TOPIC FAMILIARITY, WRITING PERFORMANCE AND CRITICAL THINKING SKILLS OF ENGLISH DEPARTMENT STUDENTS

DISSERTATION

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STATE UNIVERSITY OF MALANG
GRADUATE PROGRAM IN ENGLISH LANGUAGE TEACHING
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ABSTRACT

Indah, Rohmani Nur. 2013. *Topic Familiarity, Writing Performance and Critical Thinking Skills of English Department Students.* Dissertation, English Language Teaching. Graduate Program. State University of Malang. Advisors: (1) Prof. Bambang Yudi Cahyono, M.Pd., M.A., Ph.D., (2) Dr. Suharmanto, M.Pd., (3) Dr. Enny Irawati, M.Pd.

Key words: *topic familiarity, writing performance, critical thinking skills.*

The present study explores critical thinking skills and writing performance of argumentative writing based on topic familiarity. It seeks the evidence for the best pattern of relationship among topic familiarity, writing performance and critical thinking skills. Understanding the patterns of relationship of the three variables is an important step to develop teaching syllabus, material and evaluation method on writing courses. Moreover, examining these skills and finding the patterns of relationship are equal to the steppingstone to further develop learners' academic achievement and their future academic success. Therefore, this study examined the path model to figure out the true contribution of topic familiarity toward writing performance and critical thinking skills.

This study was carried out by employing the ex-post-facto design to English Department students at UIN Maulana Malik Ibrahim Malang as the accessible population. All of 121 students taking Writing III course were taken as the sample. The instruments used were writing prompts and rubrics for assessing topic familiarity, writing performance and critical thinking skills. Pilot studies were done prior to the data collection to ensure that the instruments are reliable and valid to achieve the objective of the study. To collect the data on the scores of topic familiarity students are asked to write the mind maps based on the prompts. While the data on the scores of the writing performance and critical thinking skills were taken from the students' argumentative essays based on the prompts. Path Analysis was used to figure out the best pattern of relationship among topic familiarity, writing performance and critical thinking skills.

The verified patterns of relationship show that on student initiated topic critical thinking skills are initiated by topic familiarity and can be mediated by writing performance. Topic familiarity also has direct contribution toward critical thinking skills on student initiated topic. Similarly, on teacher initiated topic, critical thinking skills are initiated by topic familiarity and can be mediated by writing performance as well. However, as there is no significant relationship between the topic familiarity of teacher initiated topic and critical thinking skills, the topic familiarity of teacher initiated topic does not have direct contribution toward critical thinking skills. The finding also indicates that the verified path model serves as the best pattern and can be used as a framework to predict the success of the students' critical thinking skills. Within the verified patterns of relationship, the writing performance in teacher initiated topic records the highest contribution toward critical thinking skills. It identifies the strong bond between writing performance and critical thinking skills as supported by several studies. It

means that the higher the students' writing performance the better reflection of their critical thinking skills will be. As the implication, writing teachers should foster the students' writing skills regardless the type of topic chosen to develop their critical thinking skills.

Based on the findings, several recommendations are made. English educators are suggested to integrate the training of critical thinking into English language teaching contexts. Writing teachers are suggested to encourage students to develop their background knowledge on various topics for better critical thinking and guide students through effective modelling. Future researchers are recommended to explore critical thinking in broader population, using other instruments to assess different types of writing modes and to see the reflection of critical thinking in various field of expertise.

ABSTRAK

Indah, Rohmani Nur. 2013. *Pengetahuan tentang Topik, Kemampuan Menulis dan Keterampilan Berpikir Kritis Mahasiswa Jurusan Bahasa Inggris.* Disertasi, Pendidikan Bahasa Inggris. Program Pascasarjana. Universitas Negeri Malang. Promotor: (1) Prof. Bambang Yudi Cahyono, M.Pd., M.A., Ph.D., (2) Dr. Suharmanto, M.Pd., (3) Dr. Enny Irawati, M.Pd.

Kata kunci: *pengetahuan tentang topik, kemampuan menulis, keterampilan berpikir kritis.*

Penelitian ini mengkaji keterampilan berpikir kritis dan kemampuan menulis karangan argumentatif berdasarkan pengetahuan tentang topik. Tujuannya yaitu membuktikan adanya pola terbaik dalam hubungan antara pengetahuan tentang topik, kemampuan menulis dan keterampilan berpikir kritis. Memahami pola hubungan antar ketiga variabel tersebut merupakan langkah penting untuk mengembangkan silabus pengajaran, materi, dan metode evaluasi pada mata kuliah menulis. Di samping itu, mencermati keterampilan tersebut dan menemukan pola hubungannya menjadi langkah awal untuk mengembangkan prestasi akademik pebelajar dan mencapai keberhasilan akademik di masa datang. Oleh karena itu, penelitian ini menguji model jalur untuk mengetahui hakikat kontribusi pengetahuan tentang topik terhadap kemampuan menulis dan keterampilan berpikir kritis.

Penelitian ini menggunakan rancangan ex-post-facto pada populasi terjangkau yaitu mahasiswa jurusan Bahasa Inggris UIN Maulana Malik Ibrahim Malang. Seluruh mahasiswa yang menempuh mata kuliah Writing III sejumlah 121 orang diambil sebagai sampel. Instrumen yang digunakan terdiri dari soal menulis dan rubrik untuk mengukur pengetahuan tentang topik, kemampuan menulis dan keterampilan berpikir kritis. Kajian awal dilakukan sebelum pengumpulan data untuk memastikan bahwa instrumen bersifat handal dan sah. Untuk memperoleh data berupa skor pengetahuan tentang topik mahasiswa diminta menulis peta konsep sesuai soal. Adapun data berupa skor kemampuan menulis dan keterampilan berpikir kritis diperoleh dari esai argumentatif mahasiswa sesuai soal. Analisis penelitian menerapkan analisis jalur untuk menemukan pola terbaik pada hubungan antara pengetahuan tentang topik, kemampuan menulis dan keterampilan berpikir kritis pada topik siswa dan topik guru.

Pola hubungan yang teruji menunjukkan bahwa pada topik siswa keterampilan berpikir kritis didasari pengetahuan tentang topik dan didukung kemampuan menulis. Pengetahuan tentang topik siswa juga berkontribusi langsung terhadap keterampilan berpikir kritis. Demikian pula pada topik guru keterampilan berpikir kritis juga didasari pengetahuan tentang topik dan diperantarai kemampuan menulis. Namun, karena ketiadaan hubungan yang signifikan antara pengetahuan tentang topik guru dan keterampilan berpikir kritis, pengetahuan tentang topik guru tidak berkontribusi langsung terhadap keterampilan berpikir kritis. Temuan penelitian juga menunjukkan bahwa model

jalur yang teruji menandakan adanya pola jalur yang terbaik dan dapat digunakan sebagai acuan berpikir untuk memprediksi pencapaian keterampilan berpikir kritis mahasiswa. Dalam pola hubungan yang teruji tersebut, kemampuan menulis pada topik guru berkontribusi tertinggi terhadap keterampilan berpikir kritis. Hal ini menandakan adanya ikatan yang kuat antara kemampuan menulis dan keterampilan berpikir kritis sebagaimana yang dikemukakan dalam beberapa penelitian. Artinya, semakin baik kemampuan menulis siswa semakin baik refleksi berpikir kritisnya. Sebagai implikasinya, para pengajar menulis diharapkan meningkatkan keterampilan menulis siswa pada topik apapun yang dipilih untuk mengembangkan keterampilan berpikir kritis siswa.

Berdasarkan temuan yang diuraikan di atas, dirumuskan beberapa rekomendasi. Pengajar bahasa Inggris disarankan untuk mengintegrasikan pelatihan berpikir kritis pada konteks pengajaran bahasa Inggris. Dosen mata kuliah menulis disarankan untuk mendukung mahasiswa mengembangkan pengetahuan pada beragam topik untuk meningkatkan berpikir kritisnya dan membimbing mahasiswa melalui pemodelan yang efektif. Peneliti yang akan datang disarankan untuk mengeksplorasi berpikir kritis pada populasi yang lebih luas, dengan menggunakan instrumen lain untuk mengukur kemampuan menulis pada jenis esai yang berbeda dan untuk mengkaji refleksi berpikir kritis pada berbagai bidang keahlian.

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The Writer

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CHAPTER I

INTRODUCTION

The present study seeks the patterns of relationship among topic familiarity, writing performance and critical thinking skills of the English Department students. In this first chapter, the basis of the study is explained in the background, the objectives and the significance of the study. In addition, the hypothesis is also provided which is followed by the definition of key terms to establish the understanding of the variables involved in this study.

1.1 Background of the Study

Critical thinking has become a very important educational goal over the last two decades. Students need to have 'good thinking' skills by using reasoning and logic focusing on what to believe or do based on the mechanism such as conducting conceptual and argument analyses for problem solving and decision making (Pithers & Soden, 2001). Therefore, educators believe that this competence constitutes an important cognitive skill to be acquired.

The word 'critical' originates from *kriticos* or discerning judgment and *kriterion* meaning standards which etymologically implies the development of discerning judgment based on standards (Pithers & Soden, 2001). In Webster's World University Dictionary (Taylor, 1965), critical thinking equals to careful analysis and judgment which imply an attempt at objective judgment so as to

determine both merits and faults. The competence in developing judgment based on standard becomes the point to measure that one is called a critical thinker.

Critical thinkers possess the competence of critical thinking which are articulated in corresponding ways in several definitions. Dewey (1909 in Black, 2008) stated that critical thinking means active, persistent and careful consideration of a belief and the further conclusions to which it tends. Critical thinking viewed from its end is defined as reasonable, reflective thinking that is focused on deciding what to believe or do (Ennis, 1996; Hofreiter et al., 2007). Critical thinking is also defined as the skills to conduct conceptual and argument analyses, to recognize false inferences and logical fallacies, to be able to distinguish bias from fact, to differentiate between opinion and evidence, and so on. In other words, these skills articulated the scientific method's principle of falsifiability where intellectual effort is devoted (Brookfield, 2007). Critical thinking is the process of purposeful, self-regulatory judgment, which drives problem-solving and decision-making (American Psychological Association, 1990). To summarize, critical thinking is characterized by one's competence on using reasoning and logic focusing on what to believe or do based on the mechanism such as conducting conceptual and argument analyses for problem solving and decision making.

Critical thinking in Indonesian context becomes buzzword especially after Reform Era in 1998 which was characterized by massive demonstration in which the freedom to express one's thought has become a crucial start to build critical thinkers (Emilia, 2010). Indonesia needs more figures of critical thinkers like Sukarno (the first president), Abdurrahman Wahid (the third president), and

others. Therefore today developing critical thinking has also emerged in Indonesian education. Referring to the international benchmark of education, the 3R basic literacy (*r*eading, w*r*iting, a*r*ithmetic) seems to be insufficient today. It needs to be completed into 4R basic competences (*r*eading, w*r*iting, a*r*ithmetic, and *r*easoning), so that learners are equipped with skills needed to support their current and future life economically, socially and culturally (Hayat & Yusuf, 2010; Depdiknas, 2004). This issue has become more significant particularly in facing the more challenging world.

Critical thinking skills also belong to the crucial outcome of higher education. This is in line with the Indonesian Government Regulation (*Peraturan Pemerintah Republik Indonesia/PPRI*) No. 70/2010 section 84.2 which states that one of the aims of tertiary education is to develop human beings who are critical, innovative, independent, self-confident and entrepreneurship-minded. Therefore, the teaching of language, including writing skills, should incorporate the critical pedagogy.

Critical thinking skills do not stand alone as these skills tail another skill namely language skills. Becoming critical thinker is characterized by effective communication (Paul & Elder, 2008). This means that language clarity or more generally linguistic component is a crucial part of critical thinking skills which can be reflected through both speaking and writing. In other words, measuring critical thinking skills can be done through several ways involving speaking and writing competencies. This study concerns the critical thinking skills measured through writing in particular.

