

2019

# High School Teachers' Perceptions of Developing Critical Thinkers via the Socratic Method

Melissa Gilbert Edwards  
*Walden University*

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# Walden University

College of Education

This is to certify that the doctoral study by

Melissa Edwards

has been found to be complete and satisfactory in all respects,  
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the review committee have been made.

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2019

Abstract

High School Teachers' Perceptions of Developing Critical Thinkers via the Socratic

Method

by

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Ed. S., Walden University, 2011

M.Ed., North Carolina State University, 2007

BS, North Carolina State University, 2002

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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## Abstract

A global concern exists regarding the lack of critical thinking skills in young adults and college graduates. Fortune 500 companies have reported the need for better development of critical thinking and problem-solving skills to prepare employees to be successful in the workplace. This study focused on teacher perceptions of the Socratic method (SM) in developing critical thinking skills in high school students. The purpose of this descriptive qualitative case study was to describe high school teachers' perceptions regarding the development of critical thinkers via the Socratic method. Jean Piaget's theory of cognitive development was used in this qualitative study to explore perceptions of 7 teachers. The central research question and subquestions that guided this study were focused on teachers' perceptions of the SM and its effectiveness in developing critical thinking skills in high school students. Data were collected with face-to-face interviews with 7 teachers and classroom observations. Data were recorded via a systematic approach with chart and diagrams. Themes, patterns, and any identified relationships were categorized and coded to comprise data tracking. Results indicated that a lack of professional development, teacher comfort level, and student participation all played a role in low SM execution. The resulting project was designed to provide teachers with materials and learning opportunities to increase their SM skill level and stimulate teachers to use their new knowledge to increase critical thinking skills in high school students. The online professional development course evaluation provided both summative and formative assessments. The project contributes to social change by helping improve the way teachers teach and students learn the SM, which may result in improved critical thinking skills in students.

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## Dedication

I dedicate this work to my children, Eli and Della Rae. You have enriched my life with love, joy, and wonder beyond my wildest dreams. May you never stop learning. May you never stop choosing joy. May you never stop wondering.

## Acknowledgments

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To my tribe, my people, my chosen family: I'd be lost without your love, positivity, laughter, friendship, and encouragement. Never question the impact you've had on my life. You know who you are.

To my parents, I was one lucky little girl to grow up surrounded by love, laughter, and hard work. Your unwavering faith in me has motivated me on the hard days and made this process a bit easier. Thanks for all the things I saw when you thought I wasn't looking. I love you both.

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## Section 1: The Problem

### **The Local Problem**

The observation of the American philosopher Alfred North Whitehead indicated that the entire European philosophical tradition was made up of a series of footnotes to Plato, which underscores the intellectual indebtedness of the West to Socrates' most distinguished pupil. The author emphasized that Plato's classic dialogues served posterity almost exclusively as the source of Socratic thought and teaching (Whitehead, 1979). Ideally, the legacy of Socrates as the consummate teacher whose insistence upon free inquiry and the questioning of a person's own beliefs was reflected in his maxim that "the unexamined life is not worth living," which arguably made him the prototypical western educator (Eisele, 1990, p. 253). Socrates believed that the best way to obtain meaningful knowledge was to engage in a structured and disciplined conversation: dialectic (Styslinger & Overstreet, 2014). More than 2,400 years after his death, the educational philosophy of Socrates continued to inspire teachers in all grade levels and academic disciplines. Specifically, most notably in the United States, the Socratic method (SM) remained the mode of instruction in law schools since its introduction at Harvard in 1870 (Jackson, 2007).

SM has been found in nursing schools, pharmacy schools, and even prisons across the world. Many modified variations of Socratic teaching have been employed in modern classrooms with differing degrees of success (Moore, 2013). These modern teaching styles shared a primary emphasis on questioning students as an alternative to didactic practices to foster an active learning experience while helping to develop strong critical



thinking skills (Barnaby, 2016). Hence, the descriptive qualitative case study described high school teachers' perceptions of developing critical thinkers via the SM.

### **Rationale**

The rationale for the qualitative case study derived from the information provided by the XYZ school district located in the Southeastern United States and literature review. In order to effectively expand the 6-12 academic program to include more campuses, SM implementation needed to be replicated successfully with a focus on strong execution that ensured the development of essential critical thinking skills in the student population. Teachers who correctly implemented the SM into their classrooms had an opportunity to help students develop critical thinking skills (Styslinger & Overstreet, 2014). This study's approach was qualitative in nature and employed the case study method to describe high school teachers' perceptions of developing critical thinkers via the SM. With the data collected I attempted to create a rich and thick description of the perceptions of high school teachers on developing critical thinkers via the SM. The study addressed the local problem of not effectively implementing the SM and a lack of understanding of how SM implementation affected the aim of developing critical thinkers. Information gleaned from the study has the potential to increase the effectiveness of SM implementation at XYZ High School.

### **Evidence at the Professional Level**

A problem at the national and global levels is that students lack the necessary critical thinking skills needed to be successful (Bersin, 2014). Companies seek out college graduates from specific programs that produced top candidates for their

respective industry in an effort to reduce expenditures on training new hires to do what they were expected to learn how to do: think, analyze, and find the best outcomes (Bersin, 2014).

Colleges and universities were training and educating students to be creative problem solvers because many graduates exited high school lacking critical thinking skills (Ahari, Samah, Hassan, Wahat, & Zaremohzzabieh, 2016). In order to provide students with better college and post-secondary opportunities by developing strong critical thinking skills, XYZ High School implemented SM. In regards to SM as a tool utilized for critical thinking development, classical scholar, former classroom teacher, and published author Dr. Timothy Hall noted,

Educators are aware that critical thinking is cultivated by deep questions that dig down into the content. For this reason, the Socratic Method (SM) provides the fertile ground in which questions can grow into those deeper questions making it essential to the development of critical thinking in students (T. Hall, personal communication, April 28, 2016).

The descriptive case study aimed to describe the perceptions of high school teachers of developing critical thinkers via the SM. The SM was a method of instruction designed to develop critical thinking skills in students, preparing them for college and beyond (Adeyemi, 2012). Today's world needed citizens capable of self-reliance, engaged in civic responsibilities, and astute problem solvers more than ever before (Ahari et al., 2016). Research conducted in Nigeria is but a sampling of studies that highlighted the issue of a lack of critical thinking, and all provided convincing arguments that this

was not a small-scale problem but instead a truly global issue (Adeyemi, 2012). While education remains the most powerful way to develop thinkers, there is more to be done (Adeyemi, 2012). Instilling self-motivation, self-monitoring, and self-discipline in learners aids in the effort, but an emphasis needs to be placed on critical thinking (Adeyemi, 2012). Piaget's (1959) theory of cognitive development explained cognitive development based on four stages, and the final stage lends itself well to the development of critical thinking skills, beginning at age 11.

### **Evidence of the Problem at the Local Level**

The school district included eight private schools: four elementary, two middle schools, and two high schools. The school district employed over 300 teachers across 8 different campuses in the area. Student enrollment in grades Kindergarten through 12th grade was 2,200. A board of directors and director of academics governed the private chain of academies. Each campus employed one administrator and administrative assistant to oversee the day-to-day operations of each campus. XYZ High School's specific campus was the research site because SM was utilized there to improve critical thinking development. Approximately 20 teachers served 200 students in Grades 9-12 at the research site. The descriptive qualitative project study focused on the local level. Local information and data were crucial to assess where the difficulties lay in an XYZ High School district in North Carolina. The data collected can be used for the development of future schools and grade level expansion within the school district and other classical schools locally and nationally.

The North Carolina Department of Nonpublic Education required that all students take a nationally normed standardized test each year to provide evidence of educational growth (North Carolina Administration, 2016). The Iowa Test of Basic Skills was administered in Grades 6 and 7 while Grades 8 through 11 took the Preliminary Scholastic Aptitude Test. Seniors took the Scholastic Aptitude Test and American College Test. Although test scores were not a major contributor to curricular decisions, scores were published and analyzed for strengths and weaknesses. To that end, the SM was proposed as a method of instruction that would develop and strengthen critical thinking skills. Teachers were ready to master the art of the SM so they could increase their effectiveness as instructors in the private classical school (Strong, 1996). By teaching the SM effectively, teachers cultivate a strong culture of critical thinking across our school community. By fostering stronger critical thinking skills, students had the ability to empathize with other points of view and control their learning at a higher level both inside and outside of the classroom (A Bahor, Personal Communication, January 3, 2017). The purpose of this descriptive qualitative case study was to describe the perceptions of high school teachers on developing critical thinkers via the SM.

### **Definition of Terms**

The research on teacher perceptions and the SM included specific working terms. These terms are included below with definitions that were used in this study to provide understanding and comfort. For the purpose of this project study, these terms were defined as follows:

*Critical thinking:* Critical thinking has been identified as being synonymous with reflection. Critical thinking is defined as a mental activity that requires more than comprehension and pushes students past comprehension to reflection and introspection (Feely Jr., 1976).

*Socratic method (SM):* The SM is an educational method used to enhance classroom conversations. SM places great emphasis on reading, listening, talking, and thinking (Strong, 1997).

### **Significance of the Study**

The study was significant because it examined the connection between critical thinking skills and exposure to the SM through students' high school years based on teacher perception, which was not been widely researched. In XYZ High School District in North Carolina, high school teachers were asked to implement the SM in the new academic year to guide instruction and support the development of critical thinking skills in students. Sharing information with stakeholders about teacher perceptions of the effectiveness of the SM to develop critical thinkers brought awareness to the strengths and weaknesses of the SM. The information also provided direction on how to improve the effectiveness of the SM to develop critical thinkers in elementary and middle school-aged students.

The gap in research existed in relation to implementing the SM specifically in high school classes to develop critical thinkers. The research findings of this study provided significant information on teacher perceptions of the effectiveness of the SM to

develop critical thinkers. Finally, the data collected led to further critical thinking and SM research opportunities.

### **Research Questions**

The research questions posed in this descriptive qualitative case study were open-ended, impartial, and equitable (Creswell, 2012). The questions pursued the perceptions of teachers using the SM to develop critical thinking skills in high school classrooms. The questions were designed to examine teacher perceptions of the effectiveness of the SM to develop critical thinkers. To address the problem of this descriptive qualitative case study and examine teacher perceptions of the implementation of the SM to develop critical thinkers, the guiding research question was:

RQ: What were teachers' experiences using the SM to develop critical thinking skills in their high school classes?

Additional subquestions that supported this descriptive qualitative case study were:

SQ1: How did instructor-facilitated Socratic questioning influence students' critical thinking in the classroom based on teacher perception?

SQ2: How did students who received instructor-facilitated Socratic questioning in the classroom participate in comparison to those who did not receive Socratic questioning based on teacher perception?

SQ3: How did teachers describe the effectiveness of the SM as it related to the development of critical thinking skills?

## **Review of the Literature**

The problem investigated in this study involved the perceptions of high school teachers on developing critical thinkers via the SM. The literature review provided an investigation of the current literature to create a framework for this descriptive qualitative case study. Sources for this literature review were peer-reviewed articles collected from educational databases such as ERIC, Thoreau, Sage Premier, and Walden Library. I acquired the majority of doctoral sources through Educational Research Complete, which I used to locate and review additional sources throughout the project study process. Search terms including *critical thinking development*, *critical thinking assessment*, *Socratic dialogues*, *Socratic method implementation*, and *professional development* aided in finding appropriate peer-reviewed journals, dissertations, and websites for the study. The sources revealed information regarding (a) alternative teaching methods, (b) concept of critical thinking, (c) teaching critical thinking, and (d) assessment of critical thinking. The review of the literature for this study included a variety of sources in an attempt to achieve a level of saturation on the topic of SM and critical thinking.

### **Conceptual Framework**

Jean Piaget's theory of cognitive development served as the theoretical framework for this descriptive qualitative case study. Piaget's (1952) theory of cognitive development was a comprehensive theory focused on the development of human intelligence and how individuals acquired and constructed knowledge. Piaget's (1952) theory was divided into four stages of cognitive development: sensorimotor, preoperational, concrete operational, and formal operational. Piaget (1952) developed this

theory via direct observation of his children and asserted that there is a firm order to cognitive development. As such, according to Piaget (1952), humans could not progress to a stage without mastering the preceding stage.

The stages were based on the human age beginning at birth. The sensorimotor stage moved from birth through the age of two and asserted this stage of learning was assimilation, learning about self, and accommodating experiences to develop cognition (Piaget, 1952). The preoperational stage spanned from age two through seven. In this stage, cognitive development was based on the classification of physical objects. Object permanence, constructing knowledge by understanding that objects remained even when the child cannot see them, was a hallmark of the preoperational stage (Piaget, 1952).

The concrete stage began at age seven, lasting until age 11. This stage marked the beginning of abstract thinking as the child constructed knowledge based on logic and problem solving of concrete problems. Children in the concrete stage were not yet capable of constructing knowledge based on abstract concepts yet developed the ability to understand the world through hypothesis development and trial and error (Piaget, 1959). Physical development and experiences helped create knowledge based on inductive reasoning, but the deductive reasoning was not developed until the final stage (Piaget, 1959.) The final stage of this theory was the formal operational stage. Children remained in the formal operational stage from the age of 11 through the age range of 15 to 20, early adulthood. Deductive reasoning was developed and used to construct knowledge and make sense of abstract concepts. The ability to consider other perspectives, opinions, possible outcomes, and to draw conclusions was seen as fully developed at this stage



(Piaget, 1959). Children and adults in this stage became capable of recognizing a problem and used logic to solve the problem effectively. Critical thinking skills were developed and utilized in this stage of development to construct intelligence.

This study relied on Piaget's theory of cognitive development, particularly the formal operational stage. Students in the classes in which teachers were leading SM were currently in the formal operational stage of Piaget's theory. Thus it was relevant to this study.

### **Alternative Teaching Method**

A method is defined as a means of reaching a specific audience or target in order to achieve mastery (Hubackova, 2015). Specifically, there are four classifications of teaching methods: classical, activating, comprehensive, and alternative (Hubackova, 2015). SM is considered an alternative teaching method and was examined as such in this study.

SM encompasses a variety of elements that have propelled it to the forefront of many educational models: inductive reasoning, creativity, and problem solving (Akinde, 2015). SM was used to teach a variety of subjects and content areas when traditional methods failed (Nurutdinova et al., 2018). SM was the main methodology used in legal education, spearheaded by Christopher Columbus Langdell at Harvard School of Law in 1870 (Hlinak, 2014). Other programs used SM to teach critical thinking skills in English language learners (Jensen, 2015). While SM was a practice in articulation and problem solving, both of which were best for face-to-face practice, SM was also being used in online programs and virtual schools across the world (Kalelioglu & Gulbahar, 2014).

## **The Concept of Critical Thinking**

The concept of critical thinking has proven difficult to explain, and this issue has produced the critical thinking movement (Moore, 2013). This movement has consisted of educational leaders, scholars, and philosophers who had dedicated themselves to developing a “clear and distinct understanding” of the concept of critical thinking (Moore, 2013, p. 507). Many educational thinkers have disagreed with the idea of one complete definition of the concept while others believed creating one precise definition would better-allowed teachers to understand the concept (Moore, 2013).

