

CHAPTER I

INTRODUCTION

1.1 Background

Natural-science and social-science are two major programs provided in non-vocational high school of Indonesia alongside language and religion (for *Madrasah Aliyah*) according to curricula structure for senior high school of Indonesia (KTSP, 2006). After one year studying, originally students are allowed to enter each particular program to be based on their interest that is supported by their academic result (cognitive) as the main requirement. For those students who have interest in natural-science program, their result on such particular subjects as Biology, Chemistry, and Physics should be above the minimum standard (KKM). It is also applied for social-science program as well with Economy, Geography, History, and Sociology as its main particular subjects. This particular focused-subjects difference, however, can create different characteristic between students in each program that has potential to also influence general subject as English.

Natural-science focuses on natural-phenomenon as its object; while Social-science focuses more on social-phenomenon and places human being as its main actor (Drechsler, 2000s: 3). He also adds that “this basic difference would have a decisive impact on the transferability of concept from one to another.” In addition, according to Khun’s paradigm (1962, cited in Ossenbrink & Stephan, 2013) that supported by several research on both programs, natural-science tend to be more analytical and quantitative (logical-mathematical evidence) than social-science which, on the contrary, tend to be more synthetically and qualitative (verbal-linguistic evidence). Those distinction characteristics of both programs, in

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relation with education, have potential to influence the way they present or interpret similar general-subject data. Furthermore, its variety of students' characteristic in each program also has potential to impact their critical thinking that arises as one of main concerns of education in recent decades.

It is in line with the subject specific conception of critical thinking as Mc Peck (1981, 1990, 1992 cited in Emilia (2010: 3) asserts that "critical thinking is always thinking about X, manifest itself in connection with some identifiable activity or subject area and never in isolation." This specific conception puts the emphasis on the important background knowledge and context-specific in critical thinking. Conversely, the general conception of critical thinking agrees with the concept of "transferability" in critical thinking. Reichenbach (2001) to follow Moore and Parker (1995), as one of general conceptionists of critical thinking, defines it as "the careful, deliberate determination of whether we should accept, reject, or suspend judgment about the truth of a claim or recommendation to act in certain ways" (p. 19).

Another researcher on critical thinking also has their own definition on it. Chance (1986) argues that critical thinking is "the ability to analyze facts, generate and organize ideas, defend opinions, make comparisons, draw inferences, evaluate arguments, and solve problems." In addition, Ennis (1992) states that critical thinking deals with "reasonable reflective thinking" that concern on determining "what to believe or do." Thus, refers to those definitions, in short critical thinking can be defined as the way people think of an "issue, reason, fact, and opinion" as elements of critical thinking (Moore and Parker, 1995; Picciotto, 2000; Reichenbach, 2001, cited in Emilia, 2010: 4) clearly, precisely, accurately, relevantly, significantly, fairly, logically, depth, and breadth (Paul, 2002).

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Those Richard Paul's framework of universal intellectual standard (2002) can be applied to evaluate the critical thinking standards that should be available in elements of critical thinking such as: **issue, thesis, arguments, reason, evidence, fact & opinion**, and **conclusion**. In educational context, those elements are represented through argumentations, especially in written form. Thus, critical thinking and writing considered to have intimate relationship (Chaffee *et al*, 2002), which are interactive processes. Writing itself, however, is one of four skills of English to be taught (and to be mastered) for EFL students according to Indonesia's national curricula. Writing is defined as a process to express "idea, feeling, and thought" from the writer to the readers in the written form (Byrne, 1996). As writing and critical thinking has a strong relation, assessing critical thinking through writing will be an interactive process. Therefore, as suggested by several experts like Ennis (1996), Chaffee *et al*. (2002), and Reichenbach (2001), argumentative genre is strongly suggested as an effective tool to portray students' critical thinking. However, this study will focus on particular genre of argumentative which is analytical exposition for several reasons (see Chapter 3).

Analytical exposition is one of two kinds of exposition genre which lies under the umbrella of argumentative genre in general. According to Anderson and Anderson (2003), exposition is "a piece of text that presents one side of an issue." The purpose of this text is to persuade that something is the case. Its generic structure consists of an introductory paragraph that has thesis statement, a series of arguments that supported by evidence to convince the reader in the middle paragraph, and the restatement of the thesis in the last paragraph. The presence of

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arguments on analytical exposition text is in compliance with the elements of critical thinking that becomes the focus on this research.