Regarding the relationship between critical thinking skills and writing, the Sapir-Whorf hypothesis (1956 in Errihani, 2012) is suggestive in the context of English as Foreign Language as it contends that cognitive activity is determined by language. The cognitive activity can be reflected in written text and later be understood well by the audience determined by the strength of the language (Vallis, 2010). As the consequence, the main concern of second language (L2) writers is primarily on linguistics as noted by Errihani (2012). It means that their focus is on linguistic competence particularly in developing their writing performance. Meanwhile, the reflection of critical thinking follows their linguistic skill represented by their writing performance.

Essay writing is considered as a predictor of critical thinking skills suggested by some studies exploring various courses in the context of English as first language. In food science and human nutrition classes, essay writing which is done to respond to academic journals characterizes the development of students' critical thinking skills (Iwaoka & Crosetti, 2008). In an introductory college chemistry course, writing assignments were used to monitor the implementation of critical thinking skills (Oliver-Hoyo, 2003). In general education biology course, academic writing assignments also establish critical thinking performance (Quitadamo & Kurtz, 2007). Based on these findings, it is hypothesized that the writing performance through argumentative writing task contributes to critical thinking skills. However, more studies are needed to explore whether writing task also contributes to critical thinking skills in the context of English as foreign language.

Among other types of writing, argumentative writing is considered the writing mode that best reflects students' critical thinking skills. In expository writing for instance, idea development can be done through classification, cause and effect, procedural or analytical exposition involving logic as the basic of critical thinking skills. However, in this type of writing there is no refutation as what required in argumentative writing to defend the claim. Recognizing opposing argument and making counter argument belong to elements of argumentative writing. Because arguments deal with probabilities, they must be qualified to convince readers (Hillocks, 2011). Therefore, in this study argumentative writing is chosen to assess students' critical thinking skills.

The relation between writing performance and critical thinking derives from the conceptions of critical thinking. There are two broad conceptions of critical thinking, namely general and specific conceptions. The former relies on the belief that critical thinking is generalizable and accordingly the learners may apply it in different contexts or matters. The latter argues that critical thinking is context specific involving background knowledge on a certain subject matter only and in another (Emilia, 2010). This study considers both conceptions. The students' critical thinking skills can be measured through writing performance on various topics of argumentative writing which is related to the generalizability of critical thinking skills. Yet, it also appreciates the view of specific conception in which specialized knowledge on the topic to write may also play a role in the students' critical thinking skills.

Student's argumentative writing can be used to measure not only the writing performance but also critical thinking skills. Students' writing

performance is mostly indicated by the quality of the writing product, which focuses on its clarity, originality and correctness (Rahim et al., 2008). The critical thinking skills can be assessed on the elements which are reflected from the main aspects namely argument, evidence, recognition of opposition, refutation, conclusion, references, and fallacies (Stapleton, 2001). *Argument* or writer's view point on a topic is presented in the form of claims supported by a reason. *Evidence* constitutes statements or assertions which serve to strengthen the argument. *Recognition of opposition* refers to the identification of statements that run counter or offering alternative interpretations to those expressed in the claim. *Refutation* deals with the statement that the opposing viewpoints are inadequate in some ways. A *conclusion* is a statement or series of statements in which a writer sets out what s/he wants the reader to believe. *References* are related to the use of citation to support the claim. *Fallacies* are errors in reasoning which do not support the claim. The last element is not always reflected in the writing.

That writing and critical thinking skills are linked is supported by several studies showing the advantages of incorporating critical thinking skills and writing in different courses (Iwaoka & Crosseti, 2008; Quitadamo & Kurtz, 2007; Reed, 2008). In addition, empirical findings show many benefits of explicit teaching of critical thinking skills in various courses (Bensley, et al., 2010; Deal, 2004; Hofreiter et al., 2007; McLean & Miller, 2010; Wade, 1995). The enhancement of critical thinking skills is also attained as the result of various teaching strategies (Al-Fadhli & Khalfan, 2009; Crook, 2006; Ernst & Monroe, 2004; Sellnow & Ahlfeldt, 2005; Todd & Hudson, 2007). These research findings show the emerging concern to encourage critical thinking skills in writing class.

The concern on critical thinking skills in Indonesian context still needs to be explored. A case study analyzing seven essays show that the English department students' problem is not on critical thinking itself but the related factors especially language and subject matter mastery (Samanhudi & Sampurna, 2010). Teachers, accordingly, need to provide suitable materials to enhance critical thinking skills (Sepriani, 2010) as well as to apply various uses of teacher's questions which can encourage the development of students' critical thinking skills (Yumarnamto & Widiyanto, 2005). Meanwhile, teaching critical thinking skills in Indonesia may involve some cultural constraints (Kameo, 2007). Hence, there is still inadequate empirical data on the critical thinking skills and critical pedagogy in the Indonesian context. Accordingly, this study concerns with critical thinking skills in relation with other variables namely topic familiarity and writing performance.

Critical thinking skills are reflected better through the development of writing performance. This phenomenon is as revealed in current practice of genre-based approach in the teaching of writing (Emilia, 2005). By implementing the model of genre-based pedagogy, the students' writing performance is developed through the stages of Building Knowledge of the Field, Modeling and Joint Construction, and the Independent Construction. These stages shape the learner's ability to make analysis, inference and evaluation representing critical thinking process. Unfortunately, some teachers ignore the detail of the model such as evaluating students' development in writing because of limited time and unideal class size (Pudariati, 2009; Rahmawati, 2009; Wijayanti, 2009). This means that

not all writing teachers are aware of the importance of implementing each process in the genre-based pedagogy to develop student's critical thinking skills.

For university students, the ability to frame and defend an argument is particularly important. The goal of making an argument is to convince an audience of the rightness of the claims being made using logical reasoning and relevant evidences (Hillocks, 2011). Such skill is introduced in writing courses where the lecturers elaborate, give examples and provide relevant exercises to stimulate students' critical thinking skills (Triastuti, 2006). This means that the incorporation exists between writing course and critical thinking skills.

Writing course is a part of the teaching of critical thinking skill. In the writing process, learners develop their critical thinking skills involved in generating ideas by using problem-solving process employing a range of cognitive and linguistic skills. These will lead learners to identify a purpose, to produce and shape ideas and to refine expression (White, 1995). A successful writing class should end with the development of critical thinking which is initiated by finding the learner's interest or expertise (Indah, 2009) and is geared from collaborative writing activities (Indah, 2010). During the writing process, students require the exploration of critical thinking skills in treating the information related to the issue to be developed into an essay. In line with Craswell (2005), the engagement with critical thinking occurs as they need to stimulate the recall of information for the purpose of reproducing knowledge. Accordingly, students develop both their writing skills and critical thinking when the text production refers to the actualization of the generated ideas employing a range of cognitive and linguistic skills.

In this study, writing performance is assessed based on the fulfillment of the descriptors referring to the criteria of proficient writers. The competence to express ideas on written form requires effective writing skills in developing a topic to be knowledgeable, sequencing ideas logically, expressing meaning in correct diction, constructing sentences and using writing conventions. These writing skills refer to the criteria in evaluating composition namely content, organization, vocabulary, language use and mechanics (Jacobs et al., 1981). The effective writing skills contribute to the better critical thinking skills.

In writing class, critical thinking is an inseparable aspect as identified by the writer during her eight year experience in teaching writing. She found that although the students had low writing performance, they tried to communicate their critical thinking skills through some ways such as writing in their first language or presenting their ideas in the teacher-student conference in pre-writing stage by using code-switch. Therefore, the writer believes that these skills need to be taught implicitly as shown by two preliminary studies done in English department at UIN Maulana Malik Ibrahim. The first study intended to raise the critical thinking awareness through interest based writing publication. The students were involved in the collaborative writing activities which require the skills of evaluating claims of other writers both in class discussion and student-teacher conference. The students performed better claim as the result of the development of critical thinking skills as they are responsible for publishing their argumentative writing in the form of mini magazine. Meanwhile, the second study was carried out to see the ability of the students in analyzing their own essay and constructing a reflective writing in English and *Bahasa Indonesia*. The results

show that the students were able to reflect their critical thinking skills in both languages although there were some constraints in stating knowledge, making inference and giving evidence. Further, she assumed that it is the topic familiarity affecting the quality of students' writing and critical thinking skills. However, it needs more exploration on which one between student or teacher initiated topic affecting more on the quality of students' writing and critical thinking skills.

Based on the aforementioned preliminary studies done by the writer, it can be concluded that to some extent critical thinking pedagogy is also a part of the responsibilities of writing teachers. It is done through their guiding students to enrich the students' knowledge by enlarging topic familiarity in reading which further plays a significant role for developing convincing claims in the students' writing. The writing teachers also support the improvement of the students' writing performance which in turn helps students to reflect their critical thinking skills better in their writing.

In English language teaching context, writing teachers should realize that developing writing performance needs more than teaching writing strategies. As noted by Brunstein and Glaser (2011), relative to teaching writing strategies alone, teaching strategies in tandem with self-regulation procedures improved students' writing performance in developing narratives. Self-regulation belongs to a part of critical thinking skills which enhanced students' knowledge about good writing and strengthened their self-efficacy beliefs. The path analyses employed in their study show that these had a positive effect on the use of the learned strategies while planning narratives.

Good writers should develop their rhetoric by using any verbal or written attempt to persuade readers by giving good reasons for the belief solely through the power of the words used. This means that their writing performance will influence critical thinking skills as reflected in their writing. Empirical evidence shows that writing competence positively influences critical thinking performance for general education biology students (Quitadamo & Kurtz, 2007). While in social science class it is indicated that students' improvement in writing performance goes together with the improvement in the skill of expressing deeper levels of thought (Barry, 2007). However, in English writing course in Indonesian context expressing critical thinking is not easy. This occurs when students have difficulties to develop their critical thinking skills because of related problem such as language mastery (Samanhudi & Sampurna, 2010). These findings advocate that writing performance considerably becomes significant in shaping critical thinking skills.

Writing performance is also relevant with critical thinking skills as shown by Cahyono (2000: 89-90). His study found that overall proficiency in English composition was a good predictor of success in using rhetorical strategies in English persuasive essays. In other words, the development of the students' skills in using rhetorical strategies in persuasive was likely to go along with the development of their ability in writing English compositions. The compositions were assessed through three measures which reflect critical thinking skills: the superstructure of argument, the Toulmin model of informal reasoning and the persuasive appeals.

The above finding is in line with Zinsser's statement that writing and learning and thinking are the same process, and Didion's belief "I write to discover what I think" (1969 in Vallis, 2010). However, the way the thinking flows is also influenced by writing proficiency or the language to express thought in written. In light to academic writing, critical thinkers raise vital points and formulate them in language that is precise and clear. Whereas whether the expression of thought can be understood by the audience or readers depends on the use of either the strength or limitation of the language (Vallis, 2010). This clarifies the strong link between writing proficiency and critical thinking skills.

In accomplishing writing tasks, L2 writers operate their critical thinking skills during the three basic processes in writing namely planning, translating plans into text and reviewing. These writing processes operated upon two kinds of information: a representation of the task environment, which consisted of the writing assignment and the text produced; and knowledge stored in long-term memory, which consisted of topic knowledge, a model of the audience, the writing plan, rules for grammar production and knowledge of text standards (Flower & Hayes, 1980). On this basis it can be inferred that writing is inseparable from critical thinking skills and topic familiarity.

