about the text. For one participant, prediction cleared up confusion by letting the reader make an initial idea about the text. Of the prediction strategy, Jayden said, "If you don't understand what is happening in a text, you can predict." The clarifying strategy helped readers understand new words or ideas in the text. Students and participants were urged to solve the problem by looking for context clues or discussing group understanding to define the challenging piece of text.

Figure 4.8 illustrates students typing on the Wakelet Curation Tool. Students were close to each other as support, but worked independently. Karrin said clarifying was helpful in "trying to like um understand some um words." Participant Ky'ree said of his group strategy use, "We went to the sentence above" to clarify the meaning of the word.

Kemmi mentioned the consequences of strategy application when he said, “Clarifying helped me do my work easier.”



Figure 4.8

Image of Student Collaboration During the Innovation

Participants also used questioning to improve their reading comprehension. Questioning involved participants generating questions before, during, and after reading a portion of the text. Karrin said the questioning was effective for her because, as she noted, “you get to come up with different questions that Mrs. Jones and they will help you.” Kyree recalled a question he came up with during the reading, noting, “I asked the teacher why the title was named the 761 Tank Battalion, and um how did they come up

with it?” The last strategy readers applied was summarizing. Summarizing is a strategy readers use to condense the text’s main ideas into their own words. Jaylen said that “summarizing was like really hard.” Ky’ree said in his group, “We used tiny ideas from important parts of the text to like summarize.” However, Kemmi provided a different perspective about his summarizing strategy application. He said, “Summarizing um like helped me understand the story’s main parts.” It seemed embedding RT strategies in a Web 2.0 tools enhanced reader achievement. The diverse ways community members applied comprehension strategies was beneficial for comprehension for both the community and the individual.

Suggestions for Future Use

The fifth-grade participants provided suggestions for improvement of the interface to engage learners. Participants gave useful recommendations based on their understanding of various Web 2.0 technologies. During the interviews, I asked participants: (a) what, if any changes would they make to the innovation; and (b) could they provide examples. Their responses indicated two items should be addressed in the next iteration of the innovation: motivational components and a clear organizational interface.

Motivational Components. Motivational components are the variables instructors add to the learning environment to facilitate learning. The changes participants mentioned adding to the innovation was motivational content to the Wakelet Curation Tool. Wakelet Curation Tool’s interface is the way the learner interacts with the platform. Ky’ree added “um um, how can I say this, add some flair” would motivate him to finish his tasks and work with others. He expressed he felt like his contributions would be more

valuable if he had a quote to rely on for confidence and courage while he worked with his group. Previous researchers have noted learners who have an effective connection to the learning resource are motivated to finish the task (Balci Comez et al., 2022; Ertmer & Newby, 1993; Pittman & Honchell, 2014). When asked directly what changes, if any, they would make to the innovation, Kemmi said, “Try teamwork, yea and help your group if they need help, and um ask for details.” Ky’ree said, “Add some interesting words and quotes to persuade me and then I can persuade my classmates to be more um interested in what we are like what we are like are doing.” Karrin added, “I would change my attitude some of the times I did not want to work with them and I did not like give them um a chance.” Previous researchers have also affirmed that instructional design is important in a constructivist classroom (Ertmer & Newby, 1993). This innovation was designed by me, the teacher–researcher of the study. It seemed participants desired affirming words, and this could have led to more ideas being constructed around comprehension. Being intentional in the design process of Web 2.0 technologies is important for sustained engagement and enjoyment. Adding motivational content to Web 2.0 technologies appeared important in a constructivist classroom.

Organizational Components. Participants suggested several revisions to the design of Web 2.0 technology so they could make more meaningful contributions. Even though Wakelet Curation Tool has many layouts, I selected the media layout as teacher–researcher. Wakelet’s interface resembles a social media feed. Participants’ responses were posted in tiles, and they appeared as a stream. One participant felt like the current media layout interface lacked organization and took away from her learning experience. Jaylen said, “I will add lines up to like that you can like write out.” Participants typed

their responses in small square tiles. In my role as teacher–researcher, I asked Jaylen to clarify her statement. She continued, “Like the comprehension questions you can like write um beside them.” Of the layouts available, this one negatively impacted the students’ achievement. Users may find that their ability to interact clearly and effectively with a technology tool is compromised by the design of its user interface.

Chapter Summary

This chapter described quantitative and qualitative data analysis. The quantitative data used for this convergent parallel mixed-methods action research derived from the Comprehension Content Knowledge Pre and Posttest and pre and post ERAS survey scores. The qualitative data used were four individual semistructured interviews and inferential understanding from the researcher’s field journal. The posttest scores for the Comprehension Content Knowledge test were not statistically significant, but test scores increased from pretest to posttest. The overall ERAS survey score did not show an increase in participants’ reading attitudes. The qualitative analysis involved two rounds of coding, resulting in four themes. Those themes included contributions of fifth-grade students’ perceptions, affective contributions, and acquisition of new learning. This data informed the discussion of findings presented in Chapter 5.

CHAPTER 5

DISCUSSIONS, IMPLICATIONS, AND LIMITATIONS

The purpose of this action research (AR) study was to evaluate the impact of reciprocal teaching (RT) embedded in the Wakelet Curation Tool on fifth-grade students' reading comprehension achievement, reading attitudes, and perceptions of the innovation at an urban characteristic (Milner et al. 2018) professional development school (PDS). Data were collected through both quantitative assessments (i.e., Elementary Reading Attitude Survey [ERAS] and Comprehension Content Knowledge Pre and Posttests) and qualitative data sources (i.e., semistructured interviews) and analyzed by using Wilcoxon signed-rank test and inductive analysis. In this chapter, I discuss the findings of the study. I will also explain the personal, professional, and future implications of this study, as well as its limitations.

Discussions

The goal of this AR was to answer the three research questions that guided this study:

1. How and to what extent does reciprocal teaching embedded within Wakelet Curation Tool impact the reading comprehension of fifth-grade students?
2. What are fifth-grade students' overall perceptions about the use of reciprocal teaching embedded with Wakelet Curation Tool during the reading workshop?
3. How does reciprocal teaching embedded in the Wakelet Curation Tool Platform impact fifth-grade students' attitudes toward reading?

When considering how to answer the research questions, I researched current literature on embedding Web 2.0 tools into a literacy curriculum, used constructivist learning theory and framework, and combined data analysis of the innovation to evaluate the impact of the innovation on reading comprehension of fifth-grade students. The following section discusses the findings according to the research questions.

Research Question 1 Was: How and To What Extent Does Reciprocal Teaching Embedded Within Wakelet Curation Tool Impact the Reading Comprehension of Fifth-Grade Students?

This first question sought to address if fifth-grade students do not possess the skills and strategies to proficiently read expository texts (South Carolina Department of Education [SCDE], 2019). Researchers have confirmed that readers of all abilities lack the ability to read for comprehension (Bos et al., 2016; Jiménez-Fernández, 2015; Lupo et al., 2019). This lack of reading for comprehension and reading proficiency was an indication of this study to launch an inquiry into reimagining literacy instruction in my classroom. One of the ways I sought to reimagine literacy instruction was to blend reciprocal teaching with the Wakelet Curation Tool platform.

Reciprocal teaching is a reading for comprehension peer-led instructional strategy. RT was first introduced by Palinscar and Brown (1984) to middle school students and has seen many iterations since its inception. Teachers model “cognitive strategies” (Rosenshine & Meister, 1994) and scaffold reading instruction to increase text comprehension. For this study, RT was the instructional strategy I chose to embed in technology because it is an uncomplicated strategy to teach and release. Students use reciprocal teaching strategies to make reading skills visible, which is what I wanted

participants to experience in conjunction with a technologically enhanced reading classroom. During the interviews, evidence of reciprocal teaching strategy use emerged as participants recalled their experiences. Jalen recalled, “Using more strategies because like when I read, when I’m done after I have reached 10 paragraphs before and when we was reading it with three people if it was just like easier to read.” During reciprocal teaching, the reading task was broken down into four parts and spread among a community of readers. Students such as Jaylen, who needed scaffolding, recognized the support reciprocal teaching reading communities offered. Further, when I completed a word search, “clarify” was the one strategy word most repeated by participants, whereas “predicted” was the one strategy word mentioned by only one participant. Another component of reciprocal teaching is discussion. Participants read together and empowered one another to use comprehension strategies in a group setting and online. Reciprocal teaching-based instruction takes place during a discussion (Rosenshine & Meister, 1994). Participants in this study reported being responsive to each other helped to monitor and foster comprehension.

To determine the impact, if any, on participants’ reading comprehension, I triangulated results from the pre and posttests and individual semistructured interviews. Test scores of students in this study indicated the innovation positively impacted their reading comprehension. There was an increase in pre ($M = 3.08$) to posttest ($M = 5.54$) scores, though the Wilcoxon signed-ranked test did not reveal a statistically significant difference. Although the intervention in Kaman and Ertem’s (2018) study with elementary children who used Web 2.0 tools in a literacy classroom differed from the present study, the findings were important. Kaman and Ertem found fourth graders’ use

of digital text to read for comprehension had a positive impact on reading comprehension, even though the pre and posttest scores were not statistically significant.

Notably, Moon et al.'s (2017) study of teachers partnered with college buddies to read and used iPads with students to increase comprehension disconfirmed these findings. The difference in Moon et al.'s study was the peer scaffolds were with college buddies. These buddies were paired with three students, meaning one tutor and three students formed a group who met weekly to practice comprehension skills using iPad applications. Moon et al.'s innovation differed from the current study because the students in my study partnered with same-age peers as peer scaffolds; students' comprehension scores were statistically higher on the posttest following a literacy and technology innovation in a fifth-grade classroom. Interestingly, Moon et al. found posttest mean scores were higher than preassessment mean scores, albeit they were of medium effect size. The difference in these studies could be in Moon's et al.'s study, college buddies served as a reading resource and peer scaffold. Because Busy Street Elementary School (BSES) is a PDS site that hosts preservice teachers, it would be beneficial to invite preservice teachers to the literacy classroom for the next iteration of this research (Moon et al., 2017).

