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STUDENTS' CRITICAL THINKING ABILITY IN ENGLISH TEACHING AND LEARNING

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ABSTRACT

The purpose of this study was to discover how students' critical thinking skills developed during the classroom learning process. This research was conducted at SMA Negeri 1 Ratahan, and the sample is the first-year students, which was made up of 35 students. The instruments used in collecting data are observation techniques. The data were analyzed qualitatively. 1) The concept of purpose was present in Meetings 2, 3, 4, and 5. It is shown that when students reason, they reason to achieve some objective, to satisfy some desire, or to fulfill some need. 2) The concept of "question" was in Meetings 1, 2, 4, and 5. This shows that generally, the students had questions and problems to be solved. (3) The concept of concept was only observed in Meetings 2, 3, and 5. Some ideas or concepts are used in all reasoning but not others. 4) The concept of assumption was in Meetings 1, 2, 4, and 5. All reasoning must begin somewhere; we must take some things for granted. Any "defect" in the assumptions or presuppositions with which the reasoning begins is a possible source of problems for students. 5) Only at Meeting 5 was the concept of information discussed. Whenever we reason, there is some "stuff," some phenomenon, about which we are reasoning. Any "defect," then, in the experiences, data, evidence, or raw material upon which a person's reasoning is based is a possible source of problems. 6) The concept of interpretation was discussed in Meetings 3 and 4. Reasoning proceeds in steps: "Because this is so, that also is so (or probably so)," or "Since this, therefore that." Any "defect" in such inferences is a possible problem in our reasoning. 7) In Meetings 3 and 5, the concept of point of view or frame of reference was discussed. In this case, students reason within certain frames of reference. Any "defect" in that point of view or frame of reference is a possible source of problems in the reasoning. 8) Only Meetings 3 and 4 discussed the concept of implications (and consequences). Any "defect" in the implications or consequences of our reasoning is a possible source of problems.

Keywords: Critical Thinking, Teaching, Learning

Abstrak

Tujuan dari penelitian ini adalah untuk mengetahui bagaimana kemampuan berpikir kritis siswa berkembang selama proses pembelajaran di kelas. Penelitian ini dilakukan di SMA Negeri 1 Ratahan, dan sampelnya adalah siswa kelas satu yang berjumlah 35 siswa. Instrumen yang digunakan dalam mengumpulkan data adalah teknik observasi. Data dianalisis secara kualitatif. 1) Konsep tujuan hadir pada pertemuan 2, 3, 4, dan 5. Terlihat bahwa ketika siswa bernalar, mereka bernalar untuk mencapai suatu tujuan, untuk memuaskan suatu keinginan, atau untuk memenuhi suatu kebutuhan. 2) Konsep "pertanyaan" terdapat pada pertemuan 1, 2, 4, dan 5. Hal ini menunjukkan bahwa pada umumnya siswa memiliki pertanyaan dan masalah yang harus dipecahkan. (3) Konsep konsep hanya diamati pada pertemuan 2, 3, dan 5. Beberapa ide atau konsep digunakan dalam semua penalaran tetapi tidak pada yang lain. 4) Konsep asumsi ada di Rapat 1, 2, 4, dan 5. Semua penalaran harus dimulai dari suatu tempat; kita harus mengambil beberapa hal begitu saja. Setiap "cacat" dalam asumsi atau praanggapan yang dengannya penalaran dimulai merupakan sumber masalah yang mungkin bagi siswa. 5) Baru pada pertemuan 5 konsep informasi dibahas. Setiap kali kita bernalar, ada beberapa "barang", beberapa fenomena, yang sedang kita pikirkan. Setiap "cacat", kemudian, dalam pengalaman, data, bukti, atau bahan mentah yang menjadi dasar penalaran seseorang adalah kemungkinan sumber masalah. 6) Konsep interpretasi dibahas pada pertemuan 3 dan 4. Penalaran berlangsung secara bertahap: "Karena begini, begitu juga (atau mungkin begitu)," atau "Karena ini, maka begitu." "Cacat" apa pun dalam kesimpulan semacam itu merupakan masalah yang mungkin terjadi dalam penalaran kami. 7) Pada pertemuan 3 dan 5 dibahas konsep sudut pandang atau frame of reference. Dalam hal ini, siswa bernalar dalam kerangka acuan tertentu. "Cacat" apa pun dalam sudut pandang atau kerangka

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acuan itu kemungkinan merupakan sumber masalah dalam penalaran. 8) Hanya pertemuan 3 dan 4 yang membahas konsep implikasi (dan akibat). Setiap "cacat" dalam implikasi atau konsekuensi dari penalaran kita merupakan sumber masalah yang mungkin terjadi.

Kata kunci : Berpikir Kritis, Mengajar, Belajar

1. INTRODUCTION

The traditional teaching method of the teacher as the sole information provider to passive students appears outdated. The students are too busy taking notes to internalize the information. The teacher emphasizes learning answers over question exploration in memory at the expense of critical thought, instead providing bits and pieces of information rather than understanding context through recitation over argument, reading rather than doing.The teacher fails to encourage students to work together to share ideas and information freely with each other or to use modern instruments to extend their intellectual capabilities.

Classes in with traditional learning setting are usually driven by "teacher talk" and depend heavily on the textbook for the structure of the lesson. There is the idea that there is a fixed world of knowledge that the students must come to know. Based on the concept, information is divided into parts and assembled into a whole.Teachers act as conduits, attempting to transfer their thoughts and meanings to passive students.The goal of the learner is to regurgitate the accepted explanation or methodology expounded by the teacher (Caprio, 1994).

