Correlation between EFL Proficiency and Critical Thinking Skills in Reading among EFL Learners (A Case Study at Universitas Brawijaya)

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Abstract. EFL Proficiency still becomes a necessity either for academic or career development. However, some research results indicated that the EFL proficiency of the EFL learners is still low. Many things have been done to increase the EFL learners’ proficiency. Regarding this, the present study is intended to find the correlation between intelligence EFL proficiency and critical thinking skills (CTS) among pre-advanced EFL learners in the Faculty of Cultural Studies. Thirty five respondents are taken as the samples of the study. All of the respondents are further being given a test on critical thinking skills in reading and a test on EFL proficiency respectively. The scores of EFL proficiency are taken from the English students records. All of the results of scores are analyzed using Pearson Product Moment Coefficient Correlation. On the basis of this analysis, the research question is: Is there any correlation between EFL proficiency and CTS in reading. The result shows that the correlation coefficient is 0.718 meaning that there is a significant correlation between EFL proficiency and CTS in reading. The pedagogical implication is that the Critical Thinking Skills in Reading can be taught in the classroom to increase EFL proficiency.

Keywords—EFL Proficiency; critical thinking skills (CTS).

INTRODUCTION

EFL Proficiency still becomes a necessity either for academic or career development in Indonesia as what [1] states that English as a Foreign Language (EFL) proficiency is one of the communicative competences in English teaching that should be attained in higher education curriculum in Indonesia. This communicative competence comprises both linguistic and performance competences that has become the agenda of national curriculum in higher education [2]. Those competences have been inclusively integrated in designing the curriculum in higher education in the recent years. However, some studies have indicated that most of EFL learners still have unsatisfactory result in English as Foreign Language (EFL) proficiency [3]. The low scores of EFL reading and English communication is possibly the causes of the unsatisfactory scores on EFL proficiency. This finding is supported by some studies to increase EFL reading competences [2-4]. As the studies touch the external factors such as the unsatisfactory results of EFL proficiency, there are still few discussing the role of internal factors such as intelligence and critical thinking skills in the development of EFL proficiency.

The relationship between critical thinking skills in reading and EFL reading proficiency is tied by cognitive competences. Each contains both verbal and non-verbal reasoning as the primary components. The term verbal and nonverbal reasoning in IQ [6] appears similar to the term analysis and assessment in CTS in reading [7], and it is
equal to the term literal and evaluative competence in EFL reading proficiency based on Barrett’s taxonomy of reading comprehension [8].

Critical Thinking Skills, further called CTS, is a skill that is required to survive in this globalization era. The tight and worldwide competition in this era requires people to have CTS to innovate ideas in technology, to increase educational quality and to produce outstanding human resources [9]. [1] defines CTS as the ability to analyze and assess source of information to challenge the authority to identify the weakness of the argument using certain standards or criteria. The given standards and criteria are taken from Paul [7] who elaborates CT into eight elements of reasoning and nine intellectual standards. These eight elements of reasoning are establishing purpose, raising questions, looking for information, making inferences, constructing concepts, making assumptions, drawing implications and establishing point of view, and nine intellectual standards. These eight elements actively help establishing reasoning skills to achieve particular intellectual standards. These standards are the nine intellectual standards considered as standards of judging something intellectually which consist of ability to identify clarity, accuracy, precision, relevance, depth, breadth, logic, significance and fairness. These nine standards can be used as a measurement to see how critical someone in thinking is. In addition, the eight elements and the nine standards of CT by [7] have been proved to be successful in measuring the CT of the students in different levels of competence [10-13].

Although CTS are important to conduct in the teaching and learning process, there are some constraints that hamper their implementation in the classroom; one of them is the cultural constraint. [1] stated that the CT-based learning, as mentioned above, is not yet cultivated well in EFL teaching and learning in Indonesia due to the cultural constraints. In addition, [9] reported that no matter how good CT sounds in theory, it cannot be automatically transplanted into a culture which holds different values. There are two dimensions of culture in her point of view namely power distance and individualism. The former deals with the authority given by teachers to the students, and the latter related to the individualism. She emphasized that Indonesian students tend to respect their teachers too highly such as accepting answers of a question without questioning and waiting for top-down instruction without initiating. These two factors might be the indicators of valuing submissiveness that do not encourage the development of CTS [9]. In terms of individualism, she added that EFL students tend to be dependent upon the teacher and upon each other. As a result, they tend to have low independence, self-reliance and self-confidence.