The positive impact of the innovation on the participants' reading comprehension emerged during the four individual participant semistructured interviews. Though not asked directly, participants recalled literal facts from the reading. This finding highlighted the very nature of reading in a social setting; the interview was a conversation, and students recalled facts as naturally as if they were still in their reading partnerships. For example, Kyree said in his interview, "Roosevelt helped American by starting the New Deal it also helped with the Neutrality Act." Later, he said, "The

Congress passed it, that means that the Americans have to stay by themselves” and “independence goes with neutral.” His review of content was an informal assessment of his knowledge of the literal facts taken from the text and the assimilation of knowledge he gained from the innovation. These responses aligned with the previous research that indicated iPad instructional methods were beneficial for comprehension. Hutchison and Beschorner’s (2015) case study was on classroom teachers’ use of technology and found “students learned how to incorporate oral response with written text” (p. 420). These Findings from this current study align with studies such as Hutchison and Beshorner (2015) that demonstrate the positive impact of embedding literacy with technology on readers’ comprehension. Gashi Shatri (2020) argued technology-enhanced classrooms afford students opportunities to collaborate and thereby learn social nuances.

An additional positive impact on reading comprehension was teacher manipulation of instructional materials. Roop’s (2019) study of Tier II instruction led by teachers demonstrated students who participated in this Tier II intervention improved their application of comprehension strategies, as evidenced using teacher observations and completed graphic organizers. My study corroborated findings from the previous studies; after the 4-week innovation, participants expressed robust and diverse reading for comprehension achievement through embedding technology, peer scaffolds, and teacher manipulation of instructional methods.

To answer Research Question 1, I examined the outcomes of reading achievement as emergent ideas that surfaced during the interviews. Acquiring new learning was evident when participants recalled historical events and personalized their new knowledge. These interviews suggested participants’ reading achievement in

comprehension was impacted positively by (a) acquisition of new learning and (b) emergence of historical reading skills.

Acquisition of New Learning

One outcome of reading achievement was the acquisition of new learning. As mentioned prior, acquisition of new learning for this study involved learning from texts, which included recalling literal facts and inferential facts about the content during the innovation. A consequence of the innovation was participants became actively involved in their reading, which suggested the students were reading with comprehension

An example of acquisition of new learning occurred when Jaylen explicitly said, “I learned new things.” This declaration was important as a summary of her perception of learning. Later in her interview, Jaylen requested an organized layout of the interface. Jaylin’s response suggested the current layout of the Wakelet Curation Tool distracted her from making sense of responses and needed a logical flow to make the reading and response make sense. This sentiment produced evidence that Jaylen needed to have her answers and questions align closer on the screen than they did.

In Hutchison and Beschorner (2015) study, the teacher observed her students gave an unusual amount of detail to their digitally enhanced work, suggesting students were academically engaged with the online content. It is important that students marry reading with new learning. Karrin elaborated more on her new learning, noting, “I learned how to understand people.” These answers provided insight into how students interpret achievement. Jaylen and Karrin were in separate groups but learned ideas from the text and context. Sharing both critical and positive responses helped students learn about each other’s views. Existing research on sociocultural theory supports that learning is relevant

when the learner is ready to receive (Hodges et al., 2016; Pittman & Honchell, 2014; Tarchi & Pinto, 2016; van Rijk et al., 2017).

Participants demonstrated the acquisition of new learning and the emergence of historical thinking skills. The emergence of historical thinking was evident when participants used skills such as cause and effect to talk about events in history.

Participants demonstrated evidence that learners' comprehension affords the opportunity to access the text in meaningful ways, a conclusion supported by standardized test raw scores in this study. The findings in this action research is aligned to findings in other studies that integrate technology and literacy. Reading while using Web 2.0 tools improves comprehension (Kaman & Ertem, 2018).

Research Question 2 Was: What Are Fifth-Grade Students' Overall Perceptions About the Use of Reciprocal Teaching Embedded Within Wakelet Curation Tool During the Reading Workshop?

The second research question was designed to reveal participants' experiences during the innovation. The goal was to know what factors facilitated or hindered participants' perceived utility, effectiveness, and satisfaction with innovation.

Researchers have studied user perceptions of innovative practices of students in K–12 classrooms (Azid et al., 2020; Balkan Kiyici, 2018; Gün & Yilmaz, 2020; Hsu, 2016), K–12 teachers (Kormos, 2018), K–12 preservice teachers (Ozcinar et al., 2020) and K–12 students (Gashi Shatri, 2020). Previous studies have revealed that student perceptions about embedding technology during instruction were both positive and negative (Balkan Kivici, 2018; Gün & Yilmaz, 2020; Unal & Unal, 2017).

This action research sought to give all stakeholders a voice on their perceptions on embedding technology in a literacy classroom. The findings of this study corroborated previous research that elementary students hold vacillating views on technology (Azid et al., 2020; Chiu et al., 2016; Kaman & Ertem, 2018). Participants cited both positive and negative opinions about technology. Positive views included using the Wakelet Curation Tool to meet individual needs within the reading community. Negative views included long wait times as others typed and students getting visibly upset when others did not agree. Kyree responded, “Having to wait, staring at the screen,” and Jaylin said, “Catching attitude and not wanting to contribute on the Wakelet.”

However, positive views included but were not limited to typing on the Wakelet Curation Tool, which provided space for students to be actively involved with their own reading when there were lulls in the conversation. Kyree said, “It saves you from getting in trouble,” and Kemmi indicated, “Learning about the wars and famous people.” This finding suggests learners the Wakelet Curation Tool was useful to learners for different reasons.

Balkan Kiyici’s (2018) study of fourth graders’ perceptions of technology found they held positive and negative perceptions about technology. Their findings suggested elementary students recognize the role of technology in their lives. As digital natives, it is useful to know their opinions because they do not know of a time in their lives during which they have not relied on technology. Similarly, Kaman and Ertem’s (2018) study of fourth-grade students reported their perceptions of using technology as positive. In one study, students perceived math class as fun when Web 2.0 tools were embedded in

instruction (Azid et al., 2020). Research has shown users' perceptions of innovative practices can be influenced by a variety of positive and negative factors.

Positive Perceptions

Positive perceptions, such as instructional scaffolds and communications, are the factors that influenced the innovation's effectiveness. Belland (2014) defined instructional scaffolds as teacher and student activities directed toward students who need additional support to achieve success in a task. In this study, instructional scaffolds comprised modeling, discussions, and tools. Modeling occurred during the mini lesson and in small groups. During the mini lesson, I modeled how to use onereciprocal teaching strategy per week to all students through a 5-minute video. Once in groups, all members practiced using that strategy during on the shared reading text. This way, all students received modeling on how to apply strategy and execute the application of the reciprocal teaching strategy use. Next, each group held robust discussions that were facilitated by graphic organizer prompts and natural discussions. The last scaffold was the tool. All students had access to their Chromebook, the internet, and paper. These tools supported them through the knowledge creation and sharing process.

Instructional Scaffolds. One positive factor that influenced participants' perceptions of the innovation were instructional scaffolds. Principles of sociocultural theory support the innovation in three ways: (a) all learners read grade-level texts in accordance with district and standard expectations for fifth grade; (b) each reader had potentially four people with whom to form reading communities and who could potentially provide another perspective on the reading; and (c) all readers had scaffolds to access meaning, conjure motivation, and become unstuck when reading grade-level

expository texts (Lupo et al., 2019). The following section describes factors from teachers' and students' perspectives on the importance of scaffolds.

Embedding online (i.e., multimedia) and offline (i.e., student-generated questions) are close reading scaffolds (Baker & McEnery, 2017). Kemmi said one factor that helped him was his group members helping him. He said, "Instead of guessing his group helped him find the answers." This sentiment suggested each member of Kemmi's reading community was invested in the reading process. Baker and McEnery (2017) purported the consideration of diverse strategies provides scaffolded experiences.

Communication. Another positive factor is communication, particularly how participants expressed themselves in their reading communities. Participants communicated their need to monitor comprehension. Kemmi described a time when his community helped him, where "instead of guessing and trying to find out, the group looked." In Wang et al.'s (2019) study, primary elementary students read with technology in a small group. Wang et al. found readers who relied on their reading buddy monitored their comprehension when reading independently. Wang et al.'s study confirmed the current study's findings that students perceived communication as a positive factor in innovative practices. Students in the current study reported liking to read with friends while using educational technology. Reciprocal teaching strategies made an influential impact on reading. When asked for an example of how the innovation did not take away from her learning, Jaylen explained, "When you had reciprocal teaching it was easier to understand because you had people say, OK, I pick this, and I clarify that." Also, Karrin said questioning and clarifying helped as an instructional scaffold her group used. She said, "We would look around for other words to understand the word." Participants in this

study helped each other foster and monitor comprehension, and this scaffold was a positive factor on their perceptions of the innovation. Shared reading experiences that included making room for discussions helped build a community of readers in the classroom. Having a peer with whom to communicate was beneficial to the comprehension process.

Another way participants communicated during the innovation was by typing responses to the comprehension questions on the Wakelet Curation Tool. Though not asked directly, participants compared typing on the Wakelet Curation Tool with typing on a Google Doc, another Web 2.0 tool. Participants found that Wakelet Curation Tool provided them a space to showcase their learning in a way the previous tool did not. Prior researchers have also found when students typed on a Google Doc, they typed over each other, causing arguments (Chiu et al., 2016). These findings are concurrent with studies similar to the present action research. The innovation was effective in providing participants with both online and offline options to respond to each other and the text in a reading classroom.

Negative Perceptions

Factors associated with negative perceptions were the teacher's instructional design of the Wakelet Curation Tool's interface and the technical issues related to the Wakelet Curation Tool. Web 2.0 technologies were slow to load (Gün & Yılmaz, 2020), embedded tools took away from other tasks (Unal & Unal, 2017), and technology would freeze (Long & Szabo, 2016). Like other research, Wakelet Curation Tool users in this study experienced factors that prohibited use.

One negative factor related to participants' negative perceptions had to do with the design of the interface. I designed the interface to resemble a social media feed. One participant found this type of interface to be distracting. Jaylen suggested that I create columns to better organize the questions and subsequent responses. Jaylen's reflection in the interview about the organization of the layout was indicative of a classroom built around the constructivist learning principle, and aligns to findings in previous research, that kids aspire to represent their knowledge (Mikropoulos & Bellou, 2013).

Another negative factor related to participant's perceptions was directly related to Wakelet Curation Tool. This issue was due to the server, and not the internet, because all students were on the school's Wi-Fi. Jaylen said, "When the thing was loading, it took a long time." Users had to refresh the page several times before the website. Ky'ree said factors such as technology issues specific to Wakelet Curation Tool gave him a negative experience during the innovation. During the interview he suggested, "Don't go into the Wakelet Curation Tool and see that you are reading today but go and download the file because it might say the file is not responding." Kemmi also had negative experiences with connectivity issues; he recounted, "One time it was still loading, and I had to look at another classmate's screen." These findings suggested the negative factors reported by participants were specific to the Wakelet Curation Tool platform.

