The Research on Critical Thinking Teaching Strategies in College English Classroom

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Abstract
Critical thinking helps to develop personal’s ability to think consciously. One of the most important things is to enhance critical thinking in college English classrooms. This study is an attempt to investigate college English teachers’ perceptions and challenges in teaching critical thinking strategies. This research aims to investigate the college English teaching methods, approaches and strategies in English classes. The experiment was performed in the first semester from September 2021 to January 2022, with 64 students in Zhejiang Yuexiu University, China. There were thirty-two experimental participants and thirty-two traditional learning participants. All learners received the same content of learning, but through different methods of education. Students better demonstrated critical thinking in a post-strategy instruction assessment than those students who had not received any strategy instruction. The study used qualitative and quantitative methods that examined English teachers’ awareness of critical thinking as a teachable skill. The data was collected through a questionnaire, observation and interview. Both college English teachers and students participated in this research. The results demonstrated that teachers accept that the critical thinking skills make the course more meaningful for learners. Teachers convinced that critical thinking should definitely be encouraged and it should become a habit in students.

Keywords
Critical Thinking, Critical Thinking Skills, Teaching Strategies, The Components of Critical Thinking, College English Teachers

1. Introduction
The world is becoming more developed in teaching and all the more complicated. The 21st century needs people capable to regular intensive implementation of
innovative activity in order to keep competitiveness in a dynamically changing world that is undergoing a significant increase in amount of new information.

The important life skill is to develop the ability to think critically. It is obviously that it’s a daily occurrence to practicing critical thinking strategies during the lesson. There is a rational environment in the college for teaching and practicing critical thinking with the goal of developing life long habits of mind.

Statement of the Problem

Critical thinking is considered as quality thinking. It helps learners improve their communicational skills. Critical thinking helps students to deal with attitudes and ideas much easier. As students, they must be able to think critically and rationally. Unfortunately, critical thinking strategies are not consistently taught, that is why a problem exists nowadays. Mendelman required when a lot of children grow up engaged with essentially passive activities, teaching critical thinking is one of the most important parts during the lesson (Mendelman, 2007). When learning the English language, students should accept cultural differences. All cultures and languages differ from each other. It’s pretty hard to think in the target language as the same with your mother tongue. That is why, critical thinking skills enchase learners to switch between languages quicker. Their brains seamlessly switch between languages.

Purpose of the Study

The main aim of this research is to analyze current literature and examine strategies for developing critical thinking skills in college students. Towards this goal, this research explores how to investigate effective teaching practices that can be integrated into college English classroom teaching.

The main research questions of the study:

- Are college English teachers aware of the importance of critical thinking?
- How do college English teachers promote learners to think critically and practice questioning strategies in college English classroom?
- What meta-cognitive processes are developed when performing critical thinking in the college English classroom?
- What challenges and barriers do the teachers face while teaching critical thinking skills?
- What assessment methods should English teachers adopt to enhance critical thinking skills for learners?

2. Literature Review

The pressure on educational institutions and educators at all levels to provide quantitative assessment of educational progress through standardized testing has been building for decades (Snyder & Dillow, 2012).

Nowadays faculties at universities are being required to supply documentation demonstrating that learning is taking place. Measuring and documenting studying is a hard process, but the easiest way is to assess the accumulation of facts or figures. The tradition way of lessons and lectures at the colleges and universities
leads teachers to use lectures as the primary means of communicating content and focus tasks on memorization and lower-order thinking skills (Duron et al., 2006). A lot of teachers require to teach students critical thinking skills. Unfortunately, most students do not master the skill (Fisher, 2007). Paul and colleagues found that many teachers possess only a vague understanding of what critical thinking is and some knowledge on how to develop critical thinking skills in students. The Paul, Elder, and Bartell researched that 89% of the sampled teachers identified critical thinking as a primary objective, only 9% included different tasks during the lessons that were clearly designed to promote critical thinking on a typical lesson (Paul & Elder, 2006). A lot of studies have found that many teachers were lack of basic knowledge of critical thinking. Some teachers don’t have any ideas how to incorporate thinking into lesson plans, that is why critical thinking can’t be developed in students (Bataineh & Alazzi, 2009; Innabi & El Sheikh, 2007; Lauer, 2005; Stapleton, 2011; Thurman, 2009).