The above mentioned constraints need to be overcome properly. Some of the ways to minimize the problems are by cultivating CTS in all levels of education in Indonesia and integrating CT with four language skills. For example by incorporating the CTS with other subjects or language skills, and encouraging the EFL learners to think critically as early as possible. Further [1] affirmed that if CT is cultivated properly as early as possible, Indonesian students may get used to thinking critically since the beginning. One of the ways to teach CT is by including the last three aspects of Bloom taxonomy of cognitive domain that is analysis, synthesis and evaluation as well as the last two domains of Barrett’s taxonomy namely evaluation and appreciation in the question and answer section [15]. In cultivating reading habit among the students, teachers could always encourage the students to develop their evaluation and appreciation on a particular topic. For example, instead of asking the literal and comprehension questions, teachers could stimulate questions that involve evaluation and appreciation such as “how about you?”, “what will you do if you are in this position?” and so forth. These stimulating questions could raise the students’ awareness and develop their thinking level.

Integrating CTS with other language skills such as reading, writing, speaking and listening are proven to yield more effective result as well. Some research findings indicated that activating this skill is proven to be effective in enhancing reading, writing and vocabulary [11-13]. In this study, the CTS are integrated with EFL reading due to the demand of mastering EFL reading for academic purposes in higher education [4][14].

The role of CTS in EFL reading proficiency in this study falls under the need to be able to analyze and to assess source of information in the reading selection. In analyzing, the readers are expected to find both literal and inferential meaning stated in the reading text. While in assessing, the readers should make evaluative judgment to go further beyond the text itself. Such an analysis and evaluation are parts of higher order thinking based on Bloom taxonomy of cognitive domain [15].

The EFL reading proficiency is rooted from Barrett’s taxonomy of reading comprehension which consists of five aspects namely literal comprehension, reorganization, inferential comprehension, evaluation and appreciation. Literal comprehension focuses on ideas and information which are explicitly stated in the reading selection. Reorganization requires the student to analyze, synthesize, and/or organize ideas or information explicitly stated in
the reading selection. Inferential comprehension is demonstrated by the student when he/she uses the ideas and information explicitly stated in the reading selection as a basis for making intelligent guesses/hypotheses. Evaluation requires responses indicating that an evaluative judgment has been made. Appreciation involves all of the above cognitive dimensions of reading, and requiring being aesthetically and emotionally sensitive to the ideas and information in the reading selection.

From the three aspects of cognitive competences, this study is going to find the correlation between the EFL proficiency and CTS in reading. Some findings regarding the relationship of these variables are described in the following.

In [16], the author declared that there is a significant relationship between inductive reasoning skills and German or English proficiency among Hungarian in educational context. Wray and Fox [17] also revealed that there is a significant contribution between specific cognitive and language function among young children of seven to eight years old and at their school age. On the basis of these findings, this study is going to find out the correlation between EFL proficiency and critical thinking skills in reading among English department students.

Some studies related to this issue are proposed by [18] and [19]. Bernard postulated that scores on critical thinking tests have been found to be predictive of or associated with success in a variety of settings for example teaching critical thinking skills, success of educational programs, teaching clinical skills and a variety of abilities for example general academic success. This finding is confirmed by [19] who proposes that the scores of critical thinking skills significantly predict grade in a university course. In addition, culture does not show effect on the link between scores of critical thinking and grades. From the two findings, it can be concluded that there is a close relationship between skills in thinking critically and language proficiency.

In terms of assessing the CTS, one of the most common authentic assessments for CT is using International CT Test. In measuring CTS in reading, the test is in the form of analyzing an article using eight elements of reasoning and assessing an article using nine intellectual standards. Both of the tests could be assessed using scoring rubric for assessing eight elements of reasoning and for measuring nine intellectual standards constructed by [10]. The result of assessment could determine the extent to which the EFL learners have learned to think critically within a discipline or subject [7]. This type of assessment has been conducted by West High School in Nebraska in 2010, and it was proven to be successful to measure the High School students’ CT in reading. Using EFL context, this study attempts to adapt the two instruments by giving more specific instruction to measure the CTS in reading among English department students.

The purpose of the International CT test is to provide an assessment of the fundamentals of CT that can be used in any subject. The author of [7] state that there are two goals of the test, firstly, to provide a reasonable way to determine the extent to which the EFL learners have learned to think critically within a discipline or subject, and secondly, to provide a test instrument that stimulates faculty to teach their discipline so as to foster CT in the students.

