

*Full Length Research*

# The Intertwined Relationship between Critical Thinking and English Proficiency: Evidence from Vietnam

Pham Ngoc Think

Ton Duc Thang University, Vietnam. E-mail: [phamngocthinhtdt.edu.vn](mailto:phamngocthinhtdt.edu.vn)

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Thinking critically erects more formidable barriers for learners of English as a second language because they are required to not only think critically but also demonstrate their abilities in English. In case their English proficiency is deemed limited, they are depicted as manifesting lower levels of critical thinking competences. Despite being investigated in several contexts, few attempts have hitherto been made to examine the relationship between critical thinking and English proficiency in Confucian contexts because critical thinking is argued not to be valued in Confucian cultures. Therefore, this study is conducted with two objectives: (1) investigating such relationship in Vietnam where the influence of Confucianism can still be felt, and (2) exploring which specific aspects of critical thinking (i.e. arguments, deductions, assumptions, inferences, and interpretations) that Vietnamese students perform well and poorly. A sample of 40 undergraduates from three Vietnamese universities participated in the study by providing their results of International English Language Testing System (IELTS) as a means to evaluate their English proficiency and completing the Watson-Glaser Critical Thinking Appraisal. The quantitative analysis reveals that there is a positive and strong relationship between the participants' level of English proficiency and their critical thinking abilities. Also, among the five sub-tests of critical thinking, the inferential and interpretative skills share the highest results whereas the other aspects (argument evaluation, deductive reasoning, and assumptions) are found to be the most difficult.

**Key words:** Critical Thinking, English Proficiency, Vietnamese undergraduates, Confucian cultures

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## INTRODUCTION

In Vietnam, the dearth of skilled workers with work-related competencies has received massive criticism for the high rate of unemployment (Oliver 2002). The report conducted on the job hunting of over ten thousand students in the period from 2009 to 2012 by the Centre for Forecasting Manpower Needs and Labour Market Information revealed that only 50 percent of students complied with the basic job requirements and only 40 percent of students were highly evaluated by employers (Ngoc 2015). Among the required competencies, English

proficiency is placed centrally as a principal asset in Vietnam because graduates are expected to not only show proper understanding of the four macro skills (i.e. reading, listening, speaking, and writing) but also integrate these skills into communication, personal, and collaboration skills (Ketels et al. 2010). Nevertheless, the levels of English proficiency of both English major and non-English major students have been still limited which increases dissatisfaction with graduates' abilities from employers.

Singled out as one of the most predominant skills for the 21<sup>st</sup> century citizens, critical thinking (CT) plays an indispensable role in both students' accomplishment in tertiary level courses and crops of graduates' opportunities in the current competitive job market (Philip and Bond 2004); therefore, the application of CT within and beyond formal education contexts rises in importance. The ability to think critically encourages students to fully understand their subject-specific content and constructively respond to pressing problems. The learning progress also needs to be engaged in the activities which students evaluate new knowledge critically and bolster their problem-solving skills. With due of acknowledgement, a large body of evidence suggests that tertiary students should be more equipped with this skill (Belkin 2015) because they are not explicitly instructed to reason, argue, and solve problems during their studies (Pascarella et al. 2011).

The mounting comments from academic staff members to international students in Western universities has provoked more studies showing that Asian students obtain poor CT abilities (Durkin 2008; Robertson et al. 2000). However, there is a lack of empirical studies worked on Asian educational contexts because most of the comments about Asian students' CT are drawn from the investigations in English-speaking countries. Vietnam, as a country where the influence of Confucianism can still be felt in every aspect of the superstructure of the society (Nguyen et al. 2005), has encountered major barriers to foster CT. In fact, CT has been still in its infancy stage for Vietnamese tertiary students and has not appeared in any of official documents. Despite publicly acknowledged as an essential skill for learning, quite a few Vietnamese researchers have attempted to suggest the heavy emphasis on CT into the classroom (e.g. Cau 2013; Huyen 2014) and only few empirical studies have been carried out in English classrooms so far (e.g. Trang 2014a).