Findings from participant responses supported existing research on using constructivist principles (Balci Comez et al., 2022; Cain et al., 2021; Moon et al., 2017). Constructivist principles assert learners take important clues from the environment and, based on their understanding to create powerful ideas (Moon et al., 2017).

Research Question 3 Was: How Does Reciprocal Teaching Embedded Within the Wakelet Curation Tool Impact Fifth-Grade Students' Attitudes Toward Reading?

The third question sought to reveal the impact of the innovation on readers' attitudes. Many factors construct and support reading attitudes, and beliefs that direct one's desire to read (Petscher, 2010). Those factors include variables that were dynamic, such as reading interest, current perceived classroom climate, and student's perceptions of their reading abilities (Kalzelski et al., 2004). To measure reading attitude, I administered the ERAS twice as a pre and postsurvey to the whole class and conducted four semistructured interviews. The pre and postsurvey raw scores showed the innovation did not have a positive overall impact reading attitudes yet it did show an increase in scores related to one group's reading attitudes, which was noteworthy. Previous researchers have found that reading attitudes were not impacted by innovative practices. For example, Long and Szabo's (2016) study of fifth-grade students who used technology during literacy work in small groups found reading attitudes had a negative gain as measured by ERAS. Kaman and Ertem's (2018) study of fourth-grade students who read text digitally found their reading attitudes survey scores were not affected by technology innovation. Downs et al. (2020) found students' attitudes declined in a long-term partner reading situation. These findings were corroborated in this study.

In addition, data from the interviews confirmed ERAS raw scores that expert fifth graders' reading attitudes improved as a result of the current innovation. This current study differed from other studies in that students in this current action research met in physical groups of four to form reading communities, read expository texts using reciprocal teaching, and post responses online. The innovation occurred in a reading

classroom during the shared reading. The reading for comprehension process in this study was iterative and became increasingly authentic for each group as the innovation progressed. For example, one group chose one person to be the scribe, whereas the others read and discussed. They huddled together to discuss text, reciprocal teaching strategy use, and answered comprehension questions offline and online.

After reading, applying reciprocal teaching strategies, and group discussion, students answered three comprehension questions online. Although this study's innovation differed from this many others cited in this dissertation, the findings aligned with one of the research goals of this AR. One goal of this action research and a focus of Research Question 3 was to evaluate the impact of innovation on students' reading attitudes. In Long and Szabo's (2016) mixed methods study, fifth-grade students reported positive reading attitudes toward reading following the intervention in their interviews, but the quantitative scores showed a negative gain. This finding suggested innovative practices in the reading classroom promoted positive reading attitudes, but reading attitudes need to be monitored often to ensure students are becoming skilled readers. Data from participants' transcripts indicated positive contributions to reading attitude. All participants referred to the help of their teammates as positive. Karrin said, "It was easier because we had our own jobs," and Jaylen said, "Easier because she had you had people to ask."

Although embedding educational technology in reading classrooms made reading easier, it had a negative impact on reading attitudes. Some factors associated with negative attitudes were reading a long piece of text and reading with distractions. Jaylen said, "I am done after I read 10 paragraphs." However, Karrin had a different experience

and shared, “I would change my attitude some of the times I did not want to work with them and I did not give them a chance.”

For these students, the innovation was a group activity. Sociocultural theorists have purported people learning is a social activity (Hodge et al., 2016). Wang et al. (2019) studied 53 primary children’s use of comprehension strategies while interacting with an interactive book in a reading community. They found primary students who use comprehension skills in their reading community used them when they read individually. Shin’s (2014) case study of a primary elementary teacher who used the technology in a literacy class found their social identity and academic success were positively impacted when he used a Web 2.0 technology to communicate with his peers and family. These studies confirmed the themes identified in this study. Participants reported the innovation helped them conceptualize new ideas about the text and their peers in the context of reading in their communities. They learned how to communicate and value contributions from others in their reading communities. As I further explain in the following section, the participants cited factors that contributed to their reading behaviors, communications, and contributions of the community members.

Contributions

Community members’ contributions enhanced the group’s ability to think deeply about the content. Tarchi and Pinto (2016), in their quasi-experimental research of 43 third-grade students who were new to reciprocal teaching, researched their collaborative discourse around text to explore if the learning environment influenced social construction of texts. They found students in the experiment group, a student-centered teaching environment, spoke more than students in a teacher-centered learning

environment. Tarchi and Pinto's finding confirmed the findings in this study—that peer interactions contributed to comprehension. However, Gilbert (2018) conducted a qualitative investigation discourse embedded in reciprocal teaching from the teacher's and students' perspectives. These findings corroborated the findings in this study that the students attributed contributions from their reading communities as a positive impact on their reading attitudes. Reading with reciprocal teaching is not a private individual activity; it is more of a collaborative effort. Creating a community of readers with positive attitudes can be achieved with the right resources, peers, technology, and pedagogy.

Implications

The positive implications of embedding Web 2.0 tools in the literacy classroom are well established (Beucher et al., 2020; Jamshidifarsani et al., 2019; Shin, 2014). In the following section, I describe the implications of AR on my personal implications, implications of literacy and Web 2.0 tools in the classroom, and future implications.

Personal Implications

The time I spent using AR to address my problem of practice (PoP) led to both personal and professional growth. Personal implications of the study include (a) using AR to solve problems, (b) becoming skilled in shared reading, and (c) importance of close reading.

Using AR to Solve Problems

Throughout this study, I learned how to become a teacher–practitioner (Mertler, 2020). I learned how to declare a researchable problem from within my context and under my sphere of influence. First, I learned to see if the problem has a national context. Next,

I learned how to research ways other researchers or practitioners integrated Web 2.0 tools in the classroom to impact comprehension in their context. Also, I created an innovation to address the problem in my classroom. Following the innovation, I collected and analyzed data. Finally, I learned how to discuss and disseminate my findings. I also gained a greater understanding of the role of my own experience and multiple perspectives in affecting my professional behavior, which led me to develop an iterative process of reading and writing. I learned to pause and consider the results of my research before moving on to the next step in my project.

Becoming Skilled in Shared Reading

I learned to prioritize student engagement during shared reading in my classroom by using RT strategies. Shared reading is when all students read grade-level text and apply comprehension or reading skills to that text (Fisher et al., 2014). Reciprocal teaching is an optimal framework to release responsibility to students to apply reading strategies during a reading event. First, I modeled how to use the four reciprocal teaching strategies (i.e., predicting, clarifying, questioning, and summarizing) and then I released students to practice in their reading communities. Johnson et al. (2019) purported when educators create a curriculum rich in pedagogical strategies—such as reading communities, which are composed of students and teachers engaging in collaborative learning—a powerful reimagining of the school experience for students in urban schools occurs. Next, students were empowered to use reciprocal teaching strategies to build their comprehension toolkits in a collaborative setting during this 7-week study, which meant that I only facilitated the lessons. I was not the sage on the stage, but the coach on the side; therefore, students practiced applying comprehension strategies and reading for

comprehension with peers using a grade-level text. Similarly, Muhammad (2020) asserted literacy curriculum rich in pedagogical strategies promote achievement for students in urban settings. Finally, I observed students reading, discussing, and actively engaging with applying comprehension strategies as needed, regardless of their reading levels. In sum, the *Studies Weekly* articles were short, and navigating text-based discussions and learning from peers and the passage during this innovation was easily accomplished during shared reading.

Importance of Close Reading

Finally, through this action research I learned to value close reading for my own academic needs to enhance my writing repertoire. Close reading is repeated reading of the same text that moves a reader from literal meaning to inferential meaning of the text (Fisher et al., 2014). I read journal articles to inform the literature review and design of the innovation. For most of the first readings, I noticed how the studies aligned with my problem, participants, methods, and methodologies. I then began to draft my chapters based on my reading and context. During the revision process, I reread most articles to clarify the important points I wanted to highlight. Later, when I wrote Chapters 4 and 5, I read the articles for the third time. I have found through multiple close reads, a deeper understanding of the articles and its impact on the setting and researcher (when applicable) emerged. Because close reading became a part of my writing regime as a student, I have developed a strategy for writing I can articulate to my students. My writing life is enriched by close reads.

Also, through the close read process, I found studies to emulate in my professional practice. Because I am a reading and social studies teacher, it is important

that I create evidence-based instruction based on tested strategies. I plan to use an intervention found in Roop's (2019) study for my future intervention group. In her study of RT in small groups, Roop pulled four students for a 5-week intervention. The lesson format was to use reciprocal teaching strategy instruction and Readworks articles during the intervention. At the conclusion of the study, students took the Aimsweb EasyCBM assessment (Roop, 2019). All these resources are in my reach, and I have a solid plan on how to run intervention in my class in future academic years.

Next, I am also a cooperating teacher; I plan to use parts of Moon et al.'s (2017) and Hutchison and Beschoner's (2015) study in future endeavors. In Moon et al.'s study, teachers partnered with a local university to have college buddies read and use iPads with students to increase comprehension. The college buddies were paired with three students, meaning one tutor and three students formed a group that met weekly to practice comprehension skills using iPad applications. Finally, in Hutchison and Beschoner's (2015) study of a classroom teacher's integration of literacy with technology I learned that when given a choice on how to construct comprehension participants display robust engagement. In sum, this action research used one Web 2.0 tool, the Wakelet Curation Tool in a fifth-grade classroom. I inquired into my skill set using action research to reimagine a web-based student-led literacy instruction. I learned to use action research to prioritize student engagement during shared reading and determine the value of close reading on my professional practice. As a result, I am armed with novel ways to create impactful instruction for my students for the next school year.

Implications for Practice

Throughout this study, I reflected on my role as a literacy educator who embeds Web 2.0 tools to positively impact reading attitudes and reading achievement. In this section, I discuss the implications for practice as they pertain to course design in an elementary classroom.

For the next iteration of the research, I will continue to teach students how to use reciprocal teaching strategies to comprehend text offline in the beginning of the year before distributing Chromebooks. I found in this study, students were empowered to participate in their groups because they had a job to do; they either predicted, clarified, questioned, or summarized. Other students were empowered to help, and suggested where an answer may be or what paragraph they were on; others were empowered to read out loud and accept feedback from peers. I will continue supporting this culture of shared reading in my classroom with rich reading experiences that offer students a variety of ways to immerse themselves in grade-level expository texts.