Based on the review of the related theories above, the question is still on how the students' critical thinking skills are reflected in their writing and how their background knowledge leads their critical thinking skills in writing. The link between writing and background knowledge emerges as the writing students need to find the model of argumentation through reading activities (Knott, 2009). The reading activities to acquire the dialectical components of argumentation cover

some skills such as recognizing assumptions, distinguishing standpoints, identifying the structure of argumentation and discovering fallacies (Triastuti, 2006). Through reading students not only learn the way the argument is deconstructed but also develop their background knowledge. The background knowledge in this study is called topic familiarity.

Topic familiarity or background knowledge is regarded as a factor contributing to the development of critical thinking skills. Despite the knowledge being transferred in class, studies show that not all students may be good at critical thinking skills; nor do some teachers appear to teach students 'good thinking' skills (Pithers & Soden, 2001). Undeniably, in the context of academic writing learners need to be critical in treating the information related to the topic to be developed into an essay (Craswell, 2005). Therefore, students are expected to enlarge their knowledge to sharpen their critical thinking skills.

Critical thinking skills are influenced by topic familiarity as supported by some studies. Siegel (1997) found that there are readily identifiable reasoning skills as part of critical thinking which refer to any subject matter though sometimes specialized knowledge is needed for reason assessment such as in physics and biology (in Stapleton, 2001). This is supported by Fox (1994) who commented on the lack of critical thinking skills displayed in the academic writing of Japanese ESL college students in using American topics (in Stapleton, 2001). Furthermore, for a successful critical writing, learners at the primary level in Australian classroom are encouraged to take responsibility for their own writing based on what they know (Emilia, 2010). These are considered as the

coverage of importance of topic familiarity to develop reasoning skill and critical thinking skills.

Topic familiarity in this study is defined as the knowledge of certain topic which involves various dimensions such as conceptual knowledge, meta-cognitive and self-knowledge. The conceptual knowledge becomes the main concern in this study as it is more identifiable compared to the other dimensions. These dimensions of knowledge are identified in the revised Bloom's taxonomy of cognitive domain. Each of the knowledge requires the practice of the activities such as remembering, understanding, applying, analyzing, evaluating and creating. Consequently, helping students to obtain and achieve the targeted knowledge dimension equals to leading them to higher order critical thinking skills (Fisher, 2005).

In this study, the knowledge of certain topic to be developed in the form of argumentative essay is categorized into two kinds namely student initiated topic and teacher initiated topic. The former is regarded to be more familiar than the latter as the topic to write is chosen by the students based on their interest and conceptual knowledge. In writing classes, teacher initiated topic derives from general topic which is usually obtained through brainstorming as pre-writing activity. Concerning this study, the topic provided by the teacher has been proven to be unfamiliar which has been experimented in the pilot study. Accordingly, for the sake of the research, teacher initiated topic is regarded as unfamiliar topic and that does not mean that all of the topics initiated by writing teachers are unfamiliar to students.

Topic familiarity is an important factor for critical thinking skills particularly of tertiary level students. In writing argumentative essays, Japanese students show that the content familiarity is proven to powerfully shape both the range and depth of argumentation as part of critical thinking (Stapleton, 2010). This is not only the case in Japan but also in Indonesia. A study to some Indonesian EFL students of one state university in Banten shows that those who do not have prior knowledge or subject matter mastery gained through critical reading on the topic, will have problem to develop their critical thinking skills (Samanhudi & Sampurna, 2010). Based on these findings, it can be concluded that topic familiarity to some extent influences critical thinking skills.

The knowledge based on the topic familiarity which learners possess regarding texts is usually traced back to schema theory. In schema theory, the comprehension is composed of two parts— a linguistic component responsible for decoding text and sending information to the brain, and a conceptual component that connects this information to pre-existing knowledge structures (McNeil, 2010). However, studies show different findings on the role of topic familiarity. McNeil's study (2010) on the reading skills of 20 university-level English language learners proved that topic familiarity was not a strong contributor to reading comprehension. Nonetheless, topic familiarity supports building the context for better performance in writing argumentative essays as proven by Bacha (2010) which involved teacher initiated topic.

The finding above is also supported by Delaney (2008) who investigates the reading to write construct using teacher initiated topic on the relation between gender and speech. She found that by using teacher initiated topic, the students

perform different critical thinking skills. The analytic writing or response essays were found to engage learners in more critical thinking than the summary writing which requires identifying important information in the source text given by the teacher. In addition, her study obtained positive yet weak correlation between students' performance or critical thinking in writing with teacher initiated topic and their writing performance.

The above finding is also relevant to EFL context in Indonesia. Building the context through topic familiarity involves the knowledge of a topic or the comprehension of a concept established through some ways, one of which is reading. The comprehension from the reading can be both supported and indicated by mind map or brain pattern. The comprehension drawn in the brain pattern happened to be significant to help students write better in their content-based summary writing (Cahyono, 1992). Therefore, it can be inferred that the better comprehension on a topic the better writing produced by the students will be.

Topic familiarity or background knowledge is crucial for effective writing performance. There are five knowledge which should be acquired by L2 writers. They are content knowledge, system knowledge, process knowledge, genre knowledge, and context knowledge. Content knowledge consists of the ideas and concepts in the topic area the text will address. System knowledge is related to syntax, lexis, appropriate formal conventions needed in creating the texts. Process knowledge deals with the ways to prepare and carry out a writing task. Genre knowledge is about the communicative purposes of the genre and its value in particular context. And context knowledge is linked to the readers' expectations, cultural preferences, and related texts (Hyland, 2003). By acquiring these

knowledge, L2 writers can express their ideas in an appropriate and convincing way.

Topic familiarity is not only related to writing performance but also to critical thinking skills. A study done to promote higher order critical thinking skills in a reading class found that the students will respond differently to text chosen by teacher as each student is unique. The text selection may create problems for the students since they may lose a sense of personal relevance and meaningfulness in what they read. In other words, meaningfulness of the text may result in better investment on students' part (Kristiyani, 2008). This finding proves that topic familiarity influences the involvement of the students in their process of promoting higher order critical thinking skills.

Topic familiarity also becomes a matter in measuring students' critical thinking ability through reading. A study conducted in Sultan Ageng Tirtayasa University assessed the student's critical thinking skills in sharing their argumentation on a text with topic Ambalat Island chosen by the teacher. The result of the critical thinking test was not satisfying since the students mostly included as 'unreflective critical thinkers' (Juniardi, 2009). Those thinkers indicate unawareness of thinking, failure in recognizing thinking which involves some elements of reasoning, and unawareness of the appropriate standards of reasoning (Stonewater & Wolcott, 2005).

In a case study observing the writing process of some graduate students, Suryani (2005) reported that students generated and developed ideas as they wrote, using their own strategies with certain principles including topic familiarity. It means that students tend to write on a subject they had been

interested in as they found it easier and it is interesting to put more time into their work. The topics were something they knew and are relatively familiar as they had direct experience with the topics. Meanwhile, in facing the topic which is not familiar, student can practice free writing in order to unblock the problems and keep the ideas flowing.

Based on the above findings, it can be concluded that topic familiarity in either student or teacher initiated topic gives different contribution to the writing and the reasoning or the critical thinking skills involved. Accordingly, it becomes the concern of this study to look for the pattern of relationship among topic familiarity of student and teacher initiated topic, writing performance and critical thinking skills. The pattern is as illustrated in Figure 1.1

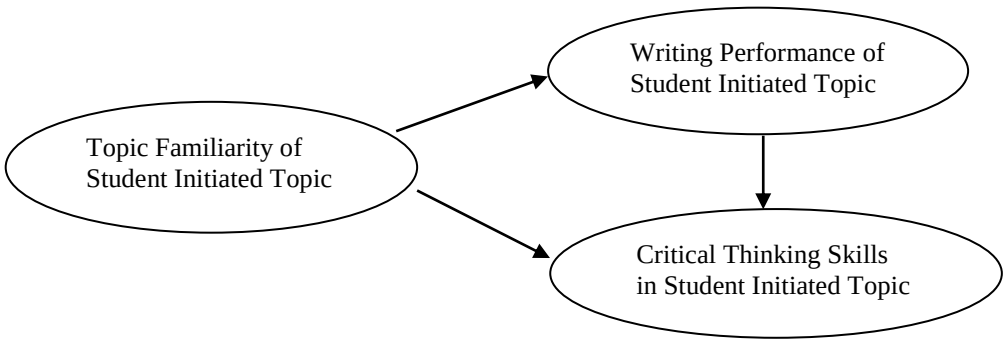


Figure 1.1 The Relationship among Topic Familiarity in Student Initiated Topic, Writing Performance and Critical Thinking Skills

As this study hypothesized that the type of topic influences the writing performance and critical thinking skills, the pattern of relationship is investigated. On teacher initiated topic, the relationship is as illustrated in Figure 1.2

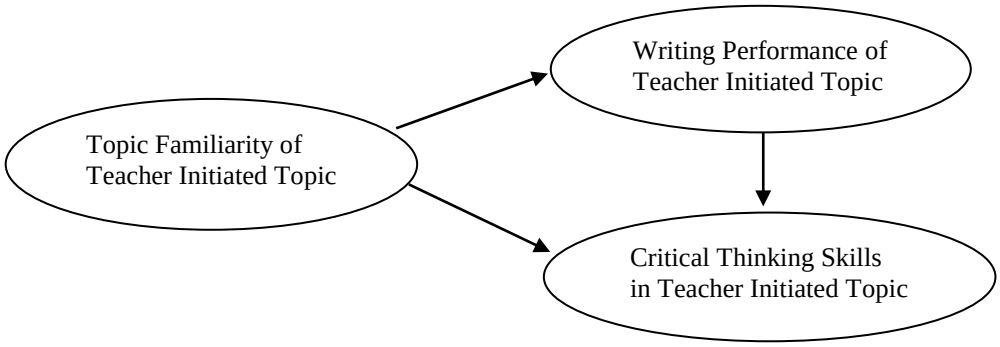


Figure 1.2 The Relationship among Topic Familiarity in Teacher Initiated Topic, Writing Performance and Critical Thinking Skills

The issue on the relation between topic familiarity, writing performance and critical thinking becomes the concern of Kobayashi and Rinnert (2008). Based on the topics which are familiar to students, on the choice to live at home or alone and to travel with a group or alone, students were asked to write in Japanese and English. The results show that topic familiarity supports the students' ease in writing. In other words, it reinforces the students' tendency to apply the meta-knowledge they had acquired to their L1 and L2 essay writing although they tend to write differently in both languages. The students tend write expository in Japanese and argumentation in English, but their essays show better idea organization in English.

Topic familiarity also plays a role to enable writers shaping their rhetoric. Because of their background knowledge, the writers' critical thinking is expressed differently based on their problematization strategy in writing argumentative essays. As investigated by Mei (2006), high rated and low rated essays perform differently in discussing problematization of issues. Writers of high rated essay or students with high writing performance indicate a more strategic and appropriate use of evaluative resources to create clear lines of contrastive positions. Whereas, low rated essays are characterized by a weaker sense of contrast in stance partly

because the problematization strategy is lacking. In this case, the sources of dispute are not clarified resulting in a sense of a lack of authenticity to the potential debate resulting in a 'simplistic' approach to an argumentative topic they raise.

Most writing teachers concern more on developing students' writing performance than any other related aspects such as the students' critical thinking skills and their state of background knowledge, whether they are familiar or not with the topic to write. As reported by Mok (2009), in Hong Kong secondary school English writing classes, the teachers do not provide enough time and space for critical thinking skills as they manifested on product writing in the lessons by supplying students with writing topics and telling them how to organize their work. Creativity, originality, self-reflection were not encouraged, or in other words the valued critical thinking syllabus is negatively translated into the classroom. Further, she analyzed that because of the 'instant-noodles culture', many teachers and students in Hong Kong are concerned about getting good grades in exams without having to make heavy investments of time and effort during the writing process. Thus, her study suggested that student writers write about topics of interest for better critical thinking skills.

