

HIGH SCHOOL ENGLISH TEACHERS' PERCEPTIONS  
AND PRACTICE OF CRITICAL THINKING

CENTRE FOR NEWFOUNDLAND STUDIES

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**HIGH SCHOOL ENGLISH TEACHERS'  
PERCEPTIONS AND PRACTICE OF CRITICAL THINKING**

A Thesis  
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In Partial Fulfilment of the Requirements  
For the Degree of  
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## **ABSTRACT**

The purpose of this study was to investigate high school English teachers' perception and practice of critical thinking skills in their classrooms in developing the critical thinking abilities of the senior high level students in Edmonton schools. The intent was to discover if high school English teachers realize the importance and the great significance of thinking critically, and if they model, practice and implement it through their teaching methods, to develop the students' critical thinking skills.

The data concerning teachers' perceptions and beliefs on critical thinking were gathered through interviews conducted with eight English teachers for Grades 10, 11 and 12, in six different schools in Edmonton, Alberta. These interviews were recorded on audio-cassette, transcribed, and analyzed to reach an understanding and a conclusion. The data concerning teacher-student classroom verbal interaction was collected through in-class observation of one or two classes for each teacher either before or after the interviews.

The findings of this study indicated that critical thinking continues to grow in popularity. Most of the high school English teachers realize and believe in the value of critical thinking as an academic competency that is crucial for the students' future success and progress. Most high school English teachers practice and model these skills to their students, and try to creatively develop the students' critical thinking skills. There are many opportunities in the high school English curriculum for educators to help develop critical thinking skills. The study revealed that the integration of critical thinking skills through the creative and effective use of various teaching methods is possible and essential. A significant finding was that high school English teachers can be highly influential in establishing a classroom environment that fosters critical thinking development.

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## CHAPTER 1: INTRODUCTION

As a researcher, I have a great interest in critical thinking, and through my studies at Memorial University I became more aware and conscious of its significantly important role in education and postmodern society. If students are our future, they need to understand and question the given while not accepting everything on its face value. Students need to acquire the skills and learn the techniques of thinking critically, to filter the messages they receive, and to have the power and the voice by which they can make a difference.

As Berlak and Berlak (1987) note:

Empowerment implies contributing to the shaping of society, rather than being subjected to the power of others. It goes beyond critical thought and includes a readiness to act with others to bring about the social conditions that one has chosen through a process of collaborative, critical inquiry. Action requires courage, but it also requires a possession of knowledge and skills necessary to change the situation in a classroom, school or any other area of human activity. (p. 170)

Critical thinking provides students with an opportunity to take chances and to experiment new approaches so as to determine what works and what does not work for them. Critical thinking is a skill that can be nurtured to help students achieve at higher levels and find education meaningful, so developing their critical thinking involves teaching them how to examine and analyze almost everything around them in the society. Critical thinking is a form of inquiry which leads to a self-correcting practice, which involves changing attitudes, behaviours, certain beliefs or ideas and gaining the wisdom to develop oneself.

Critical thinking is a skill that requires teaching and practicing on how to examine, analyze, generalize and develop intellectual links among various subjects, and to come to logical conclusions. Effective teachers need to be role models of critical thinking, and in becoming critical thinkers



themselves, they need to dedicate time and effort to develop the necessary skills if they are to have a positive impact on students.

With effective teachers' guidance, students can reflect on various current topics or issues in a risk-free environment and link them to the society in which they live. High school English teachers can encourage students to decide freely on what to believe and what not to believe, what action to take, and what action to not take. Through the development of critical thinking, students can assess and reform what is already present.

The researcher strongly believes that critical thinking can significantly and positively affect students by helping them to become creative thinkers, to identify problems, to formulate hypotheses and to develop possible solutions and alternatives. Educators can enable students to make logical plans for investigation and to reach logical conclusions by using various methods of teaching through which students attain higher levels of thinking.

This research was driven by the curiosity to understand and know more about teachers' perception of critical thinking in terms of its importance and significance in education. There is a need to find out whether educators have enough knowledge about critical thinking, and whether they believe in it and model it to their students. On the practical side of this issue there is a need to know if teachers implement critical thinking in their subjects as a way to encourage the development of students' into critical thinkers. The fact that teachers hardly have enough time to teach the content of their subjects may hinder their ability to take students to this higher level of thinking.

## **RATIONALE**

A great deal of work has been done to develop theoretically clear definitions of critical thinking; however, while interesting conceptualizations have resulted from the different endeavours, the literature reflects considerable debate surrounding the meaning, significance and the various possible ways of developing and modeling critical thinking. On the practical side there is a scarcity of research to help us understand and know what high school English teachers perceive critical thinking to be or mean to them, and whether or not they practice it in their classrooms using various teaching techniques.

If we are to understand how critical thinking skills are actually developed in the classrooms, there is a great need to focus on the process more than on the product, and what tools or methods are used to help students acquire these needed skills.

## **BACKGROUND**

Over the past six decades, researchers, philosophers and educators have been thinking about thinking, specifically about critical thinking implementation and development (e.g., Aylesworth & Reagan, 1969; Beyer, 1995; Brookfield, 1991; Dewey, 1933; Drake, 1976; Ennis & Norris, 1989; Glaser, 1985; McPeck, 1981; Meyers, 1986; Sternberg, 1996).

Since the early 1930s, critical thinking has been a dominant topic of debate in education. During the past few decades, critical thinking has been accorded considerable attention, around the problem of how to improve critical thinking ability in students. Recent studies at the University of Alberta, show that there were few studies related to the problem of improving students' critical thinking abilities. One study by Hunkins (1966) examined the effect of analysis and evaluation

questions on critical thinking development and achievement in Grade 6. Eugene (1972), examined the teaching of critical thinking skills by Socratic method, only in selected units of introduction. It was the scarcity of research on critical thinking that gave rise to this research project.

## **PURPOSE**

The main purpose of this study was to explore and understand high school English teachers' perceptions and practice of critical thinking. It is important as well to find out whether teachers model critical thinking and use effective methods of instruction to help develop these skills in their students.

This study was undertaken in the hope of gaining some knowledge regarding classroom procedures in teaching, developing and improving critical thinking in senior high students. The purpose of the research was to help educators understand and be aware of the significant value of practising and teaching critical thinking skills. The research was also intended to serve as a source of motivation for educators to assess their teaching methods in a critical way to effectively and positively contribute to the advancement of knowledge. The study can serve as a teacher's guide to help students become critical thinkers, so they can pierce through arguments and arrive at scholarly conclusions. The study should serve to inspire teachers to always search for and implement creative ways to develop their students' critical thinking skills.

## **SIGNIFICANCE**

This study serves as the basis for establishing a realistic understanding of what high school English teachers really think and believe about the meaning and value of critical thinking. The study also provides insight into the actual development of these skills in the classroom setting where

teachers and students interact using various methods of teaching and resources to achieve better education and prepare young people for the 21<sup>st</sup> century.

This study provides a framework for other teachers who have an interest in developing students' critical thinking skills, and in providing them with a model that would help them incorporate and implement critical thinking development in their subject matter. This study should help high school English teachers realize that with less consumption of time, and with few changes and modifications in their teaching methods, they will be providing education that is critical in nature.

This study was intended to help high school English teachers and students understand the importance of working together to practice and develop critical thinking skills, as a way for students to function effectively in the society as successful, empowered, independent, and responsible decision makers.

## **LIMITATIONS**

- Given the small sample size, replication of this study would be necessary to determine if the generalization applies to the entire population of high school English teachers.
- The fact that the interviewer was present in the classrooms where teaching and learning took place may have affected or altered the teaching styles. Teachers may have felt judged or evaluated and thus perception may have affected their performance.
- Students may have been distracted, inhibited to ask or answer questions, or felt uncomfortable discussing different ideas, due to the fact that the researcher was present in their classrooms for observation.

- Since qualitative and critical research provide the theoretical framework for this study, the analysis of data may be limited by personal judgments of the researcher.

## **ORGANIZATION**

Chapter 2 presents a review of the relevant literature, the meaning and definitions of critical thinking, the characteristics needed for the development of critical thinking, and how the students can acquire those characteristics. Chapter 2 also presents information on how critical thinking can be applied to the English curriculum. Chapter 3 describes the methodology, including the design of the study, the research questions to be addressed, and the instruments used for the data collection. Chapter 3 also presents the students' and teachers' observation notes, the transcribed interviews, and the data analysis procedures. Chapter 4 presents an extensive analysis of the data collected. Chapter 5 includes a summary of the study, an interpretation of the findings, and recommendations for future research.

## **NONPARTICIPANTS**

As an indication of issues surrounding the research topic, there were quite a few teachers who declined to participate in the study. Those who declined expressed their interest in the topic and its value to them, but explained that they simply did not have the time to participate. The key barrier was that they had considerable backlog in marking. Few educators indicated that they were working more than ten hours a day because of lesson preparation and in-term progress reports they had to prepare. Other teachers explained that they were under so much pressure that they could not devote the time or effort to participate in the study, and they suggested that the researcher should include

these valid factors in the research. One high school English teacher indicated: "Teachers don't have time. How can they develop the students' critical thinking abilities?"

## CHAPTER 2: LITERATURE REVIEW

This chapter presents through the literature review the various definitions of critical thinking, the characteristics needed for the development of critical thinking, and how students can acquire those characteristics. The chapter also presents information on educators modeling of critical thinking and information on how critical thinking can be applied to the English curriculum.

The task of reviewing the literature was approached with an objective of providing definitions and information and of providing an opportunity to analyze some areas of critical thinking which could serve as a guide for the study.

### CRITICAL THINKING

#### Definition

Modern conceptions of critical thinking goes back to 1933, when philosophers, researchers and educators tried to define its meaning. Baron and Sternberg (1986) define critical thinking as "reasonable reflective thinking that is focussed on deciding what to believe or not to believe, what action to take or not take" (p. 10). Critical thinking is considered to be a higher level of thinking which embodies the ability to question the given and not take everything for granted; it seeks to address the social, cultural and institutional being of education as a way of establishing a better society.

Norris and Ennis (1989) define critical thinking as *reasonable* thinking, and they explain that it is good thinking that relies appropriately upon the use of good reasons and emphasize the idea that people who form beliefs or who act without good reasons are acting arbitrarily and unreasonable. These authors note that good thinking is not arbitrary, however, because good thinking does not lead

to just any conclusions, but in general to the best conclusions. "The best conclusions are those supported by the best reasons, so critical thinking must rely upon good reasons in reaching conclusions" (p. 3).

Brookfield (1991) defines critical thinking as a productive and a positive activity, where critical thinkers are actively engaged with life and see themselves as creating and re-creating aspects of their personal, workplace, and political lives. They appreciate creativity, and exude a sense that life is full of possibilities. Brookfield also adds that "identifying and challenging assumptions is central to critical thinking" (p. 7).

McPeck (1981) sheds another light on critical thinking by explaining that the most notable characteristic of critical thought is that it involves a certain scepticism or suspension of assent towards a given statement through an established norm or mode of doing things. This scepticism might ultimately give way to acceptance, but it does not take truth for granted. Critical thinking considers alternative hypotheses and possibilities which might result in the detection of a fallacy, but it might equally well prompt a decision not to apply a perfectly well established rule, principle or procedure in a given instance. McPeck notes, however, that "critical thinking involves seeing when a certain common procedure is fruitless by entertaining alternatives to it" (p. 6).

McPeck (1990) notes that "*Critical thinking* turns out to be very similar to what we normally mean by general scholastic ability, or *intelligence*" (p. 23). Critical thinking includes a *knowledge component*, that is, knowledge-based skills whose general range of applicability is limited by the form of thought or kind of knowledge being called upon. The second component, which we might regard as the specifically *critical* component, consists of "the ability to reflect upon, to question effectively,



and to suspend judgement or belief about the required knowledge composing the problem at hand" (p. 23).

"Critical thinking aims to go beyond the surface" (Doyle, 1995) as it opens new spaces, new directions and explores new possibilities; it aims to assess and reform what is already there. Critical thinking is a process through which the individual may address various issues such as equality, race, class, and gender; issues in relation to culture, democracy, power, or other diverse problems. This form of thinking may also include the morality of abortion, minority rights, the multidimensions of pollution, nuclear disarmament, the feasibility and equality of various taxation schemes, and television hype and propaganda so as to assess them and change whatever needs to be changed. It is the ability to ask questions and to investigate, debate, analyze and research a specific topic or issue. McPeck (1990) also notes "Learning to think critically is in large measure learning to know when to question something, and what sorts of questions to ask. Not just any questions will do" (pp. 82-84).