Another type of international CT test is Assessment Rubric for CT (ARC). It is a type of CT test which is introduced by [10] in 2005. This ARC is divided into two parts namely analyzing an article and assessing an article. The analysis is worth 80 points; the assessment is worth 20. In the analysis segment of the test, the student must accurately identify the elements of reasoning within an article given (each response is worth 10 points). In the assessment segment of the test, the student must assess the quality thinking of the writer using nine intellectual standards (the total assessment is worth 20 points).

In order to know the extent to which the EFL learners master CTS, ranging from the grading criteria of advanced, proficient, progressing, and beginning, the International CT Test is the appropriate instrument to measure, as what has already been stated by [7] in their quotation “The International CT Test is the perfect test to teach. For one, the structure and standards for thought explicit in the test are relevant to thinking in all departments and divisions”. These types of CT tests have already been implemented in some schools in the US. Crook [11], the Principal of West High School in Nebraska relates CTS with reading, writing and questioning skills. He reported that CTS are proven to be successful to improve the High School students’ performance in ACT (Application of CT) and SAT (Standards for Assessing Quality Thinking) tests. Therefore, the staff development program utilizes CT instruction for the High school staff. The instrument which is used to assess the students’ performance is using The International CT Assessment defined by Dr. Richard Paul consisting of two parts. The first part requires students to respond to a series of questions pertaining to articles they have given to read. The second part requires that students write an evaluation of an article using standards to evaluate the quality of the author’s thinking. The eight standards
are purpose, question, information, inferences, concepts, assumptions, implications and point of view. Each student paper is double-scored by trained district raters using an analytical rubric. Scores are not expressed as a percent of students hitting a cut-score, but instead as a raw score. The CT Assessment was chosen as a measure of CT due to its content and close alignment with the CT goal. Although these two rubrics are used in high school in English speaking country, these rubrics seem working for EFL students at the university level.

On the basis of these findings, this study is intended to correlate between EFL proficiency and CTS of the pre-advanced EFL learners in reading which is later formulated in the first research problem. There are four levels of CTS according to [7] namely advanced, proficient, progressing and beginning. These four levels of CT and reading, then, are associated with English Department students’ scores of English Proficiency. The EFL Proficiency of the students is measured by using EFL proficiency test designed by the Faculty of Culture Studies in Universitas Brawijaya. The scores of EFL proficiency were obtained from the test administered in February 2016.

The research problem is only one, that is “Is there any correlation between EFL proficiency and CTS in reading? Thus, the objective of this study is to find out the correlation between EFL proficiency and CTS in reading.

METHODS

The design of the study is correlation. In this study, the researcher tried to establish the co-relational relationship between EFL proficiency and CTS in reading. The correlation design was appropriate for this study since the EFL proficiency which served as an independent variable could not be manipulated by the researcher. Furthermore, the dependent variables namely the CTS in reading could not be controlled; therefore, this influence the relationship between EFL proficiency and CTS in reading.

The research project was executed by employing EFL proficiency test and CTS in reading test. After finding both scores, the correlation is run to find out the contribution of both variables EFL proficiency and CTS in reading. With the question, answers concerning the correlation between EFL proficiency and CTS in reading are described. The scores of CTS in reading are obtained by conducting CTS in reading test ARC developed by [9] on the basis of the construct validity designed by [7], and this is one of the standardized tests to measure CTS in reading.

In general, the research can be referred to as quantitative. The following diagram will describe the relationship between the two variables.

![FIGURE 1. Design of the Study](image)

From the above figure, it can be seen the relationship between the variables. The way to answer the research question is by running the correlation study between variable X (EFL Prof.) and Y (CTS in reading).

The target population of this study is all the third year students of English department. The subject of this study is the third year students of English department at Universitas Brawijaya who have already passed from all reading skill courses such as Basic Reading Skills, Critical Reading and Extensive Reading worth 12 credits. Besides, they are at early adulthood (20-30 years old) period of cognitive development. English department of Universitas Brawijaya in Malang is chosen as the place to conduct the study because the number of students enrolling in Universitas Brawijaya constantly increases from year to year and be the biggest in East Java [20].
To control the language mastery of higher order thinking, the subjects are selected using purposive sampling of 35 students out of 228 the third year students on the basis of their EFL proficiency scores of at least 500. These 35 samples have already fulfilled the minimum requirement of taking samples that is 10% of the population (Ary et al, 2002). The 228 sixth semester students were given CT tests which were administered once in 90 minute duration of test time. After administering the CT tests, the samples were selected on the basis of their EP scores of 500 as the minimum. Those 228 sixth semester students of English department were divided into 6 classes. On the basis of their EP score of the minimum 500, there were 5 out of 42 students from class A, 8 out of 39 from class B, 4 out of 33 from class C, 10 out of 43 from class D, 4 out of 40 from class E and 4 out of 31 from class F were selected as samples. From this purposive sampling then the 35 samples were selected.

