The Effects of Socratic Method and Student-Led Discussion on Eighth Grade Students' Reading

Comprehension

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Abstract

The purpose of this study was to examine the effects of teacher-led and student-led Socratic discussion on reading comprehension scores of eighth grade students. The sample consisted of 11 females and 12 males who were enrolled in a Title I public school in East Tennessee. Data were collected using EasyCBM reading comprehension assessments. The tests were administered twice. The first test was administered after students engaged in teacher-led Socratic discussions; the second test was administered after students engaged in student-led Socratic discussions. The data were analyzed using a paired samples t-test. The results indicated that there was no significant difference between students' reading comprehension scores after engaging in teacher-led and student-led Socratic discussions (t(22) =-1.271. P>0.05). Two independent t-tests were also conducted in order to determine whether there was a difference between males and females' scores after engaging in the respective Socratic discussions. The results indicated that there was not a significant difference between males and females after teacher-led Socratic discussions (t (21) = 0.578, p>0.05). Likewise, the results for the third research question indicated that there was not a significant difference between males and females after student-led Socratic discussion (t (16) = - 1.77, p>0.05). The results suggest that more research should be conducted to determine the effects of teacher-led and student-led Socratic discussion.

Keywords: reading comprehension, student-led Socratic discussion, teacher-led Socratic discussion

Institutional Review Board Decision Tree

Based on your responses, you do not need approval from the IRB.

It looks like your study is exempt from IRB approval. You should have your study approved by the highest person in the department or area overseeing the targeted participants. For example, a campus-wide survey should be approved by the President, a student or faculty survey should be approved by the Academic Dean, and a survey specific to a certain major should be approved by the Area Chair.

Refer to 45 CFR 46.101(b)(5)

However, you should carefully review all procedures and questions to ensure that anonymity is protected especially in the case of institutional surveys where questions such as age, race and gender could be used to identify participants even if they are not asked for their names.

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Chapter 1

Introduction

The capability to read is no longer restricted to academia. It is an essential life skill.

Within reading there are two components: decoding and comprehending. Decoding is the ability

to make sense of, or recognize, printed words. Comprehension is the ability to make meaning

from those words, or more simply, the ability to understand. Unfortunately, many schools find

themselves battling readers who are not even capable of decoding a text; these schools tend to

ignore their average readers in order to aid the lower ones (Metzger, 1998). These students are

ultimately put at a disadvantage because comprehending a variety of complex texts is vital for

today's world. Nearly all exams and high-stakes tests require reading comprehension mastery

(state tests, ACT, SAT, GRE, LSAT, MCAT, etc.). The ability to comprehend, or understand, a

text is imperative for success in all facets of life. In order to fully understand a text, students

must be able to think at a higher level. Rather than passively reading a text, the students must

actively engage themselves with the text and think critically about it. The state standards for

English classes call for students to be proficient at reading and comprehending grade level texts

(Academic Standards, 2015). Eighth grade students have statistically performed poorly in

reading: 22% read at a below basic level; 42% read at a basic level; 32% read at a proficient

level; and a mere 4% read at an advanced level (Li, Murphy, Wang, Mason, Firetto, Wei, Chung,

2016). These statistics are not pretty.

One possible cause is that reading and comprehending are oftentimes misinterpreted to be

interchangeable. Many students believe "that if they have passed their eyes over the material,

they are finished" (Metzger, 1998, p. 240). Students are so accustomed to answers being black

and white, that they have a difficult time understanding that there can be multiple interpretations

or answers to a single question. Middle schoolers in particular view things literally, and tend to get frustrated when asked to reread or reassess a text or idea. The deeper meanings are lost to them because they have not taken the time to work with the text, and as a result have not fully comprehended the text. One way to combat this passiveness is through peer group discussion, which has long been identified as having a positive effect on comprehension (Shen, 2013). Discussion holds students accountable for conversing about the text in deep and meaningful ways. Bloom's entire taxonomy can be addressed through discussions surrounding a piece of literature. Students will be required to answer factual questions as well as make inferences and connections, which involve higher thinking. In a study conducted in the United Kingdom, Maine looked at the effects of text discussion in primary school. She found that students were much more likely to make personal connections to the text when they were having meaningful conversations about the text rather than being on the hunt for that illusive "right" answer. When students connect to what they are reading, they are more likely to understand what they have read (Maine, 2013).

Small group discussion, with the support of instruction, has been found to have a positive effect on comprehension (Shen, 2013). This idea is reinforced by Vygotsky, whose "socio-cultural learning theory promotes collaborative learning practices, recognizing that people learn from each other" (Honchell & Pittman, 2014, p. 119). The benefits of collaborative learning are tremendous. Students are able to see how their peers think; students negotiate new, or different, points of view; and students grapple with difficult concepts as a group. Students learn from one another. Struggling readers, in particular, benefit from peer discussion. During discussion, they are able to interact with the text as their more confident peers often do. These students are given a voice in the classroom that they might otherwise never have. They need not worry about

embarrassing themselves in front of the entire class and the teacher because they are in with a small group of peers, where they can feel at ease. A practice that is supported by social learning theory is the Socratic method. Socratic discussion is a form of discussion that encourages students to converse about a text or an idea presented to them. Socrates is the founder of the Socratic method. He used discussion in lieu of lecture in order to drive students to higher levels of thinking. Students are forced to think critically and deeply. Students' comprehension scores and abilities rise when working with their peers to divulge meaning.