Critical thinking is an ambiguous term that could be defined in many ways. Critical thinking is a mental activity that requires more than comprehension and pushes students’ past comprehension to reflection and introspection (Feely Jr., 1976). The Foundation for Critical Thinking defined the concept of critical thinking as a way of thinking about any topic that allowed the thinker to improve the quality of thinking (Scriven & Paul, 2015). Professor Dowden at California State University in Sacramento provided an additional definition. Dowden (2019) contended that critical thinking skills were composed of the ability to reason, use evidence to develop a stance, and the capacity to communicate complicated ideas. For the purpose of this study, critical thinking was defined as the mental activity that requires more than comprehension and pushes students’ past comprehension to reflection and introspection.

## **Teaching Critical Thinking**

Developing critical thinking skills has been a major focus of institutions of higher education and considered essential to academic development (Barnaby, 2016). The ability

to think critically is a foundational step towards expertise or mastery (Oyler & Romanelli, 2014). The development of critical thinking is carried out each day via various research-based methods in classrooms around the world. However, teaching critical thinking is harder to teach than most any other concept or subject area (Hlinak, 2014). Critical questioning and thinking are best employed in a Socratic environment rather than a didactic model (Akinde, 2015). Critical thinking is considered to have two specific components: information and beliefs that generated skills and the habit of using that information and skill set to inform behavior (Scriven & Paul, 2015).

### **Assessment of Critical Thinking**

Glaser (1941) focused on assessment of critical thinking and demonstrated that instruction has the potential to improve critical thinking skills. The Watson-Glaser Critical Thinking Appraisal initiated the efforts to evaluating critical thinking with standardized instruments focusing mainly on argument analysis skills applied to day-by-day questions and situations. The Watson-Glaser Critical Thinking Appraisal is an 80-item test that consists of five subtests that assess the respondent's ability to make accurate inferences, recognize assumptions, properly deduce, interpret information, and evaluate arguments. The raw score a student can get on this test is the total number of correct responses on the five subtests previously mentioned (Watson & Glaser, 1980).

California Critical Thinking Skills Test (CCTST) is another instrument largely used to assess critical thinking skills. The CCTST has 34 questions that assess overall critical thinking skill and additional five subscales that assess more specific areas: analysis, evaluation, inference, deductive reasoning, and inductive reasoning (Facione &

Facione, 1994). While CCTST measures skills, the California Critical Thinking Dispositions Inventory (CCTDI) measures a learner's inclination toward critical thinking. The CCTDI index is made of a list of reflective statements and uses a Likert scale for statement evaluation. These statements are related to the seven "habits of mind" that impel us toward applying critical thinking skills such as: truth-seeking, open-mindedness, analyticity, systematicity, critical thinking self-confidence, inquisitiveness, and cognitive maturity (Facione, Facione, & Giancarlo, 1996). Both CTST and CCTDI are the result of the Delphi Expert Consensus definition of critical thinking.

### **Implications**

This descriptive qualitative case study had important implications for practice. The results of this descriptive qualitative case study described the perceptions of high school teachers on developing critical thinkers via the SM. This study may assist other private schools and educational arenas that wish to develop or revise their approach to developing critical thinkers via the SM implementation. Given the currently established need for the development of critical thinking skills in tertiary students, this study has the potential to propel SM to the forefront of those discussions and considerations.

### **Summary**

Section 1 of this study contained the introduction, problem statement, significance, research questions, and a review of the literature. This descriptive qualitative case study aimed to describe the effectiveness of SM implementation based on teachers' experiences and perspectives. Through a careful examination of the current literature, I aimed in this study to identify SM as an effective methodology for

developing critical thinking skills in high school students based on teacher perceptions. The methods employed in this study were a descriptive qualitative case study grounded in Jean Piaget's theory of cognitive development. Participants were full-time high school teachers currently piloting the SM in their ninth and tenth-grade classes. Data were collected via classroom observations and interviews. The assumption was that this study promoted social change by describing teacher perceptions to determine if there was value in using SM in other areas of education as an alternative teaching method. This study provided administrators and stakeholders an authentic view of the SM through the eyes of the teachers in the school, offering them information with which to make future pedagogical changes, including potential increased or decreased implementation the SM.

In Section 2 I define the methodology and qualitative research design for this study. Merriam (2009) described the purpose of qualitative research as realizing how people make sense of their experiences. A qualitative approach was applicable because the focus was on high school teacher perception. The case study methodology was most appropriate as in this case study I sought to describe the effectiveness of the SM in high school classes to develop critical thinkers based on teacher perception (see Creswell, 2012). I chose seven participants for this qualitative case study through purposeful sampling, a method that best helped discover the effectiveness of the SM in high school classes as an effort to develop critical thinkers (see Creswell, 2012). Data collection included interviews and observations, and I also included field notes, which are further explained in Section 2.

## Section 2: The Methodology

### **Research Design and Approach**

This descriptive qualitative case study identified the perceptions of high school teachers on developing critical thinkers via the SM. A case study is a thorough examination of one setting or a single subject (Creswell, 2012), making this design most suitable for this project study. The case study design was used in this study because I conducted a detailed investigation of a single group by collecting multiple data sources from within the context of a limited system (see Creswell, 2012; see Merriam, 2009; see Stake, 2005). Because qualitative research concentrates on how individuals make sense of their experiences (Merriam, 2009), using a qualitative case study to describe the perceptions of teachers regarding their experience with SM was appropriate.

The descriptive qualitative case study methodology was most appropriate as in this study I sought to describe teacher perceptions of the effectiveness of the SM in high school classes to develop critical thinkers (see Creswell, 2012). A qualitative approach was applicable because the focus was the perceptions of high school teachers on the development of critical thinking skills via the SM. I designed interview questions to elicit the teacher's experiences and perceptions. Questions were generated beforehand, aside from the specific research questions, but the interview allowed for additional questions to be crafted as the interview progressed (see Appendix B). The tool for observations was an SM observation protocol form based on the basic tenets of SM (see Appendix C).

### **Qualitative Research Questions**

The research questions posed in this descriptive qualitative case study were open-ended, impartial, and equitable (see Creswell, 2012). I designed and used the questions to pursue and describe the perceptions of teachers using the SM to develop critical thinking skills in high school classrooms. To address the problem of this descriptive qualitative case study and to examine teacher perceptions of the implementation of the SM to develop critical thinkers, the guiding research question was:

RQ: What were teachers' experiences using the SM to develop critical thinking skills in their high school classes?

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SQ3: How did teachers describe the effectiveness of the SM as it related to the development of critical thinking skills?

### **Description of Qualitative Research Design**

Qualitative research is designed to make sense of participants' experiences (Merriam, 2009). A qualitative research design was most appropriate for this study because the focus of this study was teacher perceptions. I sought qualitative data to

investigate teacher perceptions of the effectiveness of the SM in high school classes to develop critical thinkers. A quantitative research design was not appropriate for this study due to the lack of variables or relationships being studied. Additionally, the research questions for this study were not quantifiable (see Creswell, 2012).

### **Characteristics of Qualitative Research (Tradition)**

Qualitative research is focused on understanding how individuals explain experiences, what meaning they could connect to those experiences, and how those experiences form their world (Merriam, 2009). The following qualitative research characteristics solidified why the qualitative approach was appropriate for this study:

- Researchers assume that setting influences behavior, so qualitative researchers go to the setting that is being studied to gain context (Bogdan & Biklen, 2014).
- Qualitative research is descriptive and data is collected via words or images instead of numbers, and the researcher continually asks questions in an effort to help make sense of an individual's assumptions (Creswell, 2012).
- The inductive analysis is used to develop meaning (Merriam, 2009). Qualitative research is concerned with capturing perspectives and experiences authentically and accurately (Bogdan & Biklen, 2014).

### **Justification of Research Design**

Qualitative research has five major research designs. Grounded theory, narrative analysis, ethnography, phenomenological, and case study all function as qualitative



research designs (Creswell, 2012). Each design is unique in its approach to qualitative research and yields a specific result related to the purpose of the study.

### **Grounded Theory**

Introduced in 1967 by sociologists Glaser and Strauss, grounded theory designs result in a new substantive theory based on data collected (as cited in Bogdan & Biklen, 2014). The research design is also aimed to create an understanding of how things change over time. I did not choose this method of research as I was not attempting to create a new theory but was instead interested in teacher perceptions and experiences. Grounded theory was not the appropriate design due to the nature of this study.

### **Narrative Analysis**

Another recognized qualitative research design is a narrative analysis (Merriam, 2009). The method uses first-person accounts of experience as data. Also known as autoethnography, narrative analysis analyzes the construction of a person's story, cultural implications, and hermeneutics (Merriam, 2009). According to Creswell (2012), the narrative analysis is employed when participants choose to tell their stories; with these stories collected as data, the researcher is then able to gain insight into the participants' human experience. This research design was not appropriate for this study because I was not attempting to collect narratives of participants in order to understand the human experience better.

### **Ethnography**

Ethnographies serve as a method to help participants make sense of their lives with an emphasis placed on culture and the human experience (Merriam, 2009). Though

ethnographies are the most familiar to researchers due to a long history as research design (Merriam, 2009), it was not appropriate for this study. I was not attempting to bring about awareness of a group of people.

### **Phenomenology**

Phenomenology is the study of a person's everyday life with the aim of interpreting data to determine a shared experience (Merriam, 2009). The main position of the phenomenologist is to describe the core of the participant's experience in specific situations and circumstances (2009). Researchers interact with and observe participants prior to interviews, so this methodology was not appropriate for this study. Moreover, I did not want to unduly influence any of the participants in the study.

### **Case Study Designs**

A case study has been defined as “an in-depth description and analysis of a bounded system” and examination of a phenomenon in its context (Merriam, 2009, p. 40). This research design was best aligned with the goal of this study, which was to describe teacher perceptions within a limited system, the school in which they were employed. The case study design employs detailed examinations of individuals, groups, programs, or activities to create thick and rich descriptions that may yield a deeper understanding of a phenomenon (Creswell, 2012). I selected the case study design for this research study to describe the central phenomenon of teacher perceptions of the effectiveness of the SM in high school classes to develop critical thinkers.

Using a case study allowed for the creation of a thick and rich description of teacher perceptions regarding the effectiveness of the SM in high school classes to

develop critical thinkers. Additionally, this design provided the opportunity to investigate and ultimately describe the *why* and *how* of teachers' experiences. Finally, a case study methodology in this research study assisted in answering the central research question regarding what teachers experienced using the SM to develop critical thinking skills in their high school classes.

### **Participants**

The school leaders at the research site selected potential participants for this study based on each faculty member's longevity and experience. This qualitative case study used a purposeful sampling of ninth and 10th grade teachers employed with a suburban private high school that offered a classical curriculum. The participants were familiar with SM and were implementing SM into their classes and daily lessons.

### **Criteria for Selecting Participants**

This descriptive qualitative case study took place in a private high school district in suburban North Carolina. I requested permission to conduct this study, which was granted by the school's principal and director of academics. The population of subjects consisted of seven teachers who employed the SM in their classes and daily lessons. I selected participants based on the list of proposed teachers provided by the school leaders. At the time of this study, the school curriculum was classical, and SM was introduced as a possible effective method for increasing critical thinking skills.

### **Justification of Participants**

A total of seven participants were utilized in this study to ensure a depth of inquiry. Saturation occurs in most studies with ten participants (Creswell, 2012).

However, this project study focused on communicating with seven participants because two opted out of the study.

### **Access to Participants**

I submitted a Walden Institutional Review Board (IRB) application for the approval of the research proposal, which was approved March 16, 2018, approval number 3-16-18-0173123. In order to gain access to participants, I established a line of communication with the school administrators. I asked permission to contact faculty members via a written request asking for approval to utilize the setting as a research site. Following approval from Walden's IRB and the school leader, I scheduled a meeting with the principal and explained the specifics of the study and offered clarifications.

Afterward, I sent a participant recruitment letter was sent to participants who met the study criteria. Providing contact information and allowing time for potential participants to ask questions, an informed consent form was e-mailed to participants requesting their participation. Outlined in this form were the protective measures in place to do no harm to anyone who participated. Pseudonyms were used in place of formal names, member checks were completed, and all documents were locked in a cabinet inaccessible to anyone outside of my home. After receiving the completed consent forms, I communicated with the willing participants to verbally explain the process and what was expected of them. This communication was also intended to create a level of comfort between the participant and me. Once a working relationship had been developed, the data collection process began.

### **Researcher/Participant Relationship**

I protected the identity of all participants by establishing a comfortable, positive working relationship and rapport with them from the onset of this study. I also preserved the privacy and confidentiality of participants by replacing names with alphanumeric codes. I remained an unbiased interviewer regarding each participant's experience and knowledge. I also ensured that each participant understood that confidentiality would be maintained throughout the entire study, from beginning to end, regardless of the nature of his or her responses. I aimed to make each participant at ease and able to trust the process, as this comfort and ease yielded more official responses (see Merriam, 2009).

### **Population and Setting**

A population is a group of individuals with shared qualities, knowledge, or commonalities (Creswell, 2012). The seven participants in this study all shared the quality of being knowledgeable about the implementation of SM in their classes and daily lesson plans. They were all also currently employed at the same private school that employed a classical curriculum and 30 faculty members. The target population for this study was the full-time faculty member employed at the research site during the first year of SM implementation.

The setting was XYZ High School in a suburban North Carolina town of approximately 45,000 (U.S. Census, 2015). The town was located close to a thriving hub of global businesses known as Research Triangle Park (RTP). This descriptive qualitative case study took place in a private high school district in suburban North Carolina. The high schools were all socio-economically, ethnically, and religiously diverse. African-

American, Asian, Indian, and Caucasian ethnicities were represented in these schools. Students had a variety of socio-economic households that range from slightly above the poverty line to affluent. Religions represented included Christianity, Judaism, Catholicism, and Buddhism.

The school district included eight private schools: four elementary, two middle schools, and two high schools. This school district employed over 300 teachers across 5 different campuses in the area. Student enrollment in grades Kindergarten through 12<sup>th</sup> grade was 2200. A Board of Directors and Director of Academics governed this private chain of academies. Each campus employed one administrator and administrative assistant to oversee the day-to-day operations of each campus. This specific campus was the research site because SM was utilized to improve critical thinking development. Approximately 20 teachers served 200 students in grades 9-12 at the research site.

### **Sampling Process**

Participants for this qualitative case study were chosen through purposeful sampling, a method that best helped discover the effectiveness of the SM in high school classes in an effort to develop critical thinkers (Creswell, 2012). Purposeful sampling allows researchers to select participants that can best aid in supporting researchers in understanding both the problem and subsequent research questions. Moreover, this sampling method allowed for participant selection that promoted an exhaustive investigation of the project study's central phenomenon (Merriam, 2009). I utilized purposeful sampling by identifying teachers who employed the SM in their classrooms

and then randomly sampled participants from the identified group of teachers implementing SM.