Next, I will redesign the interface of the Wakelet Curation Tool. Participants asked for quotes to make the interface more interesting and more uniform structure so that posts would not appear haphazardly. I also will redesign the video mini lesson showing students how to use the internet to enhance their comprehension. I was surprised participants did not use the internet to search, confirm, or corroborate their readings or questions; they only used the internet to access the Wakelet Curation Tool. I held the misconception that students would search for answers, look for pictures, or pursue other avenues of research. Perhaps they did, but the participants did not reference that behavior in their interviews, so I will redesign the videos to include how to apply reciprocal

teaching to text and how to use the internet to search, confirm, and corroborate their readings or questions. I can also offer choice of Web 2.0 tools in the ways students want to demonstrate learning (Hutchison & Beschorner, 2015). Because Wakelet Curation Tool is a curation tool, their contribution can be linked to the original Wakelet Curation Tool document, which can serve as a digital portfolio.

Implications for the Future

Throughout this study, I reflected on my role as a literacy educator and I have developed revisions for the next cycle of action research. I want to know the impact of the innovation on reading skills beyond classroom practice, because reading for comprehension is a difficult skill to master and has led to a historically unsatisfactory performance. In this section, I discuss implications for the future as they pertain to the next iteration of this research.

Another implication of action research is reflecting. Upon reflection for the next iteration, I will conduct pre-interviews and post-interviews. Participants in this study found the interview process to be unfamiliar, whereas I was unfamiliar with the interviewing process. By giving pre and post-interviews, we can align our thinking with the task at hand and gain experience interviewing.

In this study, the sample size was small due to action being enacted on one teacher's professional practice. In the future, I would like to increase the number of students and their willing teachers in my building to participate in schoolwide action research on the impact of embedding technology into reading for comprehension intervention during Tier I instruction.

Another implication for the future is the dissemination of data. I presented my research at AECT 2022 an educational technology conference. I hope to inspire more classrooms toward using action research in their classroom settings. I plan to present my research findings to teachers on the district level as an in-service venture.

Limitations

This action research encountered some limitations. This section discusses the limitations in two parts: (a) research design, and (b) limitations associated with the findings.

Research Design Limitations

In this study, I used an action research design. The design process followed Mertler's (2020) four-phase model for action: planning, acting, developing, and reflecting. One limitation of this action research was that it was a one cycle. Mertler (2020) concluded action research is most beneficial when there is a "repetition of cycles" (p. 28) because with each cycle, deeper insight is gained into the complexity of the problem. Another limitation was the duration of the innovation. This study was only 8 weeks; had the length been extended, I would have collected more robust data. Innovation, according to Mertler, must be deliberately prolonged to fully understand the outcomes of the AR.

Action research was an appropriate design model because I initiated and completed the research on my professional practice in my fifth-grade classroom; however, the findings of action research are not generalizable (Tracy, 2020) because the sample size was small and the sampling methods were purposive (Palinkas et al., 2015). These limitations are specific to action research design and were necessary to answer

specific research questions and to provide support for the PoP addressed in this study. Lastly, I pursued a graduate degree in learning design and technology and the results of this study are not indicative of how elementary teachers who are not doctoral candidates embed emerging Web 2.0 tools in their literacy classrooms (Beucher et al., 2020).

Another limitation was the sample size. Action research seeks to address a problem for a particular set of students. Because this action research took place in a classroom, there was a lot of action in the classroom, such as early dismissals, fire drills, and expulsions. Of the students eligible for the study, two declined to participate. Although several students' data were not used in this study for the reasons mentioned, all students received the innovation because it took place during instructional times. In sum, of the 17 students on my roster, 12 participated in this study. This study sought to capture the experience of a whole class, but that was not possible.

Finally, I had to alter the implementation of the ERAS. Because I was both teacher and researcher, I was not able to practice participant observations during the innovation. McKenna and Kear (1990) advised teachers to use this scale in conjunction with classroom observations and interviews to determine the cause of readers' attitudes. However, I was not able to identify and record effective performances related to reading attitudes that would complement my findings because I both teacher and researcher in this study. Instead, I modified the process by conducting four individual semistructured interviews at the conclusion of the innovation.

Limitations Associated With Findings

Limitations associated with the findings and their implications included the administration of the ERAS and the mismatch between the size of the assessment passage

and the weekly reading passage. The administration of the ERAS posed two problems. First, the ERAS survey was a self-report survey under my guidance. During the first survey administration, students were directed to answer questions following my reading of the prompt. I noticed some participants completed the survey before I did. The participants noticed the pattern for the second administration because the survey responses followed the same format. They kept cadence by repeating the Likert response choice question format. Both instances suggested participants were not engaged enough to respond to their actual reading attitudes; thus, scores may not indicate their genuine reading attitudes.

Another limitation of this study was the size mismatch of the weekly readings and assessment procedures. These readings were both nonfiction passages, but were administered in very different ways. The weekly readings came from the *Studies Weekly* magazine in a thought partnership group. Nevertheless, the Comprehension Content Knowledge assessment passages were longer and administered to students individually in a quiet classroom. The innovation occurred in a classroom setting with natural conversations readers have, yet the assessment occurred in a quiet setting on a platform that readers associate with testing culture. The misalignment of innovation and test administration should be investigated in future studies.

Conclusion

The success and challenges of implementing innovation in a literacy classroom using Web 2.0 tools and reciprocal teaching were demonstrated in this action research. Instructional methods that are centered on the combination of both the constructivist and sociocultural learning theories supported fifth-grade students in reading for

comprehension. In sum, this action research captured a possible start-to-finish classroom activity that addresses the reading for comprehension dilemma from 12 fifth-grade students' perspectives at BSES an urban characteristic (Milner et al., 2018) PDS site.

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APPENDIX A

RECIPROCAL TEACHING GRAPHIC ORGANIZER

<p>Reciprocal Teaching is a teaching strategy that will help you understand difficult texts. You will assume a role as a predictor, questioner, clarifier, or summarizer. As you read take notes on your strategy on the website, be prepared to share your strategy and answer.</p>	
<p>Name _____</p> <p>Predictor: Identify one to four text-related predictions based on your reading. These predictions will help you think about what may happen next.</p> <p><i>Sentence frames: Use this prompt to begin your answer: Based on what I read I think..... will happen next.</i></p> <p>■</p>	<p>Name _____</p> <p>Clarifier: Find one to four words that were new to you. Use context clues to define the words or use your knowledge of sounding words out to pronounce them.</p> <p><i>Sentence frames: Use this prompt to begin your answer: Before reading I did not know _____ now I know _____.</i></p>
<p>Name _____</p> <p>Questioner: Pose one to four questions. Questions can be about confusing parts or your wonderings.</p> <p><i>Sentence frames: Use this prompt to begin your answer: I wonder _____.</i></p>	<p>Name _____</p> <p>Summarizer: Beyond retelling, state one to four important events you read and explain why they are important.</p> <p><i>Sentence frames: Use this prompt to begin your answer: Based on what I read one important idea is _____ because _____.</i></p>

Figure A.1

Reciprocal Teaching Quad Squad Graphic Organizer

APPENDIX B

INFORMED CONSENT FORM

UNIVERSITY OF SOUTH CAROLINA

CONSENT TO BE A RESEARCH SUBJECT

Evaluating the Impact of Reciprocal Teaching Embed in a Web 2.0 Tool Upon Fifth-Grade Students' Reading Comprehension Achievement, Attitudes Toward Reading, and Perception about Innovation in a Reading Class at a Professional Development School.

KEY INFORMATION ABOUT THIS RESEARCH STUDY:

You are invited to volunteer for a research study conducted by Aisja Jones. I am a doctoral candidate in the Department of Learning Design and Technology, at the University of South Carolina. The University of South Carolina, Department of Curriculum and Instruction Studies is sponsoring this research study. The purpose of this research is to evaluate the impact of Reciprocal Teaching embed in a website on your scholar's reading comprehension achievement, their attitudes toward reading, and their perceptions about the innovation. We already use Reciprocal Teaching during shared reading, but I am introducing embedding collaboration in a website for this study. You are being asked to participate in this study because you are students on my enrollment. This study is being done at XXXXXXXX and will involve approximately nineteen volunteers.

The following is a short summary of this study to help you decide whether to be a part of this study. More detailed information is listed later in this form.

Your scholar will not experience a difference in instruction. The lessons and activities are a natural part of our established classroom practice. The differences your scholar may experience are:

- I will conduct a focus group interview with students to ask about their experiences during the innovation

- I will collect data from reading passages to determine the impact on reading comprehension

- I will collect data from an Elementary Reading Attitude Survey to determine students' attitudes towards reading

I will begin each session with a short lesson on a comprehension strategy. Scholars will meet in small groups to practice that strategy while reading an informational text. While in small groups your scholar will take on a comprehension role: a predictor, clarifier, questioner, or summarizer. Additionally, one scholar will assume a comprehension role and that of the teacher. Scholars will take turns reading and

applying reciprocal teaching strategies in between reading by typing their responses to their roles onto a website. At the conclusion of each session, I will ask scholars which strategy if any helped them understand the text.

PROCEDURES:

Phase 1	
Weeks 1-2	Email parental consent forms. Administer pretest to assess reading comprehension Administer reading attitude survey
Phase 2	
Weeks 3-6	Complete six reading for comprehension lessons using Reciprocal Teaching embedded in a website. Reciprocal Teaching is a research-based instructional model that is likely to increase the comprehension skills of learners through using four comprehension strategies: predicting, clarifying, questioning and summarizing while reading with a peer.
Phase 3	
Week 7	Administer Posttest Administer Postreading attitude survey Conduct Individual Interviews

DURATION:

The study will take place during class, so it will require no additional time from the students outside of class time. Near the end of the study, I may ask some students to have an interview with me to discuss their ideas and feelings about the strategy we learned and about the study. These interviews would likely take place before school or during dismissal.

RISKS/DISCOMFORTS:

There are no anticipated risks in this study.

BENEFITS:

This research may benefit participants by providing them with comprehension strategies to use while reading and collaborating online around expository texts. It may also increase their attitudes toward reading as well as give them positive experiences with reading for comprehension.

CONFIDENTIALITY OF RECORDS:

Throughout this study, all information I collect will be confidential, and students' anonymity will be preserved. Any information shared with me will be private. I will only provide quotes from the interview that answer research questions, are general, and will not describe a specific incident where a participant can be identified. At the conclusion of data analysis and dissemination of data all data collected will be destroyed.