Problem Statement

Reading comprehension abilities are vital to student academic and, eventually, career success. In order to reach all students, reading comprehension strategies need to be practiced. Students are given a voice in discussions. This offers them an opportunity to become fully engaged with a text, and additionally, practice analyzing a text to gain deeper understanding. The problem of this study was to determine whether Socratic, teacher-led discussion or student-led discussion will improve reading comprehension more in an eighth-grade English class over a nine-week period.

Purpose Statement

The purpose of this study was to investigate and contrast the effects of teacher-led Socratic discussion and student-led discussion on reading comprehension scores in eighth grade students.

Significance

Eighth grade is a pivotal period for many students. After eighth grade, students will move on to high school. Their success in high school often determines the trajectory of their lives. An eighth grade teacher has an important role in preparing his or her students for that next step.

Eighth grade standards require students to be able to read, comprehend, and analyze a variety of complex texts. For many young readers, these texts are illusive. The vocabulary is beyond their understanding, and the concepts reside out of their reach. Many students do not believe that texts have anything to do with their own lives. Less than fifty percent of eighth graders are reading at a proficient level (Li, Murphy, Wang, Mason, Firetto, Wei, Chung, 2016). When discussion is implemented in instruction, however, the texts come alive to students. They are able to interact with each other and the text simultaneously. Discussion allows students to receive immediate feedback from their peers; and it gives students who do not regularly participate for fear of being wrong an opportunity to have a voice in the classroom. This study will focus on one particular group of students. The sample of eighth graders will be taken from a rural, Title I school in East Tennessee. Literacy is a major focus of administrators in these schools, as gaps are continuing to grow. It is imperative to reach eighth graders before they leap into high school, and therefore, the best form of instruction must be determined to lower these gaps.

It is important for not only English teachers, but all educators, to know which type of instruction improves students' comprehension at a higher rate. Our practices cannot only comply with our preferred style, they must be data-driven for student gains. Reading comprehension is the most important skill a student should learn to succeed in life. All courses require some form of reading comprehension in order to succeed, as do all tests. Reading comprehension carries on beyond school, and therefore, is an important life skill that must be addressed.

Limitation

This study has a limitation that needs to be disclosed:

1. The sample was not randomly selected and therefore results cannot be generalized to their populations.

Definitions

- Reading comprehension – the ability to critically and deeply understand and make meaning from a text.

- Assessment – a twenty question test based on a text; created by EasyCBM in Eugene, Oregon.

- Socratic, Teacher-led discussion – as a whole class, students respond to questions asked by the teacher to the teacher. The teacher controls the dialogue.

- Student-led discussion - in a small group, students respond to questions provided by the teacher on a handout to one another. Students lead the dialogue with the teacher as facilitator.

Overview

This study contains five chapters. Chapter one has the introduction, problem statement, purpose statement, significance, limitations, definitions, and overview of study. Chapter two contains the review of literature. Chapter three covers methodology and procedures, population, sample, data collections instruments, procedures, and research questions and their related hypotheses. Chapter four includes data analysis, collection of data, and research questions and their related hypotheses. Chapter five includes the summary of findings, conclusions, recommendations, and implications of this study.

Chapter 2

Review of the Literature

Human beings define their world through language. Words encompass all understanding. The ability to comprehend texts, which are comprised of language, is imperative to survive today's world. The art of reading is fairly new; human beings did not begin to read until about 5,500 years ago (Wolf, 2009). Unfortunately, reading comprehension can be one of the toughest things to teach a student or individual. There is not a direct, simple pattern to follow in dissecting texts; there is not one way to define a word; there is not a single way to interpret a phrase; there are not just denotations, but connotations as well. Language has nuances, and its meaning can be affected by an individual's experiences or understanding. This makes it difficult to teach reading comprehension, especially to young students who tend to think literally. The lower grades are where the foundation is laid for literacy. When students get behind in reading, it becomes challenging for them to catch up when they are expected to read increasingly arduous texts. Despite the importance of language and literacy, the United States still struggles in literacy. Tennessee, in particular, struggles with less than fifty percent of third and fourth graders in the state reading on grade level. These students rarely catch up to their peers; and research indicates that these students are four times less likely to graduate from high school (http://tn.gov/readtobeready/section/why-read-to-be-ready).

Standardized tests reflect the value of reading comprehension; every single standardized assessment has a reading section (ACT, SAT, LSAT, GRE, MCAT, state assessments, etc). In addition, students must be able to comprehend the language used in all questions in every test section. Assessments like ACT Aspire require students to read texts and respond to questions in sentence format on science and math sections (Aspire, n.d.). To succeed in academics, to succeed

in the job market, and to succeed in life, one has to be able to comprehend a variety of texts. In our current culture, the ability to read "carries many human benefits, including self-esteem and empowerment" (TN ELA standards, 2015). Tennessee state standards address speaking and listening skills in English language arts. The first standard within speaking and listening is comprehension and collaboration. The standard states that students should: "Prepare for and participate effectively in a range of conversations and collaborations with varied partners, building on others' ideas and expressing their own clearly and persuasively" (TN ELA standards, 2015). With state education policies recognizing the staggering deficits within literacy, educators have an increasing responsibility to help and encourage students to improve their comprehension skills.