The implementation of CT into second language (L2) facilitates students to sharpen communication skills, master different types of spoken and written language, and display creativity (Brumfit et al. 2005). However, CT erects more formidable barriers for L2 learners because they not only think critically but also demonstrate their CT in L2. In case students' L2 proficiency is deemed limited, international students are depicted as manifesting lower levels of CT competences (Floyd 2011; Lun et al. 2010). It is explained that CT requires the use cognitive resources in working memory whereas the use of a language also entails a considerable amount of those resources (Baddeley 1998). As a consequence, there may not be adequate resources remaining for the satisfactory execution of CT if they are expended for lower language proficiency because of insufficient resources available in working memory.

The relationship between English proficiency and CT

abilities has been under investigation in several contexts: Malaysia (Rashid and Hashim 2008); Iran (Keihaniyan 2013); South Africa (Grosser and Nel 2013). As none of them belongs to Confucian countries, there is a need for more empirical evidence in such context. The reason is that CT portrayed as "cultural thinking" and Western skill is argued not to be valued in Confucian cultures (Atkinson 1997, p.89). Noticeably, prior studies have not further examined which components of CT abilities are students' strengths and weaknesses respectively. Therefore, this study is conducted with two objectives: (1) investigating the relationship between CT and English proficiency of Vietnamese tertiary students and (2) exploring which specific aspects of CT abilities that Vietnamese students perform well and poorly.

Using a sample of 40 undergraduates pursuing their degree at three different universities in Ho Chi Minh City (Vietnam), the findings reveal a positive relationship between participants' CT performance and their level of English proficiency. With regard to the five sub-tests (arguments, deductions, assumptions, inferences, and interpretations), the results are different from the prior research which states that both inferences and interpretations are Vietnamese students' best performance while argument evaluation is recorded as the poorest performance.

Contributing to the existing literature, this is the first study to rigorously examine the relationship of tertiary students' English proficiency and their CT abilities in the Vietnamese context. It helps to clarify whether the shortage of high proficiency in English is consistent with the poor performance in CT abilities among students in such Confucian culture. The paper provides strong evidence showing the intertwined relationship between CT and English proficiency and calls to teachers, policymakers, and educationalists for the need to create an educational system that promotes such life-long learning skills.

The remainder of the paper is organised as follows: Section 2 presents the literature and outlines the development of the research hypothesis. Section 3 describes how data is collected and sampled. Section 4 outlines the methodology and measures. A section 4 reports empirical result with the discussion is followed up. Section 5 generates the conclusion.

## LITERATURE REVIEW

### English proficiency in Vietnam

Issued in 1986, the "Open Door" (Doi Moi) policy has attracted unprecedented attention from all stakeholders and marked a noticeable shift in rising the perceived value of English language. Accordingly, the national consensus on the need to learn English results in the

rapid growth and massive expansion of learners. In addition, the approval of National Foreign Language 2020 Project with substantial efforts to raise the quality of teaching and learning foreign languages has also witnessed a perceptible change of Vietnamese students' English language skills from a "low proficiency" toward a "moderate proficiency" country based on the annual report of The Swiss Education First English Proficiency Index in 2017. In accordance with the government's promulgation of successive policies, more Vietnamese tertiary institutions have increased in number to integrate standardised English proficiency tests, for instance, IELTS (International English Language Test System), TOEIC, or design self-developed tests as means of graduation standard control into academic study programmes (Nguyen and Burns 2017). In terms of IELTS, a report on its official website ([www.ielts.org](http://www.ielts.org)) about overall band scores for Academic test takers in 2015 revealed that Vietnamese candidates achieved 6.0 which could be classified as level B2 based on the Common European Framework References for Languages (CEFR).