Alwehaibi (2012) confirmed that critical thinking and the success of students could be improved if schools adopt and integrate strategies and techniques that have been identified as helpful in developing critical thinking into various courses. Abrami and colleagues (2008) researched that teachers who received specific training on methods to teach critical thinking were more effective in developing critical thinking in students than teachers who had no prior training.

**Key components of critical thinking**

According to Black (2012) critical thinking included a range of skills but not “...all higher order thinking is critical thinking”. This idea is that analytical, logical, and meta-cognitive skills are essential components of critical thinking that steer thinking towards critical thinking, but they do not equal critical thinking. Mulnix (2010) who supported the idea discussed the importance of identifying the underlying skills of critical thinking in order to focus on enhancing those skills. Some of the higher order thinking skills and components that are central to developing critical thinking are briefly pointed out below.

- **Problem-solving skills**

Problem-solving skills are most important elements of critical thinking. Problem solving is a major skill that involves the skill of reasoning and many other underlying skills. The major difference between problem-solving and critical thinking is that “the solution to a problem (generally, spatial and/or numerical) replaces the argument”, which often “ends” thinking about the particular problem (Black, 2012). A second reason why problem-solving and critical thinking are different is because “one may solve a problem in a critical or uncritical manner” (Bailin et al., 1999). Ennis (1996) highlighted the characteristics of critical thinkers that included staying focused on the problem, viewing it from different angles and being able to justify the solutions and decisions.

- **Creative thinking skills**

Moreover, one of the most important elements of critical thinking is creative thinking skills. Birgili (2015) defined creative thinking as “a type of effort toward
a particular event and the problem based on the capacity of the individuals”. Creative thinkers use their knowledge, imagination, intelligence, and ideas in relevant situations, generating new and different solutions to relevant problems and situations. Creative thinking is “correlated to critical thinking and problem solving” (Birgili, 2015) but creative thinking does not equal critical thinking because, as Black (2012) wrote, it “acts as the means to an end”.

- **Meta-cognitive skills**
  
  Meta-cognition is an important higher order thinking skill. It has been defined as “thinking about one’s own thinking” (Halpern, 1983). It requires awareness of self and many higher order skills for its activation. Meta-cognition develops when students engage in the practice of thinking. Johnson et al. (2007) emphasized two types of meta-cognition. One type relates to awareness about “planning, monitoring, evaluating, and revising one’s thinking processes and products” and the other type includes “strategic knowledge” that relates to “strategies/skills that one possesses and knowledge of when, why, and how”.

  The importance of developing meta-cognitive skills is emphasized by Everson & Tobias (1998, cited in Johnson et al., 2011) who discussed how a group of students who evaluated their own levels of understanding about one subject area could better identify the weaknesses in particular area. These students had also demonstrated how they resolved their challenges, achieving success in those problematic areas. This indicated by Johnson et al. (2011) “how meta-cognitive skills help to support lower-level learning”. Also, the authors’ analysis about students’ reading comprehension, critical thinking, and meta-cognitive skills in higher education settings found out that while students did not show greater development in meta-cognitive skills, they demonstrated increased levels of critical thinking. There is a broad view of critical thinking and its role in college English education. It has undoubtedly established that critical thinking is an essential part of educational exploration. These varied studies lead scholars to learn more in the field of teaching critical thinking skills. Educators and psychologists have been interested in understanding the cognitive domain of human being and identifying the intellectual skills that one can perform while thinking.

  **Enhancing Critical Thinking through Assessment**

  The way of assessment in college English classrooms highly influences what and how the students learn and get the information. Critical thinking helps students to get more useful knowledge, study hard, read and search the information in order to be a smart learner. It leads them to achieve their goals and be more successful. A lot of people who think critically know how to think efficaciously. Their mind can be capable to focus on problem-solving skills. It is easy to give the examples of advantages of critical thinking in learning, but it is pretty hard to use it in the classrooms. Students should follow the suggestions in order to enhance critical thinking.

  - Learners should search more information, use Internet, read reports in order to gain more information about the topic. Students should not be focused
only on the textbooks, books or other sources they use in the classroom.

- The theory should be cooperated with practical education. Students should know how to use the theory, which they have learnt in the lesson, in the practice, as well.