By knowing the relation of topic familiarity, writing performance and critical thinking skills as explicated above, it can be inferred that more empirical finding is needed in the context of argumentative writing. Whether higher writing performance goes together with larger background knowledge or topic familiarity and better expression of critical thinking remains a question for students in English as foreign language that is discovered in this study.

Drawing on the magnitude of critical thinking skills reviewed in the findings above, the present study investigates the patterns of relationship among critical thinking skills, topic familiarity and writing performance. They were analyzed in the context of student initiated topic (as illustrated in Figure 1.1) and teacher initiated topic (shown in Figure 1.2) to disentangle the various processes underlying particular outcome namely students' critical thinking skills in the form of path analytic model. Therefore, in this study the patterns of relationship investigated involve the variables illustrated in Figure 1.3 which consist of those in student initiated topic and teacher initiated topic.

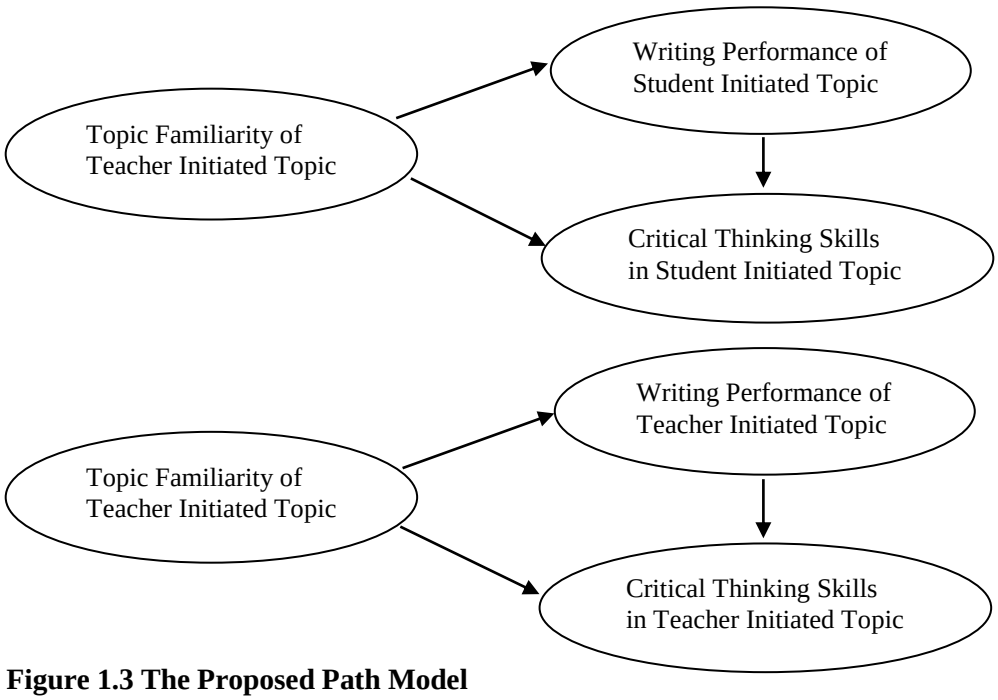


Figure 1.3 The Proposed Path Model

1.2 Research Objectives

Based on the background explained above, the starting point of this study is to portray the patterns of relationship among the hypothesized variables contributing to students' critical thinking skills. The objectives of the research are:

1. To examine whether the students' topic familiarity is related to to their writing performance and critical thinking skills.
2. To examine whether the more familiar the students with the student initiated topic the better their writing performance and critical thinking skills will be.
3. To examine whether the more familiar the students with the teacher initiated topic the better their writing performance and critical thinking skills will be.

1.3 Hypotheses

Based on the questions, the hypotheses underlying the analysis are as follows:

1. The path model correlates positively and significantly with the students' scores of topic familiarity, writing performance and critical thinking skills.
2. The students' topic familiarity in student initiated topic correlates positively and significantly to their writing performance and critical thinking skills.
3. The students' topic familiarity in teacher initiated topic correlates positively and significantly to their writing performance and critical thinking skills.

1.4 Significance of the Study

Based on the background explained above and as mentioned earlier, the starting point of this study is to portray the best pattern of relationship among students' topic familiarity, writing performance and critical thinking skills. The focus of the research is to explore the contribution of student and teacher initiated topics in the relationship among the students' topic familiarity, writing performance and critical thinking skills.

To understand the pattern of students' topic familiarity, writing performance and critical thinking skills is important given that the issue is becoming significant due to the objective of tertiary education in Indonesia. By reaching to an explanatory level, this study will be significant for shaping the students' critical thinking skills through the finest construct of writing course. Considering that the empirical data on the critical thinking skills and critical pedagogy in Indonesian ELT is still inadequate, the findings of the study will be significant to enrich the knowledge of critical thinking skills and its role in ELT.

The result of this study also brings important institutional and pedagogical contributions. Institutionally, understanding the pattern of relationship among the variables above is an important step to develop teaching syllabus, material and evaluation method in the teaching of writing. Since critical thinking skills belong to autonomous learning skills required for academic purpose, pedagogically, examining these skills is equal to the steppingstone to further develop learners' academic achievement and their future academic success.

1.4 Definition of Key Terms

Some terms in this study need limitation to clarify the meaning and to avoid ambiguity as presented in the definitions below.

Topic familiarity is the schemata or prior knowledge of certain topic obtained through reading process indicated by the score of the mind map which assesses the ability to describe the knowledge involving concept arrangement, concept links, content and text presentations.

Writing performance is the competence to express ideas on written form represented by the scores showing the implementation of effective writing skills in developing a topic to be knowledgeable (content), sequencing ideas logically (organization), expressing meaning in correct diction (vocabulary), constructing sentences (language use) and using writing conventions (mechanics). The focus of the assessment deals with the way the writers perform their academic writing skills.

Critical thinking skills are a set of skills in using reasoning and logic that result in the evaluation of concept or other speaker's or writer's reasoning which is reflected in writing. The reflection of critical thinking skills appears in the form of scores indicating the elements which involve argument, evidence, recognition of opposition, refutation, and conclusion. The focus of the assessment concerns the rhetorical strategies employed in presenting argument.

Student initiated topic is a topic to discuss or explore in the form of argumentative essay which is chosen by the student based on his/her interest, familiarity and conceptual knowledge.

Teacher initiated topic is a topic to be developed into an argumentative essay which is determined by the teacher. The topic is on "Critical Thinking" which has been proven to be unfamiliar to the students as experimented in the pilot study.

Path model is the estimated pattern of causation among the determined variables to be verified using path analysis statistical method in order to figure out the true contribution of a variable hypothesized as a cause to a variable taken as an effect.

CHAPTER II

RESEARCH METHOD

In this chapter, the research design, population and sample are explained and the research instruments are presented. The descriptions on the procedure in collecting and analyzing data are also given in details. In addition, the result of pilot study is also reported.

2.1 Research Design

The present study employs a quantitative design to examine the patterns of relationship among the students' topic familiarity, writing performance and critical thinking skills. Therefore, in terms of the analysis, this study employs a correlational design involving Path Analysis. Path Analysis examines the comparative strength of direct or indirect relationship among variables (Lleras, 2005). It is chosen as it has the ability to examine the underlying relations among many variables which can be used as a basis to argue for causal inference (Lomax & Li, 2009).

Prior to the Path Analysis several conditions need to be made to fulfill the statistical assumption. The first assumption is that there is a one way causal flow in the system and any reciprocal causation between variables is ruled out. In addition, the relations among all the variables in the current study indicated that the patterns are linear, additive and causal. The residual is not correlated with the variables that precede in the model.

By identifying the patterns of relationship among the students' topic familiarity, writing performance and critical thinking skills, the study can result in a more comprehensive interpretation on the phenomenon on the dynamic of students' critical thinking skills as reflected in their argumentative writing. As the study investigates the students' critical thinking skills as reflected in their argumentative writing and there is no effort made by the researcher to manipulate the characteristics of any variables involved, this study is also called an ex-post-facto research (Ary et al., 1995).

This study begins with the observation of the individual students' performance in terms of topic familiarity, writing performance and critical thinking skills. Accordingly, the unit of analysis is individual students. The description of the group of individuals in terms topic familiarity, writing performance and critical thinking skills can actually be aggregated and manipulated from the description of the individual. The description of the unit analysis in this study is taken from the phenomenon occurring at a certain point of time, without any focus on long term effect. For that reason, based on the dimension of time, this design of this study is a cross-sectional one (Olsen & George, 2004). The assessments of topic familiarity, writing performance and critical thinking skills are done only at the certain point of time of the data collection when the present study is conducted. It means that during the instrument administration there is no changes in subjects' characteristics would occur. Due to this assumption, this study does not intend to observe the development of the students' topic familiarity, writing performance and critical

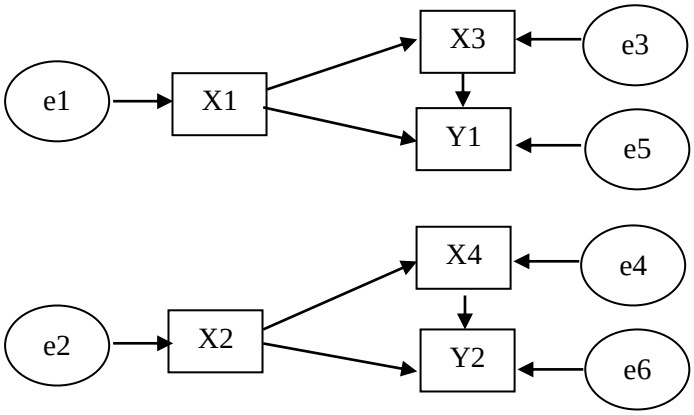
thinking skills over a period of time longer than that is needed for the data collection.

In line with the objective of the study, four different variables are identified namely (1) topic familiarity of student initiated topic (TF-SIT); (2) topic familiarity of teacher initiated topic (TF-TIT); (3) writing performance in student initiated topic (WP-SIT); (4) writing performance in teacher initiated topic (WP-TIT); (5) critical thinking skills in student initiated topic (CTS-SIT); and (6) critical thinking skills in teacher initiated topic (CTS-TIT). Based on the theory explicated in the background, the first four variables modify the last two variables. Therefore, the variables on topic familiarity and writing performance are classified as independent variables (X) while the variables on critical thinking skills belong to dependent variables (Y).

The relationship among variables is depicted in Figure 2.1 which illustrates the hypothetical relations to be verified further through the data analysis in this study. The hypothetical relations are constructed based on the theoretical and empirical foundation explored in the background of the study. The path model presents the simultaneous relations between the endogenous variables (variables whose variation is explained by one or more variables within the model) and exogenous variables (variables whose variation is explained by factors outside the model and which also explains other variables within the model) so that the further analysis is done to examine the comparative strength of the direct and indirect relationships among variables (Lleras, 2005).

Furthermore, it should be noted that the path relating each variable represents the hypothetical relation which means that the variable contribute to

another one. There is not enough empirical evidence and theoretical background supporting the contributive relationship between topic familiarity in student initiated topic and topic familiarity in teacher initiated topic. Therefore, in the path model there is no link relating between the two variables. The similar reason also applies to the variable of writing performance in student initiated topic which is not related to writing performance in teacher initiated topic. The same case happens to the variable of critical thinking skills in student initiated topic which is not related to critical thinking skills in teacher initiated topic.