### **Sample Size**

The sample size was seven. The participants in the descriptive qualitative case study were employed at the high school in suburban North Carolina that was used as the research site. To ensure a balanced depth of inquiry, seven high school teachers were interviewed and observed to ensure that a satisfactory aggregate of data was amassed. Three teachers were literature teachers; three were history and grammar teachers while the other was a science teacher.

### **Ethical Issues and Confidentiality Agreement**

Before any research could begin, the IRB and Walden University granted permission. To preserve anonymity, pseudonyms were used in place of formal names during the data collection and analysis process. All documents were locked in a cabinet, inaccessible to anyone other than the researcher (Bogdan & Biklen, 2014). Per Walden University's requirements, all data collected will be securely stored for 5 years and then destroyed.

I transcribed the interviews personally using the free transcribing software Speech notes that transcribed speech into words. Using this software prevented exposure of personal information, names, and site location, furthering the aim of doing no harm. All participants were over the age of 20 and signed an informed consent form (See Appendix E). No minors were included in this project study, so there were no ethical concerns in that regard. The risks to the participants were minimized by the protective measures put

in place. The informed consent form contained the following information: name and contact information, sponsoring university and supervisor of the study, purpose, benefits and possible hazards to participants, the commitment level, confidentiality agreement, and confirmation that participants could stop participating at any time during the study.

### **Data Collection**

Data were bits and pieces of information found within the study site. Data were concrete or abstract, relative to the study. Data are test scores or feelings and opinions (Merriam, 2009). The descriptive qualitative study utilized observation and interviews to examine teacher perceptions of the effectiveness of the SM in high school classes to develop critical thinkers.

### **Justification of Data Collection**

Some case studies only employed one source of data, but most utilized a variety of sources (Bodgan & Biklen, 2014). Interviews and observations are the most common type of data collected in qualitative studies (Merriam, 2009). For the purposes of this descriptive qualitative case study, interviews and observations were employed.

### **Data Collection Instruments and Source**

Data collected for this descriptive qualitative case study came from one-on-one interviews and classroom observations with high school teachers employed in a private school district in suburban North Carolina. Interviews were used to examine teacher perceptions of the effectiveness of the SM in high school classes to develop critical thinkers. I developed an Interview Protocol Form (See Appendix B) that was employed during each interview. An Observation Protocol Form (See Appendix C) was used during



each classroom observation and provided additional material about teacher perceptions of the effectiveness of the SM in high school classes to develop critical thinkers. The observation tool was Socratic in nature and included specific components inherent to the SM.

### **Data Collection Sources**

The data collected from interviews with high school teachers were recorded on a digital voice recorder and then transcribed verbatim into a word processing document for coding, a method of chunking the data to identify themes (Creswell, 2012). Emerging themes organized based on coding that focused on the problem statement were identified. All hand-written data were stored in a locked file cabinet, and all digital data are encrypted and saved by the participants' pseudonym to preserve confidentiality and security. Field notes were also taken during this qualitative descriptive during each classroom observation. Reflective notes were made after each classroom observation to ensure accuracy and reliability.

One-on-one interviews and classroom observations were conducted, transcribed, coded, and analyzed to collect responses to answer the guiding research question and additional questions about teacher perceptions of the effectiveness of the SM in high school classes to develop critical thinkers. Merriam (2009) described the purpose of qualitative research as realizing how people make sense of their experiences. Thus these data collection methods were aligned with the purpose of qualitative research.

**Interview Protocol**

The purpose of the interviews was to contribute to a deeper understanding of teachers' perceptions, in a safe setting, that allowed me to develop insight into how they interpreted their experience (Creswell, 2012). Interviews were used as the dominant strategy for data collection in this study. Interviews allowed me access to each participant in a setting he/she was most comfortable and provided opportunities for a detailed explanation of his/her reality as it pertained to SM.

One-on-one interviews allowed teachers to express their perceptions and share their experiences in a safe place without fear of judgment or recourse (Creswell, 2012). I utilized an interview protocol form (See Appendix B) that I used to begin the interview and engage the participant in the conversation. The interview protocol form contained five open-ended questions designed to kick-start the conversation. This form aided in putting the participant at ease and created an atmosphere of respect and privacy before asking specific questions based on his/her teaching experience and interaction with SM.

**Observation Protocol**

According to Lodico et al. 2009, descriptive field notes and reflective field notes are essential to capturing observational data. Descriptive field notes included time, date, location, and length of observations as well as a complete list of participants.

Additionally, direct quotes and verbatim conversations, as well as detailed descriptions of people, activities, settings, and interactions, were integral to creating complete field notes. Reflective field notes included a description of the observer's thoughts and

feelings about what was being observed and could be recorded as comments on a separate field note at the conclusion of each observation.

Observations were gathered via the observation protocol form (See Appendix C) as well as through descriptive and reflective field notes. Included in observation notes were direct observations as well as expressive details of conversations and activities that took place at the research site. Observations were held during normal school hours and in the participant's classroom. Observations were conducted based on teacher availability and expected lesson plans for the observation date. All observation notes were recorded and saved for future analysis and categorization. Reflective field notes were added at the completion of each observation.

### **Data Collection Tracking System**

I established a timeline and schedule for interviews to be conducted once I had enough participants to complete the project study. I conducted one-on-one interviews and electronically recorded each interview using a digital recording device. I also made notes on the interview protocol form for each participant. Observations were conducted based on teacher availability and expected lesson plans for the observation date. I observed one SM lesson for each participant. The observation protocol form was used for each observation. I also recorded descriptive field notes and added reflective field notes at the conclusion of each observation. The entirety of the data collection process lasted 2 weeks, 10 business days.

In addition to recording interviews and completing the observation protocol form and field notes, I also created and continued to update a reflective journal. The purpose of

this journal was to track research activities and inferences about the observational data that was gathered. Tracking these items aided in identifying emerging codes and themes.

### **Access to Participants**

A Walden Institutional Review Board (IRB) application was submitted for and granted approval March 16, 2018, approval number 3-16-18-0173123. In order to gain access to participants, a line of communication was established with the school administrators to ask permission to contact faculty members via a written request asking for approval to utilize the setting as a research site. Following approval from Walden's IRB and the school leader, I scheduled a meeting with the principal to explain the specifics of the study and offer clarification as needed.

Afterward, a Participant Recruitment Letter (See Appendix D) was sent to participants who met the study criteria. Providing contact information and allowing time for potential participants to ask questions, an Adult Informed Consent Form (See Appendix E) was emailed to participants requesting their participation. Outlined in this form were the protective measures in place to do no harm to anyone who participated. Pseudonyms were used in place of formal names, member checks were completed, and all documents were locked in a cabinet inaccessible to anyone outside of the researcher's home. After receiving the completed consent forms, communication was made with the willing participants to verbally explain the process and what was expected of the participants. This communication was also intended to create a level of comfort between the participant and researcher. Once a working relationship had been developed, the data collection process began.

### **Role of the Researcher**

I had been a school administrator for the past six years in the district where the research site was located. My interest in SM implementation and teachers' perspectives stemmed from seeing a stronger commitment to the development of critical thinking skills in all students, but particularly high school students. Invested in the field of education for the past sixteen years, I was particularly SM implementation and critical thinking skill development.

Lodico et al. (2010) identified four degrees of participation for researchers who conduct qualitative research: complete participant, participant as an observer, observer as participant, and a complete observer. A full participant is an active member of the group being observed, and the group is not aware the participant was also functioning as an observer. A participant as an observer is an active member of the group being observed, and the group is fully aware the participant is also functioning as a researcher. An observer as a participant is engaged in research and most likely does not participate. Finally, a complete observer is not a member of the group and does not participate in any way with the group (2010). For this study, I assumed the role of the observer as a participant as it best defined my expected role.

### **Data Analysis**

At the conclusion of the data collection stage, I organized and synthesized all interview transcriptions and observation forms to review the data and seek recurring themes. I utilized the free qualitative data analysis program QDA Miner Lite to analyze the textual data. This program also allowed me to arrange the data in a systematic manner

that allowed for categories and codes from the data to be identified. Emerging themes were also identified. The results of the data analysis allowed for the formation of rich, thick descriptions to create a narrative discussion (Bogdan & Biklen, 2014; Merriam 2009).

### **Data Analysis Process**

Multiple data points were analyzed during the data collection process including at the end of the data collection stage; data collected derived from participant interviews and classroom observations. Data were recorded via a systematic approach with chart and diagrams. Themes, patterns, and any identified relationships were categorized and coded to comprise data tracking. An order to the data was established and maintained for the duration of the data analysis based on chronological order of interviews and observations (Bogdan & Biklen, 2014). Establishing order ensured the research was complete.

### **Trustworthiness, Accuracy, and Credibility of Research**

In order to ensure the trustworthiness, accuracy, and credibility of the data collected, I utilized triangulation and member checks (Creswell, 2012). Triangulation is the review of several data sources that allowed me to ensure validity (Merriam, 2009). Triangulation was used to ensure the credibility of the study and involved the analysis of several data points. During triangulation, I also searched for discrepant cases.

Additionally, member checks were used to improve accuracy and ensure the dependability of the research. Participants were asked to review and examine interview transcriptions, and any identified data for accuracy as well as discrepancies (Creswell, 2012). This process took place at the end of the study once data analysis was complete.

Each participant received a typed copy of their respective interview transcript and the study's results to confirm the accuracy of the interview. This process was conducted in a private setting to maintain confidentiality. Participants also had the opportunity to clarify any response and confirm the findings.

Themes were identified through the process of coding (Creswell, 2012). The initial coding allowed me to identify 27 codes, but after a line-by-line analysis of the transcripts, the total number was 12. The codes were then categorized and formed into three emerging themes presented in this study.

### **Research Findings**

The purpose of this qualitative case study was to describe high school teachers' perceptions of developing critical thinkers via the SM. For the study to impact local and social change, it was vital to first define my research goals and proceed with analyzing the data in alignment with those goals as well as develop an analysis methodology to meet those goals.

An orderly and efficient analysis method of skillful and unbiased interpretation of the data was vital to understanding and communicating the explanation of patterns and themes discovered during the analysis process. Additionally, the reflection was an important part of the process to guarantee the data analyzed was related to the research questions. Finally, a strong focus on the data alleviated opportunities for the study to shift focus or direction. Coding the data and then seeking out commonalities, differences, and themes completed data analysis. Opinions and beliefs that were developed and concluded from the data were also included in the data analysis (Bogdan & Biklen. 2007).

## **Data Analysis**

Data were collected over a period of three weeks from two primary sources: classroom observations and one-on-one in-person interviews. All forms of data collection took place during normal school hours on school grounds at XYZ High School in North Carolina. The interview data were collected via the interview protocol from seven teachers who were selected via purposeful sampling: three high school literature teachers, three history and grammar teachers, and one science teacher (Appendix B). Each interview was recorded, transcribed and scheduled by the educator during a planning period. Interviews were conducted in the teachers' classrooms with the door closed to ensure privacy. The participants were identified in the transcripts as E1 through E7. The transcriptions were compared with the recordings twice to ensure accuracy. Participants also reviewed the transcriptions for accuracy. The interviews were crucial to this study; through this process, teachers were provided with the opportunity to share their own opinions and perspectives. This data aided in capturing the crux of the study.

Classroom observations were conducted via the observation protocol form (Appendix C). The participants scheduled observations during normal school hours. All observation notes were recorded, and reflective field notes were added at the completion of each observation. Direct observations were included in observation notes as well as expressive details of conversations and activities that took place at the research site.

Codes were used to describe sections of each interview transcript. Coding is an analytic approach used to systematize, categorize and summarize data (Creswell, 2013).



Themes emerged from the coding process as codes were used to describe sections of interview transcripts.

### **Research Findings**

The purpose of this qualitative case study was to describe high school teachers' perceptions of developing critical thinkers via the SM. The study was completed in XYZ High School in North Carolina. The findings stemmed from the problem statement, which focused on teachers' perceptions on developing critical thinkers via the SM. The findings were presented in a way that logically explains the research questions. The findings were discussed by themes that were discovered via the data analysis process.

### **Pattern-Themes in Findings**

Three significant themes emerged in the teachers' responses during data analysis. The topics were lack of professional development, SM implementation comfort level and student participation during Socratic lessons. All participants felt that Socratic questioning did influence students' critical thinking skill development in the classroom. None of the participants felt that SM had no impact on student's development of critical thinking skills.

### **Theme 1: Lack of Professional Development on Campus**

Several participants voiced concern about the lack of professional development. When specifically asked to explain any SM training participants have been given, six out of seven said the best training for SM was received in college courses, not at XYZ High School. According to E1, "I have been given rubrics for Socratic implementation here at work but my real training came from my graduate courses where I took 3 courses on the

Socratic method.” Participant E3 noted, “I’ve had no formal training. I’ve just had really good professors that modeled it for me in college”. The connection between these participant comments indicated that while the participants had received some form of professional development training on SM, the training was either from college courses or through observing the SM model by college professors. The unifying quality of the comments also indicated none had received any formal, strategic training regarding SM at XYZ High School though they were expected to implement SM. The data revealed that the lack of professional development on campus was a troubling factor for the majority of participants and could negatively impact students’ critical thinking skill development.

### **Theme 2: SM Implementation Comfort Level Dependent Upon Grade Level**

The next theme that emerged was the teachers’ level of comfort was dependent upon the grade level they taught. Most teachers who taught older students, 11th and 12th graders, had a higher comfort level than those who taught 9th and 10th grade. This was a common theme for all seven participants. Participant E3 stated, “With 11th grade, I really enjoy using Socratic”. Additionally, participant E1 noted, “I’m pretty comfortable with Socratic, but I am more comfortable using it with the upper high school levels”.

Participant E7 stated,

I feel most effective at implementing Socratic when I’m working with my Junior and Senior classes. I don’t think it’s for the younger students. I know when I’m using Socratic with my older students that their critical thinking skills are getting sharper and stronger.

The connection here is participants suggested they were not comfortable using SM with 9th and 10th-grade classes as they only mentioned a comfort level with the older students. These responses were concerning given that the teachers were expected to implement SM in all classes across all grade levels, 9-12.

### **Theme 3: Student Participation Limited to Active Learners**

All participants agreed that students who actively engage in SM were able to develop critical thinking skills as opposed to students who were not active participants during Socratic seminars. Participant E4 noted,

The students that behave well in class and are ready to contribute in whole group discussion are the ones that really thrive in a Socratic seminar because they are already doing the habits at home to fill their minds with good ideas to develop their critical thinking skills.

Likewise, participant E1 stated, “I do think it fosters this deeper thinking and continuous learning, 100%. Student participation in Socratic is one of the best ways to develop critical thinking for sure.” Noted throughout this theme was that participants only mentioned active learners, not all learners. Participants noted that while they believed SM develops critical thinkers, the interview data showed the participants did not mention struggling or emerging learners, only those who behave, pay attention, and participate.

Table 1

*Research Subquestions, Interview Questions, and Pattern-Theme Relationships*


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SQ1: How did instructor-facilitated Socratic questioning influence students' critical thinking in the classroom based on teacher perspective?