In spite of the positive reports, Vietnamese university students' English proficiency is still far from satisfactory. At a hearing of the National Assembly held in Hanoi in 2016, groups of educational experts and the Minister for Education and Training argue that crops of graduates have unsatisfactory English proficiency. Despite the fact that Vietnam has tried to improve English language skills among Vietnamese students, their proficiency is still regarded lower with a strong exam-oriented focus playing a significant role. Most Vietnamese employees display a very low-level of communicative competence in English, which leads to a doomed fate that they could not be offered jobs in multinational companies. A study of Do (2012) showed that 90% of 990 junior non-English major students from five universities in Vietnam did not reach the language requirements from employers because they only scored between 360-370 points on the TOEIC (Test of English for International Communication).

### **Critical thinking**

Despite being widely acknowledged and referred as the promise land (Papastephanou and Angeli 2007); CT has been a buzzword with a plethora of definitions (Ennis et al., 2005; Moseley et al. 2005, Stenberg et al. 2007). These experts, however, entirely concur that CT involves an ability to produce a satisfactory outcome by applying rational thinking in a goal-oriented fashion. Indeed, an approach to understanding CT is through the concepts of employing reasoning, making judgments, demonstrating procedural knowledge, providing reflection, and giving justification (He et al. 2013). In other words, Halpern (2014, p.8) posits that a critical thinker is a person who

displays "purposeful, reasoned, and goal-directed" thinking which is also described by solving problems, formulating inferences, calculating likelihoods, and making decisions. Regarding mounting CT definitions, Lloyd and Bahr (2010) emphasise a need for a precise and consistent definition because the diversity remains problematic (Tanner 2005). As stated by Knight (2007), without clear understanding and conceptualisation of what CT means, the assessment of students' work cannot be fair and valid.

Extending beyond being taught separately, a significant portion of empirical evidence points out the effectiveness of CT's integration into subject-based instruction (Beyer 2008; Mazer et al. 2008). Accordingly, the implementation of CT is congruent with the demanding requirements for profound subject-matter teaching in which learners are able to bolster their thinking quality in the specific subject and sharpen their subject-matter learning.

The conceptualisation of CT used in this study is in accordance with the primary research purpose to investigate the relationship between English proficiency and CT; therefore, it is a prime focus on its multi-dimensional interrelated cognitive nature (Facione 2011; Halpern 2007). Theoretically, the multi-dimensional nature of CT, according to Kong and Seng (2004), entails two aspects. First of all, CT refers to how dispositions develop which aims at seeking to discover the truth, simulating interests and looking for reliable information. Secondly, it is in line with the growth and practical use of interrelated cognitive and meta-cognitive skills which require the abilities of problem-solving, meaning expression, relationship identification, credibility assessment, element identification in order to reach logical conclusions and publish coherent results. This bodes for the CT abilities on which the Watson Glaser Critical Thinking Appraisal (WGCTA) that was employed in the research context. In detail, being critical means (1) making inferences, (2) testing assumptions, (3) interpreting conclusions, (4) evaluating conclusions, and (5) evaluating arguments (Watson and Glaser, 2002). This definition is consistent with the review of Cheung et al. (2002, p.505) which also lists interpretation, analysis, arguments, inferences, and deduction as prominent features of many CT definitions.

### **Language proficiency and Critical thinking**

CT is a key driver and a central focus when linked to language learning because language learners acquiring CT could think creatively to accomplish the curriculum outcomes, make decisions, solve problems, and gain lifelong learning (Mahyuddin et al. 2004). The promotion of CT into the foreign language classrooms, as highlighted by Rafi (2011), is highly correlated with

students' achievements; therefore, they broaden and evaluate their learning process on their own ways, and grasp the meaning of learning a language. Also, a growing body of evidence addresses the role of CT in enhancing the acquisition of English language, for instance, writing ability (Rafi 2011); language proficiency (Liaw 2007); oral communication skills (Kusaka and Robertson 2006). Rafi (2011) specifies that there is a close relation between the development of language learning and thinking skills because learners may reach the higher level of language proficiency through the encouragement of CT support along the lessons. With regard to the influence of language proficiency as a contributory factor to CT performance among university students, Bauer et al. (2006) pinpoint that the level of language proficiency has come to the fore as a possible solution to form clear opinions.

