Promoting Student Engagement Through a Critical Thinking Framework in the Elementary Classroom

By:

Carly Sazant

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Abstract

Student engagement is an important predecessor of student achievement and social and cognitive development; however, studies over the past two decades show that there has been a severe lack of student engagement in schools. This qualitative research study explores the effects that a critical thinking methodology has on student engagement in the classroom setting. Creating a classroom environment in which students are encouraged to make meaningful connections, by thinking critically and reflecting upon their experiences may help engage today’s young learners. Data for this study was collected through two semi-structured, one-on-one interviews with a classroom teacher and school administrator within a school board in the Greater Toronto Area. The findings of this research suggest that:

1) critical thinking has a positive effect on student and teacher engagement within the classroom; 2) critical thinking has other benefits, including a positive impact on student achievement and students’ higher-order thinking skills, and helps meet the needs of all types of learners; 3) effective strategies must be used to invite and promote critical thinking; 4) there are challenges to implementing critical thinking in a classroom; 5) teachers and administrators need support in order to successfully integrate critical thinking into teaching practices.

Key Words: Critical Thinking, Student Engagement, Critical Challenges
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Chapter 1: INTRODUCTION

Introduction to the Research Study

Student engagement is an important predecessor of student achievement and social and cognitive development; however, the lack of student engagement in schools has become an epidemic issue that has been growing for the past two decades (Marks, 2000). Students have been checking out of school because they are no longer interested in what schools are offering. Yazzie-Mintz (2006) reported that 50% of students are bored every day in class and approximately 17% of students are bored in every class they attend. A mere 2% of youth each year report never being bored. With the dramas of real life, cell phones, electronic games, and in the age of the Internet, how can educators capture students’ attention and provide an engaging learning environment (Caram & Davis, 2005)?

Students engage in learning when they are intrinsically motivated by curiosity, interest and enjoyment or when they want to fulfill personal goals (as cited in Caram & Davis, 2005). When faced with learning that they perceive as meaningful, students become increasingly eager to extend their knowledge. Mutual inquiry, the investigation of open-ended questions and having a teacher take on the role of facilitator, are important elements involved in fostering successful student engagement (Caram & Davis, 2005).

Fredricks, Blumenfeld & Paris (2004) suggest that this lack of student engagement is becoming apparent at an alarming time. Today’s fast-paced, global economy requires workers who are not only educated in their field, but are also able
to create and evaluate new information, solve problems and think critically. Creating a classroom environment in which students are encouraged to make meaningful connections, by thinking critically and reflecting upon their experiences may help engage the young learners in today’s classrooms.

**Purpose of the Study**

Through my research, I want to understand how teaching through a critical thinking framework affects student engagement in elementary classrooms. I want to deeply explore educators’ personal experiences and beliefs regarding critical thinking, and discover the true benefits that stem from utilizing this methodology within the confines of the classroom. Though the idea of critical thinking is recognized and valued by many, it is inadequately addressed in the classroom (Case, 2005). I hope to learn from experienced educators and develop recommendations for future practice. If we want to prepare our students for the 21st century, we must start to engage them in relevant and meaningful learning.

**Research Questions**

The main research question for this study is: How can the use of critical thinking methodology affect student engagement in elementary classrooms?

The sub-questions are:

1. What are the possible benefits for student learning that result from integrating critical thinking into classroom teaching?

2. What specific intellectual tools and strategies do teachers use to encourage critical thinking and student engagement in their classrooms?

3. What challenges do teachers face in encouraging critical thinking in their
4. What support do teachers have to implement critical thinking in their classrooms?

**Background of the Researcher**

As an elementary school student, I recall most of my teachers using transmission as their primary method of teaching, as opposed to a constructivist teaching approach or student-centred approach. The teacher would stand at the front of the class, feed the students rules and information and then sit back as we solved a list of questions from the textbook. Through my elementary and secondary schooling, I always felt as if I was a student who ‘fell through the cracks’ of the education system. I was disengaged and uninterested, and my grades suffered as a result. However, since I was never a behavioural student, and our teachers taught at us, as opposed to with us, my challenges went unnoticed from year to year.

While at my first practicum school during observation week, my associate teacher (AT) introduced me to a new wave of teaching that several schools within their school board were trying to implement for the 2012-2013 school year. Their focus was to provide “effective, engaging instruction across the curriculum, to help students demonstrate an improvement in their ability to think critically”. I observed my AT as she asked grade one students thought-provoking questions, such as: “how did you get to that answer?”, “what was your thought process?”, and “what are your criteria (reasons why)?” She presented her students with critical challenges on a daily basis, and I found it to have a positive impact on their engagement in the class. This method of teaching was very different than the teacher-centred instruction I
remembered experiencing as a student. It made me wonder how this approach to teaching affects student engagement and if it presents other benefits to student learning.

My research will explore why some educators and school boards have chosen to embrace critical thinking in their schools and classrooms. I want to learn the benefits that stem from a critical thinking methodology, and the possible challenges that teachers, students and parents may face through its implementation. Over the course of my research study I hope to discover the impact that critical thinking has on student engagement in the classroom. I believe that providing our young learners with meaningful and relevant learning opportunities will better prepare them to become a community of 21st century critical and creative thinkers.

Overview

Chapter 1 includes the introduction and purpose of the study, the research questions, as well as how I came to be involved in this topic and study. Chapter 2 contains a review of the relevant literature focusing on the effects of critical thinking on student engagement. Chapter 3 provides the methodology and procedure that will be used in this study including information about the sample participants and data collection instruments. Chapter 4 describes the collected data thematically, as it addresses the research question. Chapter 5 includes reflections, implications and recommendations for practice, as well as limitations, areas for future study, and conclusions. References and a list of appendixes follow at the end.
Chapter 2: Literature Review

Definition of Terms

Throughout this research project, I will be discussing the concept of critical thinking and the effects that it has on student engagement in elementary classrooms. However, it is evident from my research collection, that there are countless definitions of critical thinking and the way it is defined has changed somewhat over time. In 1986, Chance described critical thinking as “the ability to analyze facts, generate and organize ideas, defend opinions, make comparisons, draw inferences, evaluate arguments and solve problems” (p. 6). In 1987, The Critical Thinking Community similarly defined critical thinking as “the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action” (Scriven & Paul, 2007). For the purpose of this paper, I will use John Chaffee’s definition of critical thinking, which is the following: “a purposeful, organized cognitive process that we use to understand the world and make informed decisions” (Chaffee, 2006).