Baron and Sternberg (1986) suggest that "Critical thinking is creative thinking, formulating hypothesis, alternative ways of viewing a problem, questions, possible solutions and plans for investigating something" (p. 10). Providing solutions or suggestions may or may not eliminate the problem, but guided discussions may be a step in the right direction. Critical thinking is the most complex method of problem solving. Ruggiero (1988) has a similar point of view in that "Creative thinking and critical thinking work in harmony, creative thinking producing ideas and critical thinking evaluating and refining them. Both activities are necessary to solve problems and make decisions" (p. 105).

Dewey (1933) analyzed critical thinking or reflective thinking and outlined this age-old procedure in a series of steps: "(a) realize and identify the problem, (b) establish facts, (c) formulate hypotheses, (d) test hypotheses, and (e) evaluate results" (p. 107).

Critical thinking is also defined as focussed thinking and as purposeful thinking for it does not occur ~~accidentally~~ or without reason. McPeck (1990) argues that critical thinking refers to a certain *combination* of what we might think of as a willingness, or disposition and attitude, together with the appropriate knowledge and skills, to engage in an activity or problem with *reflective skepticism*. McPeck further notes that "critical thinking consists of the kind of healthy skepticism that we might normally associate with the discipline of philosophy" (p. 43).

Aylesworth and Reagan (1969) explain that analytic and synthetic reasoning are two faces of critical thinking and depending upon what types of problems must be solved, learners as citizens have need for both abilities. These authors explain that analytic thinking or deductive reasoning is that type of problem solving that leads from the general to the particular, and is more appropriately used in mathematics and language arts. Synthetic thinking, or inductive reasoning, on the other hand is from the particular to the general, like in areas of science and social studies. "Most of man's critical thinking activities are combinations of analytical and synthetic thinking" (pp. 11, 12).

While there are many variations and complexities in the meanings attached to critical thinking that have to be understood, it is a term that has been widely used to describe a set of intellectual operations which include creative thinking, reasonable reflective thinking, straight, clear and good thinking, purposeful thinking, analytic and synthetic reasoning, as well as focussed thinking.

## **Developmental Criteria**

Certain characteristics are needed for the development, practice and success of critical thinking, such as the ability to respect others' viewpoints and to consider, thoughtfully and perceptively, the problems that come within the range of one's experience. Having a proper attitude can not be emphasized enough. John Dewey the well-known, early 20<sup>th</sup> century philosopher and educator emphasized that attitudes and knowledge go together in a good thinker, and that we need to work to weave them into unity (Dewey, 1933; Glaser, 1985).

Zechmeister and Jonson (1992) note that:

Critical thinking is a skill that is teachable in much the same way that other skills are teachable namely, through drills, exercises or problem solving in an area. A much clearer understanding of the proper types of problems and exercises needs to be reached not only by teachers but also by the educational community as a whole. No doubt students' understanding of what is expected of them will also affect the success of such endeavours. Critical thinking should be taught as an integral part of other subjects." "Critical thinking is a skill that can be acquired and perfected. (p. 20)

Norris and Ennis (1989) explain that, in order to carry out the critical thinking process effectively, one needs both abilities and dispositions. The abilities include those required to interact effectively with other people, to judge the soundness of information and inferences drawn from information, to produce credible information and inferences, and to maintain clarity. Since critical thinking takes place within a problem-solving context, and often in the context of interacting with other people, the critical thinker needs to be able to function effectively within these contexts. To do this, the person needs to employ certain strategies and tactics for keeping the problem-solving process on task, for communicating coherently with other people, and for dealing intelligibly with communication received from others. Norris and Ennis emphasize that attitudes are required for the person to be in the right frame of mind for thinking critically as it "is an activity that requires

sustained effort and, therefore certain commitments. One of the most important of these is a commitment to open-mindedness" (p. 8).

McPeck (1981) agrees with that point of view and explains that "students with the intellectual curiosity to seek answers to various questions or problems must also develop the disposition to use those skills. A disposition to think critically is indispensable, to be objective and not to be influenced by emotional or subjective factors, to be flexible, and open-minded" (p.19).

On a more practical instructional level, both the attitude of the teacher and the learning atmosphere in the class are likely to have real and important effect on the success of nurturing such autonomous thinking. As McPeck (1990) explains: "The attitude of the teacher and the intellectual atmosphere of the class have to instill confidence in the students that rational disagreement will not be penalized in any way, but highly rewarded" (p. 52). Training in particular critical thinking skills is not sufficient to produce a critical thinker; intelligence, dedication, induction, value judging, courage, and intellectual honesty are all significantly important characteristics needed for the development of critical thinking.

Knowledge of the methods of logical inquiry and reasoning, and the skills for transferring and applying those methods to various issues in life by consistently following a line of reasoning are extremely valuable in the development of critical thinking. Beyer (1995) explains that critical thinking is hard work which requires habits of mind-suspending judgment, questioning unsubstantiated assertions, and the credibility of sources that run counter to our natural inclinations. "Applying critical thinking often requires reading between the lines, tracing the logic of an argument, finding unstated assumptions and unstated criteria, and determining the quality of factual claims" (p. 26).

McPeck (1981) indicates that "critical thinking requires the judicious use of scepticism, tempered by experience, such that it is productive of a more satisfactory solution to, or insight into, the problem at hand" (p. 7). Norris and Ennis (1989) share a similar view in that "Critical thinkers must be reflective in that they examine the reasonableness of their own and others' thought. Thinking does not become reasonable thinking by accident. Critical thinkers must consciously seek and use good reasons" (p. 3). McPeck (1990) concludes that the critical thinker, therefore, knows what and when it might be reasonable to question something; however, this requires comprehensive understanding of the kind of information that it is gathered or generated. "Critical thinking ability, therefore, varies directly with the amount of knowledge required by the problem" (p. 28).

As Ennis (1993) notes, in reasonably and reflectively going about deciding what to believe or do, a person characteristically needs to do most of the following things and do them interdependently:

1. Judge the credibility of sources.
2. Identify conclusions, reasons, and assumptions.
3. Judge the quality of an argument, including the acceptability of its reasons, assumptions, and evidence.
4. Develop and defend a position on an issue.
5. Ask appropriate clarifying questions.
6. Plan experiments and judge experimental designs.
7. Define terms in a way appropriate to context.
8. Be open-minded.
9. Try to be well informed.

#### 10. Draw conclusions when warranted, but with caution.

This interdependent list of abilities and dispositions can provide some specificity for guiding critical thinking testing.

McPeck (1990) argues that people who think critically think for themselves and they do not simply believe everything which they hear or read. McPeck (1990) argues that “critical thinkers have both the disposition (or propensity) and the relevant knowledge and skills to engage in an activity with reflective skepticism; that is, not only are they prone to question things, but they have the relevant knowledge and understanding to help them do so productively” (p. 21).

Giroux (1994) explains that critical thinking refers primarily to teaching students how to analyze and develop reading and writing assignments from the perspective of formal, logical patterns of consistency. In this case, the student is taught to examine the logical development of a theme, advance organizers, a systematic argument, the validity of evidence, and how to determine whether a conclusion flows from the data under study. While all the latter learning skills are important, their limitations as a whole lie in what is excluded, and it is with respect to what is missing that the ideology of such an approach is revealed: First, there is the relationship between theory and facts; second, knowledge cannot be separated from human interests, norms, and values (Walters, 1994).

#### **Acquisition**

Critical thinking has long been one of the stated aims of teachers and education, however, relatively little evidence has been obtained as to whether or not this aim is ever realized, and how to realize it. There is no easy answer to this question, so we need time, effort and cooperation from the different parties involved. We agree on ultimate goals and purposes and we all want to produce

autonomous thinkers who are not taken in by faulty arguments, weak evidence, or “trendy” opinion, and who can face life’s problems as people capable of making their own rational decisions about whatever should confront them. Aylesworth and Reagan (1969) argue, however, that:

The skill most often overlooked by teachers of the academic subjects is that of critical thinking: that is, the mental skill of solving problems in the manner of the practitioner. Critical thinking is the lifework of the academicians, and learners are rarely given the opportunity to behave in this manner. In spite of protestations to the contrary, the schools tend to teach *what* to think rather than *how* to think. If an attempt to teach how to think is made, it is often at an ill-defined or even unconscious level. When students are taught how to think properly, they are also able to learn what to think, since limits are automatically set to the kinds of evidence that are acceptable and the methods of thinking procedure that are allowed. The learner who lacks explicit knowledge of the structure of academic work, furthermore, having an increased amount of leisure time, will have an opportunity to wreak social havoc because of his lack of analytical and synthetic skill. (p. 4)

According to the literature, there are creative and innovative ways of improving this kind of education and, hence, developing critical thinkers; but, there are no shortcuts to it. McPeck (1990) contends that “if we improve the quality of understanding through the disciplines, we will then get a concomitant improvement in critical thinking capacity” (p. 21)

Meyers (1988) indicates that:

Teachers in all disciplines play a crucial role in the development of students’ critical thinking abilities. Just as students will not become proficient writers merely by taking a year of composition but must be required to practice good writing in all their classes, so students will develop good critical thinking skills only by being challenged to practice critical and analytical thinking in the context of all the different subjects they study. (p. 5)

Educators should dedicate more time, be flexible as much as they can to guide students and develop their critical thinking skills. Students should know and experience the importance of dialogue, listening and understanding which will lead to a lifelong learning and will be the tools for a successful democratic society.

Baron and Sternberg (1986) explain that:

Increasing people's problem solving skills may well increase their earning power. Getting people to be more observant may enrich their lives aesthetically. . . . Learning to analyze arguments and evaluate them critically should make one less susceptible to manipulation and brainwashing as should awareness of the various logical approaches that can be used to influence behaviour and mould beliefs. (p. 33)

McPeck (1990) explains that most teachers are already fairly knowledgeable in their disciplines, at least in secondary schools and beyond, so there really is no need for an entirely new specialty, or alien expertise, in order to improve critical thinking skills in their classes. It requires more of a shift in emphasis, or redesigning their material and tests to reflect this emphasis on independent thinking. McPeck notes that, "If teachers possessed this fresh and somewhat different perspective on their discipline, they could better see what kind of questions and material would give rise to this kind of understanding" (p. 33).

According to the literature, educators can make it possible for students to practice appropriate behaviours and skills in the classrooms; for example, one who is thinking critically asks questions, speculates about answers, plans and evaluates evidence and judges. Teachers should, therefore, provide situations where students are motivated to ask questions, to speculate about answers, to plan ways of getting evidence, and to evaluate them. In other words, to provide meaningful learning that will be retained by students for a long time and help them become critical thinkers.

As explained by McPeck (1990), the first thing teachers must do is to get a clearer fix on the structure of their discipline, and to use that as the core of their curriculum. In addition to being clear about *what* one is trying to teach, there remains the question of *how* one should teach the structure of a discipline. McPeck adds that the didactic method of teaching and the receptive method of learning have simply been carried over to secondary school from grade school. Secondary school is



the place to shift gears, a place to nurture discussion, argument, and the free exchange of ideas within a subject. "The disciplines should remain the focus of study, discussion and argument should be the major means of teaching and learning" (p. 50). Meyers (1988) agrees with these ideas by saying that "in addition to teaching explicit skills and analytical frameworks, teachers must nurture attitudinal aspects of critical thinking-students' innate sources of interests, wonder, and inquisitiveness" (p. 117).

Giroux explains that students need to learn how to be able to move outside of their own frame of reference so that they can question the legitimacy of a given fact, concept, or issue. They also have to learn how to perceive the very essence of what they are examining by placing it critically within a system of relationships that give it meaning. In other words students must be taught to think dialectically rather than in an isolated and compartmentalized fashion. (Walters, 1994)

Giroux also argues that social relations in the classroom that glorify the teacher as the expert and the dispenser of knowledge end up crippling student imagination and creativity; in addition, such approaches teach students more about the legitimacy of passivity than about the need to examine critically the lives they lead (Walters, 1994). The teacher's role in that case should become that of a guide or resource person, rather than an authoritarian director and knowledge dispenser.