How are educators to accomplish this? Research has indicated that discussion aids in students' ability to understand what they are reading and it shows overall improvement in their comprehension skills and capabilities. Socratic discussion, in particular, allows students to converse with their peers and their teacher about the text at hand. Implementing Socratic discussion in the classroom has the potential increase students' reading capabilities and therefore address the United States' issues with literacy and comprehension. Socratic discussion has proven itself to be a practice that increases students' thinking capabilities. The following literature review considers the existing research, theories, and possible effects regarding these topics.

Reading

Comprehension is not an easy skill to teach; it is comprised of a rather complex integration of skills developed over a student's academic career. It can be defined as a mutual understanding between reader and writer, mediated by the text. The reader relates prior

knowledge to the current text; and the reader must have knowledge of vocabulary, domain and topic, and discourse and genre (Nystrand, 2006). Students must be able to make inferences, evaluations, and analyses when reading an argumentative, persuasive, informational, or narrative text. There are four components involved in reading comprehension as defined by Graves: "fostering learning from text, nurturing response to literature, teaching comprehension strategies, [and] promoting higher thinking" (Graves, 2008, p. 37).

In a 2012 study by Reardon, Valentino, and Shores, the researchers looked at the United States' achievement in reading and literacy from the past four decades. They began by defining the differences between reading, which is elementary fluency and decoding, and comprehension, which they defined as "integrating background knowledge and contextual information to make sense of a text" (Reardon, 2012, p. 17). Their comprehensive findings revealed that most third-grade students are capable of reading, but a mere one-third of middle grades students are capable of comprehending a text. Only three percent of eighth graders scored at the "advanced" level, which shows that they are capable of critically thinking about a text. State standards build upon each other; and each grade level standard applies to that grade level's texts, not a lower grade's text. If a student has not mastered a reading standard in the previous grade, he or she will not be successful in mastering the current grade level's standard. If not addressed properly, a student could pass through many grades without ever performing at an appropriate level. Since it is the mission of public education to ready students for higher education or the work force, these issues should be tackled.

The middle grades are the link between basic decoding ability and complex thinking skills. This is the time in which students are expected to be able to merge foundational skills with increased reading capabilities (English, 2016). Comparatively, U.S. students are not very far

behind other developed countries in literacy; but it is in the middle grades that U.S. students fall behind (Reardon, 2012). Middle school is an important time for students. In these short years, they transition from elementary to high school, where they will prepare for college, an advanced degree, or the workforce. Connecting elementary concepts with higher order thinking skills is vital to their success in high school. This is the time students should be offered meaningful practice in order to master these important skills (TN ELA standards, 2015).

Social Learning Theory

As cited in Mnguni (1998), Paolo Freire describes understanding as the essence of dialogue. Education is realized through conversation, and serves as a means to obtain freedom within one's culture. Freedom from oppression arises through procurement of the Word, which is much more than mere recitation and memorization; it also incorporates insightful, deep thought processes (Mnguni, 1998). Booker T. Washington, likewise, believed that education was emancipation. For Washington, education was a way of mentally freeing oneself from life's tragedies and a way to climb the economic ladder. Once freed from slavery, Washington taught others like him. His main purpose was to teach his people how to become self-reliant and critical thinkers. Great people, not books, were the ultimate educators according to him. Learning by example and by exposure to others was how he believed his race would learn best at the time; and it was Washington's hope that those he taught would go on to open a dialogue with and teach others (Washington, 1968). Freire also emphasized that the major way to acquire knowledge, or the Word, is dialogue between teacher and student (Mnguni, 1998).

Vygotsky developed social learning theory. In his understanding, interaction with others paves the way for cognition. Eventually this learning transfers into the individual's mind. All development occurs first at the social level before the individual. Words and ways of thinking are

learned through interaction with others. From this perspective, learning occurs during collaboration, interaction, and negotiation (Scott, 2013). As students work together in various ways, they begin to internalize the new strategies gained through working with one another. When students work with one another they introduce new understandings and belief systems unknown to them; this therefore stretches their knowledge of the world and the various ways to navigate it. His theory of sociogenesis makes the claim that students' cognitive growth is more viable when students are "required to explain, elaborate, or defend one's position to others" (Vygotsky, 1978, p. 158). When they search for an explanation, they are capable of interlacing information and past knowledge in new ways. Speech is used to explore ideas rather than seek teacher approval with a "right" answer (Smagorinsky, 2013). The goal of Vygotsky's sociocultural theory's teaching methods is to have students talk and interact with one another to make meaning. Teachers mediate student discussion by putting the students within appropriate context of the society they are being introduced into.