- Provide students with the feedback, which helps learners to realize that thinking is an important part of their educational process. The feedback should tell about how better they can improve their abilities in the future. Feedback also needs to provide students with information about how well they have carried out the activities. The feedback should help them to make an effort in the learning process.

- Include activities in the tasks, which encourage students to think about the major objectives of the course, including developing critical thinking.

- Use on going assessment rather than one-shot exams at the end of the semester. One-shot exams should be limited time. English teachers are able to examine a large range of knowledge, skills of students, including critical and creative thinking skills.

- Use more creative exercises and activities during the lesson in order to encourage learners’ motivation, inspiration and interest. Creativeness makes the lesson more effective. As a result, they can get not only much information about the topic, but also pleasure, satisfaction and delight from the lesson (Vdovina, 2013). There are only a few methods, which can help learners think critically. These methods are able to enhance critical thinking skills. Each teacher should use different methods during the lesson from their own ideas and fantasy.

Assumptions of the Study

Systematic implementation and practice of critical thinking strategies will help students develop habits of mind that allow them to view the world through a critical scope. The practices of critical thinking skills will help students in all academic disciplines in the college.

3. Methodology

In modern society the ability to think critically is an important skill. In the related literature, teachers have to be critical thinkers themselves in order to teach students to think critically. Teachers should be able to promote this skill in their classes for students (Ashton, 1988).

Participants

In order to understand students’ awareness of critical thinking, an experiment was conducted in the first semester of AY 2021-2022. This research was conducted with participants of ten English teachers of Zhejiang Yuexiu University located in the city of Shaoxing in Zhejiang Province. Five female teachers and five male teachers participated in this research. Teachers provided a balanced representation of each gender. The participants were selected based on the following criteria, such as being current English teachers of Zhejiang Yuexiu Uni-
versity, having at least three years of teaching experience at the English department (Table 1).

Students also participated in this research. Students had approximately the same level of English language. Their ages range from 18 to 19. The evaluation period of students was for 16 weeks, 4 periods each week, for a total of 64 periods. I selected two groups of first year students. The number of participant students was sixty-four students. There were thirty-two participants in each group. All learners received the same content of learning, but through different methods of education. There were thirty-two experimental participants and thirty-two traditional learning participants (Table 2).

**Instruments**

I used qualitative and quantitative methods. These methods investigated English teachers’ awareness of critical thinking as a teachable skill. The data was collected through a questionnaire, participant observations and interview.

The questionnaire was addressed to teachers. This research is quantitative, because it contains statistics gathered from the questionnaire. Some of the questions were prepared during the observations based on what went on in the classes. The purpose was to make sure that all activities observed were clearly understood.

The instrumentation for measuring the ability of students’ critical thinking was an assessment after reading the article “Life at Harvard University” by Michelle Lee in the classroom. The control group of students did not receive any specific critical thinking instruction. The target class was with critical thinking strategy. Students used different thinking technique. As part of teaching strategy instruction, students had to think aloud. Students were asked to share their initial thinking in the “I think” column (Appendix 1). This first response was immediate. It did not require too much depth of thought. After that, students were prompted to think deeper in “In my opinion…” and “…and so I can guess that…” columns. For the control group, the teacher allowed students to navigate the piece of literature on their own without the assistance of an explicit thinking strategy. The control and the target groups completed the same post reading assessment quiz (Appendix 2). The quiz consists of four questions. Each question

### Table 1. Demographic information of teachers in the research group.

| Number of the participants | 10 |
|----------------------------|----|
| Male teachers              | 5  |
| Female teachers            | 5  |

### Table 2. Demographic information of students in the research group.

| Number of the participants | 64 |
|----------------------------|----|
| Male students              | 28 |
| Female students            | 36 |
concentrated the students to thinking critically while providing textual evidence for their thinking (Chart 1).

4. Results

The results of the control group, which received no critical thinking strategy instruction, had 63% of students showed evidence of critical thinking on the post-reading quiz (Appendix 1). The target group, which received explicit instruction and practice in an inferencing critical thinking strategy, had 80% of students showed evidence of critical thinking on the post-reading quiz (Appendix 2).

English teachers found out that some students are critical thinkers as they exert more effort. A few of them could understand and picked up implications because of previous experience in dealing with critical thinking components. Other students were not critical thinkers for different reasons. Specifically students were lack of interest in practicing critical thinking. Lack of motivation and poor level in knowledge made them give up when they encounter things that require students to think or express their opinions.