Meyers (1988) agrees with that point and adds that educators can have a positive impact in that particular matter and can work on developing the students' critical thinking skills using a variety of approaches. Teaching methods can be infused with greater vitality and variety, permitting greater students' involvement and opportunity for decision making and critical development. A few of these approaches include presenting various current topics like human relations, equality, social justice, and a better future for discussion and debate in a risk-free classroom environment, as well as using questioning techniques, probing, and pondering which will go a long way toward fostering critical

thinking. "Such environments can be developed partly by structuring classroom time to include more discussion and by designing clear, effective written assignments" (p. 117).

According to the literature, in addition to teachers' positive attitudes there are a few examples of effective instructional methods educators should use for the development of critical thinking: problem solving techniques, questioning, brainstorming, interactive presentation, prediction, and analysis. Following are some of these methods of instruction that, when used effectively and creatively, can help develop critical thinking skills in students.

### ***Questioning***

Questioning is an effective teaching method that has been honoured through the centuries. The Socratic method of teaching through the exchange of questions and answers, and its place at the centre of education has remained unchallenged. Through high-level questioning, a point is transmitted and transformed and consequently, students systematically move to a higher level of thinking which will have a positive effect on the students' development, mental growth and achievement.

McPeck (1990) confirms this same idea by saying:

If you want critical thinking, then you must ask questions that require it, and assess them accordingly . . . But teachers must be prepared to assess the quality of the students' reasoning and articulation every bit as much as they have been prepared to mark the "right" answers in the past. Pedagogically comfortable questions which have single "right" answers have to be replaced with questions which don't have the single "right" answer. (p. 51)

Morgan and Saxton (1991) suggest that questioning can be taught as a skill component at any level in the language arts curriculum and as a method of learning in whatever subject areas. "The students learn about questioning by practising and analyzing their own questions to see how they can

elicit more information, see a topic from different perspectives, and explore a variety of attitudes through their responses which may lead to new questions" ( p. 112).

Beyer (1995) has a similar view, and emphasizes the use of the Socratic method which has been widely discussed and used as a method of inquiry in which one seeks to determine what the true nature of things is. Beyer encourages the probing style in which the teacher expects students to take a stand on issues discussed as the "Socratic questioning probes beneath superficial appearances or perceptions to identify the central, basic meaning or quality of things" (p. 19).

Based on the literature review there are various types of questions that can be used to help in the development of students' critical thinking skills. There are higher-order questions which ask for analysis, synthesis or evaluation, the last three categories of Bloom's taxonomy which define these as demanding more complex and thus higher levels of thinking. As Morgan and Saxton (1991) explain, the *open question* suggests that the teacher does not have one particular answer in mind but is inviting students to consider and advance many possibilities and answers. The *inductive question* widens the process of inquiry; it is expansive, divergent and it helps students bring their experiences and feelings, as well as knowledge of the text to their answer. The *heuristic or creative question* guides students into discovery, and the *educative or productive question* helps students learn, leading them to new facts, new perspectives, and new ideas. The *reflective question* clearly signals that an immediate answer is not required; that it is acceptable to think aloud and there need be no resolution nor consensus. The *evaluative question* invites students to look at their work in a critical fashion. (p. 64).

As argued by Muldoon (1990) "Questioning allows students to be responsible for their own learning because it is the essence of being both a strong reader and a strong writer and, therefore, a

strong thinker" (p. 36). Muldoon explains that students need to be challenged to think in deeply and imaginative ways. Teachers can do so through questioning strategies. "Helping students find, shape and revise their own questions and then explore and evaluate responses to these questions is one way of teaching students how to learn and think in critical and imaginative ways" (p. 39).

### ***Brainstorming***

Brainstorming is an effective instructional method that helps students take an active role and develop their critical thinking, by learning and remembering what they learn through participation. Brainstorming on issues is an opportunity to identify problems that arise in student's life, and from relevant problems come possible solutions to those problems. From problems and possible solutions comes a discussion on weighing the consequences of possible solutions in personal terms, in social terms, and/or in environmental terms. In brainstorming, students think and learn about particular concepts and get to know the product and the process. Brainstorming can take place in a supportive environment by listening and communicating, and it is used in linking new information with the students' prior knowledge and experience (Meyer, 1992). Meyer explains that successful brainstorming requires that participants withhold criticism of ideas until after all ideas are generated. In addition, brainstorming sessions often generate many ideas that build onto one another, and "wild" or unusual ideas should be encouraged.

Verduin, (1996) confirms the significant role of brainstorming in developing critical thinking by saying that all ideas are good and welcome. The quantity of all types of ideas is the goal of a brainstorming session, associational thinking (i.e., adding and combining ideas) should be encouraged, and recording of all ideas must take place if students are to develop investigative, problem solving, and thinking skills in a cooperative setting.

As with analogical problem solving, the amount of knowledge one has about the problem domain affects the success of brainstorming, because better domain knowledge allows one to generate more potential solutions and criteria for judging their feasibility. While brainstorming can be used individually, group interaction usually leads to more solutions ( Schunk, 1996).

### ***Discussion and Interactive Presentations***

Faust (1995) suggests that, through guided discussions, students talk about how and why they look at a topic from a particular perspective, giving birth to logic, and thinking systematically. They can develop respect for individual differences, hypothesize, predict endings, relate to personal experiences, and share meaningful responses with no fear or restrictions. Through these discussions, students can come up with solutions to problems and key ideas and improve their conceptual understanding.

If students have a voice, are trained to participate in informed discussions, think critically, and are actively engaged in making decisions or in expressing their own views, they can and will make a positive difference in society. Glaser (1985) found that "Critical thinking ability helps the citizen to form intelligent judgments on public issues and thus contribute democratically to the solution of social problems" (p. 27). "There can be no liberty for a community that lacks the critical skills to distinguish lies from truth" (Postman, 1985).

McPeck(1990) emphasizes the importance of discussions and argument by saying that they enable students to understand the disciplines more deeply, in an epistemological sense, and they enable them to partake in autonomous discourse about these things. These processes help to provide those characteristics in students which, we all agree, are desirable: those characteristics which many people regard as tantamount to critical thinking. McPeck also indicates that "if students are required

to discuss and argue for things, they will quickly learn to do it" (p. 50). As McPeck (1990) explained, there is also a more subtle and more difficult obstacle to nurturing critical thinking in the classroom, which stems from the teachers' attitudes or mode of conducting discussions. The attitude of the teacher and the intellectual atmosphere of the class have to instill confidence in students that rational disagreement will not be penalized in any way, but highly rewarded ( p. 52).

The pedagogical problem, then, is one of conveying the idea that reason and argument are the only acceptable currency in the pursuit of truth, and that even the teacher's views must be subjected to this tribunal. McPeck (1990) suggests that critical examination of ideas can be nurtured by teachers in a variety of ways, one of the more effective is to engage students in honest arguments that require taking the other person's reasons seriously, and treating each other as equals. Thus, in the arena of argument even the teacher's traditional authority must give way to reasons. "This is precisely the kind of thinking and discussion that the schools should be trying to foster" (p. 52).

The key to successfully developing critical thinking in students is consistency and practice of the above mentioned strategies. Sternberg and Spear-Swerling (1996) note that students need a combination of various approaches like the didactic, fact-based questioning, and thinking based questioning (a dialogical approach) which best develop their ability to think effectively and critically. Effective teaching for critical thinking requires understanding and providing of these various methods and principles. Sternberg and Spear-Swerling explain that in teaching students to develop their analytical abilities, educators should provide opportunities for them to compare and contrast, to analyze, evaluate, and explain. They also add that "in helping students develop their creative and practical abilities they should be provided with opportunities to create, imagine, suppose, as well as opportunities to apply and implement" (p. 142).

## **ROLE MODELS OF CRITICAL THINKING**

Brookfield (1995) notes that modeling critical thinking is an important factor in helping students develop critical thinking skills: "Observing role models to help us imagine, define, and practice the kinds of behaviours we would like to exhibit in our own lives is one of the most common means by which we learn (p. 85). Every time instructors ask a question in class, they are presenting that question as a model for their students to help them ask better questions themselves. A central aim of modeling critical thinking for others is to prompt them to apply habits of critical analysis to their own lives. It is extremely important for the students to see the process of critical analysis modelled by someone they deem credible like their instructor.

Muldoon (1990) has similar views on that particular issue and indicates: "It is important to note that helping students shape more critical questions is a distinctive form of modeling behaviour that is not to be confused with asking students to parrot behaviour. Students learn to develop better questions from the teacher's examples" (p. 4).

Berlak and Berlak (1987) suggest that if teachers, hope to encourage critical thought in others, they must engage in it themselves, and throughout their teaching careers they must participate in an ongoing, collaborative process of reevaluation of, and liberation from, their taken-for-granted views (p. 170). Teachers must invite and welcome public critical scrutiny of their ideas and actions, as well as acknowledge that they may change how they think and teach as a result of engaging in critical conversation with their peers. These authors add that educators must stress that the ideological and methodological outcomes of a critical conversation are always open. "Radically

oriented teacher educators must serve as living examples of the very kind of critically oriented pedagogic practices that they seek to have their students adopt" (p. 113).

Brookfield (1995) notes that:

One of the hardest disciplines for teachers to learn when modeling critical reflection is the discipline of open-mindedness. This condition holds that all those involved in a critically reflective episode must be open to rethinking their own commitments and the accuracy of the assumptions on which those commitments are founded. Teachers who are genuinely open to the possibility of their own errors are viewed by many students and colleagues as strong rather than weak. Such teachers are visibly evolving as learners, always in a process of formation (p. 257).

Simply stated by Brookfield (1995) "Critical teachers must be seen to be critical learners too" (p. 257). The most important key in developing the students' critical thinking skills is being a role model. Sternberg and Spear-Swerling (1996) explain that educators need to be role models for how to think, and to lead students to remember them as actively doing what they teach (p. 14).

## **APPLYING CRITICAL THINKING TO THE ENGLISH CURRICULUM**

There is a great need to teach critical thinking skills so that students can operate in an increasingly complex world, and there is a serious need for implementing and teaching critical thinking skills in the curriculum especially in English. Critical and reflective thinking should be a key function of the English curriculum by applying critical thinking skills to the curriculum so that students will be guided in making the right choices, solving problems, and taking initiatives. The democratic, postmodern society in which we live needs entrepreneurs, organizers, and leaders who think critically, who have a voice and are able to change and reform.

As McPeck (1990) argues:

However autonomous and critical thinking has not been clearly woven into the fabric of our curriculum; hence, it is not surprising that we are seeing little evidence of it . . . There is more



than ample room, however, for autonomous and critical thinking in science, history, literature, and the social studies. (p. 51)

Critical thinking can be applied to various subjects in the curriculum by simply guiding the students to identify the problems, to think creatively about alternatives and their advantages and disadvantages, to come up with different innovative solutions, and to see how well these solutions work. Creative problem resolution requires a sound knowledge base, which means understanding the information and the main ideas to see what reasons, evidence and examples are provided, and being able to evaluate the findings. Students should practice and be encouraged to link different subjects within the curriculum, relate them to their lives, think actively and go beyond the information given. Students need to have a plan and work toward a goal, to form their own concepts and apply them to life. Through the lens of critical thinkers, education is an initiation into the process of inquiry; therefore, educators should create a risk-free thoughtful learning environment that supports discussion, questioning, and probing for critical thinking development (Maclure, 1991). Educators can help students think about what they learn in all subjects and make connections and transfer these thoughts and abilities as general skills to the society, rather than to deal with each subject as a particular form of knowledge.

According to the literature, English can play an important part in cognitive development and in thinking critically, as it provides various ways of extending experience vicariously by releasing the imagination, and/or confronting moral issues. English stimulates thinking and provides a needed complement to the modes of thought demanded by the exact sciences.

As indicated by Meyers (1988):

No two literature professors will have the same definitions of critical thinking or teach critical thinking skills in exactly the same manner. For example one literature teacher might teach

students to analyze a novel by focussing on such things as character, plot development, symbolism, and uses of metaphor. Students could use these general concepts to develop a perspective for critically analyzing other novels . . . Another instructor's class, the teaching of critical thinking might focus on the way themes in a novel relate to an individual author's life and times, the ways an author's writing differs from that of earlier or later novelists, and the role of historical forces in shaping an author's definition of plot and character. (p. 7)

Muldoon (1990) indicates: "Thinking cannot be imposed. Students themselves need to discover what they think and believe, and the discovery comes by being engaged with others" (p. 39). The author also explains that teaching English is a process of inquiry which enables students to take a speculative, and reflective stance that are necessary for them to shape their interpretations and critically evaluate their own responses as well as those of others.