According to Browne & Keley (1990:42), "the ability to think clearly and imaginatively to appraise evidence, assess logic, and generate imaginative alternatives to conventional ideas offers young people a clear route through the maze of slovenly thinking that runs across the landscape of today's information age." The learners need to be able to tell the difference between good and bad reasoning and to distinguish truth from falsehood. They need to know how to think critically. In relation to the need for critical thinking, the writer decided to conduct a study on students' critical thinking, particularly toward the teaching and learning of English.

2. REVIEW OF LITERATURE

2.1 Teaching

(1980:8), "teaching is guiding and facilitating learning, enabling the learner to learn, and setting the conditions for learning." Cronbach (1954:17) states, "Learning is shown by change in behavior as a result of experience." "The understanding of how the learner learns will determine your philosophy of education, your teaching style, your approach, methods, and classroom techniques." To summarize, teaching is demonstrating or assisting someone in learning how to do something, giving instructions, guiding in the study of something, providing knowledge, or causing someone to know or understand something.

Teaching cannot be defined apart from learning, which is actually "a relatively permanent change in a behavioral tendency and is the result of reinforced practice" (Brown, 1980:7). In a more operational and clear description of what learning is, the components of the definition are broken down into seven elements (Brown, 1980:7):

1) Learning is acquisition, or "getting."
2) Learning is the retention of information or skill.
3) Retention implies storage systems, memory, and cognitive organization.
4) Learning involves active, conscious focus on and action upon events outside or inside the organism.
5) Learning is relatively permanent but subject to forgetting.
6) Learning involves some form of practice, perhaps reinforced practice.
7) Learning influences behavior.

According to Yelon and Weinstein (1997:133), the teacher has the following responsibilities in classroom learning activities:

- To provide the student with opportunities to explore and to gain knowledge by himself.
- to create content that is relevant to the needs of the student's desire.
- To give the students more freedom and responsibility for what they learn, They learn it, as well as how they learn it.
- to give students chances to control the direction of their learning.
- to lead the students to have more knowledge than their yesterday's knowledge by helping them show how to learn, how to solve a problem, and how to effect change in their lives.

2.2 The Concept of Critical Thinking

Critical thinking consists of the mental process of analyzing and evaluating statements or propositions that have been offered as true. It includes a process of reflecting upon the specific meaning of statements, examining offered evidence, and applying reasoning in order to form a judgement.

Critical thinkers can gather information from verbal or written expression, reflection, observation, experience, and reasoning. Critical thinking has its basis in intellectual criteria that go beyond subject-matter divisions and include: clarity, credibility, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness.

Universal concepts and principles of critical thinking can be applied to any context or case, but only by reflecting upon the nature of that application. Critical thinking therefore forms a system of related and overlapped modes of thought such as anthropological thinking, sociological thinking, historical thinking, political thinking, psychological thinking, philosophical thinking, mathematical thinking, chemical thinking, biological thinking, ecological thinking, legal thinking, ethical thinking, musical thinking, and thinking as a painter, sculptor, engineer, businessperson, etc. In other words, though critical thinking principles are universal, their application to disciplines requires a process of reflective contextualization.

One can regard critical thinking as involving two aspects: a set of cognitive skills, intellectual standards, and traits of mind; and the ability and intellectual commitment to use those structures to improve thinking and guide behavior. Critical thinking does not simply entail the acquisition and retention of information or the possession of a skill-set that is not used on a regular basis, nor does it entail the exercise of skills without acceptance of the results.

To think critically is one of the big goals of science education. When students have learned to think critically, they will exhibit many of the following thoughts and processes:

- Raise questions, such as "How do we know?" "What is the evidence?"
- Know the difference between an observation and an inference.
- Know that all scientific ideas are subject to change and that our theories are our best ideas based on the evidence we have so far, or that more than one hypothesis holds true.
- Give explanations or interpretations of results, observations, and/or predictions that address the questions "How do you know?" or "Why do you believe..." These explanations include conceptual modeling of multiple related science or math concepts and are based on experimental evidence and rational argument.
- Look for consistency within one's own conclusions and give explanations with confidence rather than relying on an authority for validation (Senduk, 2002:83).

Critical thinking is the ability to appraise ideas, proposals, points of view, procedures, activities, behaviors, statements, positions, and issues.

The steps followed in doing critical thinking are:

- Decide what is to be judged.
- List the applicable standards.
- Gather evidence to determine the extent to which each standard is met, and
- Consider the evidence and make a judgment.

According to Schaferman (1991), critical thinking is an important and vital topic in modern education. All educators are interested in teaching critical thinking to their students. Many academic departments hope that their professors and instructors will become informed about the strategy of teaching critical thinking skills, identify areas in their courses as the proper place to emphasize and teach critical thinking, and develop and use some problems in exams that test students' critical thinking skills.

It can be pointed out that critical thinking is a clear, organized process used in such mental activities as problem solving, decision-making, persuading, analyzing assumptions, and scientific inquiry. Critical thinking is the ability to ask questions in an organized way. In critical thinking, one is asked to do the classification. Classification is the activity of organizing items or concepts by their characteristics, uses, or relationships.

2.3 Purpose of Relationale of Teaching Critical Thinking

The purpose of specifically teaching critical thinking in the sciences or any other discipline is to improve the thinking skills of students and thus better prepare them to succeed in the world. But, you may ask, don't we automatically teach critical thinking when we teach our subjects, especially mathematics and sciences, the two disciplines that supposedly epitomize correct and logical thinking? The answer, sadly, is often no. Consider these quotations:

1) "It is strange that we expect students to learn yet seldom teach them anything about learning" (Norman, 1980:42).

2) Students should be taught how to think. Instead, they should be taught what to think (Clement and Lochhead, 1980).