Chart 2 showed the responses of teachers for questions 1 to 3. Most English teachers were aware of the importance of teaching critical thinking to college students, especially in their first year as it prepared them for academic studies.
and for life. They convinced the importance of teaching critical thinking skills for college students. Two teachers were unsure about being aware of it. Only one teacher revealed being unaware. This leads to the conclusion that this teacher does not have the proper knowledge about critical thinking skills.

**Chart 3** showed the teachers’ answers to the critical thinking skills that were used in the English classrooms. The most common one was inferences, followed by evaluation, analysis, brainstorming, prediction, application, planning, reasoning, understanding, discussion and problem solving (in that order). English classroom offers an atmosphere where college students are more likely to express their thoughts and ideas, address problems with genuine answers and most significantly—learn faster and more efficiently. To strengthen critical thinking skills among learners, curricula should include activities and tasks that face learners with a problem to be resolved. But teachers pay less attention on problem solving, elicitation, and synthesis.

**Chart 4** showed teachers’ perceptions of critical thinking. Most of the teachers had the same perceptions of the importance of critical thinking. Critical thinking exercises motivated learners to think critically. Critical thinking is necessary for writing, reading and speaking. Teachers need training about how to teach the skills of critical thinking. Learners may get all these skills to evaluate arguments clearly. Only three teachers were not sure that it was the teacher’s responsibility to teach critical thinking in the classroom, where two of them disagreed that it was not teachers’ responsibility. Two of the teachers were also unsure that students’ language skills were necessary for teaching critical thinking, where as two of them disagreed. The rest of the sample agreed that students being good at English is necessary for teaching critical thinking.

The results demonstrated that all teachers accept that critical thinking skills are important for students attending college. Teachers accepted the idea that
critical thinking should definitely be encouraged and it should become a habit in students. Moreover, participant teachers highlighted the importance of materials in fostering critical thinking. The carefully chosen materials could become a leader for both teachers and students. They believed that choosing interesting materials, introducing intriguing topics, and relating them with students’ own experiences triggered curiosity and in the end students felt motivated.

The recorded data gathered through interviews were transcribed. The use of interviews generated a multifaceted view of ten English teachers’ understanding of critical thinking and application of its principles in their classes.

Chart 4. Teachers’ perception of critical thinking.
Analysis of Observations

In order to make sense of the interview, each teacher was observed four times in their classes. I found out how teachers focused on critical thinking skills during their lessons.

During observation of four lessons, the first teacher (T1) mainly focused on questioning tasks. During grammar and reading lessons, she used the question form “why” and expected the students to provide reasons to their answers.

The second teacher (T2) tried to relate the topics with learners’ personal experiences. This teacher asked students to respond to their statements.

The third teacher (T3) mainly focused on problem solving and encouraged students to apply their knowledge. She also motivated students to rethink about their statements and reevaluate their judgments.

The fourth teacher (T4) mainly focused on investigation of ideas at deeper levels. She asked students to think aloud. She created several opportunities for students to discuss and reflect on topics. The teacher identified students’ thoughts. Moreover, she provided feedback.

The fifth teacher (T5) mainly focused on techniques of investigating deeper and looking for logical evidence. Thus, he continuously asked “why” and “how”. The teacher created situations where students solved problems. Also learners expressed their ideas and opinions. Linking the topics to daily issues, he tried to encourage students to reflect on their own learning.

The sixth teacher (T6) encouraged the students to analyze and investigate the text at a deeper level by using questioning technique.

The seventh teacher (T7) expected the students to solve a problem. She asked students to predict what was going to happen. This helped students to make inferences by using clues and analyze those situations carefully.

The eighth teacher (T8) did not let students to investigate their assumptions. She never fostered collaborative learning. The students did not create any materials. Learners did not be engaged in any discussion.

The ninth teacher (T9) did little work on problem solving and discussion. He regularly provided the feedback. But he did not give the students the opportunity to create their own materials themselves, either.

The tenth teacher (T10) encouraged the students to solve problems by focusing on their personal experiences. Students had opportunities to give their opinions in discussions.