Notes:
X1 : Topic familiarity of student initiated topic (exogenous variable)
X2 : Topic familiarity of teacher initiated topic (exogenous variable)
X3 : Writing performance in student initiated topic (endogenous variable)
X4 : Writing performance in teacher initiated topic (endogenous variable)
Y1 : Critical thinking skills in student initiated topic (endogenous variable)
Y2 : Critical thinking skills in teacher initiated topic (endogenous variable)
e : Residual or errors

Figure 2.1 Estimated Path Model

As shown in Figure 2.1, the direction of relationships is symbolized by the arrow. It means that the variable of critical thinking skills in student initiated topic (Y1) is related with topic familiarity of student initiated topic (X1); writing performance of teacher initiated topic (X3) and the variable of critical thinking

skills in teacher initiated topic (Y2). While, the variable of critical thinking skills in teacher initiated topic (Y2) is related with the variable of critical thinking skills in student initiated topic (Y1); topic familiarity of teacher initiated topic (X2) and writing performance in teacher initiated topic (X4). The similar way of reading the direction of relationship also occurs for the other variables.

Based on the estimated path model in Figure 2.1, there are mathematical models to solve for the direct effect in which each endogenous variable is regressed on all the variables with direct paths leading to it. The path equations are as follow:

$X_3 = p_{3.1} X_1 + e_2$ *(1)*

$X_4 = p_{4.2} X_2 + e_3$ *(2)*

$Y_1 = p_{y1.1} X_1 + p_{y1.3} X_3 + e_4$ *(3)*

$Y_2 = p_{y2.2} X_2 + p_{y2.4} X_4 + e_5$ *(4)*

Where p: the regression coefficient between the variables

e: the error or the value of residual regression

2.2 Population and Sample

The target population of the study is English Department students. The accessible population is the students of English Department at Humanities and Culture Faculties of Maulana Malik Ibrahim State Islamic University/*Universitas Islam Negeri Maulana Malik Ibrahim (UIN Maliki).* All of 121 students taking Writing III course given in semester 5 in the academic year 2012/2013 were taken as the sample of the study. Therefore no sampling technique was applied. They had finished Writing I and II which included 8 credit semesters when they were involved in the present study. This means that administratively they have reached approximately post-intermediate to pre-advanced level of writing. In addition,

they have been taught about argumentative essay required for the data collection of this study.

2.3 Research Instruments

In the present study, some research instruments were employed to collect the data. They are writing prompt used to elicit data on students' argumentative writing on student initiated topic (see Appendix 1A) and on teacher initiated topic (see Appendix 1B), rubric for assessing topic familiarity through mind map (see Appendix 2A), rubric for assessing writing performance (see Appendix 2B) and rubric for assessing critical thinking skills (see Appendix 2C). Each instrument is explained below.

2.3.1 Writing Prompts

There are two writing prompts used as the instrument to collect the data on students' argumentative writing. Since good prompt should go together with the instructional objective (Weigle, 2007), the writing prompts in this study were made on the basis of the instructional objective of the critical writing course. The prompt on writing a composition is chosen as it requires students to communicate by putting together what they know about a topic into a piece of connected discourse (Jacobs et al., 1981).

The first prompt is the instruction on writing a composition of at least 400 words presenting student's argument on free topic or the topic which interests him/her (see Appendix 1A) while the second one is on one of the given topics. In other words, the first prompt concerns with the argumentative writing on student initiated topic, whereas the second one involves the writing on teacher initiated topic (see Appendix 1B). The different prompt is needed to see whether there is

different performance as a good assessment should call upon a broader construct than is usually tested in assessments that focus on relatively simple, on-demand writing tasks (Deane et al., 2008; Martin, 2006). The prompts also requires mind map writing related to the given topic. Accordingly, the writing prompts were used to measure the three variables at the same time, namely topic familiarity, writing performance and critical thinking skills.

2.3.2 Rubric for Assessing Topic Familiarity

The assessment on topic familiarity is done through mind map which is accomplished before the students wrote their essays as stipulated in the writing prompt (see Appendix 2A). It is used to gain the information on the students' knowledge on the topic in the writing prompt. The rubric is adapted from Franker (2011) to identify the student's familiarity on certain topic seen from the arrangement of concepts, links and linking lines, content, and text. The arrangement of concept identified through the division of the main idea and sub-concepts. The links used clarify the connection among the concept presented. The content and the text deal with the logical clarity and the readability of the information given. Each category is rated as follows: 5 representing unsatisfactory, 10 representing proficient, and 15 representing exemplary. The total score is categorized into very good (60-53); good (52-45); fair (44-37); poor (36-29) and very poor (28-20).

2.3.3 Rubric for Assessing Writing Performance

The assessment of writing performance is done based on the essay writing. This is also applied in assessing critical thinking skills. Although the assessments are based on the same essay writing, the measures for writing performance and

critical thinking skills have different components. The components are presented in the form of rubrics.

The rubric for assessing writing performance is taken from the result of considerable and careful research conducted on ESL Composition Profile (Jacobs et al., 1981; Hartfiel et. al, 1985). The rubric is chosen as it fulfills the criteria of good assessment tool as it uses specific and appropriate language to describe the data gathered and the patterns that are observed (Connors, 2008; Crook, 2006; Dappen et al., 2008; Peha, 2003). It assesses the content, organization, vocabulary, language use and mechanics. The content is assessed through some descriptors such as knowledgeable, substantive, thorough development of thesis and relevant to assigned topic. The organization refers to the fluent expression, ideas supported, logical sequencing and other descriptors such as brief, well-organized and cohesive. The vocabulary is examined in terms of the sophisticated range, effective word choice, word form mastery and appropriate register. The language use concerns with the use of effective complex construction, agreement, tense, number, and word order. The mechanics deals with the attention on the use of spelling, punctuation, capitalization, and paragraphing (see Appendix 2B).

The total score of writing performance is interpreted into some categories such as excellent to very good (100-88); good to average (87-75); fair (74-64); poor (63-49) and very poor (48-34). Using the rubric the focus of the assessment deals with the way the writers perform their academic writing skills.

2.3.4 Rubric for Assessing Critical Thinking Skills

The rubric for assessing critical thinking skills assesses the five elements: arguments, evidence, recognition of opposition, refutation, and conclusion (see

Appendix 2C). The argument is assessed by the way the students construct their claim supported by reasons. The evidence deals with how the statements or assertions strengthen the argument. The way the students identify the statements that run counter their claim belongs to the recognition of opposition. Refutation occurs when the students make the statement that the opposing viewpoints are inadequate in some ways. Students' conclusion is examined on how they set out what they want the reader to believe. The rubric is adapted from Stapleton (2001) and used to enable the raters to assess the students' essays more effectively (Rezaei & Lovorn, 2010).

Based on the quality of each of the critical thinking skill, the scale given is from 1 to 5 (see Appendix 2C). Score 1 means that the elements of critical thinking is not existing, score 2 means the elements are reflected implicitly, score 3 means the elements are identifiable; score 4 means the elements are reflected explicitly and adequately, and score 5 means the elements are reflected and developed well. The total score is categorized as very good (25-21); good (20-17); fair (16-13); poor (12-9) and very poor (8-5) in reflecting the elements of critical thinking. By employing the rubric the focus of the assessment concerns the rhetorical strategies employed in presenting the argument.

2.4 The Result of the Pilot Studies

The instruments explained above were tried-out through pilot studies. There were two pilot studies to check whether the instruments are sufficiently reliable and valid to achieve the objective of the study. The first pilot study was

related with essay writing prompts, while the second pilot study dealt with the mind map prompts.

The tryout of the essay writing prompt was carried out on December 2, 2011 for the first writing prompt on student initiated topic and December 16, 2011 for the second writing prompt on teacher initiated topic. Fifteen students of the fifth semester of English department of the academic year 2011/2012 were used as the subjects of the first pilot study. These fifteen students were considered to be able to represent the sample which would be used in this study. They were randomly chosen after thirty students from the class were asked to do the writing prompts. This was conducted in order that the other half did not feel ignored. The meeting of the writing class was twice a week, therefore each writing prompt was informed in the earlier meeting to let students find references related to the topic suggested by the writing prompt.

The second phase of the pilot study was done to try out the prompt of mind map. It was tried out on May 8th to the fourth semester students taking Reading III course in academic year 2011/2012. Similar to the procedure in the previous pilot study, fifteen students were taken as the subject. They were asked to draw mind map to gain the information on the knowledge on both the student and teacher initiated topics.

The results of the two pilot studies above were in the form of essays and mind maps which were assessed using rubrics. The following sections describe the scoring using the rubrics and validating them rubrics as instruments to measure the variables of this study.

2.4.1 Scoring and Validating Rubric for Assessing Topic Familiarity

The rubric for assessing topic familiarity was employed to assess students' knowledge presented in their mind maps (see Appendix 2A). The scoring using the rubric for assessing topic familiarity was done by the writer and the other lecturer. Before the scoring, the rubric was discussed to get similar understanding to assess students' topic familiarity. The results of scoring topic familiarity in student and teacher initiated topic are given below.

Student initiated topic. There were several topics written by the students such as technology (30%), social issues (20%), health (20%), education (15%) and entertainment (15%). Meanwhile, the teacher topic on "Critical Thinking" is not mentioned therefore it is assumed to be unfamiliar for the students.

The gained scores of the topic familiarity on student initiated topic range from 25 to 55 (see Appendix 3A). As the mean is 38 and the possible highest score is 60, it means that the mind map prompt is quite easy or they are proficient at student initiated topic. The possible highest score is 60 and the lowest score is 20, which means that the possible range is 40. As the range of the mind map score is 30, the dispersion is not far. On the use of rubric for assessing writing performance, the reliability measured by Pearson Product Moment correlation is high (.888). It means that by using the rubric both raters have higher agreement in scoring the essay with student initiated topic.

Teacher initiated topic. The students' topic familiarity scores range from the 30 to 53 (see Appendix 3B). The mean is 39 and the range is 23, lower to those in the first essay assessment. Though the reliability is much lower (.668)

than the first one, the rubric for assessing topic familiarity is applicable to be used further to assess the topic familiarity on teacher initiated topic.

The result of the scoring and validating rubric for assessing topic familiarity is summarized in Table 2.1.

Table 2.1 Scores of Topic Familiarity in Pilot Study

Data	Student Initiated Topic	Teacher Initiated Topic
Cases (n)	15	15
Mean	38	39
Maximum score	55	53
Minimum score	25	30
Range	30	23
Reliability	0.888	0.668

Based on the try out above, it can be concluded that mind map can assess the topic familiarity and the rubric to assess topic familiarity on student and teacher initiated topic is applicable for data collection.

2.4.2 Scoring and Validating Rubric for Assessing Writing Performance

The students' writing performance was assessed through the essay assessment which is related with the use of writing prompts and the scoring rubric. On the use of the writing prompt on student initiated topic, many students spent more times to decide the topic to be developed into a 400-words-argumentative essay. This is because they need to think about the topic which is exactly based on their interest or the one they are familiar with as they ignore the lecturer's instruction to find the related references. While in the tryout of the writing prompt on teacher initiated topic, it did not happen as the students directly chose the topic from the provided list and they have read the related references.

The rubric for assessing writing performance was employed to assess the essays in both student and teacher initiated topic (see Appendix 2B). The scoring

was done by the writer and the other lecturer. Before the scoring, the rubric was discussed to get similar understanding to assess students' writing performance. The scoring results in student and teacher initiated topic are as follows.

Student initiated topic. The students' writing performance scores range from 64 to 98 (see Appendix 3C). As the mean is 83 and the possible highest score is 100, it means that the first writing prompt is easy enough. The possible highest score is 100 and the lowest score is 34, which means that the possible range is 66. As the range of the writing score is 34, the dispersion is quite far. On the use of rubric for assessing writing performance, the reliability measured by Pearson Product Moment correlation is very high (.967). It means that by using the rubric both raters have higher agreement in scoring the essay with student initiated topic.

Teacher initiated topic. The students' writing performance scores range from 60 to 98 (see Appendix 3D). With the mean 76 which is lower than the mean of the first essay assessment, it can be inferred that the second writing is more difficult and it causes larger dispersion of score that is 38. The reliability is also high as the first one (.989) meaning that the rubric for assessing writing performance is applicable to be used further to assess the argumentative writing on teacher initiated topic.

