Indonesian Employees'Writing Skills, Linguistic Intelligence, and Critical Thinking Levels

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Abstract— **Former studies have shown that the ability to write should be supported by high reasoning capability called critical thinking. Separately, previous studies also show that the ability to write must be accompanied by proficiency in the language called linguistic intelligence. This paper presents research into Indonesian employees' writing skills and its relationship with critical thinking and linguistics intelligence level. The method used is descriptive quantitative by taking a sample of 137 people who contributed in a global competitiveness test called Global Talent Program. The finding shows there is a significant relationship between the employees' writing skills, linguistic intelligence and critical thinking levels. The results of the study are expected to motivate each individual in a learning organization to sharpen his/her critical thinking skills and linguistic intelligence so as to improve one's performance in communicating his/her writing in order to be recognized internationally.**

Keywords--Global competitiveness; writing skill; linguistic intelligence; critical thinking; performance

I. INTRODUCTION

A number of studies on the relationship between writing skills and the level of linguistic intelligence as well as writing skills and the level of critical writing have been widely conducted. This can be seen in the reviewing papers of Ahmadian and Hosseini [1], Khodabakhsh et al [2], Tsai &Lin [3], Fahim and Anshori [4], Harkla [5], Idrus and Abdullah [6], Iskifoglu [7]. This shows that the interest in studying the relationship among writing skills, linguistic intelligence and critical thinking is very high. The majority studies above took the sample of students [8-14]. However, a similar research with the employees taken as the sample is still rarely found.

In business field, globalization has caused a more competitive working market to occur that significantly influences the quality of employees. Companies are currently operating in a significantly competitive environment [6]. Prabhakar cited in Idrus [6] states that in selecting new employees, the companies manage to hire the right employees with the right skills. A study shows that 75% of the long term successful working depends on the soft skill and only 25% of the success may rely on the technical knowledge. Therefore,

individuals who have the ability to communicate effectively and have the capability of performing required tasks are significantly required. Communication ability is one of the most required skills from certain individuals, required particularly by the employers. Zedeck&Goldstein cited in Idrus [6].

English has been widely accepted as the mostly used language in the world since it functions as the main means of global communication [15]. In business field, English as the international language has become the language of de facto. Therefore, in challenging the global competition, every business people must be able to communicate well using English [15].

In order to be able to communicate well, one's must comprehend the four basic skills of languages comprising listening, reading, speaking, and writing. Furneaux cited in Ahmadian & Hosseini [1] declared that writing is essentially a social act, a means of communication, and according Tsai and Lin [3] writing has always been considered a complicated and multifaceted task especially when it comes to writing in a second or foreign language. Yet for English as a foreign language learners, writing is essential language reinforcing skill [2]

Writing skills are prominent in life, yet many scientists, practitioners, and business people in Indonesia do not master the skill. Fahim & Anshori [4] states that the low writing skills of the Indonesian people, including lecturers, practitioners, business people, and college students, are a reality that Indonesians are not used to writing their ideas productively.

After observing the issue at PT. Telkom Indonesia, as one of the biggest state owned companies in Indonesia, several problems relating to the employees' writing skills were discovered. The problems identified are: (1) employees' low interest towards the writing activities, (2) employees' lack ability in developing an idea or thoughts in writing, and (3) employees' lack ability in organizing the meaningful ideas. These conditions are uncovered through the observation on the examination results of the employees who are going to participate in the Global Talent Program. This program is a

specified task for PT. Telkom employees who are talented in order to be made into great people aiming to win the competition and achieve business objectives through international assignation and certification experience.

Related to the statement above, Leki cited in Harklau [5], specifies that it is vitally important to understand foreign language writing development and its own right and to consider all the traits that affect writing and empower it. Recently, the importance of writing has been realized much better, unfortunately it is still seen less common than other skills to be measured and evaluated. In fact writing is one of the productive skills along with speaking; it is among the important skills and there are a lot of cognitive and mental factors that may affect writing ability [1]. Furthermore, in speaking, paralinguistic means, such as gestures, nodding, etc. can be used to make speakers get the intended meaning clearly, whereas writing is purely based on linguistics [8]. .