IQ1: Do you believe SM influences critical thinking skills beyond a Socratic seminar? Why or why not?

IQ2: Do you feel comfortable implementing SM with all your classes or do you find it easier or more difficult with certain classes. Explain.

*Associated themes:* SM implementation comfort level dependent upon grade level & lack of professional development on campus.

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SQ2: How did students who received instructor-facilitated Socratic questioning in the classroom participate in comparison to those who did not receive Socratic questioning based on teacher perception?

IQ1: When implementing SM, do you notice a higher level of student engagement and do you notice that all students are actively engaged?

IQ2: When implementing SM, do you notice a decrease in student participation versus a regular class? Explain.

*Associated themes:* Student participation limited to active learners & SM implementation comfort level dependent upon grade level.

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SQ3: How did teachers describe the effectiveness of the SM as it related to the development of critical thinking skills?

IQ1: Based on your current understanding of SM, do you find it to be effective in your classes?

IQ2: What tools do you need to better implement SM?

*Associated theme:* Lack of professional development on campus.

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### **Salient Data and Discrepant Cases**

A discrepant case consists of data that provides alternative perspectives (Creswell, 2012). Discrepant cases provided valuable discernment on how teachers describe the effectiveness of the SM that did not align with the identified categories for coding. Data codes that occurred in opposition to the main themes were categorized as discrepant cases. Discrepant case analysis was an integral step in the data analysis process employed to contradict or oppose the data. Discrepant cases could occur from challenges to the themes found in the data as well as potential bias from the researcher. In this study, no discrepant cases were found.

### **The Accuracy of Data Analysis Procedures**

In order to ensure the trustworthiness of the research, credibility was a crucial component of the data analysis. Credibility determined the accurateness and integrity of the results. The two methods used to ensure credibilities were member checks and triangulation.

The first credibility measure was member checking. Participants were asked to review and examine interview transcriptions, and any identified data for accuracy (Creswell, 2012). This process took place at the end of the study once data analysis was complete. Participants received a typed copy of their respective interview transcripts to review and confirm the accuracy of the data collected. Participants had the opportunity to clarify any response and confirm the findings, ensuring the credibility of the data. Additionally, at the conclusion of each interview, participants agreed to a possible second interview if clarification was needed. No second interviews were necessary.

Triangulation was the review of several data sources that allowed the researcher to ensure validity (Merriam, 2009). Triangulation was used to ensure the credibility of the study by reviewing interview transcripts and observation field notes. By comparing multiple sources of data, I confirmed the research (Creswell, 2012). During triangulation, I also searched for discrepant cases.

### **Summary of Outcomes**

The data analysis was a discussion of the findings from data that was collected on teachers' perceptions on developing critical thinkers via the SM. The data from interviews were transcribed and observations were conducted. Three themes based on the data were presented: lack of professional development, SM implementation comfort level and student participation during Socratic lessons.

## Section 3: The Project

### **Introduction**

I designed my project, a professional development course entitled *Pedagogy 1: Socratic Practice* (see Appendix A), so teachers of Grades 6-12 may be provided with a solid understanding of the SM and develop a consistent knowledge base of SM at XYZ High School. The training includes two modules titled “What and Why of Socratic Method” and the “How of Socratic Method.” Each module contains learning objectives, goals, discussion posts, and assignments. The professional development training may strengthen teachers’ understanding and comfort level in order to execute SM at a high level.

As I reported in Section 2, the findings indicated a lack of professional development regarding SM. Thus, this project may be appropriate to address the local problem of teachers not effectively implementing SM and understanding how SM implementation affected the aim of developing critical thinkers. The project’s comprehensive goal is to provide all teachers of Grades 6-12 with the training needed to implement SM in their classrooms and school community. My objectives for the project will be for teachers to (a) gain a solid understanding of SM, (b) gain confidence in their SM implementation, and (c) learn how to plan Socratic seminars at a high level to develop critical thinkers.

### **Rationale**

The investigation of the study problem determined if the implementation of the SM developed critical thinking skills in high school students based on teachers’

perceptions. I developed an SM professional development course based on the data yielded from the study. The professional development considers SM standards that address critical thinking skills (Appendix A). I selected a professional development genre that will allow possible positive change at the local level and possibly systemic change based on student learning outcomes. The professional development course will examine what SM is, why it is important and how it should be implemented in Grade 9-12 classrooms in order to develop critical thinkers at XYZ High School.

The project is based on the findings from the data analysis of participant responses in which they affirmed professional development of SM was necessary to solve the problem of lack of critical thinking skills among high school students at XYZ High School. The data analysis also revealed a lack of teacher confidence when implementing SM at the lower high school levels. While participants reported a high level of comfort with SM with older students, a strong professional development course may allow for a high level of comfort for Grades 9-12. Additionally, stronger implementation of SM may increase student engagement.

The results from this study also indicated that effective teachers employed a variety of SM tactics to achieve positive results, factoring in student participation. This study's findings suggested that improved SM practices might result from professional development. Findings from this study also suggested that professional development training results in increased SM teacher confidence in implementation. It may be that an in-house training focused on SM-centered pedagogy will remedy the problem. Also, a school-based training embedded with specific SM classroom examples and intentional



instruction may support high school students who struggle to participate, another data point discovered in the findings. The project I developed corresponds with my study data because professional development and SM confidence are represented in the findings that led to higher levels of SM implementation to improve critical thinking skills among high school students at XYZ High School.

When replicated, the sample school's practices and successes with SM professional development may provide similar results for other campuses, particularly among those schools with a strong emphasis on critical thinking skill development. To address and build SM capacity into the daily routine at other campuses, teachers and instructional leaders must evaluate classroom practices that inhibit learning and create more SM opportunities to increase student engagement. The design of the course may help teachers move past issues that impede SM teacher confidence. The training described in the project responds to the problem of developing critical thinking skills in high school students based on teachers' perceptions. When considering the critical skill development of current and future students, the training detailed in the project may offer the tools to understand, implement, and appreciate differences in approaches to SM pedagogy through SM professional development. As a part of this professional development course, teachers will be expected to collaborate, explore, review, and practice SM strategies to increase critical thinking skills among high school students. I am hopeful that the training will create a meaningful and authentic learning experience for teachers and, in turn, advance their students' critical thinking skills.

## **Review of the Literature**

To find relevant and current studies for the professional development project, I searched the following databases: SAGE Research Complete, ERIC, ProQuest, Thoreau, and Education Research Complete via the Walden University Library. I combined the following keywords and phrases in order to discover appropriate literature for this study: *on-demand professional development*, *collaborative learning community*, *educational professional learning*, and *improved pedagogy*. The literature review began with a discussion of professional development as the project genre. The review then progressed onto best pedagogical practices for professional development and concluded with a review of OPD format including the strengths and challenges associated with the format.

### **Professional Development**

To support professional development as the project genre for this study, I arranged the literature to include professional development considerations, components, and outcomes related to the development of teachers. Current literature specific to SM implementation in high school classes to develop critical thinkers was limited to the topics studied even though the research was consistent with the findings of this study. The literature supported the project genre selected as the project deliverable.

Professional development has been considered an effective method for improving classrooms and student learning (Gravani, 2015). In the field of teacher education, professional development commonly refers to ongoing educational opportunities (Vu, Cao, Vu, & Cepero, 2014). The demand for professional development programs has

never been higher as educators continue to develop skills and capacity for effective teaching while keeping up with 21st-century changes to education (Gosselin et al., 2016).

Continued participation in professional development yielded sustained gains in teacher practices if teachers thoughtfully used the skills taught during professional development (Shaha, Glassett, & Copas, 2015). Professional development in the field of teacher education was needed to support collaborative partnerships among teachers and sustain continual improvements in new educational methodologies (Mohan, Lingam & Chand, 2017). It was also a tool for changing teacher behaviors, teacher practices, and teacher beliefs (Mohan et al., 2017).

Researchers found that the most successful professional development courses were those based on teachers' needs and offering ongoing support after the course had concluded (Valiandes & Neophytou, 2017). Furthermore, professional development places a strong emphasis on helping teachers become reflective practitioners while developing scholarly work (Valiandes & Neophytou, 2017). However, little research existed that examined any correlational data between teacher development courses and student achievement, so there was work to be done in substantiating if professional development courses impacted student achievement (Valiandes & Neophytou, 2017).

### **Professional Development Best Practices**

Increasing student diversity requires teacher professional development opportunities that are flexible and focused on innovative pedagogical methods (Wynants & Dennis, 2018). Additionally, teacher buy-in is crucial to the success of professional development courses, particularly when delivering new pedagogical methods (Alshehry,

2017). Teachers must feel some ownership and have their voices heard in order to truly buy-in to new approaches (Alshehry, 2017). Thus, a best practice for professional development was to generate teacher buy-in by providing opportunities for teachers to take ownership of their learning.

Professional development courses were most effective when applied to the daily work of a classroom teacher. Courses that were directly related to the participant's daily efforts in a school setting were received more positively than those that were not (Maass & Engeln, 2018). The emphasis on relevant instruction and the inclusion of strategies for immediate implementation increased classroom applicability (Rice, 2017).

Flexibility and accessibility were running themes in terms of teachers' perspectives on effective professional development. For example, Participant E2 mentioned that participating in professional development was far easier when the facilitator made materials and assignments accessible. Participant E2 went on to say that online formats were attractive because of the flexibility in relation to time management. A best practice for professional development that could be implemented by school districts was to be flexible with due dates, makes materials and supports readily available, and include evaluative practices to ensure participant learning and determine areas of strength and areas for improvement (Qian, Hambrusch, Yadav, & Gretter, 2018).

Professional development courses must be cooperative and collaborative, allowing time for teachers to discuss and strategize (Stosich, 2016; Baran & Correia, 2014). Cherkowski (2018) asserted that quality professional development courses created opportunities for teacher leadership development. In turn, these opportunities yielded positive benefits for the school culture (Cherkowski, 2018).

Teacher capacity and school climate were positively impacted by well-executed professional development models (Prestridge & Tondeur, 2015). Through a goal of continual improvement, professional development models include identifying teacher leaders to aid in new methodology implementation. Harris and Kemp-Graham (2017) argued that using a teacher-leader model allows for increased teacher leadership capacity while improving classroom practices.

Professional development courses that focused on “adaptive expertise” were more effective in developing teacher capacity (Smith & Starmer, 2017, 25). Smith and Starmer (2017) defined adaptive expertise as visionary knowledge that affects change. Researchers asserted that in order for professional development to affect change, it must be visionary and focused on metacognition and reflective practice (Smith & Starmer, 2017).

### **Online Professional Development**

The results of this study affirmed the need for professional development to increase SM execution at a higher level. Specifically, the data analysis indicated a clear demand for professional development for high school teachers at XYZ High School to improve SM implementation in an effort to develop critical thinkers. Online professional development (OPD) was an appropriate format for the project deliverable because participants were provided the flexibility and accessibility to fully engage with the material without disrupting their classroom routines (Mohr & Shelton, 2017). Recent research indicated OPD was as effective, if not more effective, than traditional professional development formats (Bates, Phalen & Moran, 2016).

While traditional professional development courses were presented in a face-to-face format, the main criticism of the face-to-face format was the lack of connectivity

between the course content and meaningful development of skills (Shaha, Glassett & Ellsworth, 2015). Evaluative feedback on the traditional model indicated the format is failing to meet the needs of educators at institutions of higher education as well as those in K-12 programs (Sullivan et al., 2013). Moreover, the face-to-face courses could be costly due to financial costs for substitutes that allowed teachers to attend training and be absent from the classroom, were disruptive to the daily classroom routines, and required extra expenses for venues and materials (Shaha, Glassett, Copas, & Ellsworth, 2015). The OPD format removed those potential financial costs and disruptions while providing the opportunity for increased participation (Mohr & Shelton, 2017).

The 21st century technologies have continued to advance in the field of education (Carpenter, Sweet & Blythe, 2016). With the increase in new technologies, OPD programs have gained popularity for educators (Teräs & Kartoğlu, 2017). Teräs & Kartoğlu (2017) reported that among many advantages of OPD, flexibility and accessibility were at top of the list. Additionally, a variety of strategies were best as “one size does not fit all” when it came to educating teachers who taught different content (Bauer, 2018, p.2).

However, several challenges accompanied the OPD format. One notable challenge for participants engaged in OPD was remaining self-reliant and motivated (Teräs & Kartoğlu, 2017). An additional challenge was keeping participants engaged and actively learning (Qian et al., 2018). One final challenge noted was the lack of teacher development due to low course longevity, as most OPD courses were not prolonged (González & Skultety, 2018). OPD courses designed for teacher instruction were, on

average, 1-3 days long whereas traditional face-to-face formats could be designed to be much longer.

OPD could be completed via a variety of methods of digital platforms. OPD could be video based using video conferencing or pre-recorded videos. OPD could also be utilized through interactive tools, online reading materials and photos (Rice, 2017). Additionally, OPD courses that involved investigation, reflection and collaboration increased participant engagement (Prestridge & Tondeur, 2015).

### **Literature Review Summary**

The literature review consisted of a review of current and relevant studies centered on professional development for teachers, best practices of professional development and then focused on the OPD format for professional development. The literature reviewed supports the selection of professional development as the project genre for this study. The problem of this study will be addressed via an OPD format and will include similar best practices noted in the literature review. Finally, the project deliverable OPD content is backed by the literature review surrounding professional development, best practices, and OPD considerations.

### **Project Description**

The project's overall goal is to provide teachers with SM training in order to increase confidence, knowledge base, and effectiveness. The professional development design is an on-demand, online model. As the key member engaged in this professional development course, the high school teacher will gain the skills needed to effectively implement SM into their daily classroom practices. The professional development course

is based on the findings from the research study at XYZ High School. The findings suggest that in-house professional development is the best course of action in order to truly impact critical thinking skill development via SM in high school students.

### **Project Objectives and Format**

The goals for this project are teachers will develop an appreciation for Socrates and the work he completed that remains relevant today, and teachers will gain confidence in their ability to effectively implement SM with the acquisition of new strategies for classroom application. The project objectives are for teachers to (a) gain a solid understanding of SM, (b) gain confidence in their SM implementation, and (c) learn how to plan Socratic seminars at a high level to develop critical thinkers. Each objective is grounded in the findings of the data analysis. The course format is an online, on-demand course, asynchronous and self-paced.

The course is broken into two modules: *What and Why*, and *How of SM*. Module 1 defines SM and identifies the many reasons why SM is a proven method for developing critical thinking skills. Module 2 offers pedagogical supports for practical application. Throughout both modules, participants engage in online discussions, practice the concepts, and plan Socratic seminars.

The first goal is met through completion of Module 1. Module 1 is heavily focused on Socrates and the origination of SM via Plato's recordings. The second goal is met via the completion of Module 2. Module 2 centers on SM application and several practice exercises participants must complete. The OPD will yield 1.5 hours of Continuing Education credits for licensed teachers.