The result of the scoring and validating rubric for assessing writing performance is summarized in Table 2.2.

Table 2.2 Scores of Writing Performance in Pilot Study

Data	Student Initiated Topic	Teacher Initiated Topic
Cases (n)	15	15
Mean	83	76
Maximum score	98	98
Minimum score	64	60
Range	34	38
Reliability	0.967	0.989

2.4.3 Scoring and Validating Rubric for Assessing Critical Thinking Skills

The rubric for assessing critical thinking skills was employed to assess elements of critical thinking as reflected in students' essay (see Appendix 2C). The scoring using the rubric for assessing critical thinking skills was done by the writer and the other lecturer. Before the scoring, the rubric was discussed to get similar understanding to assess students' critical thinking skills as reflected in their essays. The following discusses the result of scoring critical thinking skills on student and teacher initiated topic.

Student initiated topic. The result of the scoring is presented in the tabulation of critical thinking in Appendix 3E. Because there is no score exceeding the acceptable difference of scores, there is no need to invite another rater. The students' score on critical thinking skills range from 10 to 22. The mean is 17 while the possible highest score is 25, which refers to the difficulty to reflect critical thinking skills in writing with topic familiarity. The possible highest score of critical thinking is 25 and the lowest score is 5, which means that the possible range is 20. As the range of critical thinking score is 12, the dispersion is far. The reliability of the critical thinking assessment is high (.945) Thus, it can be inferred that the rubric is applicable to be used further to assess critical thinking skills in student initiated topic.

Teacher initiated topic. The result of the scoring can be seen in Appendix 3F. Similar to the above result, there is no need to invite another rater as the differences of scores are within acceptable range. In the second writing prompt, the students' critical thinking skills range from the 10 to 22. The mean is 14 and the range is 12, similar to those in student initiated topic. Though the reliability is lower (.916) than that in student initiated topic, the rubric is applicable to be used further to assess the critical thinking skills on teacher initiated topic.

The result of the scoring and validating rubric for assessing critical thinking skills is summarized in Table 2.3.

Table 2.3 Scores of Critical Thinking Skills in Pilot Study

Data	Student Initiated Topic	Teacher Initiated Topic
Cases (n)	15	15
Mean	17	14
Maximum score	22	22
Minimum score	10	10
Range	12	12
Reliability	0.945	0.916

Based on the scoring result of critical thinking skills above, which shows large dispersion of gained score, both of the writing prompts need improvement by clarifying the instruction. As listed in the tabulation of the critical thinking scores from the pilot study (Appendices 3E & 3F), the average of recognition of opposition is the lowest among the critical thinking skills. Therefore, the writing prompts are added with the instruction to show the opponent's view and the way students refute it.

2.5 Data Collection

The data explored in this study consist of the essay-based assessment and the mind map of the writing topic. Both are covered in the writing prompts. As the meeting of the writing classes were twice a week, each writing prompt was informed in the earlier meeting to let students find references related to the topic suggested by the writing prompt. The procedure for collecting the data consists of the following stages:

Stage 1: The students are assigned to write an argumentative essay in English based on the topic they chose. They can develop their claim by using analytical exposition (using reiteration after presenting the thesis and argument), hortatory (giving recommendation after presenting the thesis and argument), discussion or any possible type of generic structure of composition since there is no limitation given (see Appendix 1A). Prior to writing the essay, they are assigned to draw a mind map on a topic of his/her interest or the topic they develop in their argumentation. Each essay is assessed by involving the researcher and the teacher as the raters using the assessment rubrics (see Appendices 2B & 2C). While the mind map is assessed using the rubric shown in Appendix 2A.

Stage 2: In another meeting, students are assigned to write an argumentative essay on the topic "Critical Thinking" and draw a mind map on this topic (see Appendix 1B). Similar to stage 1, each essay is assessed using the assessment rubrics. The summary of the data collection procedure is presented in Table 2.4.

Table 2.4 Blueprint for Data Collection

No.	Data	Collection method	Instrument	Procedures in collecting data
1.	Set of scores of topic familiarity	Mind map assessment	• Prompt of mind map • Rubric for assessing topic familiarity	• Students are asked to write a mind map on a topic before writing their essays based on the prompts (Appendices 1A & 1B) • Student's mind map are scored based on the rubric (Appendix 2A)
2.	Set of scores of writing performance	Essay assessment	• Writing prompts • Rubric for assessing writing performance	• Students are asked to write argumentative essays based on the writing prompts (Appendices 1A & 1B) • Students' essays are scored based on the rubric (Appendix 2B)
3.	Set of scores of critical thinking skills	Essay assessment	• Writing prompts • Rubric for assessing critical thinking skills	• Students are asked to write argumentative essays based on the writing prompts (Appendices 1A & 1B) • Students' essays are scored based on the rubric (Appendix 2C)

The data were collected by administering the tests to gain the scores on topic familiarity, writing performance and critical thinking skills. However, the prompts were informed earlier to the students as students need to have the opportunity to prepare the content in advance of the writing because of the difficulties to manage the linguistic demands as second language writers (Weigle, 2002) and to allow students to demonstrate their best writing (Kreth et al., 2010). Although computer based writing is considered helpful to improve students' critical thinking (Li, 2006), in this study paper-pencil based writing is chosen for data authenticity of the data collection. The tests were done based on the schedule of the Writing III classes. There were 6 classes of Writing III with the description summarized in Table 2.5.

Table 2.5 Aspects of the Test Administration in Writing III Classes

Test	Aspects	A	B	C	D	E	F
Test 1	Date of administration in 2012	22 Oct	16 Oct	29 Oct	8 Nov	11 Oct	9 Nov
	Number of students	24	26	13	25	6	27
	Average time in minutes	80	85	65	85	85	85
Test 2	Date of administration in 2012	29 Oct	18 Oct	31 Oct	12 Nov	12 Oct	16 Nov
	Number of students	24	26	12	25	6	20
	Average time in minutes	90	90	80	90	90	90

Table 2.5 shows that there were different schedule of test administration starting from October 11 to November 16, 2012. The schedule was made based on the class readiness as reported by the lecturer of each class. There is different time gap between the first and the second tests. As writing III course was given twice a week, the tests were given in the same week for class B, C, D and E. While for class A and F, the tests were given in different week due to holiday and study excursion program. However, the different time did not influence the result of the tests.

The results of the test administration are in the form of essays and mind maps. They were scored based on the rubrics explained in the research instrument. The scoring of the essay and mind map involves some raters, two lecturers of Writing class and two colleagues. Some of them had also been involved in the scoring process of the pilot study. The lecturers scored the writing performance while two colleagues –who were chosen as they had certificate on critical thinking curriculum− scored the critical thinking and topic familiarity. Prior to the scoring, the rubrics were introduced and demonstrated to clarify the way to score the essay and mind map. This procedure is needed as the raters were supposed to analyze

the thinking and reasoning through students' rhetorical performances (Petruzzi, 2008). The result of the scoring of each class is summarized in Table 2.6 while the complete scores of the whole students can be seen in Appendix 6.

Table 2.6 The Scoring Result of Writing III Classes

Test	Scoring Result	A	B	C	D	E	F
Test 1	Average of TF (Rater 1)	44.6	37.5	38.1	40.6	40	36.9
	Average of TF (Rater 2)	45.6	33.8	39.6	40	46.7	38.1
	Average score of TF	45.1	34.6	38.8	40.3	43.4	37.5
	Interrater reliability of scoring TF	.889	.989	.871	.754	.934	.940
	Average of WP (Rater 1)	83.2	74.6	81.9	78.9	75.2	72.2
	Average of WP (Rater 2)	83.4	72.4	79	82.2	74.5	72.3
	Average score of WP	83.3	73.9	80.0	80.1	81.7	72.2
	Interrater reliability of scoring WP	.971	.967	.925	.817	.985	.998
	Average of CT (Rater 1)	18.5	15.5	14.1	16	17	18
	Average of CT (Rater 2)	19.7	16.7	15.7	16.7	19	17.5
	Average score of CT	19.2	16.3	14.9	16.3	18	17.7
	Interrater reliability of scoring CT	.879	.832	.893	.756	.775	.834
Test 2	Average of TF (Rater 1)	44	34.4	36.3	34	35.8	34
	Average of TF (Rater 2)	44.2	31	36.3	30.4	41.7	33.8
	Average score of TF	44.1	32.7	36.3	32.3	39	33.9
	Interrater reliability of scoring TF	.899	.892	.927	.922	.945	.901
	Average of WP (Rater 1)	83.3	80.1	80.3	82.2	81.8	80
	Average of WP (Rater 2)	82.9	81.5	76.8	82.1	81.5	80.2
	Average score of WP	83.1	80.8	78.5	82.1	81.7	80.1
	Interrater reliability of scoring WP	.913	.967	.951	.950	.975	.998
	Average of CT (Rater 1)	18.9	17.2	13.8	16.9	18.3	17.6
	Average of CT (Rater 2)	20.3	17	16.3	16.6	20	17.7
	Average score of CT	19.4	17.1	15.2	16.7	19.2	17.6
	Interrater reliability of scoring CT	.941	.899	.957	.941	.982	.955

Notes: CT (Critical Thinking), TF (Topic Familiarity), WP (Writing Performance).

Table 2.6 shows that among the five classes investigated the average score of the variables are within acceptable range in both tests. The scores of topic familiarity ranges from 32.7 to 45.1, the scores of writing performance ranges from 72.2 to 83.3 and the scores of critical thinking skills ranges from 14.9 to 19.4. Accordingly, the reliability coefficients are also high. On student initiated topic, the reliability coefficients of topic familiarity, writing performance and critical thinking skills are mostly valued at .8 while on teacher initiated topic the coefficients shown are at .9.

Before the collected data were analyzed further, the essays were reviewed to see whether there were any incomplete data or irrelevant essay. The incomplete data occur when the student took only one test. The essay is considered irrelevant when it is not suitable with the prompt, for instance when the essay is not in the form of argumentative essay or when the topic presented is not the same with what required. Since eight students did not take the second test, there were eight incomplete data to be reduced. There is one essay which is not in the form of argumentative essay and twelve essays which do not present the required topic. Therefore another thirteen data were reduced. The total number of the data becomes 100 as the result of the data reduction process.

The total sample of the study is 100 which is fulfilling the requirement for estimating parameter. Based on Maximum Likehood method, the suggested sample size is 100 to 200 and the minimum absolute is 50 (Supranto, 2004). Accordingly, the sample size of this study is adequate.

2.6 Data Analysis

The obtained data are then analyzed descriptively to reveal the characteristics of the variables on topic familiarity, writing performance and critical thinking skills. The analysis includes the statistics of the data like the central tendency covering mean, median and mode, standard deviation, the range, maximum and minimum scores, and categorization of the data sources.

The next step of analyzing the data is standardizing the variables. This step is taken as each of the variables on topic familiarity, writing performance and critical thinking skills has different range of scores. The most general method used to transform the data into standardized one is converting each variable using

the following formula: to the standard score (z-score) by subtracting the midpoint and divided it by the standard deviation of each variables as shown in:

$$Zi = \frac{xi - X}{s}$$

where:

Zi : standard score (z-score)

xi : the score of the variable

X : the average

s : standard deviation

The data standardization process is done through SPSS AMOS version 20. The complete standardized scores can be seen in Appendix 7A.

The standardized scores are then processed into exploratory analysis. It provides sight into the data set and the underlying structure of the data (Salkind, 2008). This step ensures fulfillment of assumptions required for running a multiple regression analysis prior to analyzing the paths of correlations of variables of interest. The requirements cover normality and linearity which are examined prior to the data analysis in order that the patterns of correlations of variables can be meaningfully interpreted. Test of normality of variables is conducted through SPSS AMOS version 20 on the criteria of critical skewness below 2.58. Meanwhile, the test of linearity is done through SPSS Statistics version 20 with the level of significance below 0.05.