I will also be discussing student engagement throughout this study. For the purpose of this paper, I will adopt Helen Marks’ definition of engagement. “Engagement is conceptualized as a psychological process, particularly the attention, interest, investment, and effort students expend during learning.” This definition implies both affective and behavioural participation in the learning experience (Marks, 2000).
The Absence of Student Engagement within Elementary Classrooms

In order to be engaged in the learning process, students must be interested in school and be intrinsically motivated to learn (Marks, 2000). The lack of student engagement in schools has become an epidemic issue that has been growing since the 1980s (Marks, 2000). Studies from that decade show unenthusiastic teachers and disengaged students “going through the motions”, while negotiating an extensive and fragmented curriculum. The majority of educators followed the transmission model of teaching and induced passiveness and boredom among students, as a result (Marks, 2000).

Students have been checking out of school because they are no longer interested in what schools are offering. Yazzie-Mintz (2006) reported that 50% of students are bored every day in class and approximately 17% of students are bored in every class they attend. A mere 2% of youth, each year, report never being bored. A considerable amount of research attributes the lack of student engagement in schools to curriculum fragmentation, weak instruction by educators and low expectations for student learning (Marks, 2000). In addition, many elementary schools have been accused of providing students with meaningless instructional activities that fail to illustrate to students the usefulness of school and the importance of their attendance (Finn, 1993). Norman (1981) noted, “It is strange that we expect students to learn, yet seldom teach them anything about learning”.

Using Critical Thinking Strategies to Engage Students

Creating a classroom environment in which students are encouraged to make meaningful connections, by thinking critically and reflecting upon their experiences
may help engage the young learners in today’s classrooms. The idea of critical thinking has been around for many years and has been recognized as an important educational goal. Critical thinking is mentioned in every curriculum document across Ontario and it is in universal agreement that it is necessary to make thoughtful judgments in virtually all aspects of life (Case, 2005).

When faced with learning that they perceive as meaningful, students become increasingly eager to extend their knowledge. Mutual inquiry, the investigation of open-ended questions and having a teacher take on the role of facilitator, are important elements involved in fostering successful student engagement (Caram & Davis, 2005). The infusion of critical thinking requires deep, thoughtful, and well understood subject matter instruction in which students are encouraged to think critically in the subject (Abrami et al., 2008).

**Preparing Students for the Workforce**

Students of today will be graduating into a world that is based on a new knowledge economy. They will require the skill-set to “deconstruct, construct, co-construct and reconstruct meaning efficiently and effectively” (The Literacy and Numeracy Secretariat, 2008, p. 1). In order for students to thrive in the 21st century and to make lasting, positive contributions to their world, they will require a solid foundation of literacy and numeracy skills, as well as an education that is deeply rooted in thinking and action (The Literacy and Numeracy Secretariat, 2008).

Tishman (2008) wrote:

There are many reasons why students must learn to think skillfully; so they can make thoughtful life decisions, solve problems creatively, and understand and analyze knowledge in and across disciplines. To do any of
these things well, students need to become adept at thinking things through. (p. 46)

Too often in schools do educators teach from the textbook and in doing so, rob students of problem solving and critical thinking skills. Using this approach to teaching makes students believe that there is one correct answer to a question, or one right approach to successfully solve a problem. As a result, students rarely attempt to understand problems, and develop methods to memorize facts and processes instead (Raths et al., 1967). This type of learning and instruction lends no connection to real world experiences and when students leave the classroom, they are not equipped to handle problems that arise in the real world (Teele, 2006).

After announcing that he would be releasing a discussion paper looking at “ways to integrate higher order thinking skills into Ontario’s curriculum”, Premier Dalton McGuinty posted the following statement on his Facebook page,

We need to go beyond high standards in reading, writing and math. We need to reach higher by fully embracing higher order skills, like creativity, critical thinking, problem solving, passion, empathy and leadership. We’ll be looking at new ways to integrate higher order skills into Ontario’s curriculum. Our kids will need to be highly proficient in all these skills if they are to find the success and happiness we hope for them...

With so many technological and informational advancements in recent years, being knowledgeable will no longer be enough to succeed in the workplace. To be successful in the future, students will require the ability to create and evaluate information, solve problems and make effective decisions; in other words, in will be necessary for them to think critically (Fredricks et al. 2004; Snyder & Snyder, 2008). The future workplace will call for “multiliteracies”, which involve self-regulating and
monitoring, understanding and empathizing, analyzing and evaluating—all of which are “tied together by the core construct of thinking” (Schneider, 2002, p. 1).

**Barriers to Critical Thinking**

The current trend amongst many educational institutions is to standardize curricula and concentrate on test scores (Wong, 2007). This approach to teaching undermines educators’ ability to address critical thinking in the classroom. When there is an emphasis on “teaching to the test” and getting through the content, students’ learning processes are hindered. When educators shift the emphasis to learning, students are given the liberty and the responsibility to explore the content, analyze resources and apply information (Snyder & Snyder, 2008).

Snyder and Snyder (2008) contend that it is unfortunate that the majority of students are not taught to think or learn independently in the classroom, and these students rarely pick up these skills on their own. While there are a small number of students who may be naturally inquisitive, they still require training to become analytical, fair and open minded in their pursuit of learning. Contrary to some people’s beliefs, critical thinking is not an innate ability but a learned skill that requires guidance and practice.

There are several barriers that educators face in implementing critical thinking strategies into their classroom. Four barriers in which Snyder & Snyder (2008) discuss are: 1) a lack of training; 2) lack of information; 3) personal beliefs and preconceptions; and 4) time constraints. Many experienced teachers are not trained in critical thinking methodology. They receive training in methods of instruction; however, little or none of the training devotes any time to critical
thinking skills and how to teach them. The second barrier is a lack of information. There are a multitude of studies that state the benefits of critical thinking skills; however few instructional materials provide any critical thinking resources (Scriven & Paul, 2007). Thirdly, many educators have preconceptions about the content in the curriculum and how to teach it, which prohibits their ability to think critically about the material. It is difficult for some teachers to adopt a new style of teaching or to believe that there is a more effective, engaging way to teach the curriculum. Finally, many teachers face time constraints when it comes to covering all the necessary content in the curriculum. When teachers focus on “covering” the curriculum, lectures and objective tests become standard teaching practice. It is faster to lecture to a group of students than have them actively participate in project-based learning opportunities. Also, it takes less time to write and grade an objective test than a more subjective assessment. However, studies show that lecturing is not the most effective method of instruction, and objective tests are not the most effective form of assessment (Broadbear, 2003).