### **Needed Resources and Existing Supports**

Successful implementation of the project requires specific resources and supports. An online format for the project deliverable is needed as well as technology to support and acquire teacher-led seminars, online discussions and assignment submissions. Relevant and research-based materials must be prepared and uploaded in a meaningful order to address the learning objectives. Additionally, full support is needed from district leaders and school principals.

School district leaders and veteran teachers with extensive SM knowledge could support implementation through engagement with online discussions and Q&A boards. School district personnel who completed SM training elsewhere can be relied on to support this course while adding their own perspectives on SM application within the lens of the course objectives. The on-demand OPD course is appropriate for immediate implementation and instant access for teachers.

The platform that will be used for the on-demand OPD will be Canvas, an intuitive learning management system that allows for easy access to materials. IT support will also assist with the course development. Finally, my direct supervisor, to ensure comprehensibility and applicability, will approve the course prior to allowing teachers access.

### **Potential Barriers and Solutions**

I identified a few barriers to full implementation. The identified barriers are lack of time teachers may have to effectively complete the course and lack of providing full

attention to the course. Also, a lack of engagement from participants taking part in the course is a potential barrier.

To solve the time management barrier, the course will be made available online and on-demand. There are 15 contact hours required to complete the course broken up between two modules. Module 1 must be completed prior to Module 2. Participants taking the course can work through Module 1 and then move on to Module 2 when the opportunity presents itself, within reason.

The lack of providing full attention to the course can be addressed at the campus level. Campus administrators can choose to designate certain dates for teachers to complete the course together. For example, a faculty meeting may be scheduled and that time used to allow teachers to focus solely on the coursework while convened together in one room. This allows campus administrators oversight of the completion of work. Departments can also organize this if the campus is departmentalized. This solution also addresses lack of participation as it, again, allows for oversight of the course completion by campus administrators and/or department chairs.

### **Project Timetable**

Implementing the project, an on-demand OPD course for high school teachers entitled *Pedagogy 1: Socratic Practice* will take place over the course of one quarter (9 weeks) in the school and larger school district. The course, *Pedagogy 1: Socratic Practice* is an on-demand OPD course with fifteen contact hours, approximately two days of work is completed without interruption. However, participants will have access to the course materials and discussion boards for the entire school year. An additional course

may be created as a follow-up the course but that determination will be made at the end of the school year based on increased execution of SM implementation post-professional development.

### **Roles and Responsibilities**

My role as a lead facilitator of the project for the district is to develop the course content, create the OPD course, moderate online course discussions, assess teacher submissions, and answer questions. My expertise and leadership will be available to provide support to all participants participating in the course. I will collaborate with the school district leadership to ensure the course is in alignment with district-level expectations in order to increase SM implementation to a higher level of execution in order to develop critical thinking skills among high school students.

District leaders will be responsible for communicating the professional development project to applicable schools. Campus administrators will be expected to support the attendance and engagement of the course through campus reminders and will be highly encouraged to complete the course as well. The Instructional Technology team will review the course for any technical issues and ensure an accessible online, public format for implementation.

Teachers participating in the course will be responsible for Internet access as well as a laptop or tablet in order to successfully access the course. Participants will be responsible for practicing the strategies taught in the course. Finally, time management is key to the success of this course. Thus, participants will be responsible for budgeting

their time in order to complete the modules after school, on weekends, or during a school break.

### **Project Evaluation Plan**

Formative assessments will be conducted via online discussion posts at the conclusion of each module. Participants will be asked to complete an assignment in which they will be asked to note any insights gained, questions that remain, where clarification is needed, and any other relevant points they'd like to raise about the content of both modules. The feedback from these formative assessments will draw attention to areas that need to be strengthened in each module in relation to content and materials.

At the conclusion of the course, participants will complete an open-ended survey regarding the content, method of delivery, applicability, and overall opinion of the course. The feedback will gauge the effectiveness of the course, determine if specific learning outcomes were achieved and if the goals of the course were met. The summative assessment is located in Appendix A as part of the project materials.

### **Project Implications**

The problem of a lack of critical thinking skills among high school students at XYZ High School is addressed through an SM OPD course for high school teachers through providing opportunities for higher SM skill development while stimulating them to use what they learn in the classroom. Teachers benefit from this project because it has what they need to help them implement SM at a high level. The project focuses on current SM issues discovered in XYZ High School and works to alleviate those issues to allow for a strong SM implementation. The professional development course is expected

to increase the teachers' capacity to implement SM. The course also allows participants to engage first-hand with SM by viewing authentic seminars via video recordings, readings relevant to SM and respective content areas and allows for immediate application of new knowledge to strengthen SM implementation. Finally, the dialogue generated via the online discussions will provide the teachers from the local setting, as well as participants from other settings, with further examples of SM best practices while building a community of learners.

The project influences the larger context through a research-based school level response to the problem of a lack of critical thinking skills among high school students. A lack of critical thinking skills remains a major global problem (Bersin, 2014). This project has the potential to address this issue at the local and global level.

### **Conclusion**

The project, a professional development program entitled *Pedagogy 1: Socratic Practice* is designed to provide teachers with the professional training to consistently implement SM in their respective local school communities. The data collected and analyzed from this study indicates that effective teachers need to feel confident in order to implement SM effectively and at a high level. The findings also reveal that the inclusion of professional development improves educator confidence. The project evaluation methods include both formative and summative assessments of course participants. Increased teacher SM capacity improves the education of the students by increasing critical skill development.

The continuation of the project's implications for the future is described in Section 4. Conclusions of the research in addition to self-reflection and contemplation as a researcher and SM specialist are included in the next section. Finally, the project's strengths, recommendations for alternative approaches, the potential for social change and implications for the research are also presented.

## Section 4: Reflections and Conclusions

### **Project Strengths and Limitations**

In Section 4, the project's strengths and recommendations for resolving the project's limitations are discussed. Additionally, I reflect on scholarship, the project's potential impact in relation to social change, and implications and directions for future research. Finally, this section includes analysis from my perspective as a reflective practitioner and professional development course developer.

### **Project Strengths and Limitations**

The availability of course content and ease of scheduling is a major strength. Accessibility allows participants flexibility with completing the course on their own time, which also allows for a stronger participant buy-in. The professional development course I developed may create consistency for the local school district by creating shared SM standards and expectations for SM implementation across all grade levels, Kindergarten through 12th grade.

The project is a starting point to increase SM effectiveness. Schools can use SM learning and help teachers identify other areas of growth to continue increasing teacher capacity. Also, the online format allows any new mid-year hires access to the course without missing content or having to play catch up. I considered flexibility, accessibility, and availability in my design, which could potentially impact social change.

An additional strength of this project is the realistic practice in the professional development course. Participants will engage in practical application opportunities to practice new strategies and methods. Additionally, participants will complete discussion

prompts to engage with other learners to develop a community of learners. Practice and self-reflection are built into the course and are designed to offer participants a cooperative and collaborative environment.

A limitation is that data collected at the sample site, XYZ High School, may not be adequate enough to support generalizations. The use of a single site may provide for a thick and rich description but does not allow for connections to be made across schools within the district. Thus, additional research at other schools is needed. However, regardless of this limitation, the current project study offers other campus administrators and school leaders with a framework in which to replicate the study at other sites.

### **Recommendations for Alternative Approaches**

I considered several alternative solutions for this study. I considered an in-person training format for efficacy and could be an alternative to the OPD format. However, this format would require additional resources including meeting space, a budget for substitute teachers so that all teachers can attend, and additional technology resources including projection devices and recording devices for those not able to attend. Due to budgetary and time restrictions, I ruled this out as a possible alternative approach.

Other alternative considerations include (a) training for campus administrators, a train-the-trainer format, to allow for campus administrators to train faculty on campus; and (b) a blended learning format of online and in-person training. However, the most appropriate, highest-touch format for achieving the training objectives while training as many teachers as possible is the OPD format. The OPD format allows for a high level of accessibility and flexibility for all participants, two items the alternatives do not offer.



### **Scholarship, Project Development and Evaluation, and Leadership and Change**

Over the course of this project study, I developed new proficiencies as a scholar. I actively pursued knowledge and education at a doctoral level through the proposal, the constant search for applicable literature, collection and analysis of data, development of the resulting project, and through continuous self-reflection. I grew as an intellectual and gained intellectual experience and perspective from the feedback and support of my committee.

#### **Scholarship**

Conducting this doctoral study taught me the significance of analyzing qualitative research data and the importance of utilizing credible sources to support the theory. I gained an appreciation for the value of peer-reviewed journals because I learned first-hand the hours of work that go into the publication of those articles. I have also gained a deep respect and appreciation for those who collect, analyze, and apply qualitative data in their daily work.

My life-long love of learning was my motivation for continuously seeking information and increasing my skill set as a scholar. My purpose was to continuously seek new knowledge while affecting social change. I grew professionally through this process as a researcher and scholar. In this study, I learned that teacher perceptions are vital to understanding educational settings and identifying areas for growth within the school setting.

I will continue to conduct research and seek out information. This effort will continue to help me develop as a scholar and educational leader. Finally, I will continue to seek out and improve areas of growth to positively affect social change.

### **Project Development and Evaluation**

Over the course of collecting and analyzing the data, I understood better how to review an educational project as a possible elucidation of a gap in practice. I chose a professional development project as the genre after intentional and thoughtful consideration from this study and the literature reviewed. I learned that professional development plans must be flexible and accessible to participants in order to yield the best outcomes possible. The audience of the professional development must be considered in the development of the plan. The objectives must remain firm but the project deliverable must be flexible.

I learned that in order to ensure the professional development program meets the goals and objectives, formative and summative evaluations must be included in the plan. Additionally, the data derived from the evaluations should be used for the future direction of the plan. Finally, evaluations should be reviewed for program strengths and weaknesses. Essentially, I learned that without evaluation, no program can improve and evolve.

### **Leadership and Change**

I attribute perseverance and self-reliance to the ability to lead and affect change during the research process and project development. Perseverance was gained through countless challenges I encountered. The challenges included a year-long process of

revising during the proposal stage, participant schedule changes and/or cancellations during the data collection stage, limited resources during project development, and finding time to accomplish the grueling task of completing the study. During the particularly arduous days, I remained calm and focused, trusting the process and persevered.

I became more self-reliant during the study. I looked inward to my own skill set and experiences to help push through challenges, setbacks, and disruptions to the process. I did not cast blame or deflect responsibility when issues arose or changes were requested. I relied on my critical thinking skills and developed further my ability to astutely solve problems.

#### **Analysis of Self: Scholar**

I did not consider myself a scholar when I began this process. Even after committing 18 years of my life to the education field, including using research and data to drive my decision-making at the administrative level, scholar was never a title I considered appropriate for myself. However, after this process, I proudly add scholar to my list of roles in the field of education.

My chair was instrumental in my development as a scholar. She worked with me, challenged me, pushed me beyond my perceived potential, and modeled scholarly work and wisdom. The path to becoming a scholar was enriched by my committee, professors and peers. I learned how to seek and find scholarly work, communicate in a scholarly manner, and gained expertise in scholarly quantitative studies.

I learned how to create a purpose, problem statement, and research questions. I learned how to align my work with the problem statement throughout the study. I learned how to write a credible, timely literature review that included a conceptual framework for my study. I discovered new and efficient ways of collecting literature for the review as well as new databases that allowed access to the literature. I also became a scholarly writer and learned how to be more scholarly in my word choices and syntax.

### **Analysis of Self: Practitioner**

As a campus administrator, I developed a strong appreciation for the importance of sharing the responsibility of improving the learning process for educators. The position of the campus administrator is not simple or easy. The role can be overwhelming and difficult, challenging and unending. To be successful, I must be resilient, positive, and dedicated to the students and faculty. I learned that delegating tasks, inspiring others to lead, and supporting teachers is paramount to the success of a school and program. I also learned the importance of cooperative and collaborative professional relationships. This study reiterated the trust that must be shared within professional relationships in order to develop programs, find successful partnerships, and create positive working relationships.

### **Analysis of Self: Project Developer**

This study provided me with the opportunity to design an OPD based on data analysis and the literature. During the project development process, I developed new skills that allowed me to create a flexible and accessible OPD program for teachers. Those skills include evaluative, analytical, and reflective skills. I gained evaluative skills during review and analysis of the literature. I gained analytical skills during the data

analysis stage. Finally, I developed reflective skills over the course of this entire process as I continually reflected on my work, progress, and goals.

Prior to this study, I had minimal experience in developing professional development plans for teachers. Through this process, I learned the value of considering the prior knowledge of the participants in order to make the OPD the most effective OPD possible. Additionally, OPD effectiveness can be determined by how flexible and accessible it is. Finally, I learned that OPD success can be determined by how flexible and accessible the facilitator is.

### **Reflection on Importance of the Work**

The goals of the project design and the established practices for increasing critical thinking development among high school students are vital to the continued development of critical thinkers. Too many students enter college ill-prepared for the challenges of thinking on their own in rigorous courses and into the first year of their professional careers (Bersin, 2014). Training teachers on effective SM implementation will increase critical thinking skills and is a step in the right direction in order to improve this global problem (Adeyemi, 2012).

The project study outcomes are meaningful because they allow teachers to become stronger pedagogical practitioners while also growing and developing their skills as SM leaders. By using the on-demand OPD format, the project reaches more teachers easily, which will continue to increase the execution of SM at a high level. The project promotes self-reliance, critical thinking skills, and advocacy through rigorous instruction and course materials.

### **Implications, Applications, and Directions for Future Research**

The project's implications for social change are a significant component of this project study. The latent influence on positive change exists at many levels. Implications within the study's limitations are at the school, higher education setting, and in-service levels.

The project can be applied to another educational setting including schools, in-service teacher development programs, and institutions of higher education. The OPD format used in this study can be easily replicated and applied to other areas of development for in-service teachers based on the needs of the school. Standards-based programs can implement the OPD format for continuous learning or to target areas of weakness among faculty at elementary, middle, high, and higher education settings.

The implication for future research involves the reflection of several pedagogical practices. Qualitative studies on OPD for faculty development of critical thinking skills among high school students could support this study's results. Additionally, a mixed-methods study that uses both qualitative and quantitative methods to examine the use of OPD to develop faculty strengths and measure the growth could reveal additional solutions. Finally, a quasi-experimental research approach that measures critical thinking among students before and after the OPD could gather more information on project efficacy.

### **Conclusion**

The problem investigated in this study determined if the implementation of the SM developed critical thinking skills in high school students based on teachers'

perceptions. The purpose of this descriptive qualitative case study was to describe high school teachers' perceptions of developing critical thinkers via the SM. In XYZ High School District in North Carolina, high school teachers were asked to implement the SM in the new academic year to guide instruction and support the development of critical thinking skills in students. With the data collected I attempted to create a rich and thick description of the perceptions of high school teachers on developing critical thinkers via the SM. The project, a professional development program entitled *Pedagogy 1: Socratic Practice* is designed to provide participants with the professional training to consistently implement SM in their respective local school communities.

Conducting this qualitative project study helped me to better appreciate that determination, persistence, and dedication are essential to understanding how to affect positive educational change. I learned about the scholarship and developed skills as a course developer and scholar. I developed as a scholar during the capstone project through scholarly research searches, self-reflection, and scholarly writing.