In order to quantify the field notes gathered during observations, a checklist was filled out after the lessons by depending on teachers’ behaviors. Teachers’ strategies were translated into behaviors that support critical thinking.

Chart 5 showed that except for asking students to develop their own materials. The techniques that were used to enhance students’ critical thinking skills were applied by all the teachers. The fifth teacher integrated almost all techniques during college English classes. This teacher was as a leader Brainstorming, debates and discussions were really effective strategies in the class. The statistics in
Chart 4 showed that the majority of college English teachers didn’t pay enough attention on the group-work activities. The observation showed that most of the teachers didn’t let students create their materials by themselves. Most of teachers encouraged critical thinking in their classes by encouraging students to relate what they read to their lives, asking for purpose or genre, group discussions, peer discussions in pre-reading and pre-listening tasks, brainstorming and evaluating others’ opinions. Some teachers did not mention synthesizing and applying information, which were the core components of critical thinking. Another important aspect that was missing in their definitions and practice was the limited inclusion of collaborative learning environments. Students need more training by reflecting on topics related to their lives, and motivating them with topics they are familiar with to express their opinions, even though they do not have the proper proficiency to start a debate. They need guidance and training.

This article is based on a study carried out with a group of college students and English teachers who enhanced their language skills while using their critical thinking skills.
thinking skills. English classes were observed throughout one semester. Teachers’ answers and opinions led to selecting practical critical thinking activities. Infusing critical thinking is a long-term process. Teachers should start with simple activities and progress towards more challenging ones such as problem solving. Working with students gives several advantages for teachers since students have already acquainted a significant amount of experience at this level. Teachers can create situations where students reveal their potential as critical thinkers.

According to the students who participated in the study, I present a few of the most practical activities to improve critical thinking.

- **Brainstorming** is the first step before doing anything. Teachers, before starting any activity regardless of the subject, should practice to brainstorm. For example “What do you think our lesson will be about? What do you expect to learn upon the completion of this lesson? Why...? How...?”

- **Questioning** is the second helpful strategy. Appropriate questioning is crucial when using this strategy to develop critical thinking. Teachers often rely on questions to check for understanding. Sometimes these questions do not demand deep thinking. The overuse of these questions can lead to learners’ boredom. Teachers should be very deliberate when making questions. Appropriate questions are those that match both students’ language and thinking levels. Also students may lose their confidence and interest, if teachers make unrealistically questions (Long, Blankenburg, & Butani, 2015). A good practice to facilitate questioning in the college English classroom is to design questions in a sequence. The sequence will help students to think deeper as they come through in the progression.

- **Debates and classroom discussions.** One of the best practical activities is to provide learners with controversial topics to discuss. Students found this task as supporting their critical thinking development. Although students might feel anxious at the beginning, they eventually respond favorably as the progress over time. Akerman and Neale (2011) explained the importance of the debate in the classroom. Students were presented two sets of perspectives to students and encouraging them to support their position in an oral or written exchange.

- **Meaningful written assignments:** involving students in writing is not an easy task. It implies the combination of several sub-components that need to be logically organized. Teachers should give students meaningful written assignments. The task must be relevant to lives and the context where they perform their daily activities. The task should be connected to their objectives as learners. Critical thinking writing tasks should be short but meaningful. Critical thinking writing tasks should hopefully come right after the lesson to immediately relate to what they learned in class. Asking students to write long essays or reports does not guarantee that students will be using their critical thinking skills but other people’s ideas. All teachers should let students to discuss their ideas in groups. These discussions will
help students think deeply on the topic and will help them to guide their writing.

5. Discussion

English teachers have required that they are aware of the importance of teaching critical thinking to students. Teachers have found out that critical thinking skills are often based on their images, which are mainly guided by their own study experiences. Most of teachers were also aware of critical thinking skills, but only those that were required in classroom textbooks. Other skills were not emphasized and if they are used, they are used according to the teacher’s own personal effort. This led to the conclusion that most teachers do not have the proper knowledge about critical thinking skills. This qualitative case study was designed around the convergence of two research areas: beliefs and knowledge about critical thinking and the implementation of critical thinking. Teachers provided the data and observational data. The data showed an interpretative view of how English teachers realize and integrate critical thinking in their English teaching context. The findings have shown that teachers’ beliefs and perceptions affect their practices and decision making in their classroom. Some critical thinking skills can be taught to beginners, such as the skill of application. For example, beginners can read a text about a country and these students can apply ideas related to their own country. At the same time, some teachers believe that all students are critical thinkers, but they need guidance and practice according to their level. English teachers underlined that it is necessary to use the critical thinking in teaching all English skills. Most skills that deal with critical thinking are the productive skills, such as speaking and writing. In some texts in the books, there are questions that require inferences and reading between the lines. This again showed that teachers should know that critical thinking skills can be used in all English skills, not only in specific ones.