In order to explore the relationship between English proficiency and CT abilities, a body of empirical evidence from academics leading to mixed results on such relationship has been accumulated. The study of Keihaniyan (2013) undertaken on 100 Iranian undergraduates establishes a positive relation between critical thinking ability and English proficiency. These findings align with the prior study of Rashid and Hashim (2008) as Malaysian undergraduates are able to display their CT abilities well if they reach the high level of English proficiency. Take it further, the findings of Keihaniyan (2013) also imply that a majority of participants cannot shape their CT because their poor English language skills are linked with the habit of relying heavily on rote-learning. Thus, it suggests that explicitly instructing CT contributes to the effectiveness and deeper impression of language learning. The study of Manalo and Sheppard (2016), contributing to the existing literature, reports that Asian students in English-speaking countries are unable to display the same level of CT compared with their Western counterparts because they lack adequate English proficiency. Their results point out the influence of language proficiency on how students produce evaluative language because less proficient users need more cognitive processing resources which leads to the limitations of remaining resources for the expression of CT.

Although the three mentioned studies clarify the relationship between CT and English proficiency, there are still some questions left to be answered about the research instruments. In detail, the study of Keihaniyan (2013) only covers the evaluation of speaking skills through the Preliminary English Test, which is insufficient to describe the holistic picture of each participant's English proficiency. According to Zhang (2013), the ability to pronounce a sentence correctly, express ideas with proper intonation is not enough to satisfy the whole demand for L2 learning. By the same token, Manalo and Sheppard (2016) measure English proficiency by using

TOEIC but this version only covers English listening comprehension and reading skills. As stated by Nicholson (2015), this TOEIC version is inappropriate for its intended purposes as an indicator of language ability and fails to be a reliable and valid measurement of English language proficiency. Moving to the research of Rashid and Hashim (2008), the translated version of the Cornell Critical Thinking Test into Bahasa Malaysia is employed as a mean to test the participants' CT abilities. Baddeley (1998) compares the adoption of cognitive resources in working memory when performing CT and using language simultaneously as a considerable challenge for L2 learners to demonstrate CT effectively; therefore, the implementation of participants' first language to measure CT abilities cannot construct a clear picture of the relationship between CT and English language proficiency.

In an attempt to investigate which sub-tests are performed well and poorly, the findings have still been limited. Only Grosser and Nel (2013), when examining the relationship between CT and the academic language proficiency of South African prospective teachers, report that participants performed the sub-tests of inferences and interpretations poorly. The information about students' good performance on sub-tests was not listed in the data analysis.

Taken together, to the best of the author's knowledge, there are limitations on the relation between CT abilities and English proficiency as well as students' performance on specific sub-tests. They suggest that there still remains a sustained effort for extensive exploration on such mentioned research gaps.

## **METHODS**

### **Participants**

Initial attempts for the group of voluntary participants were made through a post on Facebook. It was composed to provide information about the requirements of English proficiency, the length of the CT test, and the research aim. As a result, the data sample for this study was made up of 40 students whose IELTS results were still valid for a period of two years since the test date. All of them are third-year and fourth-year students from three universities in Ho Chi Minh City (Vietnam). As their scores ranged from 4.5 to 6.5, they were classified into two equivalent Common European Framework References for Languages (CEFR) due to the explanation of Cambridge English Scale (IELTS 4.5/ 5.0: B1, IELTS 5.5/ 6.0/ 6.5: B2). Nine (22.5%) of participants achieved level B1, whereas 31 (77.5%) reached level B2.

All the participants were informed that their participation was anonymous and voluntary; therefore, they were able to withdraw from the research at any time. The assurance

was given to the participants that their results would be treated confidentially.

### Instrument and Procedure

The online questionnaire includes two main parts: (1) the subjects' IELTS results, and (2) 59 question items in which they demonstrate their high levels of abstract and logical thinking, commitment and attitudes or habits of mind.

Concerning IELTS, it is widely accepted as a valid and reliable mean of language assessment in which students' level of English proficiency is identified and verified (Charge and Taylor 1997). As argued by Bayliss and Ingram (2006), although IELTS is meant to indicate whether a student has a sufficient level of English proficiency to cope with the linguistic demands of the studies in tertiary context, it does not imply that they will succeed academically or that they will not struggle linguistically.