**How to Implement Critical Thinking Strategies in The Classroom**

Teachers are responsible for equipping students with the skills and strategies to think critically and solve problems. The challenge that many educators face is how to put this idea into practice and develop appropriate, engaging activities that they can integrate into the curriculum. This may seem difficult; however, implementation of these objectives often requires only a slight shift in one’s approach to teaching (Schneider, 2002).
Research shows that critical thinking instruction is not effective when taught in isolation. It is suggested that it be integrated into every component of the classroom. To promote critical thinking, it is essential to foster a critical community within the classroom, in which the teacher and students interact in mutually supportive ways. This will help counteract the notion of thinking as a solitary activity. Though we encourage students to be independent and to make up their own minds, we as educators should not expect them to do this entirely on their own, or all of the time. Good critical thinkers typically converse with others in order to extend their knowledge, test their ideas and beliefs, and receive alternate perspectives (Case & Daniels, 2008). This can only take place through participation in a critical learning community.

The tools needed to think critically are best learned in the form of a curriculum-embedded challenge. It is important to provide students with copious opportunities to work through meaningful problem-solving situations (Case & Daniels, 2008). Teachers should not present students with pre-packaged information meant for mental storage, but assist students in internalizing, questioning and utilizing information (Case, 2008). If a question is posed that only has one plausible correct answer, then the question is not a critical challenge, and does not promote critical thinking (Case & Daniels, 2008).

In order to develop as critical thinkers, students should be introduced to the tools required to complete critical thinking tasks. Critical thinkers must possess (1) background knowledge about the topic being examined through the critical challenge. They must understand the (2) criteria for judgment, which are the
appropriate criteria or grounds for deciding on a rational response to a critical question. Students must also be familiar with (3) critical thinking vocabulary. Understanding the concepts that facilitate critical thinking and differentiating among the terminology will be beneficial to students in their development as critical thinkers. Good critical thinkers should know and use a variety of (4) thinking strategies, tactics or supports to work their way through critical challenges. There are thousands of strategies, including procedures, models, graphic organizers and heuristics that guide in students’ working through a posed challenge. Students who think critically come to possess certain attitudes and values, which are also known as (5) habits of mind. To name a few, they are open to new ideas, question ideas, and are not afraid to take an unpopular stand. However, they are also flexible and can appreciate others’ points of view. It is said that critical thinking is largely a matter of attitude (Case, 2008).

It is important to note that teaching the tools to think critically is not sufficient. Since teachers signal to students what is important through the number of marks a task is worth, it is essential to also assess for critical thinking. If students are not assessed on their critical challenges, then they will be unaware of their growth and will be left to assume that critical thinking is not important (Case, 2008).
Chapter 3: METHODOLOGY

Procedure

Qualitative in nature, this research studies how the use of critical thinking methodology affects student engagement in the elementary classroom. The research was conducted by collecting the following data: valuable and relevant research from current literature and two individual, face-to-face interviews with experienced elementary school educators. The qualitative data collected from these two carefully selected educators reflect their personal beliefs and teaching practices. Following the interviews, the obtained data was transcribed, analyzed, coded and synthesized in order to uncover patterns, similarities and relevance to the reviewed literature and research questions. The past research that was discussed in the literature review provided background information on the topic of implementing critical thinking in the classroom and the effects that it may have on student engagement. The remainder of the methodology consists of the instruments of data collection, participants, data analysis, ethical review procedures, and the limitations of the study.

Instruments of Data Collection:

The primary source of data collection for this research study came from two semi-structured or guided interviews. The interviewees were experienced educators in the Greater Toronto Area, who both incorporated critical thinking into their daily teaching practices. By using semi-structured interviews to collect data, there was flexibility in the construction of the interview and rapport was developed between the interviewees and myself. This allowed me to ask follow-up questions
based on participants responses to a set of pre-constructed questions (Turner, 2010).

A comprehensive list of 17 interview questions was constructed in preparation for the interview process (see Appendix A). I prepared two sets of questions for the interviewees, as my participants possess separate positions within the education system. However, the topics discussed throughout the interviews were analogous to one another. Both participants were asked a range of questions that dealt with their understanding of critical thinking, what they believe student engagement looks like in the classroom, their personal teaching philosophies and practices regarding critical thinking, what supports they receive in the area of critical thinking, as well as the possible challenges they face in terms of implementing critical thinking.

For the purpose of this research study, participants were interviewed individually and face-to-face. The interviews lasted approximately 25 minutes each. They were recorded digitally using a recording and editing software called Garage Band, and then transcribed in entirety by the researcher.

Participants

In order to conduct this research study, it was necessary to find interview participants who were knowledgeable on the topic of critical thinking and either implemented or witnessed this methodology being implemented within the classroom on a regular basis. It was necessary for both participants to be current faculty members within an elementary school, and I was hoping to find participants with two different perspectives on the area of research. For this reason, I chose to
interview an experienced classroom teacher, as well as an elementary school administrator.

I had a professional relationship with both research participants, and had the opportunity to observe both educators’ teaching programs prior to this study. The first research participant, Julie, is an experienced elementary school teacher, currently teaching the first grade. The second participant, Gary, is a school administrator and former classroom teacher. Both participants work within the same school board in the Greater Toronto Area. Since both participants value the use of critical thinking across the curriculum and aim to cultivate the ability to think critically in all of their students, I was confident that their beliefs and experiences regarding this topic would be relevant and enlightening.

**Data Collection and Analysis**

Prior to the data analysis stage, I spent many hours transcribing the data I had collected from the two interviews I held with the participants. Through this process, I had the opportunity to listen to the collected data numerous times and mentally process it while I was transcribing. Once I had finished the transcribing stage of my research project, I was already very familiar with the data I had collected. I was able to see various patterns forming amongst the data, and had beginning notions of themes that were emerging.

In order to organize the data and start the coding process, I began by creating a table, and inserted into it the interview questions along with participants’ responses. In an article by Wellington (2000), he identifies *data display* as the second stage of data analysis, in which data are organized and assembled and then
displayed in pictorial, diagrammatic, or visual form. This allows the researcher to get their head around the data so that they can move towards interpretation and conclusion drawing (Wellington, 2000). Once I saw a pattern emerge, I highlighted the data and made a note of the theme that was emerging. The first theme that I noticed was the benefits of utilizing critical thinking in the classroom. I went through the data and highlighted the relevant pieces of information in a common colour. I then read through the data a second time and noticed another pattern emerge, which were the challenges associated with a critical thinking methodology. Again, I read through the remaining data and highlighted every instance in which a participant mentioned a challenge regarding the implementation of critical thinking. I went through this process many times and found a total of 5 themes emerge from the data. From there, I began to recognize commonalities within each theme, which then became the subthemes. The findings that emerged from the data analysis were examined and will be discussed in chapters 4 and 5.