Critical thinking is exactly what is needed in today's classroom for motivating the students to take part in peace making, social justice, tolerance, and elimination and prevention of violence. Students can actually come up with solutions and apply them to their own lives and society as the small picture and then into the bigger picture of life, the world. Baron and Sternberg (1985) indicate: "Good thinking is a prerequisite for good citizenship, it is a means to many ends but it is also an end in itself" (p. 33).

McPeck (1990) argues that the net effect of disciplinary knowledge is to increase a student's capacity to think and he believes that liberal education liberates the mind. McPeck notes:

There is no other plausible candidate for our curriculum besides a broad liberal education. No other curriculum can provide quite the same breadth of understanding into the human condition and the problems which perennially face it. The disciplines which make up a liberal education (e.g., those in the arts, the sciences, and humanities) are not separate from, nor alien to, the everyday problems requiring critical thought, but rather they are the fundamental constituents of such problems . . . It is the job of educators to convey this power and purpose of the disciplines because they are the basic ingredients of rationality itself. Good liberal education enables one to understand and appreciate both the strength and weaknesses, and the power and limitations, of the various forms of thought which make up our thinking. (p. 40)

Henry Giroux explains that knowledge demands constant searching, invention, and re-invention, and that a great deal of time should be spent on teaching students about the notion of frame of reference and its use as a theoretical / conceptual interpretive tool. He indicates that by looking at similar information through different frames of reference, students can begin to treat knowledge as problematic, and thus, as an object of inquiry (Walters, 1994).

## CONCLUSION

The literature on critical thinking is extensive and indicates a widespread renewed interest in critical thinking implementation and development. Research indicates that the concept of critical thinking goes back to Socrates and it is still continuing to grow in popularity. "A new awareness is taking hold: critical thinking is an academic competency as crucial to a child's future as literacy and numeracy" (Adams, and Hamm, 1996). Implementing and teaching critical thinking is *not* a quick fix; it is a long-term process which needs time, dedication and effort from both teachers and students but the end result is far more satisfactory and successful future.

The research suggests that critical thinking can be taught; however, those who would teach for its development must understand what it means, the characteristics that are needed for its development, and they must practically model and implement it in the curriculum. Educators must make it possible for students to practice those behaviours and skills in their classrooms by providing situations where they are motivated to think critically, and where they can acquire meaningful learning which will be retained for a long period of time.

The literature review also revealed the necessity of critical thinking development in students, and that there is a primary importance in the attainment of critical thinking skills and to teach it as a part of the curriculum.

### CHAPTER 3: METHODOLOGY

*Methodology* is the interface between method, theory, and epistemology; it is the point at which the three elements of research come together in a way that allows the researcher to investigate some specific educational moment. *Method* refers to the various ways that empirical data can be collected. *Theory* refers to the set of propositions that offers the researcher a coherent vision of education. *Epistemology* is concerned with the presuppositions about the nature of knowledge that will inform the research. All three elements should all be used to complete the study (Doyle, 1995).

This chapter outlines the type and the design of the study, the population and sample, and the instruments and procedures used for both the collection and analysis of the data. The chapter concludes with the statement of the questions.

#### DEFINITION

This study uses an educational critical ethnography design which has been especially important in research on education and schooling by using an interpretive approach, and critical theory. Le Compte and Preissle (1993) note that "Educational ethnographers examine the process of teaching and learning, the intended and the unintended consequences of observed interaction patterns, and the relationships among such educational actors as parents, teachers, and learners and the sociocultural contexts within which nurturing, teaching, and learning occur" (p. 28).

This study is inductive in that it uses small units of data to develop larger categories, patterns, themes, interpretations and findings: It is generative and constructive, beginning with collection of data through interviews with the selected teachers, empirical observations of the

students in the classrooms, and an examination of the English curriculum in the program of studies. The outcomes of this study, as an educational ethnography, will hopefully contribute to improvement in educational and school practice.

## DESIGN

As Le Compte, and Preissle (1993) explain: "The most common categories of data collection used by ethnographic and qualitative researchers are observation, interviewing, researcher designed instruments, and content analysis of human artifacts" (p. 158). Triangulation with several sources of data helps researchers pinpoint the accuracy of conclusions, and prevents the investigator from accepting too readily the validity of initial impressions. Le Compte, and Preissle (1993) also indicate: "Ethnographers use many kinds of data collection techniques, so that data collected in one way can be used to cross-check the accuracy of data gathered another way" (p. 48).

The design of this study was conducted in six different high schools in Edmonton, Alberta, to obtain a wider perspective of the research issue. The data were collected through interviews which are used in qualitative research to obtain respondents' perspectives and perceptions, as well as to find out what is in and on someone else's mind (Merriam, 1988; Witt, 1991). The interviews in this study were conducted with eight senior high English teachers for Grades 10, 11, and 12.

As a qualified educator, and a trained interviewer, the researcher conducted all interviews with the selected sample of high school English teachers, using Witt's (1991) approach of flexibility, and open-ended questions to allow the interviewees to be more natural, responsive, and to obtain their unique perspectives. The interviews were semi-structured to provide a set of

questions that were designed to get a good understanding of high school English teachers' perception and practice of critical thinking in their classes. As the study progressed, questions were added for clarification.

### **Interviews**

For convenience purposes, individual interviews of forty to seventy minutes duration, were held at each teacher's school. The interviews were recorded using an audiocassette and conducted in near identical settings during the months of November and December 1996 in Edmonton, Alberta. The researcher obtained the approval from the board of Education in Edmonton and contacted the schools assigned by the board to identify respondents and carry out the research.

The researcher interviewed the selected high school English teachers, to find out their perception of critical thinking in the school and society. The interviewer focused on whether teachers implement critical thinking in their teaching to help develop their students' critical thinking abilities, and how they achieve this goal. After, the audiotapes were transcribed, and the researcher observation of respondents in practice took place.

### **Participant Observation**

Another significant method used was Participant Observation in the selected teachers' classrooms, to note the discussions, question generating skills and responses. Using the observation method helped the researcher to obtain an accurate picture of what is going on in the settings, reflecting as many and as diverse viewpoints and meanings as possible (Witt, 1991). Other skills that enabled students to become critical thinkers, were observed such as

interpretation, classification, looking for assumptions, organization of data, making decisions and application of facts to new situations.

Before going into the classroom, the researcher asked the teachers where they would like her to locate herself in their classrooms and how they would introduce her to their students as a participant observer. The aim was for the researcher to have a natural classroom environment so the researcher could have an active role and help the teacher or the students. This process also served to not have students wonder about the researchers' presence or be distracted by it. The researcher took notes of the students' responses, discussions and questions, as well as teachers' methods of teaching and how they guided their students and helped them to develop their critical thinking skills.

With the teachers' approval, the researcher was sometimes able to follow each observation with an interview. That way the researcher gained a better understanding of what really goes on in classroom in terms of the development of critical thinking skills, and was able to use some examples of students' responses or teachers' questions in the interviews. Sometimes, however, this process was not possible due to teachers' tight schedules, so interviews were conducted before in-class observation.

The researcher observed 13 classes for the eight teachers participating in the study. Classes were up to 80 minutes in length and the researcher usually sat somewhere in the back of the room at a student's desk out of the flow of classroom traffic. In-class observation time was devoted to taking notes as rapidly as possible to record the teacher-student verbal interactions, questions, statements, and general instruction, as well as to note students' and teachers' discussions for later analysis. The researcher used this approach to determine whether or not



teachers practice and model critical thinking, guide their students to think critically, and encourage them to make links between the current events in the constantly changing society and what they learn in the subject matter.

### **Other Methods Used**

The researcher reviewed the literature on critical thinking, its meaning and value to students as well as the characteristics needed for the development of these skills and how they can be implemented in the English curriculum.

Triangulating with several sources of data, and using various kinds of data collection techniques, enabled the researcher to correct any personal biases and to reach accurate conclusions.

As indicated by Le Compte and Preissle (1993):

Literature review is critical to a study because it is the place where investigators explain to the reader the theoretical underpinnings of the study. It makes explicit the impact of theory in every stage of the study, from formulation of the initial problem and selection of the population through data collection and analysis to interpretation. (p. 151)

References are used as empirical and theoretical evidence, so being knowledgeable and familiar with the phenomena under study from the literature review helped the researcher to be well prepared for what to look for during the observation and to ask key questions in the interviews to gain a better understanding.

The researcher had an active role in the study, communicated well with the subjects, established a good rapport, as well as searched for and provided interpretations and descriptions to achieve understanding.

## **POPULATION**

In this study the researcher's selection and sample are naturally bounded: High school English teachers in Edmonton, Alberta. The word selection refers to a general process and the relevant population under investigation in this study; high school English teachers. The researcher selected a sample of eight senior high English teachers, as a subset of this population.

## **SAMPLE**

The sample for this study comprised eight high school English teachers from different schools in Edmonton. The selection of this convenience sample was based on ease of access and availability. The researcher chose high school English teachers because if students are taught, trained and guided in developing their critical thinking skills in one subject like English, they will be able to transfer and use these skills in all other subjects.

Letters of consent were sent to and signed by the board of education, school principals and teachers involved to obtain their permission to conduct the interviews. For students under the age of 16, letters of consent were signed by their parents giving permission to observe these students during class.

A sample copy of the letter that was sent to the school board requesting participation of teachers and students and the consent form are attached in Appendix A. Sample copy of the letter requesting the participation of schools (the Principals), and the consent form are included in Appendix B. Sample copy of the letter presented to teachers participating in the study, and the consent form are included in Appendix C. Sample copy of the letter sent to the students' parents

who were under the age of 16, and the consent form are included in Appendix D. The teachers' Interview Schedule is included in Appendix E.

## **DATA ANALYSIS PROCEDURES**

As important as familiarity with the topic of my study and the research methods, is the ability to analyze and draw conclusions. "Qualitative data analysis is the process of bringing order, structure, and meaning to the mass collected data"(Witt, 1991). The categories used to analyze the interviews and observations are for the purpose of eliciting meaning from data collected, to lay a foundation for my specific inquiry and to achieve greater understanding to fill in gaps of knowledge. As indicated by Le Compte and Preissle (1993) "the outcomes of educational ethnography contribute to improvement in educational and school practice in several ways" (p. 28).

## **RESEARCH QUESTIONS**

The research questions defined how the purpose or goals were carried out. They delineated the specific problems addressed in the study. The interview questions were designed to encourage teachers to express their thoughts, concerns regarding their perception and practice of critical thinking in their classes.

To what extent do high school English teachers' practice and guide students to use critical thinking as evidenced by the following criteria?

1. Questioning (Teachers' questions and students' question generation.
2. Brainstorming, and predictions
3. Informed discussions in a risk-free environment with tolerance to different opinions

4. The use of various resources and media
5. Making connections or links among various subjects in the curriculum and in life
6. Knowledge transaction and transformation in the classroom
7. The use of cooperative learning
8. The use of concept mapping
9. Problem solving techniques
10. Other learning activities that enhance critical thinking development.

To explore whether theory and practice should be interrelated in order to see a meaningful change and progress in school and in society.

1. To what extent do high school educators understand and become involved in the development of the students' critical thinking? How are they implementing theories of critical thinking into the curriculum?
2. To what extent do high school English teachers modify or change educational objectives to be relevant to students' lives, and to go hand in hand with our postmodern society?
3. To what extent do educators create a risk-free environment for students' discussions, or debates, and provide necessary instructional resources, and materials needed for the development of the students' critical thinking?
4. What kind of expectations do high school teachers set for their students and what methods are used for communicating those expectations and motivating the students to reach them?
5. To what extent are educators concerned with transaction and transformation of knowledge, than transmission?

6. To what extent is there collaboration and cooperation, between students and educators, as evidenced by the extent to which students have a choice, are involved in setting their own objectives, and are active participants in all subjects?
7. To what extent are high school teachers, researchers and implementors of theoretical strategies, testing how well particular strategies or techniques work through self-assessment in their own classrooms?
8. To what extent do educators help and provide students with opportunities to experiment new approaches, to find education meaningful?
9. To what extent do educators understand the significance of critical thinking and use it in their actual teaching? Looking at theory and practice, for example, how are the models of teaching implemented and translated from theory to practice to develop the skill of critical thinking skills?
10. Are there special courses developed to teach critical thinking? Do educators explore the possibility of developing one in the future, to help students practice and appreciate the value and the use of critical thinking abilities in school and in society?