Maybe the issue is now clear. All education consists of transmitting to students two different things: (1) the subject matter or discipline content of the course ("what to think"), and (2) the correct way to understand and evaluate this subject matter ("how to think"). We do an excellent job of transmitting the content of our respective academic disciplines, but we often fail to teach students how to think effectively

about this subject matter, that is, how to properly understand and evaluate it. This second ability is termed "critical thinking." All educational disciplines have reported the difficulty of imparting critical thinking skills.

Why do so many students never learn to think critically? There are a number of reasons. The first goal of education, "what to think," is so traditionally obvious that instructors and students may focus all their energies and efforts on the task of transmitting and acquiring basic knowledge. Indeed, many students find that this goal alone is so overwhelming that they have little time for anything else. On the other hand, the second goal of education—"how to think" or critical thinking—is often so subtle that instructors fail to recognize it and students fail to realize its absence.

So much has become known about the natural world that the information content of science has become enormous. This is so well known that science educators and science textbook writers came to believe that they must seek to transmit as much factual information as possible in the time available. Textbooks grew larger, and curricula became more concentrated; students were expected to memorize and learn increasingly more material. The acquisition of scientific facts and information took precedence over learning scientific methods and concepts. Inevitably, the essential accompanying task of transmitting the methods of correct investigation, understanding, and evaluation of all this scientific data (that is, critical thinking) was lost by the roadside. This situation became especially severe in primary and secondary education. Studies have shown that students' abilities in critical thinking begin to progressively decrease as they make their way through our educational system.

When critical thinking capacity is not pushed forward in earlier years of education, then educators should be aware of students' lack of critical thinking skills and of our need to enhance them. It is accepted, one assumes, that students entering college should already have mastered all basic critical thinking skills; that is, they should have learned these skills during their primary and secondary education and thus be able to bring them with them into the college math and science classroom. The fact that this manual has been prepared is an indication that students have not learned these skills. We may be the last opportunity such students have to appreciate and learn critical thinking.

2.4 Critical Thinking

Critical thinking, according to Schafersman (1991:5), means "correct thinking in the pursuit of relevant and reliable knowledge about the world. Another way to describe it is reasonable, reflective, responsible, and skillful thinking that is focused on deciding what to believe or do." A person who thinks critically can ask appropriate questions, gather relevant information, efficiently and creatively sort through this information, reason logically from this information, and come to reliable and trustworthy conclusions about the world that enable one to live and act successfully in it. Critical thinking is not being able to process information well enough to know when to stop for red lights or whether you received the correct change at the supermarket. Such low-order thinking, critical and useful though it may be, is sufficient only for personal survival, enabling a person to, for example, responsibly judge between political candidates, serve on a murder trial jury, evaluate society's need for nuclear power plants, and assess the consequences of global warming.

Critical thinking enables a person to be a responsible citizen who contributes to society rather than merely consuming society's distractions (Browne and Keeley, 1980).

According to Caprio (1994:12), "Children are not born with the power to think critically, nor do they develop this ability naturally beyond survival-level thinking. Critical thinking is a learned ability that must be taught." "Most individuals never learn it." Critical thinking cannot be taught reliably to students by peers or by most parents, Trained and knowledgeable instructors are necessary to impart the proper information and skills. Math and science instructors have precisely this information and these skills. Why?

Critical thinking can be described as the scientific method applied by ordinary people to the ordinary world. This is true because critical thinking mimics the well-known method of scientific investigation: a question is identified, an hypothesis is formulated, relevant data is sought and gathered, the hypothesis is logically tested and evaluated, and reliable conclusions are drawn from the result. All of the skills of scientific investigation are matched by critical thinking, which is therefore nothing more than the scientific method used in everyday life rather than in specifically scientific disciplines or endeavors. Critical thinking is scientific thinking. Many books and papers describing critical thinking present its goals and methods as identical or similar to the goals and methods of science. A scientifically literate person, such as a math or science instructor, has learned to think critically to achieve that level of scientific awareness. But any individual with an advanced degree in any university discipline has almost certainly learned the techniques of critical thinking.

Critical thinking is the ability to think for oneself and reliably and responsibly make those decisions that affect one's life. Critical thinking is also critical inquiry, so such critical thinkers invert problems, ask questions, pose new answers that challenge the status quo, discover new information that can be used for good or ill, question authorities and traditional beliefs, challenge received dogmas and doctrines, and often end up possessing power in society greater than their numbers. It may be that a workable society or

culture can tolerate only a small number of critical thinkers, and that learning, internalizing, and practicing scientific and critical thinking are discouraged. Most people are followers of authority: most do not question, are not curious, and do not challenge authority figures who claim special knowledge or insight. Most people, therefore, do not think for themselves but rely on others to think for them. Most people indulge in wishful, hopeful, and emotional thinking, believing that what they believe is true because they wish it, hope it, or feel it to be true. Most people, therefore, do not think critically.

Critical thinking has many components. Life can be described as a sequence of problems that each individual must solve for himself or herself. Critical thinking skills are nothing more than problem-solving skills that result in reliable knowledge. Humans constantly process information. Critical thinking is the practice of processing this information in the most skillful, accurate, and rigorous manner possible, in such a way that it leads to the most reliable, logical, and trustworthy conclusions, upon which one can make responsible decisions about one's life, behavior, and actions with full knowledge of the assumptions and consequences of those decisions.