**Ethical Review Procedures**

Prior to engaging in the interview process, the research participants were given letters of informed consent (see Appendix A). These letters were reviewed and signed by both participants, which indicated their willingness to participate and contribute in the research study. The letters of consent outlined the participants’ right to withdraw from the study at any point in time, and their right to refrain from answering specific questions if they chose to do so. Participants were also assured that their identities would remain anonymous throughout the research study and that the information would be kept confidential. The interviewees were given the
opportunity to pose questions regarding the nature and process of the study prior to commencing the interview. The participants each kept a copy of the consent form for their records.

**Limitations**

Given the narrow scope of this research project, the primary limitation of the study is the small sample size of participants interviewed and the restricted time frame. I was only able to interview two participants, both of whom work within the same school board. This limitation hinders the study’s reliability and does not allow findings to be generalized to all elementary classrooms. My personal biases and preconceptions regarding the use of critical thinking in the classroom and its effects on student engagement also present limitations to this research study. It is important to note that all research findings are subject to the researcher’s own perceptions of the data collected and assumptions regarding the topic at large. Despite these limitations, I believe this study can inform classroom practice and future research.
Chapter 4: FINDINGS

This chapter outlines my interpretation of data collected during two in depth interviews that were conducted with experienced teaching professionals. Both interviews explored teachers’ personal experiences and outlook towards the use of critical thinking in elementary classrooms and how it effects student engagement. Participants were willing to speak authentically of their attitudes and experiences and offered valuable insights grounded in their professional experiences.

Provisions have been taken in order to ensure the anonymity of both participants. Consequently, the names of the individuals and institutions at which they are employed have been altered and kept anonymous. The following chapter will present a thoughtful overview of the collected data. I will provide a brief background of each of the participants and will subsequently reveal the key findings of this research.

Background Information of Participants

The first participant, Julie, is an experienced elementary school teacher in a school district in the Greater Toronto Area. Julie currently teaches the first grade and has been an elementary school teacher in the board for approximately 14 years. She explained critical thinking as a recent initiative that the school board and the administration within her school have been supporting and doing their best to implement school-wide. Julie displays a strong commitment towards critical thinking and promotes critical thinking within her classroom across the curriculum and on a daily basis.
The second participant, Gary, is currently an administrator in an elementary school in the Greater Toronto Area. He has been working as an administrator for the past 14 years, and was formerly employed as a classroom teacher for 8 years. Gary taught all grades at the elementary level, ranging from grades 1 to 8. Though, he mentioned that he worked predominantly with intermediate students in grades 7 and 8. Having been employed by the board for approximately 22 tears, Gary had the opportunity to witness the initial introduction of critical thinking within schools. His dedication to critical thinking within the confines of his school is evident and his range of expertise on this area of research is immense.

**Key Findings**

The findings of this research were extracted from the data obtained from these participants by the researcher. The following chapter will be organized by theme and arranged using headings and subheadings. The main themes that emerged from the interviews include the following:

**Theme 1:** Critical thinking has a positive effect on student and teacher engagement within the classroom.

**Theme 2:** Some benefits that can result from integrating critical thinking into classroom teaching include: a) an increase in student achievement; b) an increase in students’ higher order thinking; and c) teachers better meet the needs of all types of learners.

**Theme 3:** There are numerous strategies used in the classroom to promote critical thinking, including a focus on a) effective questioning and critical challenges; and b) classroom setup.
Theme 4: Some challenges that might exist when implementing critical thinking in classroom teaching include: a) teacher unwillingness and lack of training; b) student hesitations; and c) parent concerns.

Theme 5: Teachers and administrators need support in order to promote and integrate critical thinking into their teaching practices.

Critical thinking has a positive effect on student and teacher engagement within the classroom.

Student Engagement

Both participants are big advocates of critical thinking, as they feel that it has a strong positive impact on student engagement. Julie described student engagement in her classroom as “that humming sound, when everyone is doing something... it’s on task and it’s purposeful. Students are excited about what they’re doing and they’re involved in the task. They feel like they are succeeding and that they have a purpose.” When you provide students with a critical thinking challenge, Julie believes “there’s no right or wrong answer.” You are encouraging students to activate their prior knowledge and use what they are learning to respond to a question using a set of criteria. Julie explains that she frequently likes to ask the students “how do you know?” This encourages them to refer back to whatever criteria they have co-created in order to figure out if their work sample or response is a strong one. In her experience, these kind of thought provoking questions have been extremely engaging for her grade one students. This sentiment is mirrored in the literature. Mutual inquiry, the investigation of open-ended questions and having a teacher take on the role of facilitator, are important elements involved in fostering
student engagement within the classroom (Caram & Davis, 2005).

During my discussion with Julie, she mentioned her recent discovery of the ‘cascading curriculum’, which Garfield Gini-Newman (2014) defines as “a new approach to designing and implementing curriculum that frames learning around invitations to think critically and blends the best of design-down planning, effective assessment, and sound instruction.” Julie explains that by being familiar with the curriculum, and by knowing her students, she attempts to frame student learning around a big idea that will be meaningful and relevant to their lives. Julie further explains that “we can’t change the curriculum, and we can’t change the expectations, but you can change and be fluid with how you are going to bring students to what they need to know.” By framing new ideas in a way that are interesting and relevant, students become involved in the learning process, which Gary identifies as an integral predecessor of student engagement. Designing relevant challenges based on target expectations within the curriculum creates a learning environment in which students are excited about learning and want to express or show the teacher what they have learned. Gary explains that when he does walk-throughs, a class that promotes critical thinking typically looks different than one that does not. In the former, students appear more engaged and to be thinking more deeply. They are working towards a challenge by talking amongst themselves and using resources and manipulatives around the classroom as opposed to being lectured at by the teacher at the front of the class.

Teacher Engagement

Both research participants admitted an increase in their personal
engagement throughout the workday when they implemented critical thinking into their teaching practices. Gary stated that with the introduction of critical thinking in the school he now has students that are engaged, as well as teachers that are engaged. “I have a staff that wants to continue to learn and improve their own instructional techniques and repertoire in order to build on what they’re doing in the classroom. It’s exciting – I have to admit, because it’s an energy; it’s a different way of doing things.”

Julie reiterated Gary’s sentiment regarding the implementation of critical thinking in her teaching practices. “There’s always a possibility and there’s always something different that can happen. There is always a different answer and you never know what’s going to come up.” When students are involved in their own learning and start questioning what is being taught, it is difficult to predict the range of comments or questions that may arise within any given lesson. “It’s invigorating… I keep learning because I constantly have those aha moments. It’s not the ‘turn the page, today we’re doing this – check, check, check’ type of teaching. It’s not so linear anymore and I love it!” Julie continues.