Then the hypothesis testing is done in line with the objective of the study. The testing of the hypothesized model is done using the statistical analysis of t-test with regression coefficient which is partially standardized. Through SPSS AMOS the t-test is similar to the value of the critical ratio in the standardized regression weights. The direct causal relation is identified through the

standardized regression weight represented by the critical ratio or the calculated t.

The summary of the data analysis procedure is presented in Table 2.7.

Table 2.7 Blueprint for Data Analysis

No.	Research objectives	Data analysis	Results of data analysis
1.	To examine whether topic familiarity contributes to writing performance and critical thinking skills.	Test of statistical significance using the regression weight and squared multiple correlation of the paths associating topic familiarity, writing performance and critical thinking skills.	The empirical evidence showing that the path model correlates positively/negatively and significantly/not significantly with the students' scores of topic familiarity, writing performance and critical thinking skills.
2.	To examine whether the more familiar the students with the student initiated topic the better their writing performance and critical thinking skills will be.	Test of statistical significance using the regression weight and squared multiple correlation of the paths associating topic familiarity in student initiated topic with writing performance and critical thinking skills.	The empirical evidence showing that the students' topic familiarity in student initiated topic correlates positively/negatively and significantly/not significantly to their writing performance and critical thinking skills
3.	To examine whether the more familiar the students with the teacher initiated topic the better their writing performance and critical thinking skills will be.	Test of statistical significance using the regression weight and squared multiple correlation of the paths associating topic familiarity in teacher initiated topic with writing performance and critical thinking skills.	The empirical evidence showing that the students' topic familiarity in teacher initiated topic correlates positively/negatively and significantly/not significantly to their writing performance and critical thinking skills

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This chapter concludes the result of analysis and presents some recommendations for some parties relevant with the findings of this study.

5.1 Conclusions

By referring to the review of literature explicated in the background, findings of research and the discussion on the result of data analysis, the researcher can draw the following conclusions.

The verified patterns of relationship show that on student initiated topic, critical thinking skills are initiated by topic familiarity and can be mediated by writing performance. Topic familiarity also has direct contribution toward critical thinking skills on student initiated topic. Whereas, on teacher initiated topic, critical thinking skills are initiated by topic familiarity and can be mediated by writing performance as well. The path model serves as the best pattern and can be used as a framework to predict the success of the students' critical thinking skills. The writing performances in both student and teacher initiated topic record the highest contribution toward critical thinking skills. It means that regardless the type of topic chosen the higher the students' writing performance the better reflection of their critical thinking skills will be. Because the students' writing performance is followed by the betterment of their critical thinking skills, writing performance is proven to be a good predictor of students' critical thinking skills.

On student initiated topic, the more familiar the students with their topic, the higher their writing performance will be. It implies that the specialized knowledge obtained in the reading process may influence the quality of the essay as the product of writing stage. The finding also signifies that the higher the students' writing performance, the better reflection of their critical thinking skills will be. Furthermore, the more familiar the students with their topic also entail better reflection of their critical thinking skills. It shows that the recalling of information through reading for understanding ways of thinking and writing stimulate the reproduction of knowledge.

On teacher initiated topic, the more familiar the students with the given topic, the higher their writing performance will be. This finding shows that the students' ease in writing and their better writing performance are affected by the comprehension of the topic to write. The finding also indicates that the higher the students' writing performance, the better reflection of their critical thinking skills will be.

5.2 Recommendations

Having reviewed the result of data interpretation then compared the findings to the studies by former researchers, the researcher is of the opinion that the patterns of relationship between critical thinking skills, topic familiarity and writing performance hold important recommendations. The recommendations refer to several groups of people including writing instructors and researchers.

Recommendations for writing teachers. Writing teachers are suggested to provide students of undergraduate level with instructions that can reduce deficits

in unfamiliar topic. This is in line with the result of the analysis showing that in writing the deficit of knowledge limits the level of argumentation or the depth of abstraction in exploring the issue. Students should be encouraged to grow their interest on various topics in English. Fostering the students' English reading habit is one of the ways to develop their topic familiarity. Developing students' topic familiarity is followed by the augment of critical thinking skills which entails the betterment in writing performance as proven by the finding of this study.

To develop students writing performance, writing teachers should design good writing prompts which have clear instruction completed with specific situation for the students to take a stand. In addition, they need to make sure that the topics to write are within the students' knowledge.

To support students' critical thinking skills, it is suggested that writing teachers provide some guidance through teacher's modeling. Furthermore, students also need guidance in reading for analyzing, interpreting and deconstructing argumentation from texts so that they can shape their critical thinking skills.

Recommendations for researchers. As this study examined the patterns of relationship among topic familiarity, writing performance and critical thinking skills, the next researchers can develop other variations of path model. For instance by relating critical thinking in writing with other variables such as knowledge of text organization, reading habit and others.

Furthermore, it is suggested that researchers conduct studies assigning students to write composition with other modes of writing i.e. description, narration, or expository and involving freshmen or senior students as the subjects

to see whether there is different finding. They can also consider the use of computer based writing so that students are given more opportunity for actualizing the generated ideas employing a range of cognitive and linguistic skills. On a theoretical level, scholars need to continue their efforts at exploring the field, with the goal of a broad, unified concept of critical thinking skills. The relationship between the reflection of critical thinking in everyday reasoning and that in various fields of expertise also needs further research.

To sum up, training English department students to think critically can be done implicitly through argumentative writing class. Once the students' linguistic aptitude is shaped, the reflection of critical thinking skills will follow. The skills such as analyzing complex issues and generating solutions through arguments, making connections and transferring insights to new contexts, and developing standards for decision making, are necessary to succeed in academic and in society.

REFERENCES

Al-Fadhli, Salah & Khalfan, Abdulwahed. 2009. Developing Critical Thinking in E-Learning Environment: Kuwait University as a Case Study. *Assessment & Evaluation in Higher Education*, 34 (5): 529-536.

American Psychological Association. 1990. *Critical Thinking: a Statement of Expert Consensus for Purposes of Educational Assessment and Instruction* (ERIC Document No. ED315423).

Ary, Donald. Jacobs, Lucy C. & Razavieh, Asghar. 1995. *Introduction to Research in Education 5th edition.* New York: Harcourt Press.

Bacha, Nahla N. 2010. Teaching The Academic Argument in A University EFL Environment. *Journal of English for Academic Purposes*, 9: 229-241.

Barry, Justin. 2007. *Using Writing in the Science Classroom to Develop Critical Thinking Skills.* Thesis submitted to Applied Research Education at University of Pennsylvania. (Online), (http://www.lifescied.org/cgi/content/full/6/2/140) retrieved April 30, 2011.

Bensley, D. Alan, Crowe, Deborah S., Bernhardt, Paul, Buckner, Camille & Allman, Amanda L. 2010. Teaching and Assessing Critical Thinking Skills for Argument Analysis in Psychology. *Teaching of Psychology*, 37 (2): 91-96.

Black, Beth. 2008. Critical Thinking – a definition and taxonomy for Cambridge Assessment: supporting validity arguments about Critical Thinking assessments administered by Cambridge Assessment. Paper in 34th Annual Conference of *International Association of Educational Assessment*. Cambridge: Cambridge University Press.

Brookfield, Stephen. 2007. Reclaiming Critical Thinking as Ideology Critique. In Joe L. Kincheloe, & Raymond A. Horn (Eds.). *The Praeger Handbook of Education and Psychology.* (pp. 321-330). Westport: Praeger Publishers.

Brunstein, Joachim C., & Glaser, Cornelia. 2011. Testing a Path-Analytic Mediation Model of How Self-Regulated Writing Strategies Improve Fourth Graders' Composition Skills: A Randomized Controlled Trial. *Journal of Educational Psychology*. Vol: 1. Advance online publication. doi: 10.1037/a0024622

Cahyono, Bambang Y. 1992. *Development and Application of Content-Based Summarizing Technique in Reading Instruction.* Unpublished Thesis. Malang: Institut Keguruan dan Ilmu Pendidikan.

Cahyono, Bambang Y. 2000. *Rhetorical Strategies in the English and Indonesian Persuasive Essays of Indonesian University Students.* Unpublished Thesis. Montreal: Concordia University.

Connors, Priscilla. 2008. Assessing Written Evidence of Critical Thinking Using an Analytic Rubric. *Nutr. Education Behavior* 40:193-194.

Craswell, Gail. 2005. *Writing for Academic Success: A Postgraduate Guide.* London: SAGE Publication Ltd.

Crook, John. 2006. *Substantive Critical Thinking as Developed by The Foundation for Critical Thinking Proves Effective in Raising SAT and ACT Test Scores at Westside High School*, (Online), (http://www.criticalthinking.org/pages/substantive-critical-thinking-as-developed-by-the-foundation-for-critical-thinking-proves-effective-in-raising-sat-and-act-test-scores/632), retrieved December 1, 2010.

Dappen, Leon, Isernhagen, Jody & Anderson, Sue. 2008. A State Wide Writing Assessment Model: Student Proficiency and Future Implications. *Assessing Writing*, 13: 45–60.

Deal, Kathleen H. 2004. The Relationship between Critical Thinking and Interpersonal Skills. *The Clinical Supervisor*, 22 (2): 3-19.

Deane, Paul, Odendahl, Nora, Quinlan, Thomas, Fowles, Mary, Welsh, Cindy & Bivens-Tatum, Jennifer. 2008. *Cognitive Models of Writing: Writing Proficiency as a Complex Integrated Skill.*Unpublished Research Report. Princeton, NJ: Educational Testing Service.

Delaney, Yuly A. 2008. Investigating The Reading-to-Write Construct. *Journal of English for Academic Purposes*. 7: 140-150.

Depdiknas 2004. *Peningkatan Kualitas Pembelajaran*. Jakarta: DIKTI

Dowden, Bradley. 2010. *Fallacies.* Internet Encyclopedia of Philosophy.(Online),(http://www.iep.utm.edu/fallacy/). Retrieved February 27, 2013.

Emilia, Emi. 2005. *A Critical Genre-Based Approach to Teaching Academic Writing in a Tertiary EFL Context in Indonesia.* A. Ph.D. Unpublished Thesis. Melbourne: University of Melbourne.

Emilia, Emi. 2010. *Teaching Writing: Developing Critical Learners.* Bandung; Rizqi Press.

Ennis, Robert H. 1996. *Critical Thinking*. New York: Prentice Hall.

Ernst, Julie A. & Monroe, Martha. 2004. The Effects of Environment-Based Education on Students' Critical Thinking Skills and Disposition toward Critical Thinking. *Environmental Education Research*, 10 (4): 507-522.

Errihani, Mohammed. 2012. Critical Thinking and the Language Factor: The Case for the English Language Learner. *Arab World English Journal,* 3 (3): 4-17.

Fisher, Dianna. 2005. *Bloom's Taxonomy Table.* (Online) (http://oregonstate.edu/instruct/coursedev/models/id/taxonomy/#table). Retrieved August 27th, 2012.

Flower, Linda & Hayes, John R. 1980. Identifying the Organization of Writing Process. In Gregg, Lee W. & Steinberg, Erwin (eds.). *Cognitive Processes in Writing: An Interdisciplinary Approach,* pp. 3-30 . Hillsdale, NJ: Lawrence Erlbaum.

Franker, Karen. 2011. *A+ Rubric: Rubric for Graphic Organizers.* (Online). (http://www2.uwstout.edu/content/profdev/rubrics/inspirationrubric.html). Retrieved August 9th, 2012.

Hartfiel, Faye. Jacobs, Holly.L, and Hughey, Jane.B. 1985. ESL Composition Profile. *Learning ESL Composition.* London: Newbury House.