Vygotsky and Bandura are both theorists who view learning as a social process. Bandura claims that all learning begins through social interaction and interaction with one's culture; and later this learning transitions to the individual. Social interaction is needed to help students' understanding of knowledge or mastery of a skill. Bandura stated that humans learn through direct experience or observations of others. In life, humans are confronted with many experiences in which they must act one way or another. They learn, then, from success or failure in these instances. They also learn from being confronted with new information or experiences. Complex activities are best taught through example, also known as modeling. Bandura gives the example of speech. If a child were never exposed to vernacular, he or she would never learn linguistic skills that constitute a language. Those who perform well serve as the best models

(Bandura, 1977). Based on the previous theories, students learn from working with others. A teaching method that lends itself to peer discourse is the Socratic method.

Socratic Discussion as a Social Learning Practice

Philosophers such as Socrates were concerned with seeking Truth. Part of his philosophy discussed the acquisition of Truth. How do we, as human beings, come to know? His answer dealt with the roles of educators and students. He then asked what is the best process of bringing students to the light? Socrates believed that the teacher is the holder of the light, or truth, and the students were illuminated by the teacher. His philosophy of knowledge was that everyone already knew everything they would ever know, it just had to be revealed to him or her. It is similar to entering a dark world, with trees and creatures already present that are yet unknown. A shining light is needed in order for the individual to see and understand. The teacher's role is a light-shiner. The teacher does not spout out his or her own knowledge to passive students, who mindlessly absorb knowledge, but probes the students with questions. Students come to conclusions on their own; they realize their own truths and examine the reasons they think they way they do (Aubrey, 2016).

The Socratic method was never called such by him, but this open-ended questioning method has been attributed to Socrates due to his writings. This is a constructivist method because classmates work together to construct meaning. Socratic discussion is a social process in and of itself. Students work together to come to a consensus in a social environment with rules and regulations set in place. With this practice, there are three elements: systematic questioning, inductive reasoning, and universal definitions. There is no memorization and there are no lectures. Lectures prove inadequate at addressing the thought processes behind an idea or fact. There is no thinking on the students' part in this classroom environment. They passively absorb

what is spoken to them. Socrates believed that students should be actively involved in their own learning; their morals and understanding of certain concepts should be challenged in order to make them think critically. This method is constructivist in that it is an active discovery or reinvention of knowledge. Students are led by one another to draw new conclusions or make new connections. The class works together with the guidance of a teacher to construct meaning from a given text (Golding, 2011). It is an interactive learning environment, where students converse with each other and with the teacher. Everyone is involved and contributes their own feeling and thoughts to the discussion. Though the students are highly involved in the discussion, the teacher ultimately facilitates the discourse. Typically, there is a predetermined course in mind in order to lead the students to the truth of the matter. Students come to the conclusions on their own this way. In typical Socratic classrooms, the questions are not simple. There is no definitive right or wrong answer. If conclusions were easy to reach, the discussion would be over quickly and would not illuminate much to the learners. Open-ended questions are best for fostering a favorable environment for Socratic discussion. Students are made uncomfortable; but this is the state in which learning occurs (Overhosler, 1992).

　　　　Socratic discussion has been a common practice in education since ancient Greece; and it is still utilized today by a number of teachers in a variety of ways. Testing others' knowledge through repeated questioning is a common thread within education. Law professors, in particular, are notorious for their terrifying and intimidating use of the Socratic method. Despite its terrifying reputation, this method has proven itself as a meaningful way to teach critical thinking and logical reasoning (Oyler, 2014). Lawyers are essentially professional readers and critical thinkers; Socratic questioning, therefore, helps prepare law students to constantly question presented information and to thoughtfully respond to a question asked of them.

Law professors are not the only ones who utilize Socratic discussion in their classrooms. Elementary teachers make use of it as well; and teachers from many subject areas find success with Socratic discussion sessions in their classrooms. There is no one way in which Socratic discussion has been used. Teachers put their own spin on the method for their own needs. One way is to create two circles in your classroom, sometimes referred to as "Socratic circles" (Dean, 2016). The inner circle discusses, while the outer circle takes notes and locates textual evidence that could be used during their discussion time. Halfway through the class, they switch; and the other students have a turn at speaking (Alfonsi, 2008). Other teachers decide to have the outer circle focus on providing feedback to the inner circle. They do not focus on the content of the discussion, but the behaviors they observed in their classmates. There are two types of Socratic seminar educators: the controller and the hands-free. The controller is very involved in the discussion as a facilitator to ensure students stay on topic. The hands-free educator remains an observer throughout the discussion. These educators are more concerned with the journey and the discoveries their students make in learning (Byrne, 2011).

It cannot be expected for students to understand how to discuss a text or concept right away. Time needs to be taken to discuss what makes a good discussion with students. Though students spend much of their school days yearning to speak to one another, they are not accustomed to speaking with one another in an academic setting. Students are accustomed to responding in class with the idea of there being either a right or wrong answer. Rules and procedures need to be taught before discussion begins. Awkward silences are to be expected at first, and students should be aware that this is normal. Students must reason through their understanding to seek the truth. It takes time for students to become comfortable with this kind of academic discussion with peers, rather than responding to a teacher (Newstreet, 2008).