Some benefits that can result from integrating critical thinking into classroom teaching include: a) an increase in student achievement; b) an increase in students’ higher order thinking; and c) teachers better meet the needs of all types of learners.

Increase in student achievement

My analysis of the interview responses revealed that critical thinking has a positive effect on student achievement. Both participants agreed on this statement;
however, their responses differed in terms of the extent that they believe critical thinking has a positive impact on student achievement. As a grade one homeroom teacher, Julie believes that critical thinking “helps achievement”, though she was unsure of the impact in later grades. She acknowledged a fear that if critical thinking was only implemented in the older grades, and students were unfamiliar with this method of learning, that there might be somewhat of a learning curve. “I think if you role it out in grade one, and they [students] don’t know any differently... I say it certainly supports achievement.”

As an experienced administrator, Gary was able to confidently disclose that “as a part of our school improvement plan, it has shown a vast increase in EQAO scores, in anecdotal data, in board data, and in student report cards because of what we have done with critical thinking.” He added that critical thinking has become a conversation with the parent community at council meetings and that parents have wanted to put together and participate in a critical thinking evening in order to learn more about it. He believes that once parents become more aware of this shift in learning, they will be able to better support their children and student achievement will increase further.

*Increase in higher-order thinking*

As a school administrator, Gary noted that they are constantly brainstorming ways in which students can move forward and expand on the quality of their thinking, and in turn, their learning. He says that the administration has worked tirelessly over the past three years to try and figure out what more they can do to build on student thinking and help enhance student learning and achievement, and
they believe that the implementation of critical thinking and inquiry-based learning into educators’ teaching practices has closed that gap. Gary revealed that “the main goal is to have students move beyond that rote learning” and instead become a community of thinkers. He went on to explain how critical thinking expands student thinking.

In a school context, when we talk about critical thinking... we know that our kids doing what they have typically done will always get those level 3s. We believe that critical thinking moves the students along the continuum to that level 4, where they are working with the big ideas and moving to that next level in their thinking.

The notion of building on students’ thinking skills was referred to in the literature. It was mentioned that in order for students to thrive in the 21st century and to make lasting, positive contributions to their world, they will require a solid foundation of literacy and numeracy skills, as well as an education that is deeply rooted in thinking and action (The Literacy and Numeracy Secretariat, 2008). If not, students will be less equipped to handle problems that arise in the real world (Teele, 2006).

When I inquired about the effect that utilizing critical thinking strategies has on student engagement, Julie responded with a simple word – curiosity. She elaborated further by stating “curiosity and stamina... because there’s no giving up. There is no ‘this is boring’, you know, the students have a challenge and everyone feels like they can succeed, and everyone wants to know or show something.” This finding was also confirmed in the literature. Students engage in learning when they are intrinsically motivated by curiosity, interest and enjoyment or when they want to fulfill personal goals. When faced with learning that they perceive as meaningful, students become increasingly eager to extend their knowledge (Caram & Davis,
Critical thinking helps meet the needs of all types of learners

Both research participants agreed that implementing opportunities for critical thinking within the learning context helped meet the needs of all types of learners in the classroom, including those with special needs and English language learners (ELLs). Gary explained that he believes critical thinking allows for differentiation of instruction and that it helps meet the needs of students who fall all along the continuum. “When you look at students who have been identified, or kids that are ELL or ESL, a very prescribed program doesn’t necessarily make them feel comfortable because they may lack some of the skills that are expected of them.” He mentioned that whether a student has a processing disorder or a language deficit, critical thinking challenges might give them an opportunity to approach the learning in a different way. “It makes them feel like they are a part of what’s going on in the classroom. They’re being reflected more, versus being isolated or removed for a SSC [student support centre] program. I think it [critical thinking] has a great impact to be honest.” Julie added, “given the right time and the right support all students will succeed.”

There are numerous strategies used in the classroom to promote critical thinking, including a focus on a) effective questioning and critical challenges; and b) classroom setup.

Both research participants have extensive knowledge and experience regarding the use of critical thinking in the classroom setting. Interviewees have been involved in the teaching profession long enough that they both witnessed the
initial introduction of critical thinking as an initiative within the teaching
community. As well, they have both had the opportunity to promote and integrate
critical thinking into their own individual teaching practices, and strive to do so on a
daily basis using a variety of strategies.

*Effective Questioning and Critical Challenges*

Both participants mention effective questioning as a useful strategy in
promoting higher-order thinking skills and critical thinking amongst students. They
speak of moving away from simple yes or no type questions and towards questions
that ask the students why?; how come?; and how do you know? Julie shared a recent
instance in which she managed to get the students to think deeper about what they
were learning.

We’re currently learning procedural writing in literacy and we’re learning
about structures in science. In class we talked about materials in structures
as well as materials in procedural writing. We talked about why it’s the same
word, and what does that mean, and so they can have some sort of better
understanding of the word ‘material’. It’ll deepen their understanding in both
writing and in science.

Going beyond the curriculum and having the students question what they are
learning and what the teacher is saying was mentioned during conversations with
both research participants. Gary explains, “It [critical thinking] is the kids engaged
in activities where they are thinking beyond just two times two equals four. They’re
looking at how else they can get to four... whether they make four groups of one, or
whatever it might be.” He continues that when critical thinking is integrated into a
classroom setting, there are lots of conversations between students and the teacher
and what the teacher says is not the end all and be all, as it once was in education.
Gary adds, “The kids start questioning and saying “so what?” and the teacher starts
saying “so what?” and encourages the students to expand on it all.” This finding is mirrored in the literature. Critical thinkers are open to new ideas, question ideas, and are not afraid to take an unpopular stand; however, they are also flexible and are able to see another’s point of view (Case, 2008).

Julie explains that in the confines of her grade one class, critical thinking is implemented through a basic question or challenge that is posed to the students. Her class was working on data management in mathematics, and the students collected information about shoes. The questions she presented to the students moved beyond which kind of shoe they saw the most and which type of shoe was represented the least. Rather, the class discussed who would benefit most by having this information and why. Julie explained that as educators we must assist students in making sense of their world based on what they know, by incorporating their prior learning. She explained that presenting students with critical challenges on a daily basis provides students with many opportunities to think deeply and critically through a multitude of meaningful problems. Julie’s account is similarly stated in the literature. Case (2008) says that teachers should not present students with pre-packaged information meant for mental storage, but assist students in internalizing, questioning and utilizing information to work through critical challenges.

Classroom Setup

Both interviewees expressed a common vision of what the implementation of critical thinking looks like within a classroom. They explained a classroom in which the teacher is no longer the master of knowledge that stands at the front of the class, as they always have in the past. Conversely, both participants talked about the
teacher taking on the role of facilitator who stands to the side or at the back of today’s classrooms. Gary reveals,

It’s a different feeling in the classroom... it’s a different noise level in the classroom. It’s like we’ve gone from the teacher being at the front of the room to being at the back on the room, while the kids are engaged in a critical thinking or inquiry-based activity. It’s just a different look in the classroom totally.