The aim of administering the EP is to select the subjects on the basis of their EP level. According to the guideline of administering TOEFL based on Educational Testing Service (ETS), the TOEFL equivalent score of 500 is considered in advanced level, so when they have to do the critical thinking test, it is assumed that they have no language problems anymore.

The EP scores of the English Department students in the Faculty of Culture Studies are assessed regularly in the beginning of the semester; therefore the researcher only selects the subjects on the basis of their newest EP results namely the EP scores in the even semester of 2015/2016 period in February 2016.

There are two research instruments used in this study. Firstly, using adapted ARC (Assessment Rubric of Critical Thinking) developed by [10] to measure CTS in reading, and secondly using EP Test developed by the the Faculty of Cultural Studies of Universitas Brawijaya in Malang to measure the EP level of the EFL learners. The former instrument, ARC has already been tried out to the English department students and it undergoes some changes to be adapted into Indonesian context. There are two kinds of CT test, firstly analyzing an article and secondly, assessing the articles, with the focus on assessing the author’s thinking. Each of the tests has four categories of scoring from advanced (> 75), proficient (>50 – 75), progressing ( >25 – 50) to beginning ( < 25). After analyzing, the text is assessed using nine intellectual standards to evaluate the author’s thinking. The author’s thinking is scored using the four categories as well from advanced (20), proficient (15), progressing (10) and beginning (5).

### FINDINGS AND DISCUSSIONS

On the basis of the statistical result using SPSS 16; it was found that there is a significant correlation between EP and CTS in reading. This result was obtained by using Pearson Product Moment Correlation Coefficient scores to find the correlation between two variables EP and CTS in reading. The p-value was described in TABLE 1.

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<tr>
<th>Table 1. Result of Correlation Analysis</th>
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<tr>
<td><strong>Correlations</strong></td>
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<td>EFL Proficiency (EP)</td>
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<td>CTS in Reading</td>
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**. Correlation is significant at the 0.01 level (2-tailed)

From TABLE 1, it was seen that the coefficient of Pearson correlation is 0.718. This value indicated that there is a significant relationship between EP and CTS in reading. The correlation coefficient is positive meaning that both EFL proficiency and CTS in reading move to the same direction as a sign of the relationship between the EFL proficiency and CTS in reading. The higher the EFL proficiency scores, the higher the CTS in reading scores.

Regarding the research problem, CTS in reading contributes significantly to the increase of EFL proficiency. This finding verifies some theories from [18] and [19] that scores on critical thinking tests have been found to be predictive of or associated with success in a variety of settings for example teaching critical thinking skills, success...
of educational programs, teaching clinical skills and a variety of abilities for example general academic success. In addition, the scores of CTS significantly predict grade in a university course.

In conclusion, the significant relationship between CTS in reading and EFL proficiency brings new horizons that CTS in reading could be taught to increase EFL proficiency. This study has some limitations regarding the number of the subjects used in this study which are not big enough or just adequate and very homogeneous as well. It is in accordance to what [21] has already stated that there will probably two reasons that make the researcher cannot reject the null hypothesis, first, perhaps because the instrument to collect the data is not valid and second, the design of the study is not a right design. When similar study is conducted in bigger subjects without limiting the scores of the English proficiency, it may result in different findings.

CONCLUSION

Regarding the relationship between EFL proficiency and CTS in reading, the conclusion that can be made is that the positive and significant relationship between CTS in reading and EFL proficiency means that the CTS in reading have been found to be predictive of or associated with success in general academic success. Thus, in general, it can be concluded that CTS in reading determines academic success. In addition, the CTS in reading can be used by pre-advanced EFL learners to analyze and assess information to identify the weaknesses of argument using certain standards or criteria.

On the basis of the findings, the pedagogical implication of the study is that CTS in reading can be taught to increase the scores of EFL proficiency. Therefore, it is suggested for all of the EFL teachers and curriculum developers to include CTS in reading in the curriculum and material development to increase EFL proficiency.

REFERENCES