Nickerson (1987) characterized a good critical thinker in terms of knowledge, abilities, attitudes, and habitual ways of behaving. Here are some of the characteristics of such a thinker:

- uses evidence skillfully and impartially.
- organizes thoughts and articulates them concisely and coherently.
- distinguishes between logically valid and invalid inferences
- suspends judgment in the absence of sufficient evidence to support a decision.
- understands the difference between reasoning and rationalizing.
- attempts to anticipate the probable consequences of alternative actions
- understands the concept of belief differences
- sees similarities and analogies that are not superficially apparent.
- can learn independently and has an abiding interest in doing so.
- applies problem-solving techniques in domains other than those in which they were learned.
- can structure informally represented problems in such a way that formal techniques, such as mathematics, can be used to solve them.
- can strip a verbal argument of irrelevant details and phrase it in its essential terms.
- habitually questions one's own views and attempts to understand both the assumptions that are critical to those views and the implications of the views.
- is sensitive to the difference between the validity of a belief and the intensity with which it is held.
- is aware of the fact that one's understanding is always limited, often much more so than would be apparent to one with a non-inquiring attitude.
- recognizes the fallibility of one's own opinions, the probability of bias in those opinions, and the danger of weighting evidence according to personal prejudices.

This list is, of course, incomplete, but it serves to indicate the type of thinking and approach to life that critical thinking is supposed to be. Similar descriptions of critical thinking attributes are available in the very extensive literature on critical thinking.

2.5 Relationship of Critical Thinking to the Scientific Method

Because critical thinking is often identified as scientific thinking, it is commonly known that math and science courses are a good place to learn critical thinking by learning the scientific method; unfortunately, this is not always true. According to Browne and Keeley (1990), good scientists who conduct science must practice critical thinking, and good science teachers usually teach it, but few ordinary individuals learn the scientific method, even those who successfully take a number of science classes in high school and college. This is because, as discussed above, science is often poorly taught as a fact-based discipline rather than as a way of knowing or a method of discovery. But it does not appear that science alone will teach critical thinking to the masses. In fact, critical thinking programs are almost always designed by social scientists and directed toward improving thinking in the humanities and social studies, but the same can be accomplished with math and science courses. Properly taught university courses should teach a student critical thinking in addition to the disciplinary content of the course.

It is useful to ask why the scientific method—now recognized, in its guise as critical thinking, as so important to modern education that hundreds of critical thinking programs exist in thousands of schools across the nation—is so valuable for an individual to learn and practice.

The reason is that the scientific method is the most powerful method ever invented by humans to obtain relevant and reliable knowledge about nature. Indeed, it is the only method humans have of discovering reliable knowledge (knowledge that has a high probability of being true). Another name for this type of knowledge is justified true belief (belief that is probably true because it has been obtained and justified by a reliable method). Nobel Prize-winner Sir Peter Medawar claimed that, "In terms of fulfillment of declared intentions, science is incomparably the most successful enterprise human beings have ever engaged in." Other methods of gaining knowledge—such as those using revelation, authority, artistic and moral insight, philosophical speculation, hopeful and wishful thinking, and other subjective

and authoritarian methods—have historically resulted in irrelevant and unreliable knowledge, and they are no better today. These nonscientific methods of discovering knowledge, however, are more popular than scientific methods despite their repeated failures at obtaining reliable knowledge. There are many reasons for this, but two of the most important are that nonscientific methods are (1) more congenial to emotional and hopeful human nature and (2) easier to learn and practice than scientific methods. Despite these reasons, however, the value and power of possessing reliable knowledge—as contrasted with the usual unreliable, misleading, irrelevant, inaccurate, wishful, hopeful, intuitive, and speculative knowledge most humans contend with—have caused modern government, business, and education leaders to place the endeavor in high regard and to promote teaching the scientific method and its popular manifestation: critical thinking.

Humans are conditioned from birth to follow authority figures and not question their pronouncements. Such conditioning is done by parents and teachers using a wide variety of positive and negative reinforcement techniques. Most individuals reach adulthood in this conditioned form. The result of such a condition is the antithesis of both scientific investigation and critical thinking: individuals lack both curiosity and the skills to perform independent inquiry to discover reliable knowledge. Individuals who think critically can think for themselves: they can identify problems, gather relevant information, analyze that information in a proper way, and come to reliable conclusions by themselves without relying on others to do this for them. This is also the goal of science education. Critical thinking allows knowledge of the world. This, in turn, allows one to better earn a living, achieve success in life, better solve life's problems, and be reconciled to eternity, mortality, and the universe. If a person is happier possessing reliable knowledge and living in objective reality rather than living in ignorance and possessing false or unreliable beliefs, this is as good a reason as any for teaching and learning critical thinking.

2.6 Course Areas in Which to Emphasize Critical Thinking

According to Caprio (1994), critical thinking can be presented or emphasized in all classroom areas: lectures, homework, term papers, and exams. Some slight extra effort on the part of the instructor will be necessary, but the effort will be worthwhile because the results are so valuable for the student. Remember, as the teacher teaches critical thinking, he or she should also explain why it is important.

Criritical thinking can be taught during:

1) Lectures

Critical thinking principles may of course be directly taught to students during a lecture, but this is neither required nor advisable. Stay with the subject matter, but present it in such a way that students will be encouraged to think critically about it. This is accomplished during lecture by questioning the students in ways that require that they not only understand the material but can analyze it and apply it to new situations.

2) Laboratories

Students inevitably practice critical thinking during laboratories in science class because they are learning the scientific method.

3) Homework

Both traditional reading homework and specially written problem sets or questions can be used to enhance critical thinking. Homework presents many opportunities to encourage critical thinking.

4) Quantitative Exercises

Mathematical exercises and quantitative word problems teach problem-solving skills that can be used in everyday life. This obviously enhances critical thinking.

5) Term Papers

The best way to teach critical thinking is to require that students write. Writing forces students to organize their thoughts, contemplate their topic, evaluate their data in a logical fashion, and present their conclusions in a persuasive manner. Good writing is the epitome of good critical thinking.

6) Exams

Exam questions can be devised that promote critical thinking rather than rote memorization. This is true for both essay-question exams and multiple-choice exams.