Instead of the students being passive learners in the classroom context, they now construct their own knowledge and are held more accountable over their own learning. Learning intentions and success criteria should be co-constructed between the teacher and the students. As well, students can have leadership roles within the classroom context that allows them to feel like they have an impact on what goes on in the classroom. This idea is mentioned in the literature. Case & Daniels (2008) note that in order to promote critical thinking, it is essential to foster a critical community within the classroom, in which the teacher and students interact in mutually supportive ways.

Both participants mentioned that in order for a critical thinking methodology to be realized in the classroom, the teacher must create an environment that supports thinking and learning. They discussed having the classroom set up in groups of desks, instead of rows. This allows students the opportunity to talk and discuss concepts amongst themselves. This idea is echoed in the literature. Good critical thinkers typically converse with others in order to extend their knowledge, test their ideas and beliefs, and receive alternate perspectives (Case & Daniels, 2008).
Some challenges that might exist when implementing critical thinking in classroom teaching include: a) teacher unwillingness and lack of training; b) student hesitations; and c) parent concerns.

**Teacher Unwillingness and Lack of Training**

Both participants spoke of some instances, in which a number of educators have resisted implementing critical thinking in their classrooms, simply because they believe that the rote type teaching that they are used to has proven effective in the past and that it is an easier instructional practice. This finding was mirrored in the literature: Many educators have preconceptions about the content in the curriculum and how to teach it, which prohibits their ability to think critically about the material. It is difficult for some teachers to adopt a new style of teaching or to believe that there is a more effective, engaging way to teach the curriculum (Snyder & Snyder, 2008).

Gary and Julie also mentioned the many educators who wish to implement critical thinking within their teaching practices, but have not been taught how to do so in an effective way. “We can think that we're working in a critical thinking framework, when in reality we are just taking our old patterns and doing the exact same thing as we’ve always done,” Gary revealed. Recent literature has also noted lack of teacher training as a barrier to the success of critical thinking. Snyder and Snyder (2008) explained that many experienced teachers are not trained in critical thinking methodology. They receive training in methods of instruction; however, little or none of the training they receive devotes any time to critical thinking skills and how to teach them.
Gary admitted that every teacher within his school is currently attempting to teach within a critical thinking framework, however, they range in how effectively they have been able to implement it. “Depending on how we measure success... we still have teachers that are at a level 1 and 2 [in terms of effectively incorporating critical thinking into their teaching practices], while other staff are at a level 4+.”

Gary expressed the obstacle in which new teachers bring to the consistency of effective critical thinking within the classrooms. “It is a challenge – I admit it; because everyone is all over. Also, with the constant shift in teachers... you bring someone new in and you need to start them off from the beginning, versus continuing to move forward.” He continued by explaining that this challenge grows when you think about being a part of a large school board in the GTA and everyone being at various entry points within it.

We have spent four years moving from a rote learning type environment to very much an inquiry-based, critical thinking classroom context. Problems arise with all the new teachers coming in and the different focuses coming in from the board. But, everyone seems to be very eager to change, as we need to change, in order to support our students to continue to improve.

Julie stresses that as a classroom teacher, you do not need to throw out what you have in terms of resources, materials and previous lesson plans. “It’s about how you take what you have and realign it so that students are able to think and learn more deeply. You’re working with the kids at co-constructing, co-reflecting, and building on instructional practices that support students in learning.”

*Student Hesitations*

Participants noted that student hesitations might be a challenge, as some students would have to become accustomed to a new approach to thinking and
learning in school. Julie emphasized that she does not see critical thinking as a challenge in her grade 1 class, as students don’t know any differently. “I am guessing it could be somewhat of a challenge to implement [critical thinking] in the later grades if students hadn't been exposed to it.” She also discussed how critical thinking could be difficult for certain students based on their learning style. “You know, there’s always a student in the class who wants to get it [a question] right. To them, it [learning] is very black and white.” Julie explains that the challenge then, is for the teacher to show students that working within a critical thinking framework is a way of thinking and a way of learning for deeper understanding.

Parent Concerns

Participants described parental concerns as being a prime challenge to the full implementation of critical thinking, as they are not accustomed to the ways in which their children are learning and being assessed in the classroom. Additionally, both Julie and Gary work in very multicultural school environments. “Most of the parents come from an educational system where they expect their child to learn a new skill, write a test and then have the test come home,” Gary stated. He admits that it is very difficult for parents to accept that this is no longer how we teach or assess students within our schools. Julie added that a test may be part of a student’s overall grade, however students are given many other opportunities to show what they know. Gary expressed the difficulty of teaching and assessing within a critical thinking framework in a very immigrant community. For these parents, “it’s a paradigm shift.”
Teachers and administrators need support in order to promote and integrate critical thinking

Through interviews with both research participants, it became clear that teachers and administrators require supports in order to effectively implement critical thinking into their teaching practices. As an administrator, Gary acknowledged the time constraints that exist on professional development for teachers on the topic of critical thinking. “We need to consider how to continue to build the skills and confidence of the teachers with working in that critical thinking domain [within the school].” He expanded by explaining that at his school, the teachers work in a construct of leadership teams.

We have two curriculum leads, one positive climate for learning lead and several engagement leads. As the year moves forward, the curriculum leads attend sessions on critical thinking and learn how to embed it into a teaching program. Then they come back and discuss their new knowledge with the complete leadership team within the school. From there, the leadership team looks at next steps.

Gary says that once a month they embed divisional time and professional development (PD) into their staff meetings. He pointed out that this gives teachers time to work collaboratively with grade partners or divisional partners to develop units or lessons that embed critical thinking within them.

Julie attributed her ability to implement critical thinking within the classroom to a variety of different supports. She revealed that her personal commitment to lifelong learning has definitely been a factor when determining her ability and desire to teach within a critical thinking framework. Julie mentioned the professional development sessions that she has attended and the many resources available to educators on the board website, such as TC squared. “There were a lot
of different avenues that were available to me, that I certainly took advantage of.” She also emphasized the experiences she has had “co-teaching, co-learning, co-reflecting and co-debriefing with other teachers.” Both participants felt strongly about the implementation of critical thinking within teaching practices and that supports were necessary in order to do so effectively; however, I was surprised by the lack of professional development they said was available to teachers.

Gary talked about four division action plans that his school has created based on specific needs of students in each grade. He adds that embedded within each division plan is critical thinking.