As a campus administrator, I learned that school improvement and change are not easy to achieve without intentional, research-based solutions. As a course developer, I learned how to best meet the needs of the participants and how to develop authentic and intentional professional development. As a Walden University doctoral student, I am pleased that in my role of scholar and developer, I was able to contribute to the scholarly research concerning SM implementation in order to increase critical thinking skills among high school students.

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Appendix A: The Project

Pedagogy 1: Socratic Practice Online On-Demand Socratic Method Professional  
Development

Professional Learning Project

Designed by: Melissa Edwards

December 2018

Pedagogy 1: Socratic Practice

Socratic Method training

Professional Learning Development

Course Materials

## Professional Learning Overview

### **Course Goals:**

1. Teachers will develop an appreciation for Socrates and the work he completed that remains relevant today.
2. Teachers will gain confidence in their ability to effectively implement SM with the acquisition of new strategies for classroom application.

### **Course Objectives:**

Objective 1: Participants will gain a solid understanding of SM.

Objective 2: Participants gain confidence in their SM implementation.

Objective 3: Participants will plan Socratic seminars at a high level to develop critical thinkers.

## Professional Learning Modules: Module Outline

Below is the list of resources that will be utilized in each module in order by Module.

### **Module 1: The “What and Why” of Socratic Method**

#### 1. The “Why” of Socratic Method

[https://www.youtube.com/watch?time\\_continue=53&v=hCu5EgK5TdY](https://www.youtube.com/watch?time_continue=53&v=hCu5EgK5TdY)

#### 2. Article #1: What it is and How to use it in the Classroom

<https://tomprof.stanford.edu/posting/810>

#### 3. Article #2: What is the Socratic Dialogue

<https://www.circeinstitute.org/2011/03/what-is-socratic-dialogue>

#### 4. Article #3: An Example of Great Socratic Teaching

<http://insideclassicaled.com/an-example-of-great-socratic-teaching/><sup>4</sup>

#### 5. Module 1: Discussion #1 – Define Socratic

Using the text as evidence, please define the Socratic Method in your own words.

#### 6. Module 1: Discussion #2 – Socratic Seminars

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1 [TEDx Talks]. (2011, September 2). *Michael Strong - Socratic Practice as DisruptiveTechnology* [Video File]. Retrieved from [https://www.youtube.com/watch?time\\_continue=53&v=hCu5EgK5TdY](https://www.youtube.com/watch?time_continue=53&v=hCu5EgK5TdY)

2 Reiss, R. (2003). *The socratic method: What it is and how to use it in the classroom*. Retrieved from <https://tomprof.stanford.edu/posting/810>.

3 Kern A. (2011). *What is Socratic Dialogue?* Retrieved from <https://www.circeinstitute.org/2011/03/what-is-socratic-dialogue>

4 Perrin, C. (2011). *An example of great socratic teaching*. Retrieved from <http://insideclassicaled.com/an-example-of-great-socratic-teaching/>

Socratic seminars are an integral component of the classical model at Thales Academy. Based on the articles, please explain how Socratic seminars can add value to your own classroom.

### 7. Module 1: Assignment

A vital tenet of Socratic seminars is to always reference the text. The text may be an article, book, primary source document, TED talk, etc. Taking this into consideration, please refer to the first article, specifically the tips for educators for Socratic, to complete this assignment. Please generate 5 possible conversation guidelines to govern Socratic discussions in your classroom and explain your reasoning for each.

## **Module 2: The “How of Socratic Method**

### 1. The “How” of Socratic Seminars

<https://www.youtube.com/watch?v=8HoVf8xn2lA><sup>5</sup>

### 2. XYZ High School Socratic Standards

<https://drive.google.com/file/d/1YwRG1Pfi56x0UZEiJCaTxH8QsvRWm6WO/view?usp=sharing><sup>6</sup>

### 3. Module 2: Discussion 1 – Standards

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<sup>5</sup> [Luddy Schools Conference]. (2014, November 4). *Michael strong - Keynote session socratic practice in school-wide curriculum* [Video File]. Retrieved from <https://www.youtube.com/watch?v=8HoVf8xn2lA>

<sup>6</sup> Adapted from <https://www.criticalthinking.org/pages/universal-intellectual-standards/527>.

Considering that the standards are not in a specific order, please order them based on applicability to your content area. Explain your order with a well-reasoned response.

#### 4. Before the Seminar: Checklist

[https://www.youtube.com/watch?v=ZOuuC-kpd\\_o&t=28s](https://www.youtube.com/watch?v=ZOuuC-kpd_o&t=28s)<sup>7</sup>

<https://www.youtube.com/watch?v=MpGli-UVqmE><sup>8</sup>

#### 5. The Questions

<https://www.youtube.com/watch?v=pQq2Lm6AC5A><sup>9</sup>

#### 6. Module 2: Assignment 1 – Questions

After reviewing the Module 2 materials carefully, create a series of Opening, Core and Closing questions, 8-12 questions total, that you believe address all standards based on a text specific to your content area. Be sure to use Revised Bloom's Taxonomy stems when drafting your questions. Please post the text and questions to receive full credit.

#### 7. After the Seminar – Checklist

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7 [Socratic Seminars International]. ( 2016, April 29). What are the elements of a socratic seminar?: Part I [Video File]. Retrieved from [https://www.youtube.com/watch?v=ZOuuC-kpd\\_o&t=28s](https://www.youtube.com/watch?v=ZOuuC-kpd_o&t=28s)

8 [Socratic Seminars International]. ( 2016, May 4). What are the elements of a socratic seminar?-Part 4 [Video File]. Retrieved from <https://www.youtube.com/watch?v=MpGli-UVqmE>

9 [Socratic Seminars International]. ( 2016, May 4). What are the elements of a socratic seminar?-Part 3 [Video File]. Retrieved from <https://www.youtube.com/watch?v=pQq2Lm6AC5A>

Student Reflection: Ask students to complete a short reflection of how they participated in the Seminar. Did they express themselves as well as they would have wished? Did they give adequate time for other students to express themselves? How might they improve?

Transition to a Writing Assignment (optional): Many students feel more comfortable *writing* than they do speaking in a group since there is less opportunity for embarrassment. Consider assigning a writing assignment at the close of a Socratic Seminar for those students. Students should brainstorm ideas for further discussions and areas of research. Consider a new writing prompt, or tailor your *closing question* in such a way that it leads naturally to a writing assignment of appropriate length.

## 8. Parts of a Socratic Seminar in Action

<https://www.youtube.com/watch?v=QPoSEn4fjhM><sup>10</sup>

[https://www.youtube.com/watch?time\\_continue=20&v=STcTj7dWd9c](https://www.youtube.com/watch?time_continue=20&v=STcTj7dWd9c)<sup>11</sup>

## 9. Module 2: Discussion 2 – Critique

Respond with your observations of the videos as follows: what specifically did you notice about how the teachers interacted with the class? Were there any standards represented more than once? If so, explain and include the time stamp.

## 10. Design your Own Socratic Seminar

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10 [TLI TLI]. (2018, June 27) Socratic discussion es [Video File]. Retrieved from <https://www.youtube.com/watch?v=QPoSEn4fjhM>

11 [TLI TLI]. (2018, June 27) Socratic discussion herring [Video File]. Retrieved from [https://www.youtube.com/watch?time\\_continue=20&v=STcTj7dWd9c](https://www.youtube.com/watch?time_continue=20&v=STcTj7dWd9c)

<https://drive.google.com/file/d/1hy3c6tTPC1Pn4xz5Yil4LZmCqBDnMtlN/view?usp=sharing>

#### 11. The XYZ High School Way to Conduct Effective Socratic Seminars

<https://drive.google.com/file/d/1OgvU3LoqpWRID-q2lyxvyJuakPnKUiJw/view?usp=sharing>

#### 12. Module 2: Assignment 2- Lesson Plan

Please upload your Socratic lesson plan. To receive full credit, you must include:

Content area and grade level

Questions (copy and paste from Assignment 1)

Classroom design: How will you set up your class for the seminar?

Assessment: How will you assess student knowledge? Explain.

Time Management: How much time will you need to complete your Seminar? How will you manage your time so that you complete your seminar in the time you allot?

#### 13. Q&A

Upon reflection of the course content and your new understanding of Socratic, please share any takeaways, ideas for lesson plans and/or questions about Socratic implementation in your classroom.

#### 14. Course Evaluation



See Figure 22 in List of Figures.

### 15. Course Finished

You have reached the end of the Socratic Teaching Method Course. To ensure credit and transcription of the course for CEUs, please send a confirmation email to Melissa Edwards. Please feel free to reach out to Melissa Edwards if/when additional Socratic support is needed.

## Professional Learning Modules: Introductory Page

### Welcome to Pedagogy 1 - Socratic Practice

In this course we will explore Socratic as a method of developing critical thinkers engaged in their own education and as it relates to Thales Academy. The course is broken up into 2 Modules. Each module will focus on the "What" & "Why" of the Socratic Method, and then the "How" of Socratic Seminar. You will explore these topics through readings, videos, and interactions with the concepts through discussions, and there will be one required student submission within each module. The modules must be completed in sequence.

The themes for the 2 modules are as follows:

Module 1	Module 2
Understanding the Socratic Method	Socratic Method in Practice

Policy on Course Credit: In order to fulfill the requirements for CEUs, all course participants need to complete the following:

1. Complete readings and Video Segments associated with each Module.
2. Post Discussion Forum Responses to questions from the Modules using Discussion Forum Rubric (below) as a guide to responding at a high level.
3. Post Discussion Forum Replies to at least *SIX* different Discussion Responses posted by your colleagues. These replies are more informal and should consist of 4-5 sentences that provide insight and prompt further discussion.

## Professional Learning Discussion Rubric

**Discussion Forum Rubric**

<b>Criteria</b>	<b>Superior</b>	<b>Excellent</b>	<b>Good</b>
<b>Demonstration of quality of discussion content</b>	<p>Postings made it clear that you have thoughtfully answered the discussion forum question.</p> <p>Your responses include:</p> <ul style="list-style-type: none"> <li>Affirming statements and citing <b>several</b> relevant elements of course readings</li> <li>Asking new related thought-provoking <b>questions</b>.</li> </ul>	<p>Postings made it clear that you displayed <b>some</b> understanding of the discussion forum question.</p> <p>Your responses include:</p> <ul style="list-style-type: none"> <li>Affirming statement and citing a <b>couple</b> elements of the course readings</li> <li>Asking a new somewhat related <b>question</b>.</li> </ul>	<p>Postings made it clear that you displayed <b>little</b> understanding of the question under discussion.</p> <p>Your responses included:</p> <ul style="list-style-type: none"> <li><b>No</b> affirming statements or references to relevant course readings</li> <li>Asking <b>no</b> related questions</li> </ul>
<b>Demonstration of quality of writings</b>	Written responses are <b>free</b> of grammatical, spelling, or punctuation errors	Written responses are <b>usually free</b> of grammatical, spelling, or punctuation errors.	Written responses frequently contain <b>obvious</b> grammatical, spelling or punctuation errors.
<b>Critical applications to praxis</b>	<b>Evidence</b> of critical analysis of a posted idea with clear connections drawn to professional or personal praxis.	<b>Some evidence</b> of critical analysis of a posted idea with some connections drawn to professional or personal praxis.	<b>Little evidence</b> of critical analysis of a posted idea with no clear connections drawn to professional or personal praxis.

Figure A1. Discussion forum rubric used for all discussion posts.

## Professional Learning: Module 1 Contents<sup>12</sup>

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### The "Why" of Socratic Method

In this module you will be introduced to the Socratic Method through a brief introductory video, a few select readings and participate in a couple discussion questions. This module will focus on the What and Why of Socratic Method [REDACTED]

View this video as an introduction to the importance of the Socratic Method by Michael Strong [REDACTED]



Continue with this module by clicking the next arrow at the bottom right of this screen.

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*Figure A2.* OPD Module 1 Page 1: TedxUFM Michael Strong

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<sup>12</sup> Identifying information has been redacted.

## Article #1: What it is and How to Use it in the Classroom

### The Socratic Method: What it is and How to Use it in the Classroom

Political Science professor Rob Reich, recipient of the 2001 Walter J. Gores Award for Teaching Excellence, delivered a talk on May 22, 2003 as part of the Center for Teaching and Learning's Award Winning Teachers on Teaching lecture series. In his talk, Professor Reich discussed the Socratic method of teaching—a method which has encountered some criticism in recent decades but is also acknowledged as the foundation of Western pedagogical tradition. Professor Reich encouraged the audience to creatively reclaim the Socratic method as a relevant framework for actively engaging students with the critical thinking process.

This issue of *Speaking of Teaching* is devoted to the Socratic method, and reproduces the substance of Professor Reich's talk on the subject. After a brief introduction in which Reich defines what the Socratic method is (and what it is often mistaken for), he helpfully breaks down the method into specific components, and then offers tips for how to use it in the classroom. He also offers an excellent model of the Socratic method in practice.

As with most of the other talks in the Award Winning Teachers on Teaching series, a videotape of Professor Reich's talk is available for viewing in the video library at the Center for Teaching and Learning, on the fourth floor of Sweet Hall.

#### What is the Socratic Method?

Socratic inquiry is emphatically not "teaching" in the conventional sense of the word. The leader of Socratic inquiry is not the purveyor of knowledge, filling the empty minds of largely passive students with facts and truths acquired through years of study. As the people in the School of Education would say, the Socratic teacher is not "the sage on the stage." In the Socratic method, there are no lectures and no need of rote memorization. But neither, as you might expect, is the Socratic teacher "the guide on the side."

In the Socratic method, the classroom experience is a shared dialogue between teacher and students in which both are responsible for pushing the dialogue forward through questioning. The "teacher," or leader of the dialogue, asks probing questions in an effort to expose the values and beliefs which frame and support the thoughts and statements of the participants in the inquiry. The students ask questions as well, both of the teacher and each other.

The inquiry progresses interactively, and the teacher is as much a participant as a guide of the discussion. Furthermore, the inquiry is open-ended. There is no pre-determined argument or terminus to which the teacher attempts to lead the students. Those who practice the Socratic method do not use PowerPoint slides. Without a lesson plan, the group follows the dialogue where it goes.

#### Essential components of the Socratic method

1. The Socratic method uses questions to examine the values, principles, and beliefs of students.

Through questioning, the participants strive first to identify and then to defend their moral intuitions about the world which undergird their ways of life. Socratic inquiry deals not with producing a recitation of facts, or a questioning of the logic of various and sundry abstractions which are held up for comparison, but demands rather that the participants account for themselves, their thoughts, actions, and beliefs. Socratic inquiry aims to reveal the motivations and assumptions upon which students lead their lives. Thus, practitioners of the Socratic method may want students to know facts, but they want to focus more on what the student thinks about these facts, not what others think! It's no use citing authorities.