If accepted, it is suggested that one or more of the following classroom strategies or techniques be used to teach critical thinking in one or more of the four above course areas.Teachers are encouraged to explore the possibilities and use as many as they wish. If they are already using some of these techniques, and many of them are, then they don't have to change a thing.

2.7 Critical Thinking Critical Thinking Teaching Strategies and Classroom Techniques

According to McCannon (2005:20), "Critical thinking cannot be taught by lecturing." "Critical thinking is an active process, while, for most students, listening to lectures is a passive activity." The intellectual skills of critical thinking—analysis, synthesis, reflection, etc.—must be learned by actually performing them. Classroom instruction, homework, term papers, and exams, therefore, should emphasize active intellectual participation by the student.

Lectures: Enhancement of critical thinking can be accomplished during lectures by periodically

stopping and asking students searching and thoughtful questions about the material you have just presented, and then waiting an appropriate time for them to respond. Do not immediately answer such questions yourself; leave sufficient time for students to think about their answer before they state it. If you constantly answer such questions yourself, students will quickly realize this and respond. Learn students' names as quickly as possible and ask specific questions of students you call by name.If a person is unable to answer a question, assist them by simplifying the question and guiding them through the thought process: ask what data are required to answer the question, suggest how the data can be used to answer the question, and then have the student use this data appropriately to come up with an answer.

Simple questions can be asked merely to regurgitate factual information that you have just given them in lecture. Many students have trouble with these factual questions because they are not paying attention in class, they simply have never learned how to listen to a lecture and take mental and written notes, or they don't know how to review their notes and the textbook in preparation for an exam. Perhaps the most basic type of critical thinking is knowing how to listen to a lecture actively rather than passively. Many students don't know how to do this because they were never taught it, and they were able to get through the educational system to their present situation—your class—without having to practice it. It is probably wise to begin asking factual questions so that students will realize that they have to pay attention. However, the goal of critical thinking requires that you eventually ask questions that require students to think through a cause and effect or premise and conclusion type of argument. This obliges them to reason from the data or information they now acquire through the lecture to reach new conclusions or understandings about the topic. For example, in chemistry, after presenting information about chemical reactions, you could ask students to describe chemical reactions that occur to them or near them every day by the combination of commonplace chemical materials. Ask them to explain what type of reaction it is (oxidation, reduction, etc.) using whatever knowledge they have of chemical reactions.

Huston (Schellens and Valcke, 2006:28) suggests that such questions be asked in class.He complains that we teach students to be mere receivers of information from the instructor rather than getting them to talk about and trust their own thoughts about the subject matter. Thoughtful and searching questions often have uncertain and ambiguous answers; this is more true in his area of study (literature) than in math and science, but the concept is the same. Rather than condition students to value only what the instructor says, get them to think deeply about the topic and value what they think and feel. Teach so that students think their ideas matter. Ask them to make connections and recognize patterns. They will experience a responsibility for their own education and think about what they learn and read. Students who are involved in their own learning will feel deeply about it and learn to value and trust their own thoughts and ideas. These recommendations are a perfect example of promoting critical thinking.

After the lecture but before class ends, ask students to write one-minute papers on the most significant thing they learned in class today and what one thing they still feel confused about. This is the single most important exercise you can do. You get immediate feedback about what the students are learning and what they still need to understand (technically, this is an application of what is called "classroom research" or "classroom assessment," the deliberate discovery of what and how much students are learning and of how you are teaching). He says it also improves their writing. In our present case, of course, this exercise improves critical thinking.

Teachers should encourage students to ask questions in class. Always respond positively to questions; never brush them off or belittle the questioner. Instead, praise the questioner (for example, say, "Good question!" or "I bet a lot of you want to know that"). Questions from students mean they are thinking critically about what you are saying; encourage that thinking!

During the lecture, bring in historical and philosophical information about math and science that enables students to understand that all scientific and mathematical knowledge was gained by someone practicing critical thinking in the past, sometimes by acts of great courage or tedious, painstaking work in the face of seemingly insurmountable difficulties.

Laboratories: Many science courses have laboratories connected with them. Science laboratory exercises are all excellent for teaching critical thinking. The reasons should be obvious. Here, the student learns the scientific method by actually practicing it. This method of teaching critical thinking is so clear and obvious that it seems odd that critical thinking is not promoted more in primary and secondary education by simply beginning science instruction in the first grade and requiring the students to take more science courses. You will have to decide for yourself why this isn't the case. Since laboratories automatically teach critical thinking to some degree, we will spend no more time on this topic.

Homework: For reading homework, Dr. William T. Daly recommends that you provide students with the general questions you want answered before they begin reading and insist that they organize their notes around these questions. Require that students transform the information and make it their own by requiring them to paraphrase, summarize, or outline all reading assignments. He suggests grading their written efforts with an oral quiz that can be structured to require abstract conceptualization and graded as students speak, because most students will prepare carefully to avoid falling repeatedly in public.You may also, of course, collect, grade, and repeat their written efforts.

Writing forces students to organize their thoughts and think critically about the material. Ask students to write short papers about pertinent topics, review science articles, or even paraphrase news articles and

textbook chapters. These exercises can be as elaborate as you wish to make them. For example, in designing the assignment of "science news exercises" to promote critical thinking, students are asked to read a short science news article taken from the popular media (newspaper, science magazine, etc.), construct a list of take-home questions that include one or two hypothetical claims about the article, and a week later take a short quiz made up of questions selected from the list. The instructor prepares the questions and copies and distributes them and the news article to the students at biweekly intervals, about six or seven times a semester. The authors state, "The ultimate goal of these exercises is to improve students' ability to compose a concise, logically persuasive line of reasoning about why a claim should be either conditionally accepted or not accepted." They point out that theirs and others' critical thinking exercises have been empirically demonstrated to develop science-related thinking skills in a course without sacrificing the disciplinary content.