With the implementation of full-day Kindergarten, we have been thinking about how we could embed critical thinking into a play-based program. In grades 1-3, our data shows reading as a weakness, so we have considered ways in which we can embed critical thinking in improving students reading skills. In the junior division, weaknesses lie within the area of mathematics. How do we build on critical thinking and use three-part math lessons to assist our students with math? In grades 7 and 8, we are focusing on the global international thinker. We want our students to think critically about how, as one person, they can have an impact on the bigger global picture. So, we have looked at our data and looked at how we can embed critical thinking into the specific needs of our students.

The idea of embedding critical thinking throughout various areas of the curriculum is echoed in the literature. Research by Case and Daniels (2008) shows that critical thinking instruction is not effective when taught in isolation and should be integrated into every component of the curriculum.
Chapter 5: DISCUSSION

Reflections

Conducting this research in the area of critical thinking methodology has given me an opportunity to deeply reflect on my own knowledge and practice as a beginning teacher. Critical thinking has many benefits, including that of student engagement within a classroom. Case (2005) reveals in his research that the idea of critical thinking has been around for many years and has been recognized as an important educational goal. However, through my findings I noticed that a gap still exits between these beliefs and classroom implementation. The importance of critical thinking is mentioned in every curriculum document across Ontario, and yet it seems as though the majority of educators have not figured out how to effectively embed it into their own teaching practices and more importantly, have not been taught. While reviewing and analyzing my data, I noticed that some of my findings were expected and others unexpected. Nevertheless, they provided many valuable insights into my area of research. My findings raised a number of questions that will be examined further in this section of the research project.

First, both research participants spoke about their beliefs regarding critical thinking and how they either implement or see it being implemented in the classroom. I was not surprised that both Gary and Julie supported the idea of teaching within a critical thinking framework. They mentioned the school board’s initiative to have students think critically, and the steps that they are both taking to ensure it’s effective embedment into teachers’ and administrators’ practices. Both participants saw the need to push students forward in terms of their thinking and I
personally share this sentiment as well. I believe that when implemented effectively into one’s teaching practices, critical thinking can have amazing benefits that go beyond student engagement. My research supported this thought, as I found that when used effectively critical thinking had positive effects on student achievement, student engagement, deepening students’ higher-order thinking skills and differentiating instruction for all types of learners. Therefore, I incorporated critical thinking challenges into my teaching throughout my practicum experiences.

It is evident that many teachers and administrators lack a clear vision of what critical thinking is and what it should like within a classroom context. Furthermore, many educators lack the necessary training that would be needed to gain a clear understanding of the strategies that could be used in order to implement it effectively.

Something that surprised me in the process of my research study was the amount of challenges that were discussed regarding the implementation of critical thinking. Prior to this study, I had only thought of the benefits of critical thinking and never truly considered the obstacles that exist for many teachers and administrators. Two challenges that were revealed through my findings were parental concerns as well as accustoming students to a new way of learning. Additionally, both participants mentioned a lack of training as a challenge, as many teachers do not attend PD sessions on critical thinking due to time constraints. As a result, they know that critical thinking is in the curriculum, and are aware of its benefits, but do not know how to implement it successfully into their program. The benefits of critical thinking will not be achieved by simply mandating that it be used
in classrooms. Teachers need to be taught how to implement critical thinking to the point where they feel confident creating the conditions that are required to have students think deeply for understanding.

**Implications and Recommendations**

This research study has several implications for me as a beginning teacher. Learning from two experienced educators who support and integrate critical thinking methodology into their program provides practical advice for me as a teacher who aspires to create a community of thinkers in my future classrooms. First, I understand that I need to remain passionate about implementing critical thinking into my teaching, as I may face challenges in the process. It will take initiative and advocacy on my part in order to attend professional development sessions on critical thinking, as they are not required or readily available to teachers. I also understand that even if my school and board support critical thinking in the classroom, I will still have to seek out learning opportunities in order to implement it effectively and successfully within my program.

Through my research I learned that there are opportunities and challenges that come along with embedding critical thinking into one’s teaching practices. If we hope to realize the benefits of critical thinking, there are certain challenges that need to be attended to. I learned that simply providing students with a critical thinking challenge or question is not enough to develop their ability to think deeply for understanding. If we hope to nurture critically thoughtful learners, we must create an environment that supports thinking, provide many opportunities for thinking, focus instruction on developing the intellectual tools that support thinking,
and assess the quality of student thinking (Gini-Newman & Case, 2014). Failure to develop one of these variables may generate disappointing results. So, there is tremendous potential if critical thinking is implemented effectively, but educators need to be informed on how to do so. If teachers are not informed, they may provide students with more rigorous tasks but will not be providing students with the tools and strategies they need to do the thinking.

In terms of how I will continue my professional learning, I will seek out every opportunity to further my understanding of critical thinking and how to effectively implement it throughout my program. I intend to participate in PD sessions, learn from other educators and experiment within my classroom. It was in my first practicum school that I was introduced to the idea of critical thinking, and teaching for deep understanding. Since then, critical thinking has been discussed in a number of my courses in my teacher education program and I have taken it upon myself to further my knowledge on the topic. I understand Gary’s comments regarding teachers desire to stick to that rote type of learning, as it may be easier and less time consuming. However, through my research I have come to realize how profound the benefits of critical thinking can be, if implemented successfully and if seen as one’s foundation for teaching and learning. I understand the importance of educating 21st century learners, and my sentiments regarding critical thinking in classrooms has only grown stronger through discussions with both research participants. After having the opportunity to learn from two experienced educators regarding the benefits critical thinking can have on students, I am even more eager to integrate a critical thinking methodology into my teaching practice.
As a result of my research, I have developed some advice for the educational community to consider. My recommendations include the following main points:

- In pre-service education, beginning teachers should have a required course that outlines what critical thinking is and how it can be successfully implemented into one’s teaching practices. Beginning teachers should see examples of classrooms in which teaching and learning is achieved through a critical thinking framework so that they can experience first-hand the benefits of doing so.

- Practicing teachers should attempt to create a classroom culture in which critical thinking is embraced as a methodology rather than an isolated goal. It must be used across the curriculum, through every course and all subject matter. As educators, we must invite our learners to think critically, and provide them with the necessary tools and strategies to do so. In doing this, we are undoubtedly improving students’ chances of learning and understanding the required content on a deeper level.