VOLUNTARY PARTICIPATION:

Participation in this research study is voluntary. You are free not to participate, or to stop participating at any time, for any reason without negative consequences. In the event that you do withdraw from this study, the information you have already provided will be kept confidential manner. If you wish to withdraw from the study, please call or email the principal investigator listed on this form.

I have been given a chance to ask questions about this research study. These questions have been answered to my satisfaction. **If I have any more questions about my participation in this study, I am to contact Aisja Jones at XXX-XXX-XXXX or email xxxxx@xxxx.xxx.**

Concerns about your rights as a research subject are to be directed to, Lisa Johnson, Assistant Director, Office of Research Compliance, University of South Carolina, 1600 Hampton Street, Suite 414D, Columbia, SC 29208, phone: (803) 777-6670 or email: LisaJ@mailbox.sc.edu.

I agree to participate in this study. I have been given a copy of this form for my own records.

If you do not wish to participate, you should sign below.

Signature of Subject / Participant

Date

Signature of Qualified Person Obtaining Consent

Date

APPENDIX C

WAKELET CURATION TOOL WEB 2.0 TOOL

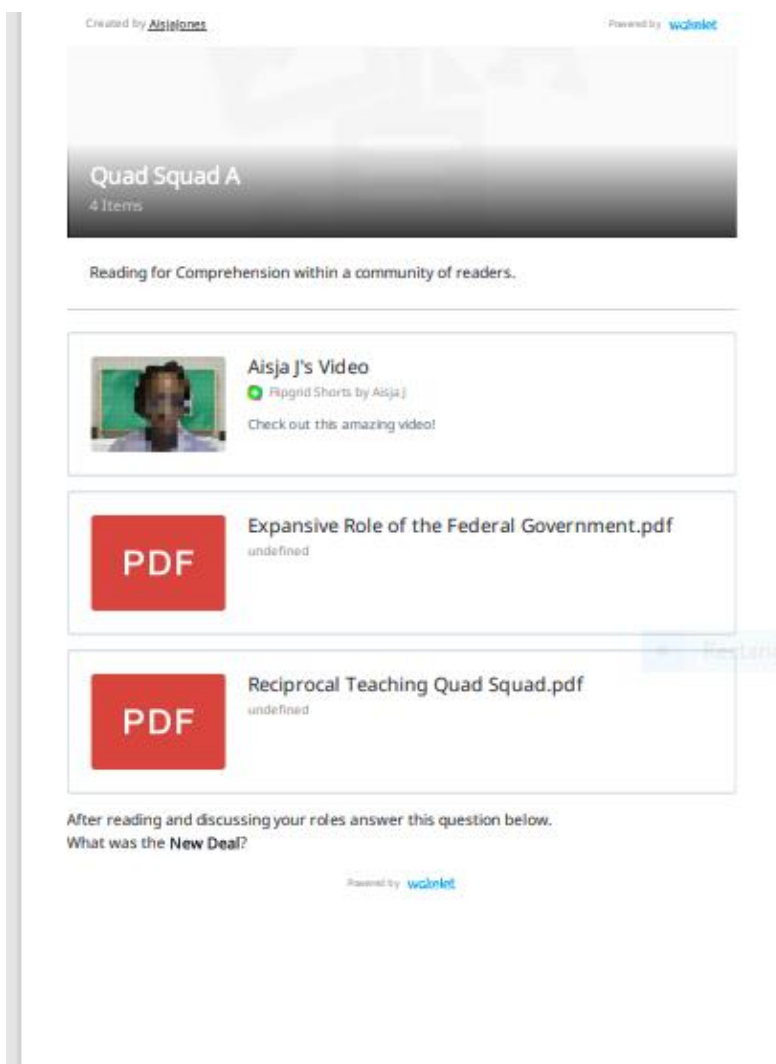


Figure C.1

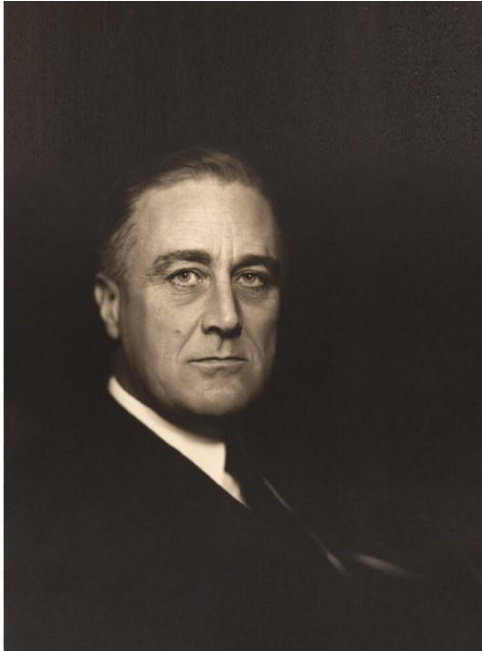
Wakelet Curation Platform in PDF form

APPENDIX D

STUDIES WEEKLY READING PASSAGE 1: FRANKLIN D. ROOSEVELT

President Franklin Delano Roosevelt led the United States during some of its greatest challenges: the Great Depression and World War II. He never let being confined to a wheelchair keep him from reaching his goals. In one famous speech, Roosevelt told Americans, "The only thing we have to fear is fear itself." Certainly Roosevelt believed this, and he lived his life as proof the statement was true in his own heart. His courage and leadership earned him the respect of people around the world. He is considered by many to be one of the greatest U.S. presidents.

Franklin Delano Roosevelt was born in 1882 in Hyde Park, New York. His father, James Roosevelt, was the vice president of the Delaware and Hudson Railway. His mother raised young Roosevelt with



In 1933, the United States was in the middle of the Great Depression. Businesses had closed. Many workers lost their jobs. Banks failed. Those that didn't fail needed loans repaid by farmers and homeowners. People who were unable to repay their debts had their farms and homes taken away. Most people had very little hope that things would get better. In that same year, Roosevelt was sworn in as the new president of the United States. He brought hope and inspiration with him. It was the beginning of a dozen years in the White House. Roosevelt was elected to four terms as president, more terms than anyone had ever served before. He is the only U.S. president to serve more than two terms. The 22nd Amendment to the Constitution now limits a president to only two terms.

As president, Franklin D. Roosevelt faced many challenges. One was finding a way to bring the country out of the Great Depression. Roosevelt's New Deal was his plan to develop programs that would help the poor and the elderly. The plan also helped farmers, created jobs, and changed America.

Figure D.1

Visual of Studies Weekly Article: Franklin D. Roosevelt



People all over the nation started feeling hopeful. They had confidence that President Roosevelt was leading the country in the right direction. Through it all, cheerfulness and optimism characterized Roosevelt. He tried to encourage the nation through a series of nationally broadcast radio talks called "fireside chats."

On April 12, 1945, just a few months after beginning his fourth term as President, Roosevelt suddenly fell over in his chair while an artist painted his portrait. "I have a terrific headache," he said. Those were his last words. He died a few hours later. News of his death spread quickly. Millions of people mourned.

APPENDIX E

STUDIES WEEKLY READING PASSAGE 2: FIRESIDE CHATS

The popularity of the radio exploded after the first public broadcast went over the airwaves in 1910. In 1930, 12 million households owned a radio. By 1939, the total was nearly 28 million households. Radio informed, entertained, and connected people in America.



President Franklin D. Roosevelt understood the potential of the radio to reach millions of citizens at once. He was the first U.S. president to make regular use of the radio to communicate with the public.

Roosevelt's first radio broadcast was an informal speech in March of 1933. He talked about the banking crisis. He praised the people for their "fortitude and good temper." Roosevelt gave around 20 more radio addresses between March of 1933 and June of 1944. A radio reporter came up with the term "fireside chats" to refer to these speeches.

The President made his speeches informal and uncomplicated. He wanted everyone to be able to understand what he was saying. He spoke in a warm and friendly tone. He often greeted listeners as "my friends." The American public seemed to gain hope and reassurance from these broadcasts. They helped the public feel more confident in the president's efforts to relieve their hardships.

Figure E.1

Visual of Studies Weekly Article: Fireside Chats

APPENDIX F

STUDIES WEEKLY READING PASSAGE 3: FACISM IN EUROPE

STUDIES WEEKLY ARTICLES READING PASSAGE 3: FACISM IN EUROPE

Facism is a political ideology that appeared in European countries following World War I. After the chaos of the war, people wanted strong national unity and leadership. This resulted in a type of government that puts the nation above the individual. The government is in absolute control of liberty and freedom. Such was the case in Italy, where facism got its start.

Benito Mussolini was a veteran of World War I. When he returned to Italy, he wanted to unify the Italian people and strengthen the country. He began to give speeches calling for a strong leader of the central government. He also spoke against the ideas of socialism and communism that were moving through Eastern Europe. His ideas gained support. He organized thousands of people to march against the government of Rome. The government leaders resigned, and Mussolini demanded that the king make him the new prime minister. The king agreed. Shortly afterward, the king was forced to abdicate, which means resign. This made Mussolini the highest government authority.



Mussolini's new government reorganized schools and controlled the books and newspapers that were published. People were taught to accept facism. Obedience to the government was required of all citizens. Individual rights took second place to the rights and good of the state, meaning the country as a whole. Facists also believed that the strong had a natural right to rule over the weak.

In 1924, Mussolini fixed the national election so that he won. He immediately declared all political parties other than his own illegal. His government also outlawed labor unions and established its own police force. Mussolini titled himself Il Duce (The Leader). He was now the supreme dictator of Italy. Other countries, including Germany, adopted the ideas of facism into their forms of government.

Figure F.1

Visual of Studies Weekly Article: Fascism in Europe

APPENDIX G

STUDIES WEEKLY READING PASSAGE 4: AMERICAN NEUTRALITY

After World War I ended, the U.S. vowed to stay out of all future wars. During the 1930s, the U.S. Congress passed a series of laws called the Neutrality Acts. These laws stated that the United States would not get involved in or take sides on any conflicts between foreign nations. It would remain neutral.

First Neutrality Act

In 1935, Congress proclaimed that the U.S. could not export any weapons, ammunition or “implements of war” to belligerent (warring) nations. Americans were also warned that if they sailed on a belligerent’s ship, they did so at their own risk.

Neutrality Act of 1936

This law renewed the First Neutrality Act for another 14 months and said that no loans or credit could be offered to belligerent nations.