Critical thinking skills are fostered and strengthened during these discussions (Newstreet, 2008). Teachers who mistake recitation from textbooks as the best pedagogy are mistaken; in their classrooms, the environment is one of showing off knowledge rather than one of nurturing learning (Nystrand, 2006). Students are more likely to be engaged in discussion when they feel that their input is being built upon rather than evaluated (Hulan, 2010). English language arts courses, which center on complex ideas and language, were found in 1997 to have 85% of instruction as lecture, recitation, and seat work (Nystrand, 2006). Despite findings that a majority of students find discussion helpful in understanding concepts, only 33% of English language arts teachers take the time to facilitate discussions during class time (Nystrand, 2006). Classroom discourse has proven to be highly effective in comparison with typical classroom lecture, seatwork, and recitation settings. Students recall information from the text skillfully, they respond better to aesthetic elements of literature, and understand their readings at a deeper level (Nystrand, 2006). Aligning with Vygotsky's theory of expressive use, meaning is found to be comprehended through active discussion of the text at hand. Along with comprehension gains, teachers see improvements in speaking and listening, which are both curriculum standards (Alfonsi, 2008; TN standards, 2015). Students with learning disabilities are given a voice in the classroom, and those who speak often learn how to control their tongue (Alfonsi, 2008). By working through a text with peers, students gain skills, deeper understanding, and social skills.

Studies regarding Socratic Discussion

In a study by Nancy Hulan, discussion patterns within teacher facilitated and student facilitated discussion groups were monitored. Three groups of third graders were observed for ten weeks. Field observations, student surveys, and teacher interviews were conducted to get a full picture of the events of the study. Hulan observed the amount of reports, connections,

elaborations, evaluations, and clarifications made by students in the teacher's absence and presence. In the teacher's presence, students were more likely to use a variety of responses than they were in her absence. Students did use high cognitive responses while with their peers, but they relied heavily on certain responses (Hulan, 2010). A similar study conducted by Polite and Adams observed the use of Socratic seminars in Chattanooga middle schools. Their data were collected through interviews with the teachers, student surveys, and official documents. They found that Socratic seminars were successful at increasing cognitive and social functioning of middle grades students. They recommended, however, that educators ensure they choose texts that relate to their students. Students stated that the best topics discussed were the ones they could relate to personally (Polite, 1996).

Socratic discussion has been found to have a positive effect on argumentative literacy practices in the classroom (Brown, 2016). Brown watched a filmed discussion and collected her data from that by evaluating the type of contributions each student made and the flow of the discussion. She noticed presentation talk began the discussion, where students made a claim directly supported by the text. Other students added to that support from other findings from the text. Then a student contributed an idea from his own point of view, which Brown notes, begins exploratory talk. This is the first time a differing perspective has been offered. This is the counterclaim. Brown states that "I believe" and "I think" statements fall under exploratory talk, which opens discussion up. This is a process of exploring whether the previously made claim is valid or not. Argumentative practices such as claims, evaluations of validity, and counter claims occur in these discussions. Students seek to make sense of each other in order to divulge meaning and evaluate the statement made. Brown noticed that eventually in the discussion students began working together through questioning to come to an understanding. She

concluded that Socratic discussion had a very significant effect on students' formal

understanding of discourse (Brown, 2016).

Critical thinking, a major component of reading comprehension, leads to interpretation,

evaluation, analysis, evaluation, and inference. In a meta-analysis performed by Abrami et.al, the

impact of certain instructions on students' critical thinking capabilities and achievement were

observed. Discussion and the opportunities for dialogue were found to be the most effective on

students' achievement and critical thinking skills (Abrami et.al, 2015). Another fourteen-week

study found similar results. Hayes and Devitt confirmed that critical thinking is improved

through discussion. Other factors noted to improve critical thinking are humor, teacher attitude,

and student attitude and motivation (Hayes, 2008). The process they observed was a discussion

and peer feedback cycle. A professor would give a discussion topic, and students would break

into groups. One discussion group would discuss, and then afterwards review their dialogue with

the class. The class would then offer feedback, and would challenge any idea they disagreed

with. The students were tested using ACT-CAAP test, which is a critical thinking test. Through

statistical analysis of the data, the researchers came to the conclusion that discussion had a

significant (<.05) impact on critical thinking skills.

Effects of Low Literacy

The current state of literacy in the United States is frightening. It is especially devastating

for those students who come out of thirteen years of free education without a diploma or without

the ability to comprehend texts. In order for the U.S. to perform better economically, the citizens

need to be literate. Likewise, in order for the government to run properly the citizens who are

casting the ballots must be literate and critical thinkers (Reardon, 2012). The average reading

score on the ACT in 2015 was a 21.4, which is .6 away from the benchmark determined by ACT

researchers ("Condition," 2015). ACT performance dictates whether a student gets scholarships and it influences college acceptance. Forty-two percent of students fail to achieve a basic level of reading comprehension in the United States (Scott, 2013). States, such as Tennessee, have set ACT achievement goals for their students. Tennessee offers the Hope scholarship as an incentive to do well on the ACT. Their goal is for every student in the state of Tennessee to take the ACT and make an average composite score of 21. They would like for the majority of students to earn an advanced degree by 2020 (Strategic Plan, 2015).