## SUMMARY

This chapter outlined the methodology for the study. The chapter explained how the sample was selected for this study, and how the data was collected by interviewing teachers and observing students'-teachers' interactions during several lessons to gain understanding. An analysis of the data follows in Chapter 4.

## **CHAPTER 4: RESULTS**

This chapter presents the analysis of data.

### **ANALYSIS OF IN-CLASS OBSERVATIONS**

The characteristics noted from the analysis of in-class observations and interviews have been categorized according to the criteria mentioned in chapter 3, the literature review on critical thinking, and the suggested effective instructional methods used for its development.

#### **Questions and Alternatives**

The data analysis revealed that in almost all classes observed, the researcher noted that students were asked questions from the upper three levels of Bloom's taxonomy of educational objectives: (analysis, synthesis, and evaluation questions). These high-level questions, according to the literature review, are often offered in defining critical thinking (Ennis, 1993). Students were expected to use inductive reasoning and create a whole from separate elements by expressing original and creative ideas in their responses to the questions. The teachers' flow of questions helped students to think, respond, problem-solve, and transfer and use the information. Teachers also encouraged students to apply what they already have learned to other situations.

There was evidence that the students were guided by teachers in their answers to support their arguments and opinions through organization of data into logical patterns of understanding, and to present evidence. Students, as noticed, were taught to consider the values implicit in their thinking by looking at evidence and establishing criteria. Teachers also encouraged students to make judgments which gave them a sense of control over their learning. Students used their

thinking skills and expressed many divergent views by generating their own questions and attempting to find answers.

The researcher noted that there were situations where questions asked challenged existing thinking and encouraged reflection; for example: What makes a king a king? What makes Othello a tragic hero?, What does Othello have in common with other tragic heroes like Hamlet or Macbeth? In response to these questions the students judged and expressed their opinions based on their understanding and reading about what makes a character a hero. They also had the opportunity to compare and contrast the hero of the play with other tragic heroes in other plays they have read and studied, to determine the common factors and the differences. The students were provided the chance to apply what they learned by discussing the heroic characteristics in our society and, whether or not they still exist. These outcomes indicated that students analyze, synthesize and evaluate what they learn.

There was evidence that many teachers used the Socratic method which is widely discussed and used as a method of inquiry in which one seeks to determine what the true nature of things is. The researcher noted that teachers used this method to discuss what students knew about a specific issue and to lead them to think and explore different answers to a question. The researcher noticed that the teachers asked higher-level questions and guided their students to think critically about the questions asked and their answers. Teachers asked questions that were of real significance to learners and encouraged them to generate their own questions. They guided students in the establishment of facts, formulation and testing of hypotheses, as well as evaluation of results.

There was evidence of the use of open-ended questions which lead to higher-level abstract thinking, and educators used those questions to explore almost any topic in literature, for example, they asked students "How would you feel if . . . ? Pretending to be the author of this play, how would you decide on the ending or the setting?" Questions of this type forced both the questioner and the answerer to work with the subject matter in new ways. Teachers used open-ended questions to explore their subjects in more depth.

During observation, the researcher noticed that teachers effectively used alternatives to questions that enabled them to develop the students' critical thinking skills. They used reflective statements as an invitation for discussion and not as something which cannot be disputed, they also used restatements to summarize and synthesize what had been said to encourage clarification and elaboration. It was desired that students come to the understanding that they have to contribute to their learning environment and that critical thinking is a skill they need to work on to develop. An example of a reflective statement used by one of the teachers was: "Reality changes and truth changes!" The teacher paused for students' thoughts and comments that were related to the piece of literature. Another teacher introduced a powerful statement that helped students think critically discussing two pieces of literature already covered: "The paradox of power, the more power you have the less power you really have!" This particular statement drew a lot of reflection and critical analysis as students explored what was actually meant and how it applies to real life. A third teacher explained to the students the importance, and validity of their literature interpretation and summed it up saying: "Indeed art is art because it is open to interpretations." Statements like these encourage students to critically think and reflect to share their insights with others, and become more tolerant.



**Probing**

Another significant technique that was used during classes was probing, a technique which helps students to think about answers more thoroughly and encouraged high quality of thought in an accurate and specific way. There was evidence that educators used the probing style when they expected their students to take a stand on issues discussed. While there was no pressure for the right answer, students were informed, directly and indirectly, that their interpretations are valued as long as they are based on their true understanding and feelings, and as long as they are substantiated with evidence. From in-class observation it seemed that the students' attempts to interpret a piece of literature were more important than finding the right answers. It was also noted that the students' responses were subjective, depending on their personal understanding and their cultural background.

**Wait Time**

In some of the classes the researcher observed, students were provided the time needed to think about the questions and their answers; however, still there was a problem about the thinking time or the active silence. In some incidents teachers were impatient and either rephrased their questions, or waited a few seconds and provided clues for students to pick up on. In other situations, that was a problem as there were many topics to cover and some teachers could not give enough time for reflection. They either gave answers to the questions or moved to another point.

**Brainstorming/Predictions**

As indicated in the literature review, brainstorming was shown to be an effective technique for the development of critical thinking skills. There was evidence that this technique was heavily used, whether in a written or oral form. In one particular incident, students went through few series of stages to promote critical thinking. In the first stage students were asked to brainstorm what they thought the relevant facts were on the issue discussed while withholding judgement. In the second stage they were asked to move to the critical assessment level, the broader context of practical reasoning structures in which pro and con arguments were considered, with the use of their knowledge and facts. In the last stage, students reached their judgements and conclusions in a logical and systematic way.

The researcher noted evidence that teachers used prediction technique to help students develop their critical thinking abilities. One teacher named it "Silent Discovery" in which students predicted the endings of the novel they were reading, and they discussed the reasons behind their predictions based on facts and evidence. In another class students were asked to take ten minutes to go over a play and try to point out the most significant lines, events or ironies that may be on an essay quiz. Students were not only expected to outline their points, but to also explain why they were significant, and what their effect was on the piece of literature. This technique seemed to encourage students' persuasive abilities in writing and it helped them reflect on their reading and understanding, which lead to the development of their critical thinking skills.

In other situations, students were asked to move to higher level of thinking and to predict, make links and find differences or similarities between and among issues. They were also asked

to judge situations in different time frames and express their thoughts and feelings in a risk-free environment. One teacher asked her students in discussing a play: "If this play was updated to the nineties what do you think would happen?" "How do people deal with the issue of abuse nowadays?" These questions helped students reflect, analyze and evaluate situations and to relate them to their lives by identifying problems and thinking of creative solutions and alternatives.

### **Comparing/Contrasting**

During in-class observation, the researcher perceived that the comparing and contrasting technique was used a lot. With the teachers' guidance and help, students compared and contrasted various pieces of literature from different angles, whether it was characters, tragic heroes, themes, style or figurative language. There was evidence that comparing and contrasting were used to enable students to read between the lines and understand the hidden messages or ideas intended by the author. One teacher had the students compare and contrast Shakespeare's play *Romeo and Julliet* in the 16<sup>th</sup> century, with the 20<sup>th</sup> century movie version. Students discussed the differences and similarities and justified their responses as they used comparing and contrasting to act as critics to critique and evaluate the work of art. It was a fascinating experience for the researcher to witness how those students were critically thinking about the details and the real existence of almost the same issues, but in a more complicated way in their lives. Students took the process a step further and compared that era to the society in which they live, and started reflecting and critically thinking about various issues and problems.

### **Informed Discussions in a Risk-Free Environment**

The data analysis revealed that students demonstrated a respectful behaviour toward each others' opinions and listened carefully to others' interpretations and comments, and this attitude was modeled by teachers' interest in the students' contributions. The overall classroom environment was friendly and students were motivated to talk freely, express thoughts and ideas, and share their insights with their classmates in a risk-free environment. Teachers and students demonstrated open-mindedness and positive attitudes toward new ideas or different interpretations, and teachers created a classroom environment in which open exploration was encouraged. This outcome supported Baron and Sternberg's (1987) view that:

Good critical and creative thinking take place in a context of questioning and open inquiry that requires a certain spirit of thought manifested in certain attitudes and dispositions like being open minded and considering points of view other than one's own. Those attitudes and dispositions can be cultivated in the classroom. (p. 120)

The researcher observed that students presented their ideas in an equitable manner, when they responded in turn with constructive comments, questions, or requests for more information. There was evidence of students practicing the skills of listening, sharing and valuing others' comments as educators strived to establish a climate of trust which gives students the confidence to express their ideas as an effective way to develop critical thinking skills.

Another important point of observation was the arrangement of the classroom which according to the literature, plays a significant part in the success of critical thinking development. Desks arranged in a half circle or in a conference-like room are likely to be more effective in enabling everyone to be in a position to read the nonverbal signals in conjunction with what is

being said in discussions. In the 14 classes observed, from six different schools, it was noted that there was no special attention paid to the kind of classroom arrangements which encouraged discussions and debates. Most classes had regular in-line seating arrangements that only changed to foster group work activities when three or four students worked together.

As for the teacher's desk, according to Grambs and Carr (1990), it is as important that the teacher's desk not remain in the front of the room all the time. It should be sometimes moved to the rear of the room for supervision which is more efficient, and this helps establish a class environment where teacher domination is less likely (p. 226). As noted from in-class observation, most teachers had their desks in the front of the room and did not change that arrangement.

The psychological environment in class seemed to be more valued than the physical environment and there was evidence of teachers conveying a strongly supportive attitude toward each student. Every person's contributions were valued carefully by the teachers as well as the classmates. Time was spent on building attitudes of respect toward the rights of others, which appeared to pay off in all class experiences.

### **Feedback and Motivation**

An important point worth mentioning was that, in almost all the classes observed, there was evidence that teachers provided positive and constructive feedback, which was an excellent method to reinforce reflection, creativity and critical thinking. Teachers proved their genuine interest in their students' participation and critical assessment as a basis for developing critical thinking skills. As indicated by Morgan and Saxton (1991):

The effect of that technique is to give students a feeling of success, a feeling that they are 'on the right track' which, in turn, gives them the sense that they have some control, some

voice in directing their own learning. It is a most effective way of encouraging participation. (p. 90)

From the analysis of in-class observation, there was a constant emphasis on the idea of ownership of the text. One teacher explained to the students how to cocreate with the novel or play they read, by indicating: "After you make your own interpretations, read other critics and see if they agree with you or are against you and why?" Direct and indirect messages stressed the fact that the students' opinions are valued and appreciated, and the students were encouraged to believe in their feelings, judgements and understanding. Another teacher demonstrated that students' words can make a difference in the society in which we live, by motivating them to send letters stating their opinions to the editor of a newspaper, and express their thoughts and feelings about the articles they read. As a result, it was apparent that students believed that what they say or believe can make a difference and change things in society to the better. Students seemed to be empowered, had a high level of self-esteem, and believed in their critical thinking abilities.

### **Cooperative Learning**

There was evidence of and emphasis on cooperative learning and group projects or group discussions, in the classes observed. Eight out of 13 classes had group work activities for 10 to 15 minutes, where they either worked on answering in-class questions, on a group project, or discussed and brainstormed on certain issues. Students were constantly encouraged to participate in group work, but at the same time they had the option to work on their own if they felt more comfortable.

## Graphic Organizers

There was evidence that only one out of the eight teachers encouraged and assisted her students to make the invisible visible by using graphic organizers. Fogarty and McTighe (1993), indicated that graphic organizers serve to make the invisible visible by assisting students in generating and organizing ideas and information. The authors also explained that cooperative learning and graphic organizers provide powerful, interactive and organizational mind tools for helping students think more effectively about the content.

After the students finished a poem, they worked in groups, and represented their ideas about that poem graphically by using their understanding, imagination, and creativity, students designed, built and represented a cube which was a symbol of the poet's work and life. The teacher under observation believed that graphic representations and working visually or through music enabled the students to learn, develop and become better critical thinkers. Following is one example of her work.