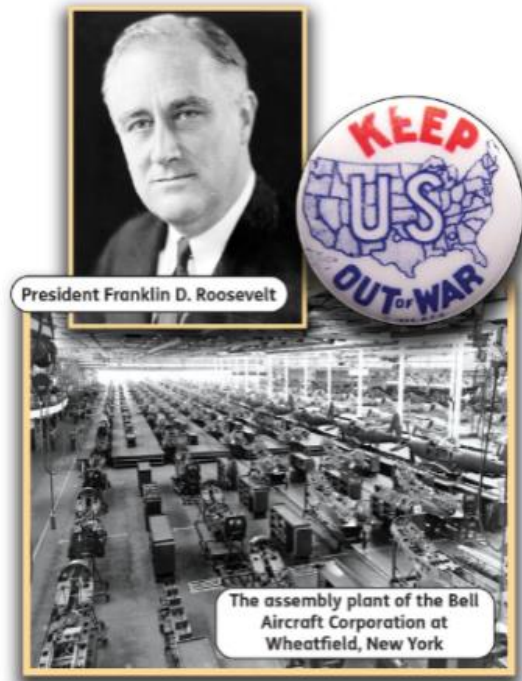


Figure G.1

Visual of Studies Weekly Article: American Neutrality

Neutrality Act of 1937

This act renewed the previous neutrality acts and made it illegal for any U.S. ships to carry military equipment to belligerent nations. Citizens could no longer sail on belligerents' ships. It also gave the president the power to sell supplies (but not weapons and ammunition) to belligerent nations, as long as they paid for these items at the time of purchase.

Neutrality Act of 1939

By this time, Germany was at war with Great Britain and France. Congress passed a law stating that the U.S. could sell weapons, ammunition and other military supplies to belligerent nations. Again, nations had to pay for supplies at the time of purchase.

Lend-Lease Act of 1941

This law marked the end of U.S. Neutrality Acts. It allowed the U.S. to lend, sell or give war supplies to its allies. President Roosevelt could now offer our foreign friends more than just a few kind words. He could, and did, send them money, weapons, vehicles and, after Pearl Harbor, U.S. troops.

APPENDIX H

STUDIES WEEKLY READING PASSAGE 5: THE TUSKEGEE AIRMAN

From the segregated military of World War II rose a group of very intelligent and successful African American men. The Tuskegee Airmen, the first African American military pilots in America. The first group of men began training at the Tuskegee Army Airfield in Alabama. Nearly 15,000 pilots, navigators, and bomber crew members were eventually trained.



Approximately 450 became pilots to serve overseas. These men distinguished themselves by flying over 1,500 missions. They earned 96 Distinguished Flying Cross medals for achievement in battle.

The Airmen successfully escorted bombers into enemy territory. Their smaller planes could guard the larger bombers with mobility, speed and accuracy. They were in demand for their services by the allied bomber units. Their record of success was unmatched by any other unit.

The Tuskegee Airmen are continually honored for courage and skills. Today they are recognized as being instrumental in breaking segregation in the military.

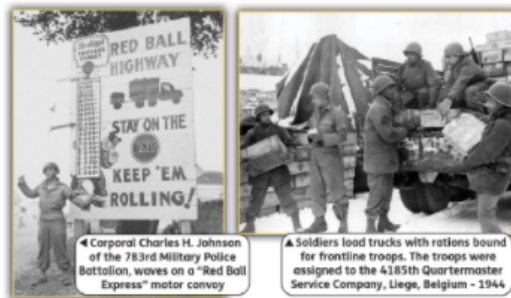
Figure H.1

Visual of Studies Weekly Article: Tuskegee Airman

APPENDIX I

STUDIES WEEKLY READING PASSAGE 6: SEGREGATION IN THE ARMY

The world came together to fight for freedom from controlling governments of Nazi Germany, Fascist Italy and Imperial Japan. As the Allies worked together towards this freedom, there were imbalances in freedom in their own countries. The United States was legally denying civil rights to African Americans at home and in the military.



African Americans who enlisted in the armed services were segregated from white American units. African Americans were consistently given non combat assignments in food service, maintenance of equipment and supply lines to combat units. There were segregated barracks, hospitals and cafeterias. The role of the African American Units were vital to the war effort and necessary for victory. However few were included in combat ready units.

In 1944, the "Red Ball Express" was a military unit of African Americans. The Red Ball Express delivered vital supplies of gasoline, ammunition and medical equipment to the Third Army. The Third Army was trying to bring relief to Allied troops in northern France at the Battle of the Bulge. The Red Ball Express drove up to 400 miles on narrow roads in all weather conditions night or day. Crossing German military lines, the brave men kept the Third Army tank battalion moving to victory.

Figure I.1

Visual of Studies Weekly Article: Segregation in the Army

APPENDIX J

STUDIES WEEKLY ARTICLES READING PASSAGE 7: NAVAJO CODE TALKERS

During World War II, the United States and Japan tried to keep secrets from one another. However, both sides were able to break each other's secret codes. Japan won many battles after U.S. secrets had been revealed. To avoid any further losses, the U.S. wanted to develop an unbreakable code.

A city engineer from Los Angeles, California, Philip Johnston, thought using the Navajo language would be a good starting point. He knew a code that used the language would be difficult to break.

Navajo has no written alphabet, and it is difficult to learn. A group of Navajo men worked to develop the code. They were called Navajo code talkers. Under the new system, a code talker would get a message in English. They would then translate the message into Navajo. The message was then sent back to another code talker, who translated it back into English.

In Navajo, military terms were often replaced with Navajo words for things they looked like. For example, the word for "torpedo" was "lo-be-ca," which means fish shell in Navajo. The Navajo word "ne-he-ma" for "our mother" was code for the word "America." Some Navajo words represented letters of the alphabet. For instance, the Navajo word "be-la-sana" for the English word "apple" simply represented the letter "A."

The Japanese were unable to crack the code no matter how hard they tried. However, the U.S. was still able to interpret Japan's secret messages. The United States soon had the advantage in battles. In the end, the Navajo code talkers' work was extremely valuable to the Allies in WWII.

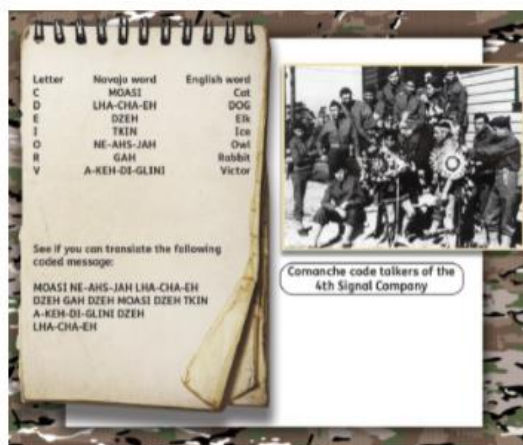


Figure J.1

Visual of Studies Weekly: Navajo Code Talkers

APPENDIX K

STUDIES WEEKLY READING PASSAGE 8: ATTACK ON PEARL HARBOR

After the attack on Pearl Harbor and the United States entered the war there was great suspicion and anger in the general public against Japanese Americans. Bias and prejudice against people from Asia grew rapidly. The concern was loyalty to the United States or Imperial Japan.

Public concerns for national security made it to Congress. Congress reacted by activating the US Army in the west coast. The entire West Coast was declared a military area. Ten weeks after the attack on Pearl Harbor, President Roosevelt signed Executive Order 9066.

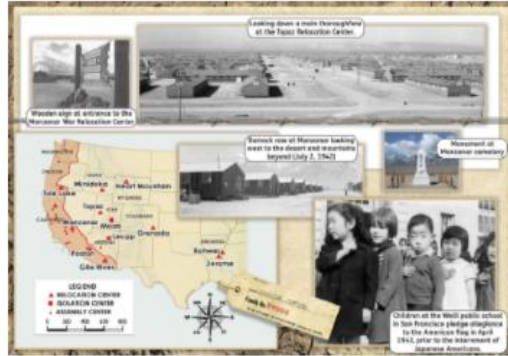


Figure K.1

Visual of Studies Weekly: Attack on Pearl Harbor

Executive Order 9066 gave the military broad power. People who the military thought to be suspicious in loyalty to America were targeted. An area 50 to 60 mile wide in the coastal area from Washington state to California was put in military jurisdiction. The area also extended inland into southern Arizona. The order authorized the forced removal of citizens, mostly Japanese Americans, to concentration camps. These camps were quickly organized and governed by the military. This order also applied to smaller groups of U.S. residents who were of German and Italian descent. However, it was tens of thousands of Japanese Americans who lost liberty, freedom and property as a result of the order.

Japanese Americans and their families were given very short notice to sell or store their homes, possessions, and businesses. They could only take what they could carry. Then, men, women and children of all ages were transported and incarcerated in detention centers.

From the detention centers, the people were transferred to concentration camps located in seven states. Camps were often on remote and barren sites inland, such as Manzanar in eastern California and Topaz in the desert of central Utah. These concentration camps were built quickly and with poor materials. When the first people reached Topaz, the buildings weren't finished. The newly arrived residents had to finish their own barracks.

The area was divided into 42 blocks. A block was designed for 250 people. Each block had 12 barrack buildings. Every block also had a cafeteria, a laundry room, toilets, baths and showers, and a recreation hall. Recreation halls sometimes served as stores, libraries, and churches.

The area was divided into 42 blocks. A block was designed for 250 people. Each block had 12 barrack buildings. Every block also had a cafeteria, a laundry room, toilets, baths and showers, and a recreation hall. Recreation halls sometimes served as stores, libraries, and churches.

Each barrack in Topaz was 120 feet long by 20 feet wide. The barrack was divided into six different sized rooms. Each family was assigned to one of the rooms. The size of the room depended on the size of the family. The rooms only held army-style cots with bedding. There was no running water or indoor plumbing. Each room had a coal stove to provide heat. The people forced to live there often used scrap wood and wooden packing crates to build tables, chairs, and other furniture.

The entire area was fenced to keep all people inside the concentration camp. There was no freedom of movement, no liberty of choice, few rights were respected. More than 120,000 Americans were incarcerated. The concentration camps were used until Imperial Japan surrendered to the Allied Forces in August of 1945.