With reading ability linked as an indicator of high school graduation, a lot is at stake for these individuals. As Washington realized, education provides opportunity. Individuals with higher education have an increased ability to move up the social ladder. With higher education comes raises and promotions. These individuals are more likely to have high job satisfaction; and they receive better benefits. Research posits that college graduates live healthier lifestyles, have better benefits, are capable of spending more time with their children, and are more likely to be employed (Baum, 2013). A student with an advanced degree makes an average of $21,100 to $56,500 more than those who merely obtain a high school diploma; and those with some college education make 14% more than those who have zero college experience. Those with a master's degree earn 90% more than high school graduates who work full-time. Individuals who never earn a high school diploma or high school equivalent make an average of $25,000 less than those who have graduated high school. That is an astonishing $46,100 to $81,500 less than those who have obtained an advanced degree (Baum, 2013). The percentage of workers feeling content in their work decreases the less education an individual has (Baum, 2013).

The economy is not the only aspect of society that is affected by low literacy rates. Research shows that students who have received a degree in higher education are more likely to

be full-time members of the labor force who substantially contribute to the economy rather than rely on government programs. These individuals are more likely to volunteer with local or national organizations, and therefore improve the overall community. They are also more likely to understand politics and political issues, and therefore make thoughtful votes. These individuals pay more taxes, again benefitting the economy. And because individuals with an advanced degree are more likely to live a healthy lifestyle, there is a decrease in medical costs for society as a whole (Baum, 2013).

For the livelihood of students and of the United States, efforts must be made in the classroom in order to remedy low literacy and reading comprehension rates. In an information-imbued world, the ability to comprehend and critically analyze an argument, an article, a narrative, and information grows increasingly important for themselves and for the nation. After schooling, students can evade most subjects. The ability to read and comprehend what they have read, on the other hand, is essential for basic survival. Daily life requires human beings to read from the moment they wake up to the moment they go to bed. It is the duty of school systems to ensure that each and every individual, upon high school graduation, has accomplished and mastered skills that will lead to their success in whatever path they choose to walk afterwards.

Conclusion

This literature review looks at the topics related to reading comprehension, theories that relate to social learning, Socratic discussion, and the effects of low literacy rates. When spoken to, rather than with, students have a difficult time understanding complex concepts. Human beings are creatures who learn from one another, because humans are social beings. Theorists such as Vygotsky and Bandura recognized this in social learning theory. Broadening a student's understanding is not likely unless he or she is to be exposed to altering perspectives and thought

processes through dialogue. When working together, students are able to reason with questions and clarifications to reach a conclusion. Socrates, similarly, thought it best for students to reach their own conclusions with collaboration in order to reason, analyze, and evaluate. Higher level thinking is linked to reading comprehension in that reading comprehension requires a student to use multiple skills and thought processes at once. To develop stronger reading skills, students need to be forced to think at a higher level. Comprehending difficult texts and unfamiliar texts requires students to think at a much higher level and to incorporate multiple skills simultaneously (Abrami et.al, 2015).

Lecturing has been found to not be a sufficient way to teach the complex skill that is reading comprehension. Allowing students to enter into a Socratic seminar gives them the opportunity to reevaluate their current thought processes, draw on background knowledge and knowledge drawn from the text, and be exposed to differing thought processes and ideas. Opportunities for students to enter into academic dialogue is getting them to inherently practice higher order thinking skills, such as critical thinking, that contribute to reading comprehension achievement. Educators who implement this practice observe positive results in their own and in others' classrooms. Making Socratic discussion a common practice in English language arts classrooms will make students excited, thoughtful, and critical readers. Together, students make significant meaning through Socratic discussion (Abrami et.al, 2015).

Chapter 3

Methodology and Procedures

Based on the previous review on literature regarding the implementation of Socratic discussion in English classrooms, research was conducted at a small, rural school in Northeast Tennessee to compare the effects of Socratic teacher and student led discussion on reading comprehension. Scores were compared across the experimental and control groups. This chapter contains five sections: population, sample, data collection instruments, procedure, and research questions.

Population

This research was conducted in a small, rural Title I public school in Northeast Tennessee. The school hosts grades K-8. There are 631 students enrolled. Ninety-four percent are white, and three percent were African American. Thirty-nine percent of the 631 students were economically disadvantaged, and 9.8% were students with disabilities. Since this was a Title I school, a large number of students were on free, or reduced, lunch.

Sample

The sample for this study consisted of one eighth grade class, 8B. This class contained twenty-three students. Eleven were female, and twelve were male. There were two gifted students in this class; and two were in Tier II, and one was in Tier III. Grouped comparatively, eight were in the high end of Tier I; eleven were in the middle of Tier I; and three were in the low end of Tier I. 100% of the students in this class were white. This class was not randomly selected.

Data Collection Instruments

Data were collected using posttest scores through EasyCBM reading comprehension assessments. The sample was used as both experimental and control group. During the experimental period, students were taught a unit using Socratic teacher-led discussions. At the end of the unit, the students were assessed and the scores were recorded. The second unit, the students were taught using Socratic student-led discussion. At the end of the second unit, students were administered a test. Both units taught were equivalent in comprehension and difficulty. When all data were gathered, analysis was made.