2. The Socratic method focuses on moral education, on how one ought to live.

Socratic inquiry necessarily proceeds in an *ad hominem* style. That is, rather than making arguments or asking questions designed to convince any or all people, all comments in a Socratic inquiry are directed at specific participants in the discussion. The subject of inquiry is not what is thought or said about the world in general, but what each participant thinks or says about the world. The goal is not to consider depersonalized propositions and abstractions, but to probe the underlying values and beliefs of each inquirer.

Since the substance of Socratic inquiry is the belief and value system of the participants, when those beliefs or values are challenged, or refuted, it is nothing less than the coherence of the lives of the people that is at stake. As Socrates says often in Plato's dialogues, he is primarily concerned with how one ought to live. In Plato's *Gorgias*, Socrates says, "Do not take what I say as if I were merely playing, for you see the subject of our discussion— and on what subject should even a man of slight intelligence be more serious?—namely, what kind of life should one live . . ."

Refutation of one's beliefs about how best to live delivers an implicit verdict that, to paraphrase Rilke's poem, "The Archaic Torso of Apollo" (1908), you must change your life. Socrates is famous for saying "the unexamined life is not worth living." Equally true, though less appreciated, is the fact that the un-lived life is not worth examining.

3. The Socratic method demands a classroom environment characterized by "productive discomfort."

In the best of Socratic dialogues, there is real tension among the interlocutors. The stakes are high. Will one be called on, be called to account?

4. The Socratic method is better used to demonstrate complexity, difficulty, and uncertainty than at eliciting facts about the world.

Bertrand Russell once wrote, "As usual in philosophy, the first difficulty is to see that the problem is difficult. If you say to a person untrained in philosophy, 'How do you know I have two eyes?' he or she will reply, 'What a silly question! I can see you have.' It is not to be supposed that, when our inquiry is finished, we shall have arrived at anything radically different from this un-philosophical position. What will have happened will be that we shall have come to see a complicated structure where we thought everything was simple, that we shall have become aware of the penumbra of uncertainty surrounding the situations which inspire no doubt, that we shall find doubt more frequently justified than we supposed, and that even the most plausible premises will have shown themselves capable of yielding implausible conclusions. The net result is to substitute articulate hesitation for inarticulate certainty."

*Figure A3. OPD Module 1 Page 2: Article #1.*

### The Socratic Professor

In the Socratic method, the Socratic professor is not the opponent in an argument, nor is he or she someone who always plays devil's advocate, saying essentially: "If you affirm it, I deny it. If you deny it, I affirm it." This happens sometimes, but not as a matter of pedagogical principle.

Neither does the Socratic professor possess all the knowledge or the answers, nor is he or she "just testing" the students. The professor is a participant in dialogue, and must always be open to learning something him- or herself. It follows from this, that the Socratic professor does not seek deference to his or her authority. Nor does he or she create a cult of personality by seeming aloof, cold, and distant. Instead, the Socratic professor knows his or her students' names, and the students know each other's names.

The Socratic professor aims for "productive discomfort," not panic and intimidation. The aim is not to strike fear in the hearts of students so that they come prepared to class; but to strike fear in the hearts of students that they either cannot articulate clearly the values that guide their lives, or that their values and beliefs do not withstand scrutiny.

### Tips for Using the Socratic Method

1. Set down conversational guidelines:

- \* Learn student names and have the students learn each other's names.
- \* Explain that participation requires listening and active engagement and that it is not enough to just insert a single comment in class and then be silent for the rest of the day.
- \* Emphasize that students should focus their comments on concepts or principles, not first-person narratives.

2. Ask questions and be comfortable with silence. Silence is productive. Be willing to wait for students to respond. There is no need to fill a conversational void; silence creates a kind of helpful tension. Use the "ten-second wait" rule before you attempt to re-phrase your questions!

3. Find ways to produce "productive discomfort." Cold-calling works, but temper it with small group work so students can talk to their neighbor.

4. Above all else, use follow-up questions! Get students to account for themselves, not just to regurgitate readings and lectures.

5. Always be open to learning something new. Don't be a sage on the stage, or a guide on the side. Be willing to say, "I don't know the answer to that question."

6. Welcome the "crazy idea" that offers a new perspective on the topic, but discourage those ideas which are not serious.

At the end of his talk, Professor Reich gave an example of an exercise in Socratic method in which he posed a moral dilemma to his audience (you are the conductor of a train that has lost its brakes and you have to make the choice to either kill five workers on the tracks of an alternate route, or risk killing all 300 passengers on the train) and asked them to make arguments for what should be done. He then followed up each suggestion provocatively, pushing each speaker to defend and articulate the reasons and values underlying their decision (is it better to save the many at the expense of the few?), and then applied their reasoning to other moral dilemmas in which their conclusions might not be as defensible.

In each round of questioning, Professor Reich tried to focus on breaking down the assumptions of the respondents in an effort to "build truth back up"-which is exactly the task of the Socratic professor in the classroom. When asked if he ever asserts his own views in the classroom, Professor Reich responded that he usually waits until the discussion has run its course and even then he might engage in a bit of "pedagogical deception" (taking a position he might not necessarily hold) in order to push students to examine their own premises.

While Reich's model of the Socratic method is not based entirely on Socrates's methods in Plato's dialogues, it is a long way from the confrontational humiliation that has become mistakenly associated with the Socratic approach. Instead, as practiced by Reich and others, the Socratic method is a dynamic format for helping our students to take genuine intellectual risks in the classroom and to learn about critical thinking.

### Bibliography

- Gregory Vlastos, ed., *The Philosophy of Socrates*, Notre Dame: University of Notre Dame Press, 1971.  
 Gregory Vlastos, *Socratic Studies*, Cambridge: Cambridge University Press, 1995.  
 David Hansen, "Was Socrates a 'Socratic Teacher?'" *Educational*

*Figure A4. OPD Module 1 Page 2: Article #1 continued.*

## Article #2: What is Socratic Dialogue?

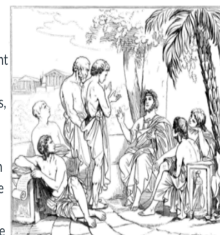
### What is Socratic Dialogue?

[Andrew Kern](#) <sup>e</sup>

Mar 24, 2011

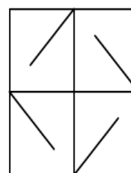
<sup>e</sup> <sup>e</sup> <sup>e</sup>

Classical education places a great emphasis on [Socratic dialogue](#) <sup>e</sup>, but what do we mean when we use the title? Is it question driven instruction? Is there some pre-determined answer the teacher is looking for from the student? Well, Plato is not a writer for either the overly serious (no sense of humor? Don't read *The Symposium*) or the vacuous (don't care about justice? Don't read *The Republic*) so there is no simple answer to this question. If you have drawn a firm conclusion about what Socrates meant by a given argument, chances are you missed the point! But that doesn't mean it isn't worth reading Plato's works. On the contrary, it's what makes them so breathtakingly insightful and profitable. They reflect reality; you know, that place where we keep thinking we understand things only to discover that we were thinking like mere neophytes, that place where we live. But you can't conclude from this that Socrates/Plato didn't believe in anything. On the contrary, it was their conviction that truth was knowable that compelled them to contend with the [Sophists](#) <sup>e</sup>, who believed that truth was relative or unknowable. They were so confident that the truth was knowable that they developed strategies for discovering it, and these strategies have proven to be stunningly effective. The post-enlightenment world, however, does not believe that the truth can be known. As a result, they don't teach the tools of the classical tradition, the lost tools of learning, as Dorothy Sayers called them. Socrates was aware that people were not open to the truth and that they had many barriers to reaching it. He knew that we all spend most of our time living in error. So he developed a procedure by which he was able to rise from error himself and to raise others from error as well. It has come to be called [Socratic Method](#) <sup>e</sup>, though I think that Socrates would not agree that there is a "method" being followed. His approach, when fully realized, passes through two stages, which are most clearly demonstrated in the passage in the *Meno* when he teaches geometry to an ignorant slave boy.



Plato in his academy, painting by Swedish painter...

The first stage is what we can appropriately call by a modern term: deconstruction. During this stage, Socrates asks questions that help the disciple see the contradictions and inadequacies in his opinion. If the disciple is willing to accept the obvious, then he will say those magic words: I don't know. He has reached what Plato calls "metanoia," which is the Biblical word for repentance and means "to turn around." When you know you are ignorant, you are now teachable. Socrates now begins the second stage of his teaching, which he calls remediation. Now he will guide the student to "remedy his ignorance." As the goal in the first stage was to demonstrate the disharmony of the student's thought (contradictions, inconsistencies, etc.), the goal of the second stage is to restore harmony on a more solid foundation. Underlying this "method" were at least four Socratic convictions. First, truth is. Second, truth is knowable. Third, truth can be discovered. And fourth, truth is ultimately one, in the sense that all things fit together into a harmonious symphony of being. The sophists denied each of these convictions. For them, there was no truth, and if there was, you couldn't know it, and if you could, you couldn't communicate it to another person. Consequently, there is no harmony of being to guide our inquiry. You have your truth and I have mine. The late 19th century saw the wide spread triumph of the Sophist in the American school. Whereas Socrates tried to deconstruct in order to bring healing, the Sophist and the modern goes in a very different direction. He also has two stages, but they are ugly. Socrates sought to expose contradictions. The Modern Sophist seeks to debunk. Socrates sought to bring healing by mediating his disciples' ignorance. The Modern Sophist seeks to condition. After all, when there is no truth to seek, all we are left with is power. And that is all we are left with.



Doubling the square as in Plato's *Meno*

Image via Wikipedia

*Figure A5. OPD Module 1 Page 3: Article #2.*

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## Article #3: An Example of Great Socratic Teaching

### An Example of Great Socratic Teaching

by [Christopher Perrin, PhD](#) | May 9, 2011 | [Videos](#) | [2 comments](#)

As I talk and consult with classical schools and teachers, I am frequently asked what makes for great Socratic teaching. Good Socratic teaching is an art that is hard to define and takes time to master. Every Socratic class is a kind of performance or drama, and no class (even with the same students) will be the same. I hope to take some time on this blog to define and explore great Socratic teaching, because without it no one will build a truly excellent upper school. I would like to start, however, by showing an example of excellent Socratic teaching. The featured teacher is Grant Horner who is dean of the rhetoric school at the Trinity Classical Academy in Santa Clarita, CA. Grant is a master teacher (in my opinion) and also a professor at the Master's College where he teaches literature and philosophy. Grant is also a Fellow with the Alcuin Fellowship (which is part of the Institute for Classical Schools). In my view, this video is worth showing to new upper school teachers for analysis and inspiration. His topic is culture and film.

One final note of thanks: This video was made in November, 2010 in a sophomore class at the Regent's School of Austin. Grant was a guest teacher in the class. Thanks to the Regent's School for permission to tape this class and to Dr. Rosenberg and his 10th grade class for hosting Grant. Click on the icon below to watch the video.



*Figure A6.* OPD Module 1 Page 4: Article #3.



Module 1: Discussion #1 - Define Socratic

All Sections

Using the text as evidence, please define the Socratic Method in your own words.

**Discussion Forum Rubric**

Criteria	Superior	Excellent	Good
<b>Demonstration of quality discussion content</b>	Postings made it clear that you have thoughtfully answered the discussion forum question. Your responses include: <ul style="list-style-type: none"> <li>Affirming statements and citing <b>several</b> relevant elements of course readings</li> <li>Asking new related thought-provoking <b>questions</b>.</li> </ul>	Postings made it clear that you displayed <b>some</b> understanding of the discussion forum question. Your responses include: <ul style="list-style-type: none"> <li>Affirming statement and citing a <b>couple</b> elements of the course readings</li> <li>Asking a new somewhat related <b>question</b>.</li> </ul>	Postings made it clear that you displayed <b>little</b> understanding of the question under discussion. Your responses included: <ul style="list-style-type: none"> <li><b>No</b> affirming statements or references to relevant course readings</li> <li>Asking <b>no</b> related questions</li> </ul>
<b>Demonstration of quality of writings</b>	Written responses are <b>free</b> of grammatical, spelling, or punctuation errors.	Written responses are <b>usually free</b> of grammatical, spelling, or punctuation errors.	Written responses frequently contain <b>obvious</b> grammatical, spelling or punctuation errors.
<b>Critical applications to praxis</b>	<b>Evidence</b> of critical analysis of a posted idea with clear connections drawn to professional or personal praxis.	<b>Some evidence</b> of critical analysis of a posted idea with some connections drawn to professional or personal praxis.	<b>Little evidence</b> of critical analysis of a posted idea with no clear connections drawn to professional or personal praxis.

Figure A7. OPD Module 1 Discussion 1: Define Socratic.


[All Sections](#)

Socratic seminars are an integral component of the classical model. Based on the articles, please explain how Socratic seminars can add value to your own classroom.

### Discussion Forum Rubric

Criteria	Superior	Excellent	Good
<b>Demonstration of quality discussion content</b>	Postings made it clear that you have thoughtfully answered the discussion forum question. Your responses include: <ul style="list-style-type: none"> <li>Affirming statements and citing <b>several</b> relevant elements of course readings</li> <li>Asking new related thought-provoking <b>questions</b>.</li> </ul>	Postings made it clear that you displayed <b>some</b> understanding of the discussion forum question. Your responses include: <ul style="list-style-type: none"> <li>Affirming statement and citing a <b>couple</b> elements of the course readings</li> <li>Asking a new somewhat related <b>question</b>.</li> </ul>	Postings made it clear that you displayed <b>little</b> understanding of the question under discussion. Your responses included: <ul style="list-style-type: none"> <li><b>No</b> affirming statements or references to relevant course readings</li> <li>Asking <b>no</b> related questions</li> </ul>
<b>Demonstration of quality of writings</b>	Written responses are <b>free</b> of grammatical, spelling, or punctuation errors	Written responses are <b>usually free</b> of grammatical, spelling, or punctuation errors.	Written responses frequently contain <b>obvious</b> grammatical, spelling or punctuation errors.
<b>Critical applications to praxis</b>	<b>Evidence</b> of critical analysis of a posted idea with clear connections drawn to professional or personal praxis.	<b>Some evidence</b> of critical analysis of a posted idea with some connections drawn to professional or personal praxis.	<b>Little evidence</b> of critical analysis of a posted idea with no clear connections drawn to professional or personal praxis.

Figure A8. OPD Module 1 Discussion 2: Socratic Seminars.

## Module Assignment 1: Assignment

[Submit Assignment](#)

Due No Due Date Points 0 Submitting a text entry box

A vital tenet of Socratic seminars is to always reference the text. The text may be an article, book, primary source document, TED talk, etc. Taking this into consideration, please refer to the first article *The Socratic Method: What it is and How to Use it in the Classroom*, specifically the tips for educators for Socratic, to complete this assignment.

Please generate 5 possible conversation guidelines to govern Socratic discussions in your classroom and explain your reasoning for each.

*Figure A9.* OPD Module 1 Assignment 1.

## Professional Learning: Module 2 Contents<sup>13</sup>

### The "How" of Socratic Seminar

Socratic Teaching Method provides a structure to the teacher from which to guide the students through specific steps of reading, analyzing, commenting, and reflecting on key text associated with Thales curriculum. Michael Strong, whom you watched in an earlier TED talk, provides some additional comments



The following pages will detail important information to consider when setting up your classroom, planning before the seminar, and how to successfully wrap up the activity. Click "Next" in the lower right to continue.