In order to measure students' CT abilities, the free sample WGCTA test on the website [assessmentday.co.uk](http://assessmentday.co.uk) was chosen because of limitations in the budget. This 59-item test addresses five sub-tests of CT abilities: analysing arguments (17 items), deduction (12 items), assumptions (14 items), inferences (10 items) and interpreting information (6 items). The WGCTA was employed in this research because its aforementioned five components were closely related to prime CT factors identified in the major literature.

The scores obtained can predict success and training outcomes in a range of applied and academic settings (Wagner and Harvey, 2013). The common test format contains 40 questions within a 30-minute period or 80 questions within a 60-minute period. Based on the recent empirical evidence of Gadzella et al. (2006) and Wagner and Harvey (2006), the test is conceived as a valid testing instrument because it ensures the degree of reliability and validity.

In this research, total scores range from 0 to 59, with higher scores reflecting greater CT abilities. The first section "analysing arguments" requires students to assess if each argument based on the given scenario is strong or weak. Accordingly, the argument is perceived to be strong or weak if there is a direct or indirect relation with the question or statement. The next part is "deductions" in which students carry out their evaluation of a list of deductions made based on the provided passage of information. In the third section "assumptions", it requires students to decide whether or not an assumption has been made in making the statement. The fourth part "inferences" aims to provide a passage of information on a scenario in which students rate the reference in terms of five options (i.e. true, possibly true, more information required, probably false, and false). The last section "interpreting information" asks

students to interpret information in the given paragraph of information by deciding whether each conclusion follows with regards to the presented information. All of the five sections are designed to find out how good an individual student is at making analytical and logical reasons by both displaying their thinking skills and English language proficiency. Therefore, this assessment has the content validity as it matches the objectives of the study (Bachman, 1990). In terms of reliability of the questionnaire employed in the present study, it is 0.75 using Cronbach's alpha coefficient of internal consistency which reaches a satisfactory level (Nunnally and Bernstein, 1994).

### Approaches to Analysis

Regarding CT results, each section's result (i.e. analysing arguments, deductions, assumptions, inferences, interpreting information) was initially converted into ratio because the number of questions is not equal. Next, data gained through the IELTS and CT results were analysed quantitatively by using STATA version 14 statistics software. This aimed to test the statistical meaning of each participant's scores.

## EMPIRICAL RESULTS AND DISCUSSIONS

As depicted in *Table 1*, the overall average of students' whole CT test (CTR) is 23.225 out of a total of 59 points with the minimum total score of 9 and maximum score of 32. The mean score of their English proficiency (EP) is 5.713 with the minimum of 4.5 and the maximum of 6.5. CT abilities are measured by the five sub-tests: arguments (ARG), deductions (DED), assumptions (ASSUM), inferences (INFER) and interpretation (INTER). The mean of ARG, DED, ASSUM, INFER, and INTER are 0.315, 0.444, 0.361, 0.460 and 0.483, respectively.

Table 2 shows that the correlations between students' English proficiency and their CT abilities (whole test and sub-tests) on six sets of data (EP-CTR, EP-ARG, EP-DED, EP-ASSUM, EP-INFER, EP-INTER) are all very similar: EP correlates with CTR ( $r=0.9037$ ,  $p<0.01$ ); EP with ARG ( $r=0.6490$ ,  $p<0.01$ ); EP with DED ( $r=0.6367$ ,  $p<0.01$ ); EP with ASSUM ( $r=0.7843$ ,  $p<0.01$ ); EP with INFER ( $r=0.6696$ ,  $p<0.01$ ); and EP with INTER ( $r=0.5332$ ,  $p<0.01$ ). These results suggest that each component of the CT test (i.e. arguments, deductions, assumptions, inferences, and interpretations) is positively correlated with the level of participants' English proficiency. The present findings are consistent with prior studies of Floyd (2011), Keihaniyan (2013), Lun et al. (2010), Patron (2005), and Rashid and Hashim (2008), which indicate that both English proficiency and CT are closely tied together because higher levels of English are associated with higher results in CT test.