Hayat, Bahrul & Yusuf, Suhendra. 2010. *Benchmark Internasional Mutu Pendidikan.* Jakarta: PT Bumi Aksara.

Hillocks, George. 2011. *Teaching Argument Writing: grade 6-12.* Portsmouth: Heinemann

Hofreiter, Trina D., Monroe, Martha C. & Stein, Taylor V. 2007. Teaching and Evaluating Critical Thinking in an Environmental Context. *Applied Environmental Education & Communication*, 6 (2): 149-157.

Hyland, Ken. 2003. *Second Language Writing*. Cambridge: Cambridge University Press.

Indah, Rohmani N. 2009. Developing Students' Critical Thinking Awareness through Interest-based Claims Writing Publication. Paper presented in *TEFLIN 56th Responding to Global Challenges through Quality English Language Teaching.* Malang: UIN, December 9th.

Indah, Rohmani N. 2010. Discovering Student's Expertise to Augment Claim Quality in Writing Class at UIN Maliki Malang. Paper presented in *National Conference in Language and Literature: Global Perspective in Literature and Language Teaching.* Malang: Ma Chung University, June 10th.

Irawati, Enny. 2008. *PreWriting and Drafting Strategies of Graduate Students in Writing Term Papers in English: A Case Study.* Unpublished Dissertation. Malang: University of Malang.

Iwaoka, Wayne T. & Crosetti, Lea M. 2008. Using Academic Journals to Help Students Learn Subject Matter Content, Develop and Practice Critical Reasoning Skills, and Reflect on Personal Values in Food Science and Human Nutrition Classes. *Journal of Food and Science Education* 7: 19-29.

Jacobs, Holly L., Zinkgraf, Stephen A., Wormuth, Deanna R., Harfiel, V. Faye, and Hughey, Jane B. 1981. *Testing ESL Composition: A Practical Approach.* Rowley: Newbury House Publishers, Inc.

Juniardi, Yudi. 2009. The Effectiveness of Critical Thinking Toward Students' Scientific Text Translation Ability. Paper presented in *TEFLIN 56th Responding to Global Challenges through Quality English Language Teaching.* Malang: UIN, December 9th.

Kameo, Rosella M. 2007. Critical Thinking in The Classroom: Some Cultural Constraints. *English Edu* Vol. 7 (1): 1-13.

Knott, Deborah. 2009. *Critical Reading vs. Critical Writing*, (Online), (http://ctl.utsc.utoronto.ca/twc/sites/default/files/critical_reading.pdf), retrieved June 29, 2010.

Kobayashi, Hiroe & Rinnert, Carol. 2008. Task Response and Text Construction across L1 and L2 Writing. *Journal of Second Language Writing.* 17: 7–29.

Kreth, Melinda, Crawford, Mary A., Taylor, Marcy & Brockman, Elizabeth. 2010. Situated Assessment: Limitations and Promise. *Assessing Writing* 15: 40–59.

Kristiyani, Christina. 2008. Promoting Higher Order Thinking in Reading Class Using Students' Responses to Texts. Paper presented in 6th AsiaTEFL. *Globalizing Asia: The Role of ELT.* Bali, August 3rd.

Li, Jiang. 2006. The Mediation of Technology in ESL Writing and Its Implications for Writing Assessment. *Assessing Writing* 11: 5–21.

Lleras, Christy. 2005. Path Analysis in *Encyclopedia of Social Measurement.* Vol: 3. Elsevier Inc.

Lomax, Richard G. & Li, Jian. 2009. Correlational Research in Anderman, Eric M. & Anderman, Lynley H. *Psychology of Classroom Learning: An Encyclopedia* (pp. 275-278). London: Gale Cengage Learning.

Martin, Deb & Penrod, Diane. 2006. Coming to Know Criteria: The Value of an Evaluating Writing Course for Undergraduates. *Assessing Writing* 11: 66–73.

McLean, Carmen P. & Miller, Nathan A. 2010. Changes in Critical Thinking Skills Following a Course on Science and Pseudoscience: A Quasi-Experimental Study. *Teaching of Psychology*, 37 (2): 85- 90.

McNeil, Levi. 2010. Investigating The Contributions of Background Knowledge and Reading Comprehension Strategies to L2 Reading Comprehension: An Exploratory Study. *Reading Writing,* 24: 883–902.

Mei, Wu S. 2006. Creating a Contrastive Rhetorical Stance: Investigating the Strategy of Problematization in Students' Argumentation. *RELC Journal* 37 (3): 329-353.

Mok, Jane. 2009. From Policies to Realities : Developing Students' Critical Thinking in Hong Kong Secondary School English Writing Classes. *RELC Journal* 40 (3): 262-279.

Oliver-Hoyo, Maria T. 2003. Designing a Writing Assignment to Promote the Use of Critical Thinking Skills in an Introductory Chemistry Course. *Journal of Chemical Education,* 80 (8): 899-903.

Olsen, Chris & George, Dianne M. 2004. *Cross-Sectional Study Design and Data Analysis* (Online) (http://www.collegeboard.com/prod_downloads/yes/4297_MODULE_05.pdf), retrieved May 24, 2012

Overbaugh, Richard C. & Schultz, Lynn. 2008. *Bloom's Taxonomy.* (Online), (http://web.odu.edu/webroot/instr/ED/llschult.nsf/pages/ws_ftp), retrieved February 25, 2011.

Paul, Richard & Elder, Linda. 2008. *The Miniature Guide to Critical Thinking Concepts and Tools*, Foundation for Critical Thinking Press.(Online), (http://www.criticalthinking.org/files/Concepts_Tools.pdf) retrieved January 20, 2013.

Peha, Steve. 2003. *Assessing Writers Assessing Writing* (Online), (www.ttms.org/PDFs/09 Writing Assessment v001 (Full).pdf*)* retrieved April 4, 2011.

Peraturan Pemerintah Indonesia No. 17 Th. 2010(84.2) tentang Pendidikan Tinggi, (Online), (http://dikti.go.id/wp-content/uploads/2010/pp17-th2010.pdf), retrieved February 8, 2011.

Petruzzi, Anthony. 2008. Articulating a Hermeneutic Theory of Writing Assessment. *Assessing Writing* 13: 19–242.

Pithers, Robert T. & Soden, Rebecca. 2001. Critical Thinking in Education: A Review. *Educational Research*, 42 (3): 237-249.

Pudariati. 2009. *Using Process Writing Approach to Improve the Ability in Writing Recount Paragraph of the Second Year Students of MTsN Lamala Central Sulawesi.* Unpublished Thesis. Malang: University of Malang.

Quitadamo, Ian J. & Kurtz, Martha J. 2007. Using Writing to Increase Critical Thinking Performance in General Education Biology. *CBE-Life Sciences Education* 6: 140-154.

Rahim, Puteri R., Abdullah, Shazila & Ishak, Noor R. 2008. Collaborative Writing Techniques as a Tool in Promoting Writing Skill to Tertiary Level Students. Paper presented in 6th AsiaTEFL. *Globalizing Asia: The Role of ELT.* Bali, August 3rd.

Rahmawati, Luluk. 2009. *Improving the Eight Graders' Ability of Writing Recount Text through the Process Writing Strategy at MTsN Grogol Kediri.* Unpublished Thesis. Malang: State University of Malang.

Reed, Jennifer H. 2008. *Effect of a Model for Critical Thinking on Student Achievement in Primary Source Document Analysis and Interpretation, Argumentative Reasoning, Critical Thinking Disposition and History Content in a Community College History Course.* (Online), (http://www.criticalthinking.org/pages/effect-of-a-model-for-critical-thinking... /630), retrieved December 1, 2010.

Reinard, John C. 2006. *Communication Research Statistics.* Corona: Sage Publications.

Rezaei, Ali R. & Lovorn, Michael. 2010. Reliability and Validity of Rubrics for Assessment through Writing. *Assessing Writing* 15: 18–39.

Salkind, Neil J. 2008. *Encyclopedia of Educational Psychology*. Los Angeles: Sage Publication, Inc.

Samanhudi, Udi & Sampurna, Pupun. 2010. Researching Students' Critical Thinking in EFL Writing Class (A case study in English Education Department,Untirta). Paper presented in *TEFLIN 57th Revitalizing Professionalism in ELT as a Response to Globalized World.* Bandung: Indonesia University of Education, November 3rd.

Sellnow, Deanna D. & Ahlfeldt, Stephanie L. 2005. Fostering Critical Thinking and Teamwork Skills via a Problem-Based Learning (PBL) Approach to Public Speaking Fundamentals. *Communication Teacher*, 19 (1): 33-38.

Sepriani, Soegma. 2010. Teaching Writing through Various Ways to Encourage Police Officer Students' Critical Thinking Development in EFL Class. Paper presented in *TEFLIN 57th Revitalizing Professionalism in ELT as a Response to Globalized World.* Bandung: Indonesia University of Education, November 3rd.

Stapleton, Paul. 2001. Assessing Critical Thinking in the Japanese University students. *Written Communication.*18 (4): 506-548.

Stonewater, Jerry K. & Wolcott, Susan K. 2005. *Two Rubrics for Critical Thinking Assessment: A Mini-Training Session.* Oxford: The Assessment Institute of IUPUI.

Suharmanto. 2006. *Patterns of Relationship among Some Selected Factors Affecting The Students' EFL Reading Comprehension.* Unpublished Dissertation. Malang: University of Malang.

Supranto. 2004. *Analisis Multivariat: Arti & Interpretasi.* Jakarta: Rineka Cipta.

Suryani, Iis. 2005. The Process of Writing: How Students Write an Academic Writing Task. Paper presented in *53rd TEFLIN Promoting Critical Thinking in EFL Classrooms*" Yogyakarta, December 8th.

Taylor, Ralph C. 1965. *Webster's World University Dictionary.* Washington: Webster Publishers Company, Inc.

Todd, Vicki & Hudson, Jerry C. 2007. Using Graded Peer Evaluation to Improve Students' Writing Skills, Critical Thinking Ability, and Comprehension of Material in a Principles of Public Relations Course. *Journal of College Teaching and Learning* 4 (10): 39-46.

Triastuti, Anita. 2006. Incorporating Argumentation Study for Teaching Critical Thinking in EFL Instruction: A Proposal for EFL Curriculum. Paper presented in *TEFLIN 54th English Language Education Policies: Responding to National and Global Challenge.* Salatiga: UKSW

Vallis, Gina L. 2010. *Reason to Write: Applying Critical Thinking to Academic Writing.* Charlotte: Kona Publishing and Media Group

Wade, Carole. 1995. Using Writing To Develop and Assess Critical Thinking. *Teaching of Psychology,* 22 (1): 24-28.

Weigle, Sara. C. 2002. *Assessing Writing.* Cambridge: Cambridge University Press.

Weigle, Sara C. 2007. Teaching Writing Teachers about Assessment. *Journal of Second Language Writing* 16: 194–209.

White, Ronald V. 1995. *New Ways in Teaching Writing.* Bloomington: Pantagraph Printing.

Wijayanti, Amin N. 2009. *The Implementation of Genre-Based Approach in Teaching Writing at SMP PGRI Kebakkramat Karanganyar.* Unpublished Thesis. Surakarta: Muhammadiyah University of Surakarta.

Yumarnamto, Mateus & Widiyanto,Yohanes M. 2005. *Promoting Critical Thinking in EFL Classrooms*. Paper presented in *53rd TEFLIN Promoting Critical Thinking in EFL Classrooms.* Yogyakarta, December 3rd.

Zerba, Eileen. 2001. *Critical Thinking Cyclic Model.* (Online), (http://www.woodrow.org/teachers/esi/2001/Princeton/Project/grp1/template.htm), retrieved March 2, 2011.