Procedures

Before the study commenced, permission was sought from the Milligan College Institutional Review Board (IRB). Permission was also sought from the principal of the school where the study was done. When all permission was granted, the sample was selected. The sample consisted of an eighth grade class (8B), and had twenty-five students in total. After selection of the sample, the study was implemented. Two units of study were selected for learning. Both units were equivalent in difficulty and comprehension. The sample was used as both control and experimental.

Research Questions and Related Hypotheses

Research Question #1: Is there a difference between students' reading comprehension achievement when taught using Socratic discussion and when taught using student-led discussion?

Research Hypothesis #1: There is a difference between students' reading comprehension achievement when taught using Socratic discussion and when taught using student-led discussion.

Null Hypothesis #1: There is no difference between students' reading comprehension

achievement when taught using Socratic discussion and when taught using student-led

discussion.

Research Question #2: Is there a difference between genders when taught using teacher-led

Socratic discussion?

Research Hypothesis #2: There is a difference between genders when taught using

teacher-led Socratic discussion.

Null Hypothesis #2: There is no difference between genders when taught using teacher-

led Socratic discussion.

Research Question #3: Is there a difference between genders when taught using student-led

Socratic discussion?

Research Hypothesis #3: There is a difference between genders when taught using

student-led Socratic discussion.

Null Hypothesis #3: There is no difference between genders when taught using student-

led Socratic discussion.

Chapter 4

Data Analysis

The purpose of this study was to determine the effects of Socratic discussion--- teacher-led and student-led--- on eighth grade students' reading comprehension. The study was conducted at a K-8 public, Title I school in Northeast Tennessee. Reading comprehension was measured using EasyCBM reading comprehension common core assessments. This chapter relates to the data analysis and organization.

Collection of Data

The data were collected from a single eighth grade English class. The sample consisted of twenty-three students. These twenty-three students took two EasyCBM reading comprehension assessments. Chapter five of The Call of the Wild was used during teacher-led discussions, and chapter six of the same novel was used during student-led discussions. The students read each chapter and answered discussion questions. After chapter five discussions were complete, a test was administered and scores were registered. Chapter six was then read, questions were answered, and student-led discussions began. After chapter six discussions were complete, a test was administered. The results of the two tests were compared. The demographic profile of the students is shown in Table 1.

Table 1

Demographic Profile of Students

Group	N	Frequency (f)	Percent (%)
ELA Class			
Male	12	12	52.20
Female	11	11	47.80
Total	23	23	100.00

Research Questions and Related Hypotheses

Three research questions and three research hypotheses guided the analysis of data.

Research Question #1: Is there a difference between students' reading comprehension

achievement when taught using Socratic discussion and when taught using student-led

discussion?

Research Hypothesis #1: There is a difference between students' reading comprehension

achievement when taught using Socratic discussion and when taught using student-led

discussion.

A paired samples t-test was calculated comparing the mean scores of teacher-led and

student-led discussions. The mean score for teacher-led discussions was 72.61, and the mean

score for student-led discussions was 75.87. The results indicated no significant difference

between means (t(22) =-1.271. P>0.05). The null hypothesis was retained. The results are

displayed in Table 2.

Table 2

Paired Samples t-test for Teacher-Led and Student-Led Scores

Method	M	df	Sd	t-value	2-tailed Sig
Teacher-Led	72.61	22	9.75	-1.271	.217
Student-Led	75.87		12.76		

Research Question #2: Is there a difference between genders when taught using teacher-led

Socratic discussion?

Research Hypothesis #2: There is a difference between genders when taught using teacher-led

Socratic discussion.

In order to answer the second research question, an independent t-test was conducted

analyzing if a difference existed between males and females when taught using teacher-led

Socratic discussion. The mean score for males was 73.75, and the mean score for females was

71.36. The Levene's test indicated that variances were not assumed equal (F = .001, P = .977).

The results indicated no significant results (t (21) = 0.578, p>0.05). The null hypothesis was

retained. The results are shown in Table 3.

Table 3

Independent t-test for Gender and Teacher-Led Discussion

Gender	N	Mean	Std. Deviation	t	df	sig.
Male	12	73.75	10.028	.578	20.911	.570
Female	11	71.36	9.770			

Research Question #3: Is there a difference between genders when taught using student-led Socratic discussion?

Research Hypothesis #3: There is a difference between genders when taught using student-led Socratic discussion.

In order to answer the third research question, an independent t-test was conducted analyzing if a difference existed between males and females when taught using student-led Socratic discussion. The mean score for males was 71.87, and the mean score for females was 80.45. The Levene's test indicated that variances were assumed equal ($F = 4.878$, $P = .03$). The results indicated no significant results ($t (16) = -1.77$, $p > 0.05$). The null hypothesis was retained. The results are shown in Table 4.