Several studies on portraying students' critical thinking toward an argumentative text had been conducted by several researchers. Samanhudi (2011) who conducted the research to English education students in a state university in Banten, found that students had been actually performed elements of critical thinking such as arguments and opinions, but that still needed to enhance through a comprehensive guidance. Similarly, to follow him, Rohayati (2014) also conducted the similar research to similar participant in different site. She also found that student reflected all aspect of critical thinking in their writing such as elements, standards, and dispositions to strengthen their writing, but being distracted by the frequent use of fallacies that weaken their writing to be illogical. However, to refer to those previous study, none of them conducted in secondary level as senior high school, especially in such different programs as natural-science and social-science program.

Meanwhile, the study that portraying the similar participants as this study, was conducted by Safitri (2013). She conducted a qualitative research entitled "*The Cognitive Process of the SMA Students of Different Major in Writing Argumentative Text*". The participants of her study were 5 natural-science students and 3 social-science students. The result showed that cognitive process influenced the result of student's writing that was influenced by the different programs.

Therefore, this research aims to find out how different programs of natural-science and social-science affect students' ability in writing analytical exposition text. Moreover, it is also expected what standards of critical thinking, Febriyani Nuril A, 2015

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that will be assessed using the criteria proposed by universal intellectual standard developed Paul & Elder (2007), most dominantly fulfilled in the students' writing of analytical exposition text in each program.

1.2 Research Questions

- How different background programs of natural-science and social-science affect students' ability in writing analytical exposition text?
- What are the most dominant standards of critical thinking that emerge in students' analytical exposition texts in each natural-science and social-science program?

1.3 Aims of the Study

This study is conducted to highlight these several points:

- The difference of subject-specific focus has tendency to create different characteristic for students in each natural-science and social-science program that will affect the significance result on students' analytical exposition text.
- The most dominant standards of critical thinking that appear in student's analytical exposition text in each natural-science and social-science program.

1.4 Scope of the Study

This study will focus on the student's arguments on analytical exposition text with particular topic. The student form natural-science and social-

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science program will give the similar topic of an analytical exposition text to see whether students who give similar topics with different background will produce a quite similar or totally different argument. The focus is not on whether the argument is right or wrong, however it is about the way they present the arguments.

1.5 Significance of the Study

At the end of the study, practically the result of the study is expected whether there are several significance difference between critical thinking of the student in natural-science and social-science program according to the result of their analytical exposition writing or not, to help non-vocational high school teacher to at least find the best method in building or even strengthen student's critical thinking disposition and ability. Furthermore, this method will help the student to create a better and critical writing, especially in argumentative genre, particularly in analytical exposition text.

1.6 Clarification of Key Terms

1.6.1 Critical Thinking

Critical thinking relates to how somebody can share their thought logically, analytically, independently, clearly, and systematically. Vallis (2010: 22-23) analogizes critical thinking as the box in which we are thinking about the box itself, not thinking out of it as most people thought. According to Chance (1986) critical thinking is “the ability to analyze facts, generate and organize ideas, defend opinions, make comparison, draw inferences, evaluate arguments, and solve problem.”

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1.6.2 Natural-science & Social-science Programs

Natural science and social-science are two of four programs (with language and religion) provided in senior high school of Indonesia according to Indonesia's latest curricula. Natural-science consists of several particular subjects that concerns on natural phenomenon such as Biology, Physics, and chemistry. On the other hand, social-science concerns on such social phenomenon with human being as the main actor that covers in several particular subjects as Economy, Geography, History, and Sociology.

1.6.3 Analytical Exposition

Analytical exposition is one of two kinds of exposition genre which lies under the umbrella of argumentative genre in general. According to Anderson and Anderson (2003), exposition is "a piece of text that presents one side of an issue". The purpose of this text is to persuade that something is the case. Its generic structure consists of an introductory paragraph that has thesis statement, a series of arguments that supported by evidence to convince the reader in the middle paragraph, and the restatement of the thesis in the last paragraph

1.7 Organization of the Paper

This paper is arranged in five chapters that are link one to another. The first chapter highlights the summary of the five chapters that comes early in the beginning of the paper. It covers the background information, research

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question, and aim of the study, scope of the study, research methodology, and clarification of key terms.

The second chapter presents the literature review that consists of several studies that associate with the theme.

The third chapter focuses on methodology and procedure of the study. This chapter will expose the method use in finding the answer of the Research Questions of this paper. In addition, it is not only describing the methodology, but also is completed by its data collection and data analysis to reveal the findings that are going to discuss in the next chapter.

The fourth chapter discovers findings of the study based on the methodology used, the data collection, and the data analysis. Furthermore, the recommendation will follow this step in order to strengthen the findings.

And, the last chapter above all presents the conclusion of the study. This chapter sums up the 4 previous chapters and adds the suggestion for the further research.

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