The teacher explained that her students had the idea of delving into the poet's life who had the fear of death, so they were creative and designed a cardboard cube as a tomb. They coloured the top and bottom square black, and wrote the poet's name on it. The sides of the cube had different images; one side looked like a mirror; the other side was like a window; the third side has a drawing of a woman's hand reaching out of bricks, which indicated the idea of being buried alive; and the fourth side had a drawing of an eye as a symbol of a window to the soul. All the colours were symbolic as well; for example, students used the colour red as a symbol of blood and passion. The students had specific references to the work that was read and, through a presentation of their ideas on each side, they discussed how and why certain sides were opposite

to others and explained why certain sides were adjacent. That was a project for one group of four students in which they demonstrated their talents, creativity, and critical thinking abilities.

## **CONCLUSIONS: IN-CLASS OBSERVATIONS**

In-class observation provided an excellent opportunity to realize the practical application of the various teaching methods that encourage and enhance the development of critical thinking skills in students. There were lots of indications and examples to prove that high school English educators strive to creatively work with students to develop the most needed skills in contemporary society, those to empower them with the essential abilities to be productive and active members in our society. Educators and students noted the importance and significance of promoting critical thinking skills. Educators put theory into practice and reflected on the reasons why certain methods were not working and they sought alternative forms of practice. They also assisted students in interpreting and questioning their own ideas and actions from a new viewpoint.

As Brookfield (1987) indicated: "The development of critical insight comes about through analysis of action" (p. 143); however, the teachers observed did not seem to always have the time or the opportunity for introspective episodes during which they could reflect on the usefulness of specific approaches or learning activities. From the analysis of in-class observation, there was evidence that many educators had the opportunity to model risk taking, and use critical analysis of certain assumptions which is an essential step to encourage students to become critically reflective about their own internalized assumptions and modes of behaviour.



## **TEACHERS' INTERVIEWS**

### **Data**

As described in the section "Design," eight high school English teachers from six different schools responded to open-ended, prepared questions which were designed to reach a better understanding of the teachers' unique perception and practice of critical thinking in their classes. As the study progressed, few questions were added for clarification (see Appendix D).

### **Analysis**

The analysis of teachers' interviews revealed that there was a high degree of similarities among their responses regarding their perception and practice of the development of critical thinking. This analysis indicated three trends.

The first trend emphasizes the idea that teachers realize and understand the meaning and the various definitions of critical thinking that, when put together, complete the macropicture of what it is. In defining critical thinking one teacher indicated that it is a process in which students "take bits of information from various sources and developing their own paradigm and their own ideas". O'Keefe (1986), had similar views regarding that matter and noted that: "Fitting ideas together, seeing one event as the cause of another, perceiving one concept as being more significant than another and recognizing similarities and differences are all applications of the thinking skill we call reasoning" (p. 19).

Almost all teachers stressed the importance of students understanding the intended meaning in the text, the real or hidden messages. One of the teachers explained: "It is important to appreciate how other people are thinking" another said: "Critical thinking means the students'

ability to discover what their thoughts are and what they believe on issues that they come across in the literature.”

Respondents seemed to know and acknowledge the fact that critical thinking is reasonable thinking that is focused on deciding what to do and what not to do, and a process through which people can solve problems, reach logical sound conclusions, and explore new possibilities. They also seem to acknowledge the fact that critical thinking is comprised of knowledge-based skills which consist of the ability to reflect upon, to question effectively and to suspend judgement or belief about any problem.

The data analysis showed that teachers apprehend the idea that critical thinking is a process the students learn and can apply to what they read and learn, as well as everything else in life. Teachers appreciate the fact that critical thinking is in large measure, learning to know when to question and how to question the given. Educators seemed to understand that critical thinking is a complex matter students need to go through to solve problems. The respondents explained the fact that there are certain steps for using critical thinking to solve problems; for example, the need to first identify the problems, then establish facts, formulate hypotheses, test those hypotheses, evaluate the results, and change what needs to be changed. Educators know that critical thinking relies on good thinking which needs to be taught and implemented in their subject areas in a creative way.

The second trend was that there seemed to be a high degree of agreement among all teachers, and emphasis on the use of Blooms’ taxonomy, especially the higher three levels: analysis, synthesis and evaluation. One respondent indicated that, to develop critical thinking skills, students need to learn how to evaluate the meaning or the essence of what they read and

encounter every day. Another believed and indicated that critical thinking: "is independent thinking, arriving at understandings, constructing our realities, looking, puzzling, hypothesizing, weighing, and in that sense it is analytical." A third respondent explained that critical thinking means teaching the students to look at things, analyze them, and, based on their experiences and facts that they are provided, to come to their own decisions and their own points of view, in an independent and creative way.

The third trend was that all eight teachers believed critical thinking is an extremely important educational concept. One teacher emphasized that idea by explaining: "Critical thinking is a motherhood statement" and that all the English programs are geared toward that. Another teacher strongly believed that critical thinking is the only educational concept which students can use to create a better understanding of the world and form their own point of views. A third teacher emphasized the fact that critical thinking is "*The* most important educational concept that students learn in school" and added that "English class is the class where we can foster that, as much as we can."

Respondents explained that high school students are gradually taught to critically react to a piece of literature, to understand it thematically, and then take it to an abstract level. Students started from concrete ideas, and were guided in developing and applying thinking through these concrete details, and move through it sequentially to get into abstract thinking. Some teachers indicated that critical thinking is not only about understanding and evaluating ideas, but more important, it is about the students' ability to connect ideas, bring out relations in them, transfer that to their own experiences in life, and set it in an even larger context of human relations. One teacher emphasized that idea and indicated: "Students should first of all understand the message

of the author and be able to evaluate its meaning, number one to be able to make some transference to their own experience, their own lives, and set it in even a larger context of human relations for example human experiences.” Another teacher added: “Students are looking at things for understanding and once they have that understanding then they can take the things they know and apply them to a new learning situation.”

As a result of what respondents stated critical thinking to be, many of them placed “a very high value” on teaching and implementing it in the curriculum. One teacher indicated that “it is a basic tool” and explained that is what they try to do in English to develop these skills in students. Another teacher indicated that “critical thinking is a primary mandate, particularly in English because it is expression.” She later added that, “because literature is so multi-layered, learning and using these skills helps students look beyond the obvious.”

The analysis of data indicated that teachers place a very high value on developing critical thinking skills in students. One teacher explained that, for her, “It is everything, so I don’t teach content, I teach process, and if you teach process you have to teach critical thinking. I always see critical thinking as the beginning of almost everything.” Teachers believed and indicated that critical thinking is central in education, and essential for the students’ future success in our constantly changing world, and that without critical thinking skills students will not be able to function successfully and prosper in the future.

Teachers expressed very high expectations for their students in the area of developing their critical thinking skills and abilities, and they tell their students that in direct and an indirect ways. One educator indicated: “I think students see me as demonstrating critical thinking. I can’t ask it of them if I’m not living it myself.” Another teacher explained that she noticed in terms of

expectations, that there are differences in Grade 10 compared to Grade 11 students. Her expectations for Grade 11 students were that they would be able to articulate what level of thinking they are working on. She stated that she basically works with Bloom's taxonomy to get students to become deeper in their thinking, to identify analysis, evaluation, or synthesis questions. When speaking about Grade 11 students the respondent added: "I expect them to actually work on those levels almost in every assignment", while for Grade 10 students she expressed a view that they have the mentality of, as she said "feed me what it is I need to know, I will learn it and then I will regurgitate it on the test and then I will get a good mark, and that is learning." The respondent continued to explain that she works around that problem by using different methods to get students to think independently and to develop critical thinking skills. She used interactive notes, which helped students to think deeply and talk about the style, or she used personal experiences using a handout with certain prompts. She also asks them to summarize the significant points, and to track one character throughout the whole novel, find revealing quotes, write a character essay in which they use the quotes to support their findings, and generate their own questions.

Another respondent indicated: "The expectation that I demand of them is that they think critically, but also by the same token I definitely show them how to do it. So "yes", they're advanced, yes they are thinking, yes they are looking at things from different perspectives and different point of views, but that has been a very carefully planned progress, and process from the very beginning of the year." Respondents noted that the development of students' critical thinking skills takes consistency and hard work, and educators effectively plan and implement various strategies to reach that goal.

A couple of respondents also explained and role modelled critical thinking during the in-class observation, and created a positive atmosphere which enabled students to look at things from a critical perspective for application to other situations. Several respondents stated that critical thinking skills should become the way students think, and once they have that mould of thinking it is easy to apply it to whatever genre of literature.

Teachers explained that they expect students to critically think about as well as discuss their interpretations of or responses to literature, and they are also expected to explain how their substantiations support their claims. Teachers also emphasized that students are expected to express their thoughts, not just verbally or in a written form, but through other ways like in the use of graphical organizers. Educators acknowledge the fact that they should model and demonstrate to students how these skills work or should be used to see subtleties, and finally to evaluate the work and critically think about it.

From the analysis of respondents' interviews regarding using critical thinking as a base for their lesson plans, there seemed to be a high degree of agreement on that issue and they all felt it was important and essential in students' development and education. A definite use of high-level questions was exhibited during observation as educators asked students analysis, synthesis and evaluation questions. The data analysis showed that teachers asked students about the hidden messages, and their reaction to these messages? They also asked students to pretend to be directors, authors, critics, and discuss issues that are significant in life. The researcher noted that students were motivated to make inferences, draw conclusions, think of possible solutions, and offer alternatives. Educators planned and used activities that enabled students to develop critical thinking skills. As a "textbook" example of being a critical thinker one teacher encouraged her

students to respond to the newspaper's editor, to think critically about what they read, and to have the ability to write their opinions. The analysis revealed that educators used other similar activities to encourage students to have a voice and be able to actively and positively participate in the society.

The participants in this study have a wide variety of years of experience, and this experience seemed to make a difference in their methods of teaching and developing critical thinking skills, as well as in the validity of their judgement when it comes to the English curriculum. From the analysis of their responses regarding whether the English curriculum helps them develop the students' critical thinking skills, and from the examples provided by the teachers, three themes emerged. The first theme was that the majority of the teachers (seven out of eight) agreed that the English curriculum helps them develop the students' critical thinking skills. One respondent clearly indicated:

The people who put the curriculum together like students to think critically so it is built in all the way through, like for instance in organization and development in the curriculum it says conclusion follows the turn of thought, thoughts are organized . . . all that involves the critical analysis of the writing and revision, word choice, development of adequate ideas, again that's critical thinking." "Even in listening, their active listening goal is to identify and discuss inferences . . . to be able to distance a negative input from television and to be sensitive to ideas, and tone and purpose of speakers' attitude, tone and bias, and it's all there. I think it's a very thorough curriculum . . . The English curriculum is very solid.

More interestingly is the second theme, which puts more emphasis on the process rather than the product, is the implementation of critical thinking in the curriculum and the use of the methods of teaching that enhance the required skills. Respondents indicated that development depends on the way the curriculum is taught as it can have lots of room for critical thinking

development. As indicated by another participant: "If teachers continue to renew themselves and are inquisitive themselves trying to find out what are some other ways and what are you doing? Or why are you doing that? Hungry for that kind of understanding." Almost all teachers explained that the curriculum offers a lot of good choices, but it all depends on its implementation rather than on the curriculum itself.

The third theme noted by the researcher, and confirmed by one respondent, was that the years of teaching experience make a difference in helping students develop critical thinking skills. She indicated:

The English curriculum here in Alberta is ultimately an outcome-oriented curriculum, and certainly the outcomes from that are the expectations that they are critically thinking, and yes you may well see the word critical thinking somewhere in there; but the curriculum is not for somebody who is a novice, somebody who is not taught English before, not been given any specifics as to how to, to develop those kinds of skills.

The analysis revealed that teachers with more years of experience were able to use the English curriculum as a vehicle to deliver the critical thinking skills that are needed in our postmodern society. Their experience helps them to focus more on implementing these skills in their subjects, with more awareness of the significance of critical thinking in education.

Teachers agreed that there is a need for more reflection in class, where students share their insights and thoughts with their classmates by explaining their viewpoints and justifying and debating issues. There is a need, however, as one teacher explained, that students should use their dialogue journals more to express their understanding and questions. Few teachers indicated that developing the students' critical thinking skills is an area in which they would like to grow, work more on, and put more emphasis on, by working around the time factor.



Respondents noted that teaching is an art and teachers feel that the development of the students' critical thinking skills requires a combination of a variety of teaching methods. These methods, should be combined with the teachers' right attitudes, flexibility, and being critical thinkers themselves by believing in what they are doing, can motivate, encourage and guide the students to develop as critical thinkers.