Quantitative Exercises: Problem solving is critical thinking; thus, courses such as mathematics, chemistry, and physics that require the solution of various mathematical problems automatically teach critical thinking to some extent just by following the traditional curriculum. When students are required to solve math problems, they are practicing critical thinking, whether they know it or not. Mathematics, chemistry, and physics problems belong, of course, to only a limited subset of critical thinking, but this subset is an important one. Indeed, all science courses—including those that do not traditionally require mathematical problem-solving skills at the introductory level, such as biology, geology, oceanography, astronomy, and environmental science—should begin to incorporate some mathematical problems in a way that gets them thinking about nature and reality in empirical and qualitative terms, key components of critical thinking.

Term Papers: Term papers promote critical thinking among students by requiring that they acquire, synthesize, and logically analyze information and that they then present this information and their conclusions in written form. Term papers are not traditionally required in math and science courses, although they may be and perhaps should be. The math and science instructors really don't require students to write very much, and when they do, we do not require that they use correct spelling, punctuation, grammar, and syntax. At the very least, we should allow term papers as extra credit to give students a means to make up for poor exam grades. Students who are doing poorly always ask if there is anything they can do to improve their grade. Tell them from the first day that an optional term paper of appropriate style, content, and length will enable them to improve their grade in the course. Tell them that poor spelling, grammar, punctuation, syntax, and form will result in lesser credit.

Examinations: Examinations should require that students write, or at least think. For written exams, short-and-kong-answer essay questions are the obvious solution. For example, the use of a few short-answer essay questions on each exam tests the ability of students to analyze information and draw conclusions. This commonly used technique, by itself, helps to teach critical thinking.

There are two phases to the learning of content. The first occurs when learners (for the first time) construct in their minds the basic ideas, principles, and theories that are inherent in the content. This is a process of internalization. The second occurs when learners effectively use those ideas, principles, and theories as they become relevant in their lives. This is an application process.Good teachers cultivate critical thinking (intellectually engaged thinking) at every stage of learning, including initial learning. Students are often asked in a Socratic manner. Here are some typical societal questions:

What do you mean by _____?

How did you come to that conclusion?

What was said in the text?

What is the source of your information?

What is the source of the information in the report?

What assumptions have led you to this conclusion?

Suppose you are wrong. What are the implications?

Why did you make that inference? Is another one more consistent with the data?

Why is this issue significant?

How do I know that what you are saying is true?

What is an alternate explanation for this phenomenon?

Of course, there are many other possible Socratic questions. The key is that the teacher who fosters critical thinking fosters reflectiveness in students by asking questions that stimulate thinking essential to

the construction of knowledge.

As emphasized above, each discipline adapts its use of critical thinking concepts and principles. According to Schellens and Valcke (2006:35), "The core concepts are always there, but they are embedded in subject-specific content." For students to learn content, intellectual engagement is crucial. "All students must do their own thinking, their own construction of knowledge."

3. RESEARCH METHODOLOGY

3.1. Research Design

This research can be classified as descriptive research. Bes (1987:116) states, "A descriptive study describes and interprets what is." It is concerned with conditions or relationships that exist, opinions that are held, proceedings that are going on, effects that are evidence, or trends that are developing. "It is primarily concerned with the present, although it often considers past evidence and influences as they relate to current conditions." Besides, the data of this research were in the form of words, sentences, and activities, and the analysis was done qualitatively. Therefore, this research is also categorized as qualitative research because one of the characteristics of qualitative research is descriptive.

3.2. Population and Sample

According to Gay (1981:10), "a population is the group of interest to the researcher, the group to which she or he would like the result of the study to be generalized." The population of this research is SMA Negeri 1 Ratahan.

According to Gay (1981:435), "a sample is a number of individuals selected from a population for a study, invariable in such a way that they represent the largest group from which they were selected." The sample consists of 35 first-year students.

3.3. Technique of Analyzing Data

The collected data were analyzed according to the steps of qualitative research. The steps used in analyzing the data were as follows (Bogdan & Biklen, 1992:29–30): The unitization activity, the categorization activity, the explanation activity, and the interpretation activity.

4. ANALYSIS AND INTERPRETATION

4.1. Activity of Unitization

The activity of unitization presents the implementation of the observations in five phases: observation, observation, observation, and observation. Students are asked to do the following:

1. State the purpose clearly.
2. the purpose with others' purpose
3. Choose a realistic purpose.
4. Ask questions in a clear and precise manner.
5. Ask questions in a variety of ways to clarify the meaning and scope of the document.
6. Break the question into sub-questions.
7. Point out their opinion from more than one point of view.
8. Clearly identify their assumption.
9. Ascertain their assumption
10. claim supported by data
11. Find supporting and opposing information.
12. Provide clear and pertinent information to the question at hand.
13. Gather sufficient information.
14. Clearly identify the key concept.
15. Explain the key concept clearly.
16. Consider alternative concepts.
17. Use the concept with caution and precision.
18. Infer only what the evidence implies.
19. Check the consistency of their inferences with each other.
20. Consider whether their assumption shapes their point of view.
21. Identify their point of view.
22. Seek other points of view.
23. Identify the strengths as well as weaknesses of others' points of view.
24. Try to be fair in evaluating all points of view.
25. Identify assumptions that lead to inferences.
26. Trace the implications and consequences that follow their reasoning.
27. Search for negative as well as positive implications.
28. Consider all possible outcomes.

4.2. Activity of Categorization

This activity of categorization accords with the concepts of critical thinking suggested by Elder and Paul

(1996): purpose, question, concept, assumption, information, interpretation, point of view, and implication.