**Table 1: Descriptive statistics**

	Mean	Median	Std.	Min	Max
CTR	23.225	22	0.926	9	32
ARG	0.315	0.294	0.017	0.059	0.529
DED	0.444	0.417	0.022	0.167	0.75
ASSUM	0.361	0.357	0.017	0.143	0.571
INFER	0.460	0.450	0.026	0.1	0.8
INTER	0.483	0.5	0.037	0	1

EP	5.713	5.5	0.096	4.5	6.5
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**Table 2: Correlation matrix**

	EP	CTR	ARG	DED	ASSUMP	INFER	INTER
EP	1						
CTR	0.9037*	1					
ARG	0.6490*	0.7458*	1				
DED	0.6367*	0.6715*	0.2316	1			
ASSUM	0.7843*	0.8089*	0.5352*	0.4736*	1		
INFER	0.6695*	0.7701*	0.5154*	0.4635*	0.4899*	1	
INTER	0.5332*	0.6237*	0.3537	0.2536	0.4524*	0.2944	1

*\*p < 0.01*

This study further tests whether there are mean differences of CT test score between two groups participants based on how they are proficient in English. As mentioned above, B1 represents students who achieved IELTS 4.5 or 5.0, whereas those scoring IELTS 5.5 or 6.0 or 6.5 are classified as B2. Accordingly, alternative hypotheses are formulated as follows:

H0: *There is no mean difference between B1 and B2 concerning their performance in whole test and sub-tests.*

H1: *There exists mean difference between B1 and B2 concerning their performance in whole test and sub-tests.*

Table 3 reports the results of the pair-sample t-test of six sets of data. In overall, the p-value of each set is less than 1% or 5%, which states that the mean of B2 is higher than B1. Concerning the whole CT test and each section of the test (i.e. arguments, deductions, assumptions, inferences, and interpretations), students with higher level of English proficiency perform their CT abilities well than those with the lower level of English proficiency. This finding aligns with the conclusion of Tian and Low (2011) and Manalo and Sheppard (2016) that better language skills considerably become a significant factor affecting CT. In detail, if students whose English is

less proficient (e.g. lack of linguistic knowledge), their working memory is insufficient to satisfy the higher cognitive processing resources and their CT demonstration appears less effective. Compared with the group of B2 participants, B1 students' CT abilities are fraught with insurmountable difficulties by means of language use. They are unable to advance adequate understanding, give coherent expression, make reasonable assumption, draw logical inferences, and construct strong arguments with deeper levels of thought. These findings, therefore, advocate that English mastery is a significant factor contributing to how students display their CT.

After confirming the existence of a significant, positive relationship between CT and English proficiency of Vietnamese students, this study also examines the relationship between every two sub-tests to find out which one is students' strength and which one is their weakness.

As evinced in Table 4, the p-value of the first four sets is less than 1% or 5% which states that the mean of ARG is the smallest (ARG=0.315, ASSUM= 0.361; DED=0.444, INFER= 0.46, and INTER=0.483). Moving to the next three sets of data, the mean of DED is smaller than the means of both INFER and INTER (0.444 <0.46; 0.444<0.483) with the p-value is less than 1% or 5%. Among the five sub-tests, the inferential skill and interpretive skill are Vietnamese students' strengths while

**Table 3: Two sample t-test results for whole test and five sub-tests based on English proficiency**

		Mean	t	Two-tailed p	n
CTR	B1	17.333	-4.050	0.000	9
	B2	24.936			31
ARG	B1	0.248	-2.216	0.033	9
	B2	0.334			31
DED	B1	0.352	-2.381	0.022	9
	B2	0.470			31
ASSUM	B1	0.246	-4.285	0.000	9
	B2	0.394			31
INFER	B1	0.355	-2.301	0.027	9
	B2	0.490			31
INTER	B1	0.315	-2.620	0.013	9
	B2	0.532			31