APPENDIX L

MASTERY CONNECT COMPREHENSION CONTENT KNOWLEDGE PRE AND POSTTEST PRE-ASSESSMENT PASSAGE

“Important Inventions”

1. In the early 1800s, most people lived in cities on the East Coast. Only adventurers moved west, and life outside the cities of the East Coast was hard. New inventions were needed to make people’s lives better. Some people studied science to get new ideas, and others worked on experiments. Experiments were done to try to improve life, and many times the experiments led to inventions.
2. The United States Congress wanted to help. They knew that good inventions would help America to grow and would help people to have better lives. Congress funded scientists and inventors who used the money to develop good ideas. New technologies were created, and some very important inventions came from this time period. Among the most significant were the steam engine, the telegraph, and the telephone.
3. In the early days, moving goods from place to place required boats. Cities like St. Louis, Missouri built up near the rivers. Farmers grew many crops in the rich soil, and when they harvested them, they were then loaded on boats. Merchants, or people who sell products, shipped the goods on the boats from St. Louis to other parts of the country. The goods were sold directly from the boats. However, there was one big issue. The larger rivers only ran north and south, so merchants used wagons for east and west travel to move goods, making it difficult to sell products quickly.
4. Inventors worked hard to make travel and commerce better. Soon, the steam engine was invented, and a man named James Watt improved it to make it more useful for transportation.
5. The steam engine was used in locomotives. The trains could go east and west and could go much faster than a wagon. They could also hold many more people and goods. Since goods moved faster on trains, and could travel in more directions, business owners made money more quickly. The locomotive was probably the most important invention for economic and population growth in the West.

6. People also wanted to communicate more quickly. Family members and friends who lived far away from each other missed talking to each other. Business owners also needed to talk to their partners, suppliers, and consumers. Communicating with others across the country took a very long time.

7. The telegraph was invented to speed up communication. A man named Samuel Morse studied electricity and sound and learned how to send sound over an electric wire. Not voice sounds, but beeps and tapping sounds were sent. The Morse code was created to understand the patterns. People were trained to learn the code and sat in offices writing down the messages that the telegraph tapped out. People in town went to the telegraph office to check for messages. The telegraph made sending messages easier, but it only worked where there were wires. The first telegraph wires were erected in 1846, and they ran from Washington, D.C. to New York City.

8. Alexander Graham Bell knew that he could improve the telegraph. He saw an opportunity to make it even more useful by finding a way to make the wires carry voices as well as other sounds, so the telephone was invented! The telephone made it easier for people to speak to their loved ones and businesses to communicate faster across long distances.

9. Inventions sped up the economic growth of America. Businesses grew because of new ideas. They could do everything faster and better. They transported goods faster. They communicated across greater distances. These inventions created jobs like engineers and telegraph and telephone operators. People moved to new cities, and more jobs were created. Businesses and railroads were built and expanded across the country. America was on the road to success!

Questions for “Important Inventions”

1. What was the *main* difference between Morse code and the telephone?

- A) Morse code was invented by Morse while the telephone was invented by Bell.
- B) Morse code delivers beeps while the telephone delivers people’s voices.
- C) Morse code was invented first while the telephone was invented later.
- D) Morse code sends sound while the telephone uses electricity.

2. Where would this selection *most likely* be found?

- A) an online encyclopedia
- B) a travel magazine
- C) a book about the United States Congress
- D) an article in a local newspaper

3. What are *locomotives*?

- A) automobiles
- B) planes
- C) ships
- D) trains

4. Per the selection, how did inventions affect economic growth?
- A) They made economic growth of the country happen more quickly.
 - B) They limited the economic growth of the country.
 - C) Unemployment increased because of the new inventions.
 - D) They had no impact on economic growth.
5. Which sentence from the selection is the *best* example of a fact?
- A) “The locomotive was probably the most important invention for economic and population growth in the West.”
 - B) “New inventions were needed to make people’s lives better.”
 - C) “The first telegraph wires were erected in 1846, and they ran from Washington, D.C. to New York City.”
 - D) “America was on the road to success!”
6. What statement is important enough to be included in a summary of the selection?
- A) People in town went to the telegraph office to check for messages.
 - B) In the early days, moving goods from place to place required boats.
 - C) Farmers grew many crops in the rich soil, and when they harvested them, they were then loaded on boats.
 - D) Among the most significant inventions were the steam engine, the telegraph, and the telephone.

APPENDIX M

MASTERY CONNECT COMPREHENSION CONTENT KNOWLEDGE PRE AND POSTTEST POST-ASSESSMENT PASSAGE

A Cowboy's Historical Discovery

Born a slave on a Texas ranch in 1851, George McJunkin became a cowboy with great dreams. Mastering the skills of a ranch hand, he could ride, shoot, rope, and African Americansmith like a pro. His curiosity about everything fed his thirst for knowledge and eventually led him to a great discovery that changed people's ideas about the history of North America. George worked hard to be successful during a time when opportunities for African Americans were very limited. He only had four years of formal education but taught himself to read and write by watching others. He also taught himself to speak Spanish and to play the fiddle and guitar. George was eager to learn and enjoyed reading history. As a result of hard work, he became the foreman of the Crowfoot Ranch in Folsom, New Mexico and the first man in the West to create barbed-wire fenced pastures.

2. On August 27, 1908, a monster storm dropped thirteen inches of rain causing a flash flood that swept away half of the buildings in Folsom, New Mexico. After the rain stopped, George and another cowboy rode around the Crowfoot Ranch to survey the flood damage. Noticing a section of fence dangling loose, he saw that floodwaters had dug out an arroyo from two to ten feet deep along the bank of the Dry Cimarron River. That is when he spotted something white sticking out of the ground. Investigating further, George realized large bones had been uncovered. Having been a buffalo hunter, George thought they looked like buffalo bones but knew he had never seen buffalo bones that big.

3. George wanted to figure out what kind of animals would have such bones and the reason they were on the river bank. From the massive amount of bones in what he later called the Bone Pit, George took a few bones and placed them with the rest of his collection. George was known for his interest in archaeology (the study of ancient cultures through the buildings, graves, tools, and other artifacts) and his collection of unusual items from the past, and his curiosity about the bones never died. He figured the bones were very old because they were almost thirteen feet below the surface and partly mineralized. He shared his story with everyone who had a conversation with him, but no one seemed to care.

4. In 1912, George went to a fair in Raton, New Mexico and met Carl Schwachheim, a African Americansmith and fellow collector of bones, arrowheads, and fossils. Carl was fascinated with George's story and promised to visit George one day to see the bones. Unfortunately, George died in January, 1922. Carl and Fred Howarth, a local banker, went to the Bone Pit the following July. The two men dug up more bones and spear points and took them back to New Mexico.

5. In 1926, Fred told J.D. Figgins, the head of the Colorado Museum of Natural History, about the Bone Pit. J.D. visited the site and hired Fred to dig up the rest of the bones. Based on Fred's unearthed bones, on August 29, 1927, Carl drew the first representation of a Folsom Point – a stone point stuck between the ribs of a long- extinct species of bison – and the rest is what some call archaeological history. Those bones, it turned out, were the ribs of a species of bison that had been extinct for 10,000 years. Mixed in with the bones were human-made stone spearheads. The spearheads offered the first clear proof that ancestors of today's Indians lived in the New World thousands of years earlier than most early 20 century authorities believed – before the end of the last ice age. Thanks to George and his inquisitive nature!

6. Although the importance of his discovery was not recognized in his lifetime, George McJunkin is honored for having made one of the most significant archaeological finds in North America. During his funeral, one of his friend's gave him his just reward by saying: "George McJunkin kept growing as long as he lived. We are all more alive because of him."

Questions for "A Cowboy's Historical Discovery"

1. Which resource would most likely give the reader more information about George McJunkin?

- A) a book titled Unusual Archaeologists
- B) a web site called AncientFossils.com
- C) a magazine article titled "American Cowboys"
- D) an encyclopedia article called "The History of New Mexico"

2. Based on the selection, how were George and Carl Schwachheim similar?

- A) They both enjoyed working at the fair in Raton, New Mexico.
- B) They both worked in New Mexico and understood ranch life.
- C) They both recognized their archeological contributions to the history of North America.

D) They both were interested in uncovering artifacts revealing past cultures and human life.

3. Which statement best describes the author's conclusion about George's death in 1922?

A) George died while doing significant work at Crowfoot Ranch.

B) George died just after he invited Carl to visit the ranch.

C) George died before the value of his discovery was recognized.

D) George died while he was still young and had a bright future ahead.

4. Based on the information in the selection, what can be inferred about the ancient bison?

A) They were smaller than buffalo and cattle that lived during that time.

B) They became extinct because of the Indian ancestors and hunters.

C) They were slow runners and became easy prey for hunters.

D) They lived in the same places where Indian ancestors lived.

5. Why was collecting old bones important to George?

A) because he wanted to preserve history

B) because he wanted to honor the dead

C) because he was curious about them

D) because he used to hunt buffaloes

6. Which is the best summary of this selection?

A) George was born in Texas in 1851, learned to read, write, speak Spanish, play musical instruments, became a beloved cowboy, and died in New Mexico in 1922.

B) George worked at the Crowfoot Ranch, experienced a great flood in 1908, assessed the flood damages, found unusual bones that were unearthed, and became famous for his discovery.

C) George had many skills and interests, put them all to use in 1908, discovered unusual bones, and helped scientists learn about humans and animals from the Ice Age.

D) George enjoyed learning about the past, served as a foreman at the Crowfoot Ranch, and made an important discovery that impacted American history.

APPENDIX N

ELEMENTARY READING ATTITUDE SURVEY

Directions for Use

The Elementary Reading Attitude Survey provides a quick indication of student attitudes toward reading. It consists of 20 items and can be administered to an entire classroom in about 10 minutes. Each item presents a brief, simply worded statement about reading, followed by four pictures of Garfield. Each pose is designed to depict a different emotional state, ranging from very positive to very negative.

Administration

Begin by telling students that you wish to find out how they feel about reading. Emphasize that this is *not* a test and that there are no “right” answers. Encourage sincerity.

Distribute the survey forms and, if you wish to monitor the attitudes of specific students, ask them to write their names in the space at the top. Hold up a copy of the survey so that the students can see the first page. Point to the picture of Garfield at the far left of the first item. Ask the students to look at this same picture on their own survey form. Discuss with them the mood Garfield seems to be in (very happy). Then move to the next picture and again discuss Garfield's mood (this time, a *little* happy). In the same way, move to the third and fourth pictures and talk about Garfield's moods—a little upset and very upset. It is helpful to point out the position of Garfield's *mouth*, especially in the middle two figures.