According to the literature review, there is a great demand for the use of various teaching methods to develop students' critical thinking skills and there was a unanimous agreement among respondents supporting that view. Respondents confirmed that by explaining: "You have to present the material in as many ways as you possibly can. The process is probably more important than what you teach," however, it was noted by the researcher that debates and reflection were infrequently used in the classroom. O'Keefe (1986) indicated that "Debates and formal argumentation are an extension of questioning tactics in the reasoning process" (p. 21).

From the analysis of interviews data on this issue there seems to be a great emphasis on using the Socratic method which draws out inferences from the students. One teacher explained that in her class students are the ones who generate their own questions according to the higher levels in Blooms' taxonomy and they attempt to answer them. Another teacher added: "Ideally the Socratic method is where students are questioning each other, not only me, and there is a kind of dialogue in the classroom and I'm doing it on a mini form in this class with the debate." It was also noted that teachers use lecture style less often than before and than other methods, because they feel that it is less effective in developing the students' critical thinking skills. As one teacher clearly indicated: "I don't like lecture style because the student is not connected with the literature." The respondent then added: "I want the student thinking about the literature and that

means the student has to be working with it.” The data analysis revealed that there is a greater emphasis on the use of interactive presentations and discussions which teachers feel are extremely valuable for students’ critical thinking development.

Teachers seemed to believe that critical thinking and creativity are one of the same. One respondent said: “The level of creativity requires a kind of agility of the mind.” Another respondent explained that creativity is being different, using alternative ways of viewing a problem and thinking critically and creatively about possible solutions and plans for investigation. All respondents indicated that developing the students’ critical thinking skills requires a level of creativity where they learn to take bits of information from ten different sources and come up with a whole new paradigm or whole new model. As indicated by a one respondent: “Without the critical skills, true creativity is not there, I don’t think is really possible.” Another respondent confirmed that by explaining: “Creative ideas indicate a greater depth of understanding.” Another indicated that “You can’t critically think about something without any creative sort of skills. They work together.” There was a strong belief that students need and are encouraged to create their own interpretations, because they cannot be creative without carefully using the critical thinking skills in discussing literature.

There was a noticeable understanding and realization of the value of the positive attitudes that should be fostered in the classroom, as well as the significant impact a risk-free environment has on the development of the students’ critical thinking skills. There is a continuous effort to create and maintain a friendly environment that fosters intellectual curiosity, good communication of ideas, tolerance and respect to others viewpoints. The researcher noted that teachers modeled critical thinking and a part of that was their disposition and attitudes. They delivered the message

that there was always room for new ideas and interpretations, without being ridiculed, and explained and demonstrated to their students that they should respect whatever anybody says, and be open-minded to other opinions.

From the analysis of teachers' interviews and in-class observation there seemed to be a great deal of correlation noticed, especially in the area of modeling critical thinking. Almost all teachers demonstrated to their students that they were always learning themselves, as one respondent indicated: "I like to believe that I'm always learning with my students. The day I know it all is also the day that I should leave." Teachers acknowledge the fact that to develop their students' critical thinking skills and to demand that of them, they have to be critical thinkers themselves. They must demonstrate that behaviour in class, during discussions or questions, and actually model that by thinking out-loud, looking for evidence to substantiate their responses, stepping out of their frame of references into others' frames of references to reach a better understanding, and being able to make the right choices. Teachers self-correct and generate high level questions and attempt to answer them, they also identify problems and discuss possible solutions or alternatives. As reported earlier one respondent explained: "I think students see me as demonstrating critical thinking, I can't ask it of them if I'm not living it myself." He then added: "I think that a good teacher is flexible. I think in terms of critical thinking you have to be a critical thinker yourself but you have to also allow your students to be critical thinkers."

It seemed that teachers appreciate the great value of critical thinking in today's society and in the future so they try to open the students' eyes to understand what is happening, to be more active, and not to take everything for granted. Educators guide their students to believe in their

abilities and judgment and, more importantly, to share their thoughts and insights with others in a nonthreatening learning environment. One respondent indicated:

I think we're making people humans, they are born humans, but that's only biologically, in terms of a person they are becoming increasingly whatever we're encouraging and allowing. I think a good teacher motivates and encourages and also allows, knows when to get out of the way and when to give guidance.

There were few concerns noted by educators regarding the development of the students' critical thinking skills. One concern was the students' mind-set in that by the time they reach high school, they have trouble strictly analyzing things. The possible reason behind that mind-set as explained by one of the participants was because so much of their other courses are set up as the knowledge they must know, which is basically a transmission of ideas without any real thinking. Students were previously encouraged to memorize the correct answers and write them on the test. One teacher indicated:

Students want to know exactly what the correct answer is? They don't want to do the critical thinking for themselves and this I think is the only place where they are asked to do that in English, and they struggle with that, they want concrete answers and there aren't any and even in their marking you know which is so subjective it really is they want to know what could I put down here to get the full mark; not you know that the writing needs to lead to that. They have a great deal of difficulty and they want a formula; if I follow this . . . if I do this it will equal the 100 % , if I do this it will equal 90%. So it's tough to get them to think this way, they don't want to! It would be much easier if you just tell me I'll write it down on the test and we'll call it even!

Another teacher felt that some kids nowadays do not want to discover, they would be more than pleased to let somebody else discover it for them. He indicated that students sometimes are in the state of: "Tell me what I should think." This respondent stated a belief that this is not a natural condition for kids, and that they must have learned it from probably previous school experience or social or family environment. He also added that it is sometimes very

difficult to get students to suspend their previous beliefs or at least entertain new ones. A third teacher had similar views on that issue and added: "Many students still think that thinking is regurgitating facts, it is not what we're after."

There was evidence that the increasing number of students in each class affects the development of critical thinking, and adds to the teachers' heavy work load whether planning, preparing lessons, or correcting assignments are all time consuming. As a result some teachers feel overwhelmed.

It was apparent from the in-class observation, and confirmed through teachers interviews, that there is a great demand for time to be able to work on developing critical thinking skills, as well as to reduce the curriculum requirements, just a little, to provide more time for questioning, discussions, brainstorming, problem solving and so on. using the three higher levels in Bloom's taxonomy.

One teacher explained that

In public schools you're seeing 100 to 200 kids a day, you don't have as much time for thoughtful practice. When you have time for thought you get thoughtful reflection." He also added "Some of my colleagues say they don't have time to write, and I'm sure some of my colleagues don't have time to read which I partly appreciate and sympathize with, because we've got so much of a work load, we've got a horrendous work load, we are teaching way too many kids to do a good job.

From the analysis of the teachers' interview data there is a need to see more modern literature in the English curriculum as a way to promote critical thinking. As indicated by another teacher, "There is some excellent work out there, but the group who decides what we should teach seems to think that it is not good if it's past 1950! I don't know why, but we're not getting a chance to analyze what our modern literature is like, what kind of thinking comes from this

century. We need to take a look at what this generation's problems are, and what their concerns are?"

One teacher explained that the English curriculum does not help her develop the critical thinking skills, "Because it's very general, it's very open." From an analysis of the data gleaned from an in-depth discussion with that teacher it was noted that the greater pressure lies on the methods used in teaching students particularly those through which critical thinking is developed. It was noticed that the greater responsibility is on the teachers' creativity and models of teaching for conveying these skills and messages to students. Effective educators demonstrated flexibility in the use of the curriculum to develop the critical thinking skills of students.

Regarding the English curriculum one respondent indicated:

I think we do too much in our curriculum and in that we rush to get through it and we don't have time for this critical thinking . . . We could do the whole curriculum on *Hamlet* and cover it quite well. Every English teacher I've ever talked to always feel overwhelmed with what they have to teach and they always feel at the end that they didn't teach it as well as they could if they had more time. So that would be what I feel about our curriculum. Less needs to be there.

At the same time, the researcher noticed that there is a "curriculum pressure" and the teachers' responsibilities to make sure that they cover the material in a limited time, so debates and discussions do not always have the required priority. The observation falls in line with the review of Morgan and Saxton (1991) who indicated that "Teachers should be in the business of helping students to uncover, not to cover, the curriculum" (p. 107).

The same issue of shortage of time appears again and again in the interviews and some teachers feel there is not enough time to cover the English. It was noted that there could have been more time devoted to discussions and reflections, but during the lesson some teachers had to

stop the discussion to go back to different questions or other scenes in a play because they had to cover certain things in that same class.

Teachers interviewed in this study strived to have a student-centered classroom that revolved around students' needs and abilities and, as a result, helped to develop their critical thinking skills by valuing their input. One teacher did not realize the value of that, and stated: "I run a teacher-centered classroom, I sort of set the agenda." This comment when observed by the researcher and then analyzed, indicated that some teachers may not provide students with the opportunity to have a voice or an input in what they are learning or how they are learning.

The analysis of data collected during teachers' interviews and observation of their classes indicated that as students move from Grade 10 to Level 11 and then to 12, there is an apparent progress in the development of their critical thinking skills, as they seem to operate on a more complex and a higher level of abstract thinking. Students in Grade 12 appear to have increased mastery of the critical thinking skills, a factor which may be due to their level of maturity and the more frequent practice they had all through high school.

Teachers' interviews as well as the researcher's evaluation of high school English curriculum as mentioned in the section "Definition," indicated that there are no courses designed specifically for teaching critical thinking skills. Respondents noted, however, that there is a lot of room in the current English curriculum to help educators develop the students' critical thinking skills, depending on their implementation of these skills in both the content and their teaching methods.

### **Conclusions of Data Analysis**

The analysis of data suggests that nowadays' high school English teachers have a good perception of what critical thinking is. They believe it is an important educational concept and understand the value of integrating the *Three Cs* (critical thinking, creativity, and communications) in the English curriculum. This integration will always help students learn how to learn, be independent, and to take risks. Teachers realize that the world is changing and that there is a need for higher thinking and curiosity to discover and take action in changing what needs to be changed.

The data analysis revealed that teachers believe that critical thinking should always be an integral part of their students' education and cognitive development, as well as an indispensable part of their teaching. Teachers are attempting to provide society with a generation of graduates who are critical thinkers, and who can evaluate their beliefs and the beliefs of others critically before endorsing the beliefs and acting upon them. The analysis showed that teachers always look for new techniques to implement critical thinking in their lesson plans. Teachers also acknowledge the fact that to develop critical thinking skills in students, it is extremely important to teach them, as well as to model to them, how to step out of their frame of reference and into other peoples' frame of reference.

### **SUMMARY**

This chapter has presented the analysis of data collected during observation and interviews with English teachers and their students.



## **CHAPTER 5: CONCLUSIONS/IMPLICATIONS**

The data collected in personal interviews and in-class observations notes were analyzed, discussed, and presented in Chapter 4. This chapter will present a brief discussion of the entire study, the conclusions reached based on the findings and recommendations for application and further study.

### **DISCUSSION**

As discussed in Chapter 4, the analysis of data gleaned from high school English teachers' interviews and in-class observations revealed teachers' perceptions and practice of critical thinking development in students. The data analysis positively indicated teachers' realization and beliefs in the significance of critical thinking in education, and showed the practical and effective teaching methods used that help develop critical thinking skills in students. There was evidence to indicate continuous progress in that area of education in Grade 10 to 12; however, there is still room for creativity and motivation in developing students' critical thinking skills.

The findings of this study were consistent with the data collected from the literature review. Educators acknowledge that it is necessary to teach students not only how to think in an absolute sense, and to realize and agree that, as Baron and Sternberg, (1987) indicated, it is more important to help students learn how to think more critically, more coherently, more creatively, more deeply than we often and typically do.

### **CONCLUSIONS**

The main purpose of this study was to determine the perceptions, understandings and beliefs of high school English teachers regarding critical thinking development in high school

education, specifically in the English curriculum stream. The second purpose was to discover the extent to which teachers implement and teach critical thinking in their classrooms, as well as guide students in the area of critical thinking development. The study also examined the teachers' methods of putting theory into practice to develop the students' critical thinking skills through the use of teaching models like questioning, brainstorming, and informed discussions in a creative and in-depth ways. The focus was to see if critical thinking was being developed in a risk-free environment for reflection by connecting English with other subjects in the curriculum as well as to the students' lives and society.