**Table 4: Two independent sample t-test results for five sub-tests**

	Mean	t	Two-tailed p	n
ARG	0.315	-5.277	0.000	40
DED	0.444			
ARG	0.315	-2.785	0.008	40
ASSUM	0.361			
ARG	0.315	-6.491	0.000	40
INFER	0.460			
ARG	0.315	-0.337	0.000	40
INTER	0.483			
DED	0.444	4.035	0.000	40
ASSUM	0.361			
DED	0.444	-0.651	0.519	40
INFER	0.460			
DED	0.444	-1.039	0.305	40
INTER	0.483			
ASSUM	0.367	-0.199	0.000	40
INFER	0.460			
ASSUM	0.367	-3.698	0.000	40
INTER	0.483			
INFER	0.460	-0.606	0.548	40
INTER	0.483			

argument evaluation records their poorest performance.

Interestingly, the findings of the inferential skill and interpretative skill are completely contradictory to the prior study of Grosser and Nel (2013) when they indicated that the sub-test of making inferences and interpreting information appeared to be the most difficult. Making inferences, based on their explanation, is the only sub-test with five possible solutions (e.g. true, probably true, more information required, probably false, and false); therefore, each participant was given 25% chance of having correct answers compared to the other sub-

tests. Furthermore, their findings were supported by Kong and Seng (2004) as the skill of making inferences was related to experiences and personal understanding of an issue rather than being practically measured by selecting one specific answer. They also highlighted that the information in the test scenarios unconnected with the participants' source of knowledge was attributed to their poor results in the subtest "inferences". However, in the present study, the inferential was found to pose less problematic challenges for Vietnamese students. It might be explained that Vietnamese participants did not

struggle with the two linguistic problems of inference making (unfamiliar words and inability to get explicit content words) that were mentioned in the study of Mulyaningsih et al. (2013). The poor results of both inferences and interpretations could also lead to the ineffectiveness of comprehension skills (Grosser and Nel 2013); however, the positive performance of Vietnamese participants in such these skills are supported by Pienaar (2001) to be connected with the process of more thorough and effective critical evaluation.

In terms of the sub-test “arguments” and “assumptions”, the findings are inconsistent with what Grosser and Nel (2013) concluded before. As stated by the two authors, both sub-tests were the least difficulty because of the highest means achieved. Nevertheless, Vietnamese participants in this research were found to encounter considerable difficulties when determining whether certain conclusions or arguments necessarily followed from given information. Regarding the sub-test “deductions”, it is explained that the performance in deduction is linked with the difficulty to assess and interpret the credibility of statements (Facione 2011).

## CONCLUSION

The present research attempts to investigate the relationship between English proficiency and CT abilities through the scope of Vietnamese tertiary level. The empirical evidence collected from the analysis of quantitative data assists to clarify the two aforementioned research objectives. Firstly, the findings confirm that English proficiency is a contributing factor in participants’ performance of CT. Secondly, among the five sub-tests in the WGCTA, the inferential and interpretive skills both share the most positive performance compared to the other three skills (i.e. arguments, deductions, and assumptions).

As can be seen from the analysis, the CT abilities of Vietnamese undergraduates participating in the study are still limited; therefore, there is a need to not only bolster students’ English level of proficiency and their CT performance but also draw attention for the importance of CT. In terms of pedagogical suggestions, the teaching approaches and activities together with the assessment should be in line with the objective to integrate CT. As a result, students are provided more valuable opportunities to master their English skills and gradually develop the abilities to think critically. Regarding the five sub-tests, the lessons should be engaged with introducing these terms to students so that they are able to build up their awareness. By the same token, more practical chances with specific techniques might further enhance their performance.

In the research, IELTS is utilised as to evaluate

participants’ English proficiency; however, in order to obtain more reliable information about their proficiency, future researchers might narrow down the valid test dates from two years to one year or five months, or require participants to take part in an English proficiency test at the same time. Due to the limitations of budget in the research, future investigations should be adopted with an updated version of WGCTA to produce more details about students’ CT abilities.

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