*Figure A10.* OPD Module 2 Page 1: Michael Strong Keynote.

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<sup>13</sup> Identifying information has been redacted.



Figure A11. OPD Module 2 Page 2: Socratic Standards.

I. Choose an appropriate text.

[For more information on choosing a text, click here.](#) e



II. Introduce the upcoming Socratic Seminar, in such a way to excite student interest.

III. Review Guidelines for Socratic Seminars.

Define and state purpose for the Seminar

Describe the responsibilities and rules for facilitator and participants

i.e., only 1 person should speak at a time. For a list of rules, check out <https://www.paideia.org/socratic-seminar-rules/> e. These rules are adapted from the sample lesson plans on Paideia's website.

Have students choose a Personal Goal

Agree on a Group Goal

Example: We want to gain . . . by reading this text.

Example: We want to discuss the ideas contained in this text in a respectful fashion.

Example: We want to help each other read texts more closely and carefully.

**Note:** As you and your students get more comfortable with Socratic Seminars, it may not be necessary to go through all of these steps but it is helpful for the first few sessions that you review these goals with students.

[What should the students be doing?](#) e



IV. Background Information

A history class studying the Peloponnesian War may need very little background information on Thucydides, for instance; whereas a Trivium class reading Plato's Gorgias may need considerable details on the background of this dialogue, its characters, and the philosophy of Plato. The background information may look different, depending on the class and the degree of relevancy between the text and the unit, so use your best judgment!

V. First Reading

Once the reading of appropriate length has been selected, students should read it in class or for homework.

VI. Vocabulary

Identify and explain difficult vocabulary. Feel free to get creative with word walls and graphic organizers.

VII. Analytical Reading: Close reading, conducted paragraph-by-paragraph at teacher discretion.

Michael Strong advocates spending hours on the minute details of paragraphs, which may not be possible in your classroom. But, some texts are very difficult to understand at a glance. Feel free to use your best judgment when it comes to this process.

*Figure A13.* OPD Module 2 Page 4: Before the Seminar.

Module 2: Assignment 1-Questions

Submit Assignment

Due No Due Date Points 0 Submitting a text entry box

After reviewing the Module 2 materials carefully, create a series of Opening, Core and Closing questions, 8-12 questions total, that you believe address all standards based on a text specific to your content area. Be sure to use Revised Bloom's Taxonomy stems when drafting your questions. Please post the text and questions to receive full credit.

Opening questions should be general questions, exciting interest in students and guiding their focus to the text under discussion. These questions stem from context, direct students to the text, and elicit more than one-word responses.

**Core Questions:**

These questions are tied to individual paragraphs or points raised by the author. These questions are content specific, focus on the interpretation of a specific line or passage.

Core questions should be phrased with words like "how" or "why." These questions should be open-ended, so they may provoke further discussion and interest.

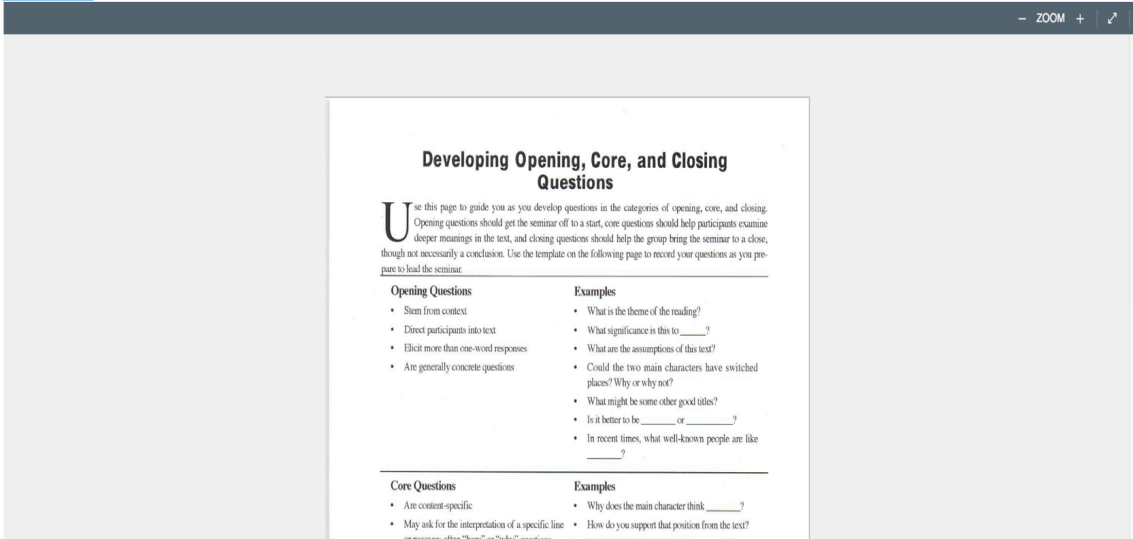
Generally, these questions should be answered with evidence taken from the text and move the discussion into abstract ideas and themes.

**Closing Questions:**

These generally abstract questions may provide further discussion once the seminar is closed.

These are opportunities for students to personalize the ideas, as well as transitioning into a written assignment based off of the Socratic Seminar.

*In all, consider how you can establish relevance from this text to the real world and to the lives of the students in your class.*



**Your role**

Your role is to guide the discussion and model the habits needed to read the text closely, understand its ideas, and participate in a meaningful, courteous discussion of those ideas. You may act as "referee" every so often, but your primary role is to participate in the reading of the texts under discussion and model for students what it means to read a text closely and enjoy discussing ideas that are worth discussing.



Figure A14. OPD Module 2 Page 5: The Questions.

*Figure A15.* OPD Module 2 Assignment 1: Questions.



## After the Seminar: Checklist

### Student Reflection:

Ask students to complete a short reflection of how they participated in the Seminar. Did they express themselves as well as they would have wished? Did they give adequate time for other students to express themselves? How might they improve?

### Transition to a Writing Assignment (optional):

Many students feel more comfortable writing than they do speaking in a group, since there is less opportunity for embarrassment. Consider assigning a writing assignment at the close of a Socratic Seminar for those students.

Students should brainstorm ideas for further discussions and areas of research.

Consider a new writing prompt, or tailor your **closing question** in such a way that it leads naturally to a writing assignment of appropriate length.

Click "Next" at the lower right of the screen to continue.

*Figure A16.* OPD Module 2 Assignment 1.

## Parts of a Socratic Seminar in Action


Using the video segments on this page, we will identify the key components of a Socratic Seminar in action. These are videos of actual Socratic seminars. Thus, you are able to view raw, uncut footage of a seminar in order to gain an authentic perspective on how Socratic seminars may be implemented in your classroom.

Watch each video, paying close attention to the moments in which specific standards are identified.



*Figure A17.* OPD Module 2 Page 8: Socratic in Action.

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 Module 2: Discussion 2-Critique



Respond with your observations of the videos as follows: what specifically did you notice about how the teachers interacted with the class? Were there any standards represented more than once? If so, explain and include the time stamp.

---

*Figure A18.* OPD Module 2 Discussion 2: Critique.

## Design Your Own Socratic Seminar

### *Design Your Own Socratic Seminar*

Socratic Seminars are one of the best tools we have to engage students. In leading Socratic Seminars, we are cultivating in our students the habits and skills they'll need to read difficult texts, comprehend the ideas within those texts, and discuss those ideas in a courteous and respectful way with their peers.

To aid in the process of creating a successful Socratic Seminar, we have created the following checklist:

1. Choose 1 text of appropriate length, somewhere between 2-8 pages, that your students will read during Track 1.
2. Read through the ["Before the Seminar" Checklist, available here.](#)
3. Create a lesson plan that explains the relevant background information to your text.
4. Create a list of the vocabulary words essential to the understanding of your text (no more than 10 words).
5. Create a series of **Opening, Core, and Closing Questions** tailored to your Socratic Seminar. [For more information on writing these kinds of questions and optional rubrics, click here.](#)
6. Read through the ["After the Seminar" Checklist, available here.](#)
7. Turn in your Socratic Seminar, including a lesson plan, vocabulary list, and questions, here. Click here for [Module 2: Assignment 1-Questions](#) and click here for [Module 2: Assignment 2 Lesson Plan.](#)

### The Format?

Please fill out the ["Socratic Seminar Template" \(A\)](#), available here when turning in your finished project.

The format for your lesson plan and Socratic Seminar you would implement in class is flexible-- do what you feel comfortable with. Here is sample rubric Winston Brady created for Plato's ["Allegory of the Cave" \(A\)](#). They are also available on the ["Conducting a Socratic Seminar" page.](#)

*Figure A19.* OPD Module 2 Page 10: Design Your Own Socratic Seminar.

Conduct Effective Socratic Seminars.docx

There is no one way to conduct a Socratic Seminar. The format can be flexible based upon your content area, grade level and student ability.

- Expected formats:
  - One full circle (45-90 min)
  - 2 circles: (classes of 30+ min) inner and outer
    - Outer circle takes notes while the inner circle discusses. Mid-way through the class period, the conversation shifts to the outer circle while the inner circle takes notes.
- Regular seating
  - Sometimes Socratic can look like a regular class period but the questions posed are intentionally Socratic. This may be seen in a Saxon Math classroom where teachers are probing students to think at a higher level without disrupting the pacing of Saxon.
- 4 corners
  - Each corner represents a stance or response to a question (Strongly Agree, Agree, Disagree, Strongly Disagree). The teacher asks a question and students move to the corner that best represents their response. The trick to this is being sure to ask students why they chose this corner and ask them to try and use the text to support their answer. **This is most appropriate for elementary classes as it helps students begin to form opinions and reasoning skills.**

There is no one way to assess students during a Socratic Seminar. The grading can be flexible based upon your content area, grade level and student ability.

- Age-appropriate grading:
  - **ES-2:** Do not tell the students they must speak X number of times to get a 100. If you do this, students will speak up early and often to meet that expectation, most of the time with little thought or intention. Then the conversation will fall or stop altogether. **Instead tell them they will be graded based on the quality of their contributions and self-reflections.** Use the Socratic standards as an assessment. Allow them to assess themselves using the standards. Create a reflection assignment after the seminar to be counted as a classwork assignment. Socratic Seminars should not be considered test or quiz grades until 11th and 12th grade.
  - **K-5:** Give students 3 MARMs in a cup. As you progress through the seminar, allow students to eat an M&M each time they contribute to the conversation in a productive way. Do not give them a grade as this level should be focused on development of ideas, and it's best not to pressure them for not being comfortable yet to speak. Plus, candy is a great motivator for elementary students!

Thales Academy • Ages • Kindergarten • 1st-5th • 6th-8th • 9th-12th • www.thalesacademy.org

Figure A20. OPD Module 2 Page 11: Conducting an Effective Socratic Seminar.

## Module 2: Assignment 2 Lesson Plan

[Submit Assignment](#)

Due No Due Date Points 0 Submitting a text entry box

Please upload your Socratic lesson plan. To receive full credit, you must include:

1. **Content area and grade level**
2. **Questions** (copy and paste from Assignment 1)
3. **Classroom design:** How will you set up your class for the seminar?
4. **Assessment:** How will you assess student knowledge? Explain.
5. **Time Management:** How much time will you need to complete your Seminar? How will you manage your time so that you complete your seminar in the time you allow?

*Figure A21.* OPD Module 2 Assignment 2: Lesson Plan.

## Course Evaluation

Due No Due Date Points 0 Submitting a text entry box or a file upload Available Sep 2 at 12am - Oct 8 at 11:59pm about 1 m

Professional Development Evaluation Form

Please rate the following by placing an X in the most applicable box.

Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am satisfied with the content of this course.					
Course materials, i.e. articles, videos and assignments were engaging.					
The Modules were presented well and in a meaningful way.					
The discussions created a community of learners.					
The course developer was accessible, knowledgeable and helpful.					
Content and					

How did the materials that were provided support your facilitation of Socratic teaching?

Did the modules meet your learning needs?

What further support is needed for you to feel comfortable with Socratic teaching, if any?

What challenges to full Socratic implementation do you still need to work through?

Additional comments?

*Figure A22.* OPD Course evaluation.

# Course Finished

You have reached the end of the Socratic Teaching Method Course. To ensure credit and transcribing of the course for CEUs, please send a confirmation email to Melissa Edwards at:

[Email Mrs. Edwards](#)

Please feel free to reach out to Melissa Edwards if/when additional Socratic support is needed.

*Figure A23. OPD Course finished page; final page of course.*



## Appendix B: Interview Protocol Form

Interviewee Pseudonym:	Date of Interview:
Researcher: Melissa Edwards	Interview Site:
Demographic Questions	
The first five questions provide demographic information and will set the tone for the main interview.	
1. Participant's Gender:	
2. Participant's Race:	
3. How long have you taught high school?	
4. What was your undergraduate, and if an applicable graduate, major(s) in college?	
5. Why did you decide to teach at the high school level?	

**Time/Length of Interview:** \_\_\_\_\_

Before the interview begins, remember to greet and introduce yourself to the interviewer.

“I am conducting a research study to describe the effect the Socratic Method has on developing critical thinking skills in high school students through the perceptions and experiences of teachers. Thank you for reviewing and signing the informed consent form, which provides details about the study, confidentiality, and factors associated with your participation in the study. Please remember, throughout the study and its subsequent findings; your identity will remain confidential. If at any time you want to leave the study, you are free to do so. If you have any questions, please feel free to ask them now or contact my chair or me using the information on the informed consent form.”

Interview Questions:

What is your background in education, including the grade levels or age groups that you have taught?

Would you please define critical thinking in your own words?

Would you please define the Socratic Method in your own words?

How comfortable are you with implementing SM in your classroom?

Based on your perception/opinion, how does Socratic Questioning (SQ) influence students' critical thinking in the classroom? Can you provide any examples of this?

Based on your classroom observations, how do students who receive SM in the classroom participate in non-SM lessons in comparison to those who do not receive SM? Have you noticed a difference between those who actively engage in SM and those who do not? If so, how? If not, can you hypothesize why?

Based on your current understanding of SM, what is your perception of its effectiveness on developing critical thinkers?

## Appendix C: Observation Protocol Form

The criteria presented in this observation form are grounded in the basic tenets of the Socratic Method and based on Dr. Michael Strong's (1996) book. *The Habit of Thought*.

Participant Pseudonym:	Date:		
Researcher: Melissa Edwards	Location:		
Reading Passage/Text:			
Implementation Criteria	Observed	Not Observed	Comments
Teacher (Tchr) establishes the main discussion goal and subsequent objectives prior to beginning the discussion.			
Tchr poses open-ended questions, requiring evidence from the text to support student answers.			
Tchr maintains a high level of student engagement by encouraging non-responded to participate.			
Tchr maintains an appropriate pace for the discussion and moves on to a new question when there is a lull in the discussion.			
Tchr incorporates positive reinforcement and leading questions to help students gain a deeper understanding of the discussion goal and objectives.			