4.3. Category by Purpose

In this category, students are expected to:

1. State their purpose clearly.
2. Distinguish their purpose from others' purposes.
3. Choose a realistic purpose.

4.4. Category of Question

The category of question consists of the following elements that the students:

1. Ask questions in a clear and precise manner.
2. Express questions in several ways for clarification of the meaning and scope.
3. Break the question into sub-questions.

4.5. Category by Concept

This category includes the following observations made by students:

1. Point out their opinion from more than one point of view.

4.6. Category by Concept

In the reasoning based on assumptions, it is observed whether students clearly identify their assumptions and determine whether they are justifiable. Consider how their assumptions are shaping your point of view.

1. Make their assumption clear.
2. Ascertain their assumption

4.7. Category by Information

All reasoning is based on data, information, and evidence. Restrict your claims to those supported by the data you have, Search for information that opposes your position as well as information that supports it; Make sure sufficient information is gathered. Whenever we reason, there is some "stuff," some phenomenon, about which we are reasoning. Any "defect," then, in the experiences, data, evidence, or raw material upon which a person's reasoning is based is a possible source of problems; for example, students point out, "Ada kata bahasa Inggris sama dengan Manado, misalnya "lamp" dan "lampu" (Some English words are similar to Manado Malay, for example "lamp" and "lampu").

Students would be assessed and receive feedback on their ability to provide evidence that is gathered and reported clearly, fairly, and accurately. Does the student fumigate data at all? Is the information relevant?Is the information adequate for achieving the student's purpose? Is it applied consistently, or does the student displace it to fit her own point of view?

1. claims supported by data
2. find supporting and opposing information
3. Provide clear and pertinent information to the question at hand.
4. Gather sufficient information.

4.8. Category of Interpretation

All reasoning contains inferences, or interpretations, from which we draw conclusions and give meaning to data. Infer only what the evidence implies. Check the inferences for their consistency with each other. Identify the assumptions that led you to your inferences.

1. Identify the key concept clearly.
2. Explain the Ker concept in detail.
3. Consider alternative concepts.
4. Use the concept with care and precision.
5. Only infer what the evidence suggests.
6. Check the consistency of their inferences with each other

4.9. Category by Point of View

It is also questioned whether all reasoning is done from a particular point of view, whether students identify their point of view, seek other points of view, identify their strengths and weaknesses, and strive to be objective in evaluating all points of view.

1. Consider whether their assumption shapes their point of view. Identify their point of view.

2. Identify their point of view.
3. Seek other points of view.
4. Identify the strengths as well as the weaknesses of others' points of view.
5. Be fair in evaluating all points of view.

4.10. Category by Implication

All reasoning leads somewhere or has implications and consequences. Trace the implications and consequences that follow from your reasoning. Search for negative as well as positive implications, and consider all possible consequences.

1. Identify assumptions that lead to inferences.
2. Trace the implications and consequences that follow their reasoning.
3. Search for negative as well as positive implications.
4. Consider all possible outcomes.

4.11. Activity of Explanation

This section begins with the overall view of the data from the five observations:

Table 1. Observation

No	Category	I	II	III	IV	V
1	Purpose		√	√	√	√
2	Question	√		√	√	√
3	Concept		√	√		√
4	Assumption	√	√		√	√
5	Information			√		√
6	Interpretation			√	√	
7	Point of View			√		√
8	Implication			√	√	

In general, it can be concluded that the common concepts of critical thinking are realized in the activities of English teaching and learning in the classroom, which cover 1) the purpose for thinking, 2) the question at issue, 3) concepts, 4) assumptions, 5) information, 6) interpretations and inferences, 7) points of view, and 8) consequences and implications. It is shown in the data that, in general, all the components of critical thinking were included and realized in all meetings. However, it can be seen that, significantly, Meeting 3 and Meeting 5 were the meetings that contained complete components of critical thinking, while the other meetings only covered certain components. This may be because the focus of learning was only on the development of the components.
In the category of purpose, it was found that the components were realized in Meetings II, Meeting III, Meeting IV, and Meeting V. It was not realized in Meeting I. This purpose component was realized by the students through their statement, for example, "Saya bermaksud untuk menerjemahkan arti kata-kata baru dalam bacaan" (I mean to translate the new vocabulary in the text).
It should be kept in mind that when students reason, they reason to achieve some objective, to satisfy some desire, or to fulfill some need. One source of problems in student reasoning is traceable to defects at the level of goal, or purpose. If the goal is unrealistic, contradictory to other goals the student has, or otherwise muddled, then the reasoning used to achieve it is problematic.
A teacher's assessment of a student's reasoning, then, necessarily involves an assessment of the student's ability to handle the dimension of purpose in accordance with relevant intellectual standards. It also involves giving students feedback about the degree to which their reasoning meets those standards.
In the category of questions, it was observed that this element was done in Meeting 1, Meeting 2, Meeting 4, and Meeting 5. It did not come out in Meeting 3. This shows that generally, the students had questions and problems to be solved. One area of concern for assessing student reasoning is the formulation of the question to be answered or problem to be solved, whether with respect to the student's own reasoning or that of others. This category was realized by the students through questions they asked, for example: Bagaimana mengucapkan 'th'? (How to pronounce the 'th'?).
Assessing students' mastery of this element of reasoning requires assessing—and giving feedback on—their ability to formulate a problem in a clear and relevant way. It necessitates providing students with direct feedback on whether the question they are addressing is important, answerable, or whether they understand the requirements for setting the question or solving the problem, for example: "The meaning of the word in the dictionary differs from that in my friend's dictionary."
In terms of the concept, this was only observed in Meeting 2, Meeting 3, and Meeting 5. All reasoning uses some concepts but not others. These concepts can include the theories, principles, axioms, and rules implicit in our reasoning. Any "defect" in the reasoning concepts or ideas is a potential source of problems in student reasoning. Students would be given feedback on whether their understanding of theories and rules was deep or only

superficial.Are the concepts they use in their reasoning clear ones? Are their ideas relevant to the issue at hand? Are their principles slanted by their point of view?