As for barriers, they are similar to those mentioned in previous studies, like lack of interest, lack of motivation, but the most challenging barrier was students’ lack of information background. This can be addressed by encouraging students to relate material to their lives and to access the internet to get information to overcome the defects of the traditional education system that focused on memorization. In regards to language proficiency, a few teachers stated that it is a huge barrier, which is in contrast to what was mentioned in previous studies. Students need more training by reflecting on topics they are familiar with to express their opinions, even though they do not have to start a debate professionally. They need guidance and training. Another interesting idea that, according to teachers, affects negatively on learners’ critical thinking is cultural background. Often, there is some reluctance to argue with seniors, like teachers, as a form of respect, or with an author or a writer’s opinion, as they are more educated and knowledgeable. However, with practice, encouragement, and more critical thinking exercises, that barrier can be overcome. Time limitation is
another challenge, as teachers have to cover certain outcomes that leave little time for more practice to really teach critical thinking skills. I think that teachers themselves need training before teaching critical thinking, as they will learn how to plan their lessons, how to train their students, how they themselves will be critical thinkers and how to overcome barriers to teach critical thinking. Regarding teachers’ attitudes towards development of critical thinking among students, the respondents have a very positive attitude about critical thinking into their course content. Critical thinking is definitely regarded as a very important and major skill. Teachers suggest to focus on critical thinking processes in the classroom.

6. Conclusion

The present study is an attempt to examine the possibility of promoting critical thinking skills through teaching in college English classes. It became clear that the students are not aware of the importance of it and the practicality of the subject matter. In order to understand the required skills to master the English language, students should learn to think and adopt strategies that would help them in the real world. Almost all English teachers believed that the creative teaching of English helps students to learn easier and better. All in all, the results of the study have shown that promoting critical thinking skills in college English classes is a very demanding job. It requires efforts from all parts of the teaching and learning operation especially the teacher who should be well prepared and the learner who has to adopt the appropriate learning. After the research strategies of critical thinking with two groups of Zhejiang Yuexiu University students, it’s obviously that using these strategies resulted in students’ positive outcomes. Students demonstrated high levels of motivation and a better disposition to work with English language. They displayed that by exercising their thinking skills such as creating, analyzing, discussing, and answering, English learners could perform better results during English classes. Participants in this research described learning English from critical thinking standpoint was an important and meaningful life experience that changed their perspectives regarding the implications of learning a foreign language.

The present research could be a useful starting point for future researchers in the field of investing thinking skills in college English classroom. English teachers should find different strategies to help their students use their critical thinking skills. It recommends to college English teachers to change the education system of English lessons. College English classes should stimulate learners to think critically. So, while in the learning process, the interaction between teacher and students will be more active and can enhance students’ critical thinking.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.
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Appendix 1: Critical Thinking Strategy Student Guide to Inferencing

Michelle Lee “Life at Harvard University”

Students have to give the opinion about life at Harvard University, educational process of Harvard University, life in another country, The First Year Social Committee (FYSC).

Students should start with follow words:

The book says...
I think...
In my opinion...
…and so I can guess that...

Appendix 2: Post-Critical Thinking Guide Questions

Michelle Lee “Life at Harvard University”

Demonstrating your understanding of the article. Remember, it is essential to support your thinking with evidence from the reading.

1) Supporting your answer with evidence from the article, record and explain at least one connection you made while reading. Consider text to text, text to self, and text to world connections.

2) Supporting your answer with evidence from the article, record and explain a deep question you asked yourself while reading.

3) Supporting your answer with evidence from the article, explain an inference you made while reading. You should be certain that the inference you choose provided depth and additional insight for you as you read, versus a superficial type of inference.

4) Supporting your answer with evidence from the article. You should identify and analyze the life of the main character.