- School boards and administrators need to provide teachers with more opportunities to attend and participate in professional development regarding the implementation of critical thinking in the classroom. Many educators possess a vague idea as to what critical thinking means and the benefits that it can have in our classrooms. Furthermore, they lack the training to be able to embed critical thinking in their teaching practices, even if they had a desire to do so.
**Limitations and Further Study**

I acknowledge that there are a number of limitations to my research study. To re-iterate, the sample size was limited to two participants from the same school board. Therefore, the findings are not easily generalized to the teaching community at large. I would be interested to hear about and learn from the practice of many more teachers who incorporate critical thinking from a variety of different school boards. Additionally, both participants work within schools that encourage and expect teachers to implement critical thinking into classroom practices. Though critical thinking is mentioned in every curriculum document in Ontario, it would be interesting to study the experiences of teachers who incorporate critical thinking without the support of their fellow teachers and administration. My personal biases and preconceptions regarding the use of critical thinking in the classroom and the effects that it has on student engagement also present limitations to this research study.

Some future research studies may develop around the following questions:

- How can teacher education programs structure their programs to influence future teachers to effectively integrate critical thinking in the classroom?
- How can schools provide support to teachers who are unsure how to implement critical thinking into their daily teaching?
- How can school administrators influence current and future teachers to incorporate a critical thinking framework in their teaching practices?
- How do students perceive critical thinking and how do they value it as an instructional framework in which they think to learn?
Conclusion

After having an opportunity to reflect upon my findings, I have come to understand the value in which critical thinking holds within the confines of a classroom. I appreciate the powerful benefits that critical thinking can have if approached and implemented effectively. However, I have also come to recognize the many challenges that exist in infusing this instructional approach into one’s teaching practices. My goal as an educator is to engage students in meaningful and authentic learning, by providing them with the opportunities and necessary tools to engage in quality thinking, and in turn, quality learning.
REFERENCES


Case, R., & Daniels, L. (2008). Teaching the tools to think critically. The anthology of social studies (pp. 77-88). Vancouver: Pacific Educational Press.


APPENDICES

Appendix A: Letter of Consent for Interview

Date: November 19th, 2013

I am a graduate student at OISE, University of Toronto, and am currently enrolled as a Master of Teaching candidate. I am studying critical thinking and student engagement for the purposes of investigating an educational topic as a major assignment for our program. I think that your knowledge and experience will provide insights into this topic.

I am writing a report on this study as a requirement of the Master of Teaching Program. My course instructor who is providing support for the process this year is Dr. Susan Schwartz. My research supervisor is Dr. Garfield Gini-Newman. The purpose of this requirement is to allow us to become familiar with a variety of ways to do research. My data collection consists of a 40 minute interview that will be tape-recorded. I would be grateful if you would allow me to interview you at a place and time convenient to you. I can conduct the interview at your office or workplace, in a public place, or anywhere else that you might prefer.

The contents of this interview will be used for my assignment, which will include a final paper, as well as informal presentations to my classmates and/or potentially at a conference or publication. I will not use your name or anything else that might identify you in my written work, oral presentations, or publications. This information remains confidential. The only people who will have access to my assignment work will be my research supervisor and my course instructor. You are free to change your mind at any time, and to withdraw even after you have consented to participate. You may decline to answer any specific questions. I will destroy the tape recording after the paper has been presented and/or published which may take up to five years after the data has been collected. There are no known risks or benefits to you for assisting in the project, and I will share with you a copy of my notes to ensure accuracy.

Please sign the attached form, if you agree to be interviewed. The second copy is for your records. Thank you very much for your help.

Yours sincerely,

Research name: Carly Sazant
Phone number, email: 416-786-7200, carly.sazant@mail.utoronto.ca

Instructor’s Name: Dr. Susan Schwartz

Phone number: (416) 978-0076, Email: susan.schwartz@utoronto.ca

Research Supervisor’s Name: Dr. Garfield Gini-Newman

Phone #: (416) 978-0193, Email: ggininewman.gini.newman@utoronto.ca

Consent Form

I acknowledge that the topic of this interview has been explained to me and that any questions that I have asked have been answered to my satisfaction. I understand that I can withdraw at any time without penalty.

I have read the letter provided to me by _______________(name of researcher) and agree to participate in an interview for the purposes described.

Signature: ______________________________________

Name (printed): ________________________________

Date: ___________________
Appendix B: Interview Questions

Interview #1 – Classroom teacher:

Background Information

1. What grade do you teach?
2. How long have you been teaching?

Teaching Practice

3. Tell me about a typical day in your classroom?

Understanding of critical thinking

4. What does critical thinking mean to you?

Teaching Practice/Strategies/Methods

5. What is your personal philosophy regarding the use of critical thinking in the classroom?
6. Would you say that you sometimes, regularly, or often incorporate critical thinking in your teaching practices?
7. What methods do you use to stimulate critical thinking in your students?

Understanding of Student Engagement

8. How would you define student engagement?

Teaching Practice/Strategies

9. What does student engagement look like in your classroom?
10. What is one of the most effective strategies you have used in your classroom to promote student engagement?
Student Outcomes

11. In your experience, when you utilized critical thinking strategies, what effect did it have on student engagement?

12. What impact do you think critical thinking has on student achievement?

13. Is critical thinking applicable to all students—including those with special needs, and English Language Learners? Please explain.

Teacher Engagement

14. How does critical thinking affect your own personal engagement while teaching?

Possible Challenges

15. What challenges, if any, do you face in encouraging critical thinking in your classroom?

Improving Instruction

16. What supports, if any, do you have in implementing critical thinking in your teaching?

Thank you for your time and input!
Interview #2 – School administrator:

Background Information

1. How long have you been a principal?

2. For how many years were you a classroom teacher?

3. What grades did you teach?

Understanding of Student Engagement and Critical Thinking

4. What do you believe student engagement looks like in a classroom?

5. What does critical thinking mean to you?

Personal Philosophy

6. What is your personal philosophy regarding the use of critical thinking in the classroom?

Implementation of Critical Thinking

7. When you were a teacher, was critical thinking a part of your philosophy and classroom teaching? Please explain.

8. Is critical thinking a part of your school improvement plan?

9. If yes, how successful do you believe teachers are at embedding critical thinking into their routine practices?

10. How often do you find that teachers encourage critical thinking in their students? (e.g., sometimes, regularly, often)

Improving Instruction

11. What professional development are your teachers receiving in the area of critical thinking or critical literacy? (Probe: supports, resources, consultants)
**Student Outcomes**

12. How do you see critical thinking affecting the level of student engagement in your school?

13. What impact do you think critical thinking has on student achievement?

14. Do you believe that critical thinking is applicable to all students—including those with special needs, and English Language Learners? Please explain.

15. When you do walk-throughs, what evidence would you look for in terms of critical thinking?

**Possible Challenges**

16. What challenges, if any, do you and your staff face in utilizing critical thinking in your school?

17. How do you think that you and/or your staff can overcome these challenges?