Based on the findings outlined in the study, the researcher proposes the following conclusions:

1. High school English teachers understand and believe that critical thinking is an important educational concept that can be taught through curriculum implementation and can be developed in all students. Educators consider critical thinking a main objective and place a high value on its teaching.
2. Teachers understand and believe that if students are to acquire good thinking skills in the classroom, explicit attention will have to be given to that objective; it is not likely to be realized spontaneously or as an incidental consequence of attempts to accomplish other goals. Teachers believe that students who become critical thinkers would be well equipped to progress effectively and have a better chance for success throughout life.
3. Educators have high expectations and standards in the area of critical thinking development in their students, and they clearly communicate those expectations in direct and indirect ways.

4. Educators model critical thinking and use various teaching methods to assist in the development of the students' critical thinking skills.
5. High school English teachers encourage both creativity and good communication skills, as well as positive attitudes and dispositions to help develop students' critical thinking skills.
6. Teachers strive to be creative in guiding the development of students' critical thinking skills. They have not opted to purchase new curriculum materials or programs designed for teaching thinking, rather they use practical approaches which involve focusing their attention on, and thinking through, what the ingredients are in good thinking are, the skills, competencies, attitudes, dispositions and activities of good thinkers are needed for developing critical thinkers.
7. Teachers show seriousness about teaching critical thinking, and they try to be critical thinkers themselves.

## **RECOMMENDATIONS**

### **Application**

Based on the findings of this study and the previously mentioned conclusions, the following recommendations for application are proposed.

1. That evaluation of in-class observation be approached from a perspective which encompasses realistic expectations for the development of critical thinking as a gradual process that takes time and effort.
2. That a provincial set of descriptors be developed to describe the critical thinking ability of students in the senior high school.

3. That these descriptors be used to develop an evaluation instrument or criteria for the assessment of critical thinking application and development.

### **Further Study**

Critical thinking is a two-way relationship in which there are various methods and teaching styles that enable effective teachers to enhance these skills in students; however, we still need more creative ways to motivate students and to instill that inquisitive, analytical spirit in them. We also need to better understand this issue if we want students to show interest and belief in critical thinking and its importance, and value it in their lives and the society in which they live. More importantly, we need to work with educators to develop these skills and change the students' mind set about taking the easy way out.

Based on this study, the following recommendations are made for future studies:

1. That longitudinal research be carried out in the area of how teachers promote the development of critical thinking skills.
2. That this study be replicated using a larger sample to more clearly identify how high school English educators promote critical thinking development and turn theory into practice using various methods of teaching to implement critical thinking skills in their subjects.
3. That a longer time of in-class observation be undertaken to determine if high school English teachers practice and implement critical thinking in their subjects, and to know the best practiced and successful methods that help them do that effectively.

4. That a study be undertaken to examine the possibility of earlier planning for the development of students' critical thinking skills at the junior high school level, or even as early as the elementary level.
5. That a study be undertaken to explore the development of critical thinking across the whole curriculum, not only in English, and building those skills across the curriculum.

## SUMMARY

The main purpose of the study was to determine high school English teachers' perceptions, understanding, and practice of critical thinking skills. The second purpose was to determine whether or not educators implement these skills to develop students' critical thinking skills through various methods.

The findings of this study suggest that high school English educators are coming to a realization of the significance of critical thinking as an important educational concept. They understand what critical thinking means, know that students should be trained to think critically using a healthy skepticism, which is a desirable social and intellectual trait, and thus use various methods for implementing critical thinking in the English curriculum. Educators acknowledge the fact that their students must develop critical thinking skills to prepare them for life in today's and the future complex world.

Teachers use various methods to implement critical thinking skills in a subject matter, despite the obstacles and struggles they face, such as the availability of time and the quantity of the content they have to teach. Educators are very aware of the need to implement critical thinking strategies and to develop these skills in students.

The study revealed that present-day educators are attuned to the importance of teaching students critical thinking skills. While the general consensus of teachers maintain the importance of these skills, differing views exist regarding what the various methods of teaching may contribute to the development of students' critical thinking skills and abilities.

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## APPENDICES

## **APPENDIX A**

### **Letter to School Board and Consent Form**

To the School Board:

Dear \_\_\_\_\_:

I am presently in the process of writing a thesis which is the final requirement of a Masters of Education in Teaching and Learning, for Memorial University of Newfoundland. The thesis is being supervised by Dr. Clar Doyle. I am investigating High school English teachers' perceptions and practice of critical thinking in their methods of teaching, to develop their students' critical thinking skills.

The study involves interviews with eight high school English teachers, and observation of one or two of their classes. I will tape the interviews, which should take 40 to 60 minutes each, and transcribe them. Transcripts, and research results will be available to subjects upon request. Transcripts will be destroyed upon completion of the study, to ensure confidentiality.

Participation of teachers is strictly on a volunteer basis. Participants have the right to withdraw from the study without prejudice at any time and/or refrain from answering whatever questions he or she prefers to omit. Additionally, participants have recourse at any time to a resource person who is not directly associated with the study, e.g. Dr. P. Canning, the Associate Dean, Graduate Programmes / Research and Development. Confidentiality of all participants in the study will be strictly kept and at no time will individuals, or schools be identified. Arrangements will be made to have the teachers' tapes erased upon the completion of the study.

This study is in accordance with the Ethics guidelines of the Faculty of Education. This letter requests your consent to participate in this study. If you agree to participate, please sign the attached form and return it to me. If you have any questions regarding this matter please contact me at 403-461-7142. Thanking you in advance for your time and consideration

Sincerely  
Lilian Sorial

I \_\_\_\_\_ hereby give permission to schools to take part in this study investigating High School English teachers perceptions and practice of critical thinking in their methods of teaching to develop the students' critical thinking skills, undertaken by Lilian Sorial. I understand that participation is entirely voluntary and that my school board or any participating teacher can withdraw permission at any time. I also understand that participation in the study is strictly confidential with no individual being identified.

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Date

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Signature



**APPENDIX B****Letter to Principals and Consent Form**

To the Principal,

Dear \_\_\_\_\_:

I am presently in the process of writing a thesis which is the final requirement of a Masters of Education in Teaching and Learning, for Memorial University of Newfoundland. The thesis is being supervised by Dr. Clar Doyle. I am investigating High school English teachers' perceptions, and practice of critical thinking in their methods of teaching, to develop their students' critical thinking skills.

The study involves interviews with eight high school English teachers, and observation of one or two of their classes. I will tape the interviews, which should take 40 to 60 minutes each, and transcribe them. Transcripts, and research results will be available to subjects upon request.

Participation of teachers is strictly on a volunteer basis. Participants have the right to withdraw from the study without prejudice at any time and/or refrain from answering whatever questions he or she prefers to omit. Additionally, participants have recourse at any time to a resource person who is not directly associated with the study, e.g. Dr. P. Canning, the Associate Dean, Graduate Programmes / Research and Development. Confidentiality of all participants in the study will be strictly kept and at no time will individuals, or schools be identified. Arrangements will be made to have the teachers' tapes erased upon the completion of the study.

This study is in accordance with the Ethics guidelines of the Faculty of Education. This letter requests your consent to participate in this study. If you agree to participate, please sign the attached form and return it to me. If you have any questions regarding this matter please contact me at 403-461-7142. Thanking you in advance for your time and consideration.

Sincerely,  
Lilian Sorial

I \_\_\_\_\_ hereby give permission to the teachers to take part in this study investigating High School English teachers perceptions and practice of critical thinking in their methods of teaching to develop the students' critical thinking skills, undertaken by Lilian Sorial. I understand that participation is entirely voluntary and that any participating teacher can withdraw permission at any time. I also understand that participation in the study is strictly confidential with no individual being identified.

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Date

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Signature

## **APPENDIX C**

### **Letter to Teachers and Consent Form**

To Teacher A:

Dear \_\_\_\_\_:

I am presently in the process of writing a thesis which is the final requirement of a Masters of Education in Teaching and Learning, for Memorial University of Newfoundland. The thesis is being supervised by Dr. Clar Doyle. I am investigating High school English teachers' perceptions and practice of critical thinking in their methods of teaching, to develop their students' critical thinking skills.

The study involves interviews with eight high school English teachers, and observation of one or two of their classes. I will tape the interviews, which should take 40 to 60 minutes each, and transcribe them. Transcripts, and research results will be available to subjects upon request.

Participation of teachers is strictly on a volunteer basis. Participants have the right to withdraw from the study without prejudice at any time and/or refrain from answering whatever questions he or she prefers to omit. Additionally, participants have recourse at any time to a resource person who is not directly associated with the study, e.g. Dr. P. Canning, the Associate Dean, Graduate Programmes / Research and Development. Confidentiality of all participants in the study will be strictly kept and at no time will individuals, or schools be identified. Arrangements will be made to have the teachers' tapes erased upon the completion of the study.

This study is in accordance with the Ethics guidelines of the Faculty of Education. This letter requests your consent to participate in this study. If you agree to participate, please sign the attached form and return it to me. If you have any questions regarding this matter please contact me at 403-461-7142. Thanking you in advance for your time and consideration.

Sincerely,  
Lilian Sorial

I \_\_\_\_\_ hereby give permission to take part in this study investigating High School English teachers perceptions and practice of critical thinking in their methods of teaching to develop the students' critical thinking skills, undertaken by Lilian Sorial. I understand that participation is entirely voluntary and that I can withdraw permission at any time. I also understand that participation in the study is strictly confidential with no individual being identified.

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Date

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Signature

## **APPENDIX D**

### **Letter to Parents and Consent Form**

To Parents:

Dear \_\_\_\_\_:

I am presently in the process of writing a thesis which is the final requirement of a Masters of Education in Teaching and Learning, for Memorial University of Newfoundland. The thesis is being supervised by Dr. Clar Doyle. I am investigating High school English teachers' perceptions and practice of critical thinking in their methods of teaching, to develop their students' critical thinking skills.

The study involves interviews with eight high school English teachers, and observation of one or two of their classes. I will tape the interviews, which should take 40 to 60 minutes each, and transcribe them. Transcripts, and research results will be available to subjects upon request.

Participation of teachers is strictly on a volunteer basis. Participants have the right to withdraw from the study without prejudice at any time and/or refrain from answering whatever questions he or she prefers to omit. Additionally, participants have recourse at any time to a resource person who is not directly associated with the study, e.g. Dr. P. Canning, the Associate Dean, Graduate Programmes / Research and Development. Confidentiality of all participants in the study will be strictly kept and at no time will individuals, or schools be identified. Arrangements will be made to have the teachers' tapes erased upon the completion of the study.

This study is in accordance with the Ethics guidelines of the Faculty of Education. This letter requests your consent to participate in this study. If you agree to participate, please sign the attached form and return it to me. If you have any questions regarding this matter please contact me at 403-461-7142. Thanking you in advance for your time and consideration.

Sincerely,  
Lilian Sorial

I \_\_\_\_\_ hereby give permission to my son, and or daughter:  
Name: \_\_\_\_\_ to take part in this study investigating High School English teachers' perceptions and practice of critical thinking in their methods of teaching to develop the students' critical thinking skills, undertaken by Lilian Sorial. I understand that participation is entirely voluntary and that I can withdraw permission at any time. I also understand that participation in the study is strictly confidential with no individual being identified.

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Date

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Signature

**APPENDIX E**  
**Teachers' Interview Schedule**

Question # 1:

Critical thinking goes back to 1933 when philosopher, researchers, and others tried to define its meaning. what do you think the phrase critical thinking means? and do you believe is it an important educational concept?

Question #2:

What value do you place on teaching critical thinking for all your students and why?

Question # 3:

What kind of expectations do you have for your students in the area of developing their critical thinking skills? How do you communicate those expectations?

Question #4:

Do you use critical thinking as a base for your lesson plans? Do you follow up on their application?

Question# 5:

Does the English curriculum help you develop the students' critical thinking abilities and how? (Discuss examples) Are there specific courses developed specifically to teach critical thinking?

Question # 6:

Do you encourage students to reflect freely on what they learn and motivate them to share their insights with their classmates, by explaining, justifying and debating?

Question #7:

There are lots of different teaching styles and methods, for example, lecture style, group work, discussion, role-playing, questioning, presentations, brainstorming etc, which methods do you prefer using and feel help you develop the students' critical thinking skills?

Question # 8:

What do you feel or believe the relationship is between creativity and critical thinking?

Question # 9:

What kind of attitudes do you foster in your classrooms?

Question# 10:

Do you model critical thinking? If yes, please indicate how?

Question # 11:

Would you like to add anything I may have missed in regards to your perception and practice of critical thinking?