Explain that together you will read some statements about reading and that the students should think about how they feel about each statement. They should then circle the picture of Garfield that is closest to their own feelings. (Emphasize that the students should respond according to their own feelings, not as Garfield might respond!) Read each item aloud slowly and distinctly; then read it a second time while students are thinking. Be sure to read the item *number* and to remind students of page numbers when new pages are reached.

Scoring

To score the survey, count four points for each leftmost (happiest) Garfield circled, three for each slightly smiling Garfield, two for each mildly upset Garfield, and one point for each very upset (rightmost) Garfield. Three scores for each student can be obtained: the total for the first 10 items, the total for the second 10, and a composite total. The first half of the survey relates to attitude toward recreational reading; the second half relates to attitude toward academic aspects of reading.

















Interpretation

You can interpret scores in two ways. One is to note informally where the score falls in regard to the four nodes of the scale. A total score of 50, for example, would fall about midway on the scale, between the slightly happy and slightly upset figures, therefore indicating a relatively indifferent overall attitude toward reading. The other approach is more formal. It involves converting the raw scores into percentile ranks by means of the table in the Elementary Reading Attitude Survey Scoring Sheet. Be sure to use the norms for the right grade level and to note the column headings (Rec = recreational reading, Aca = academic reading, Tot = total score). If you wish to determine the average percentile rank for your class, average the raw scores first; then use the table to locate the percentile rank corresponding to the raw score mean. Percentile ranks cannot be averaged directly.

















Elementary Reading Attitude Survey

School _____ Grade _____ Name _____

Please circle the picture that describes how you feel when you read a book.

1.	How do you feel when you read a book on a rainy Saturday?			
				
2.	How do you feel when you read a book in school during free time?			
				
3.	How do you feel about reading for fun at home?			
				
4.	How do you feel about getting a book for a present?			
				

Please circle the picture that describes how you feel when you read a book.

5.	How do you feel about spending free time reading a book?			
				
6.	How do you feel about starting a new book?			
				
7.	How do you feel about reading during summer vacation?			
				
8.	How do you feel about reading instead of playing?			
				

Page 2

© PAWS – www.professorgarfield.org
Survey designed by Dennis J. Kear, Wichita State University

Please circle the picture that describes how you feel when you read a book.

9.

How do you feel about going to a bookstore?



10.

How do you feel about reading different kinds of books?



11.

How do you feel when a teacher asks you questions about what you read?

















12.

















How do you feel about reading workbook pages and worksheets?



Please circle the picture that describes how you feel when you read a book.

13.	How do you feel about reading in school?			
				
14.	How do you feel about reading your school books?			
				
15.	How do you feel about learning from a book?			
				
16.	How do you feel when it's time for reading in class?			
				

Please circle the picture that describes how you feel when you read a book.

17.	How do you feel about stories you read in reading class?			
				
18.	How do you feel when you read out loud in class?			
				
19.	How do you feel about using a dictionary?			
				
20.	How do you feel about taking a reading test?			
				

APPENDIX O

ELEMENTARY READING SCORING SHEET

Elementary Reading Attitude Survey Scoring Sheet

Student's name: _____

Teacher: _____

Grade: _____ Administration Date: _____

Scoring Guide

4 points	Happiest Garfield
3 points	Slightly smiling Garfield
2 points	Mildly upset Garfield
1 point	Very upset Garfield

Recreational Reading

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Academic Reading

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Raw Score: _____

Raw Score: _____

Full-Scale Raw Score _____(Recreational+Academic): _____

Percentile Ranks: _____Recreational:

_____Academic:

_____Full Scale:

Source: McKenna, M. C., & Kear, D. (1990). Measuring attitude toward reading: A new tool for teachers. *The Reading Teacher*, 43, 626-639. Used with permission. (© PAWS, www.professorgarfield.org. Survey designed by Dennis J. Kear, Wichita State University.)

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APPENDIX P

INTERVIEW PROTOCOL

Thank you for choosing to participate in this interview. Your participation is voluntary and you can choose to end the interview at any time with no repercussions. To protect your identity, I will use a pseudonym. That means I will not use your real name. The purpose of this interview is to answer my research questions on two topics. The first topic is describing your achievements toward reading and reading for comprehension. The second topic is to describe the impact of using a Web 2.0 tool embed in a reading strategy and your perceptions. During the interview the I will ask open-ended questions that will allow you to add on to what others have said. Also, I will record our interview so that it can be uploaded to statistical software to ensure I capture what you actually said. Before I begin the interview, I will define RT, reading, reading for comprehension, and Web 2.0 tools. RT is a peer-led reading strategy that teaches readers to use four comprehension strategies when reading a text. Reading is the ability to say words in a text while reading for comprehension is the ability to make meaning from what you read. Web 2.0 tools are websites that allow you to communicate with your friends and share your thoughts online, the Web 2.0 tool we used in the innovation was called Wakelet Curation Tool. Do you have any questions?

Thank you for taking the time to share your experiences of using RT embed in Web 2.0 tools during an integrated reading workshop. Your contribution to this research is appreciated.

Interview Questions

1. What experiences did you have while reading using RT?
 1. a. Could you provide examples?
2. What did you like most about using RT and the Wakelet Curation Tool, the Web 2.0 tool?
 2. a. What were some positive experiences?
 - 2.b. What were some negative experiences?
3. I call RT to embed in Web 2.0 tool the innovation. Did this innovation take away from your learning experiences?
 3. a. Could you please provide examples?
4. Would you prefer to read and answer comprehension questions using a Web 2.0 tool?
 4. a. Would you please provide examples?
5. How has using a Web 2.0 tool motivated you to learn?
 - 5.a. Would you please provide examples?
6. What was helpful to you while using RT and using the Web 2.0 tool to read and answer questions?
 - 6.a. Could you provide examples?
7. What was challenging to you while using RT and the website to read and answer questions?
 - 7.a. Could you provide examples?
8. What if any changes would you make to the innovation?
9. Would you recommend your teacher embed RT in a website for your new school year?
 9. a. Could you list some reasons?

APPENDIX Q

IN VIVO CODES

In Vivo Codes	Code Names
In vivo codes	<ul style="list-style-type: none"> ▪ a lot of steps ▪ able to read ▪ able to work in groups ▪ add flair ▪ able to work in groups ▪ added to my learning ▪ Americans have to stay be themselves ▪ answer questions on it ▪ answer questions ▪ arguing ▪ arguments get started ▪ being able to know ▪ but bad ▪ by myself ▪ caused the Great Depression ▪ caused trouble ▪ chances of working ▪ change my attitude ▪ clarifier found a word ▪ collaborate ▪ defending and supporting their country ▪ did not give them a chance ▪ different groups ▪ different people ▪ doing our jobs ▪ don't know why ▪ don't understand ▪ download the file ▪ erases the chance of you staring ▪ everybody was looking around ▪ find a way to ignore ▪ find evidence from the text ▪ find evidence ▪ Finds evidence ▪ finished ahead of time ▪ Fun ▪ getting in trouble ▪ go back and forth

In Vivo Codes	Code Names
In vivo code	<ul style="list-style-type: none"> ▪ go back in the paragraph to answer it ▪ good evidence ▪ Google has many tools ▪ ground vehicle used in wars ▪ group members can correct me ▪ had to spread out ▪ he has some evidence ▪ he made the Neutrality Acts of 1930 ▪ Help me to understand ▪ helped us to understand more ▪ highlight tool ▪ I also helped ▪ I analyzed ▪ I ask ▪ I asked questions to the (small) teacher ▪ I can work with anybody ▪ I can't get any help independently ▪ I can ▪ I could understand ▪ I don't know much ▪ I don't know ▪ I figured out the answer ▪ I found another chunk ▪ I found evidence ▪ I get stuck ▪ I have to wait ▪ I just used it ▪ I predict that ▪ I predicted stuff ▪ I say I'm going to lead the group ▪ I understood ▪ I was learning ▪ I would change ▪ I'm struggling ▪ Independence ▪ independent work I only know what I think ▪ instead of arguing ▪ interest me ▪ interesting to you ▪ internet was not working ▪ interrupting me ▪ just add ▪ keep on typing ▪ keep typing ▪ Kinds of arguments ▪ learn about summarizing ▪ learn new things ▪ learn new words ▪ learned new things ▪ let me take charge

In Vivo Codes	Code Names
	<ul style="list-style-type: none"> ▪ like easier ▪ love the Wakelet Curation Tool ▪ makes it worse ▪ making a text to world connection ▪ many tools ▪ more opportunities ▪ mostly questions and clarifying ▪ motivated me ▪ my way or those four ▪ no using books ▪ not change ▪ Not do group work ▪ not listening ▪ On the Wakelet Curation Tool ▪ one group ▪ one specific name ▪ opportunities to learn ▪ opportunity to go to a higher level ▪ paper and pencils ▪ people may prefer ▪ peoples thoughts and feelings ▪ played around ▪ possibly mean ▪ predict and write ▪ predicting ▪ quotes to persuade ▪ read a chapter book ▪ read a lot ▪ read the student's thinking ▪ says write something' ▪ see where it goes ▪ share ideas ▪ She used her own words ▪ she'll help us understand ▪ sign or symbol of the word ▪ so no one could have it ▪ split the students ▪ splitting the words ▪ staying by yourself ▪ student goes and types the evidence ▪ Student used summarizing ▪ summarizing was hard ▪ tell them about what we did ▪ tell them to leave ▪ the author can tell you more ▪ they find evidence ▪ they include me ▪ tie on ▪ tried summarizing ▪ try something new

In Vivo Codes	Code Names
	<ul style="list-style-type: none"> ▪ type my evidence ▪ type on the Wakelet Curation Tool ▪ typing ▪ understand how they ▪ understand more ▪ unique ▪ use different strategies to read ▪ use quotes to persuade me ▪ used tiny important parts ▪ using more strategies ▪ using the Wakelet Curation Tool ▪ wait for them ▪ Wakelet Curation Tool and answer it ▪ Wakelet Curation Tool is an opportunity to keep typing ▪ Wakelet Curation Tool is different ▪ Wakelet Curation Tool is easier than Google Doc ▪ Wakelet Curation Tool it shows you instructions ▪ Wakelet Curation Tool to get to things ▪ Wanted to learn ▪ we can answer questions ▪ we learn more ▪ we move on ▪ we predicted ▪ we read one paragraph ▪ we typed the evidence ▪ we use Google classroom ▪ what are you going to do ▪ working in a group ▪ working together ▪ working with you ▪ You can understand ▪ You get to write ▪ you had people to ask