In the category of assumption, it can be seen that this concept is covered in meetings 1, 2, 4, and 5. All reasoning must begin somewhere; we must take some things for granted. Any "defect" in the assumptions or presuppositions with which the reasoning begins is a possible source of problems for students.

Assessing their skills of reasoning involves assessing their ability to recognize and articulate their assumptions, again according to the relevant standards. The student's assumptions may be stated clearly or ambiguously; they may be justifiable or unjustifiable, critical or extraneous, consistent or contradictory, as in "I think studying English is as difficult as studying math."The feedback students receive from teachers on their ability to meet the relevant standards will be a large factor in the improvement of student reasoning.

Meetings 3 and 5 were the only ones that included the information category.Whenever we reason, there is some "stuff," some phenomenon, about which we are reasoning. Any "defect," then, in the experiences, data, evidence, or raw material upon which a person's reasoning is based is a possible source of problems.

Students would be assessed and receive feedback on their ability to provide evidence that is gathered and reported clearly, fairly, and accurately. Does the student ever fumigate data?Is the information relevant?Is the information adequate for achieving the student's purpose? Is it applied consistently, or does the student distort it to fit her own point of view?

Meetings 3 and 4 were concluded to include this component, according to interpretation.Steps in reasoning are as follows: "Because this is so, that also is so (or probably so)," or "Since this, theredoes that."Any "defect" in such inferences is a possible problem, according to our reasoning.

Assessment would evaluate students' ability to make sound inferences in their reasoning. When does an inference sound? When does it meet reasonable and relevant standards for inferring? Are the inferences the student draws clear? Are they justifiable? Do they draw deep conclusions, or do they stick to the trivial and superficial? Are the conclusions they draw consistent? It was realized in the classroom, for example, when a student said, "Saya mengerti bagaimana menggunakan to be" (I know how to use to be).

In terms of point of view or frame of reference, it was realized in Meetings 3 and 5. Whenever students reason, they must ask questions within some point of view or frame of reference. Any "defect" in that point of view or frame of reference is a possible source of problems in the reasoning.

A point of view may be too narrow, too parochial, based on false or misleading analogies or metaphors, contain contradictions, and so forth. It may be restricted or unfair. Student reasoning involving the articulation of their point of view, on the other hand, may meet the relevant standards to a significant extent: their point of view may be broad, flexible, and fair; it may be clearly stated and consistently adhered to, as in the statement: "Jadi, to be is used as an auxiliary."

Feedback to students would involve commentary noting both when students meet the standards and when they fall short of meeting them. Evaluation of students' ability to handle the dimension of point of view would also appropriately direct students to lines of reasoning that would promote a richer facility with reasoning about and in terms of point of view.

Furthermore, only Meetings 3 and 4 had the element in terms of implications (and conceptual implication).No matter where students stop their reasoning, it will always have further implications and consequences. As reasoning develops, statements will logically be entailed by it. Any "defect" in the implications or consequences of our reasoning, for example, "Itu berarti bahasa Indonesia berbeda dengan bahasa Inggris" (It means Indonesian language is different from English), is a potential source of problems.

The ability to reason well is measured in part by an ability to understand and articulate the implications and consequences of the reasoning. Students therefore need help in coming to understand both the relevant standards for reasoning out implications and the degree to which their own reasoning meets those standards.

When they spell out the implications of their reasoning, have they succeeded in identifying significant and realistic implications, or have they enunciated the implications of their views clearly and precisely enough to permit their thinking to be evaluated by the validity of those implications?

4.12. Activity of Interpretation

It can be interpreted that the critical habit of thought will pervade all of its mores because it is a method of approaching life's problems.Men educated in it cannot be stampeded by stump orators. They are slow to believe. They can hold things in various degrees of possibility or probability, without certainty or pain.They can wait for evidence and weigh evidence, uninfluenced by the emphasis or confidence with which assertions are made on one side or the other. They can resist appeals to their dearest prejudices and all kinds of cajolery. Education in the critical faculties is the only education of which it can truly be said that it makes good citizens.

Thus, it can be inferred from the explanation of the observation that, basically, students develop their critical thinking skills in the English teaching and learning process in the classroom. It is shown that the common concepts of critical thinking are realized in the classroom when the teaching and learning process of the English language occurs. The observation covers the following: 1) purpose for thinking, 2) question at issue, 3) concept, 4) assumption, 5) information, 6) interpretations and inferences, 7) points of view, and 8) consequences and implications.

It was understood from the data that all the components of critical thinking were included and realized in all meetings. It was clearly found that Meeting 3 and Meeting 5 were the ones that contained substantially complete components of critical thinking, while the others did not. This may be because the focus of learning was only on the development of the components. This means that the students were directed to learn how to improve critical thinking, although they might do it at a different rate of development. One student might

develop it faster and more successfully compared to the others.

5. CONCLUSION

It can be concluded that students of SMP Negeri 1 Ratahan generally develop their capacity for critical thinking in the English Teaching Learning Process in the classroom. It is proven that the components of critical thinking were included and realized in all meetings. It was clearly found that Meeting 3 and Meeting 5 were the ones that contained substantially complete components of critical thinking, while the others did not.

This could be the result of focusing solely on component development. This means that the students were directed to learn how to improve critical thinking, although they might do it at a different rate of development. One student might develop it faster and more successfully compared to the others.

6. SUGGESTION

It is suggested that students begin to develop their capacity of critical thinking in the teaching learning process of English language. It is essential that English teachers guide the sudents to develop this capacity by giving motication in terms of opportunities for the development.

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