Table 4

Independent t-test for Gender and Student-Led Discussion

Gender	N	Mean	Std. Deviation	t	df	sig.
Male	12	71.67	15.275	-1.77	16.387	.095
Female	11	80.45	7.568			

Chapter 5

Summary of Findings, Recommendations, and Implications

This chapter contains a summary of findings, recommendations, and implications of the research conducted to determine the effects of using teacher-led Socratic discussion in an eighth-grade English class compared to using student-led Socratic discussion.

Summary of Findings

In regard to Research Question #1, "Is there a difference between students' reading comprehension achievement when taught using Socratic discussion and when taught using student-led discussion?" a dependent t-test revealed an insignificant difference between teacher-led Socratic discussion and student-led Socratic discussion ($t(22) = -1.271$. $P > 0.05$). As a result, the null hypothesis was retained.

All students initially were involved in teacher-led Socratic discussion. Student-led discussions were conducted later. These discussions occurred every other day for thirty minutes over a two month period. The text covered for both types of discussion was Jack London's *The Call of the Wild*. The students were aware that a transition from teacher involvement to solely student involvement occurred.

Students had a difficult time involving themselves in the discussion. Many tried to rely on a few students to answer the questions. During teacher-led discussions, some of this was allayed. Discussions were much more forced during student-led discussion. If the experimental period would have lasted for a longer period of time, the students probably would have become more comfortable with the process (Newstreet, 2008). This comfort would inspire confidence, and more students would be likely to be involved. Students were prone to think that there was

only one correct answer to a question, despite the teacher's reminders that this was not the case. Once a student whom the others deemed smart would give a response, students believed the question was sufficiently answered and would move on. This is, in fact, a lack of discussion; and this could be attributed to students' previous understanding of questions: that they are always "right or wrong" and that there is always a single correct answer.

Another possible reason for the results is illness. During the student-led Socratic discussion period, many students were absent for several days due to the flu. The school system eventually cancelled school for three days in order to allow students and teachers to get well. This cancellation took three days away from the student-led Socratic discussion period, which could have affected the results of this study.

In regard to Research Question #2, "Is there a difference between genders when taught using teacher-led Socratic discussion?" the results indicated an insignificant difference between the genders when using teacher-led Socratic discussion (t (21) = 0.578, p>0.05). As a result, the null hypothesis was retained.

Very few students contributed regularly without prompting. The majority of students who willingly participated in the discussion were male (four); two female students contributed regularly. All of these students, save one, are high performing students. Since the teacher was in control of discussions, she was able to call on students in order to get everyone to participate. Discussion only flowed naturally when students contributed without prompting. This could have had an effect on the outcome of this test.

In regard to Research Question #3, "Is there a difference between genders when taught using student-led Socratic discussion?" the results indicated an insignificant difference between

the genders when using student-led Socratic discussion (t (16) = -1.77, p>0.05).As a result, the null hypothesis was retained.

When the teacher was no longer actively involved in discussions, a trend developed. Those few students who wished to contribute during teacher-led Socratic discussions monopolized the student-led Socratic discussions; and though they frequently asked for others' responses, the same few were the ones who ultimately answered. Again, of the few contributors, male students were the ones who were more apt to contribute to discussions. Only a few female students regularly spoke. This could have had an effect on the results of this test.

Conclusions

The purpose of this study was to determine and compare the effects of teacher-led Socratic discussion and student-led Socratic discussion on reading comprehension in an eighth-grade English Language Arts classroom. A paired t-test was conducted. It indicated that there was no significant difference between the two types of Socratic discussion. Two independent t-tests were conducted in order to determine if there were any difference between genders with the two types of discussion. Both tests indicated that there was no significant difference between the genders during either discussion types. Therefore, one can infer that neither type of Socratic discussion is better than the other and that neither gender performs better than the other after either discussion type.

Recommendations

1. This study should be conducted over a longer period of time. More time would allow the students to become more comfortable and more confident with the process of discussions (Newstreet, 2008).

2. This study should be repeated with a larger sample population. This would validate the results.

3. This study should be repeated using another test, such as STAR360, in order to gain a better understanding of students' comprehension.

4. More research should be conducted to determine if there is a difference between the two types of Socratic discussion.

Implications

Students in the United States and Tennessee in particular struggle with reading comprehension, which is a skill that is *imperative* for future success (Reardon, 2012). Other research indicates that Socratic discussion builds students' reading comprehension skills (Hulan, 2010; Polite, 1996; Brown, 2016; Abrami et.al, 2015; Hayes, 2008). However, there are a limited number of tests that have studied the differences between teacher-led and student-led Socratic discussion. The implications of this study are as follows:

1. Students expressed to their teacher that they did enjoy the practice, so teachers should continue to use Socratic discussion in the classroom; the type of study can be chosen based on teacher preference until further studies are conducted.

2. There is no significant difference between teacher-led Socratic discussion and student-led Socratic discussion; so the type of discussion used in the classroom can be based on teacher preference.

3. Neither males nor females perform better than the other on reading comprehension assessments after participating in teacher-led Socratic discussions; so using teacher-led Socratic discussions will not affect male or female scores differently.

4. Neither males nor females perform better than the other on reading comprehension assessments after participating in student-led Socratic discussions; so student-led Socratic discussion will not affect male or female scores differently.

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