As the name implies, linguistic intelligence is directly related to language abilities, including writing [1]. One's ability to express ideas or thoughts is also influenced by the linguistic intelligence. Linguistic intelligence is the ability owned by individuals involving one's intuition towards the spoken and written language, ability to learn language, and ability to use the language in order to achieve particular goals [16]. Based on the explanation, the writer assumes that linguistic intelligence relates closely with the English learning; one of them is the writing skills. According to Gardner in Sharifi [14], writing activity is one of the activities mastered by individuals with certain linguistic intelligence.

Besides linguistic intelligence, the ability to think critically is a determining factor for the successful in writing since it shows the logical, clear, and firm idea of organization. As stated by Elbow cited in Khodabakhsh [2], One of the applications for critical thinking in the world of education is writing. The ability to think critically can be acknowledged or measured through various forms of activities such as speaking and writing [11].

As such, the major concerns of this paper is to determine the degree of correlation among the Indonesian employees' writing performance, linguistic intelligence and critical thinking levels. The aim is to highlight the necessity of taking individual differences into consideration in writing skills. If it turns out that this intelligence and critical thinking have any positive relationship with employees' writing ability, there would be a new trend to help the employees improve and develop their writing skills.

II. METHOD

The object of this research is the ability of PT. Telkom Indonesia TBK employees in writing using foreign language, the level of their critical thinking, and their linguistic intelligences. The selection of research object and subject was based on the consideration that Global Talent Program demands employee selection based on their language skills; writing skills in particular. Based on the data in 2013 from Telkom Corporate University, as one of the Global Talent executives, there were 420 employees participating in the selection of the program. The samples in this research, after

being selectively calculated using Slovin formula with the margin of error of 7%, were 137 persons of the total population participating. Sampling technique was performed accidentally. The technique is said as non-probability sampling technique which determines the sample based on a spontaneous factor. Spontaneous means that any sample meeting the characteristics is voluntarily willing to be the respondents.

A. Research Method

This research was causality. Data analysis technique used regression analysis aiming at discovering the impact of a particular variable over the others. Every regression analysis shall automatically be followed by correlation analysis. However, the correlation analysis may not be continued with the regression analysis.

B. Tools

One's ability to express ideas or thoughts is also influenced by the level of linguistic intelligence [10]. Linguistic intelligence is the ability owned by individuals involving one's intuition towards the spoken and written language, ability to learn language, and ability to use the language in order to achieve particular goals [16]. The characteristics of linguistic intelligence comprise: the passion of writing creatively at house, composing fictions story, telling jokes and fairytale, having strong mind in memorizing names, dates, or small things, enjoying reading books in the spare times, spelling out words fast and easily, enjoying funny rhymes and word games, enjoying crossword puzzle or playing games such as scrabble or anagram, enjoying to listening spoken words (story, radio program, reading books, etc.), having extensive vocabularies for particular age group, and having excellences at school lessons involving the activities of reading or writing [18].

Thinking critically is a process of making use the ability to think effectively that it may assist one to make, evaluate, and decide on what to believe and what to do. One premier tool for surveying the dispositional aspects of critical thinking is The California Critical Thinking Disposition Inventory (CCTDI) [7]. The CCTDI is specifically designed to measure the disposition to engage problems and make decisions using critical thinking [17]. The CCTDI measures seven attributes that influence an individual's capacity to learn and to apply critical thinking skills effectively: the disposition toward truth-seeking or bias, toward open-mindedness or intolerance, toward anticipating possible consequences or being heedless of them, toward proceeding in a systematic or unsystematic way, toward being confident in the powers of reasoning or mistrustful of thinking, toward being inquisitive or resistant to learning, and toward mature and nuanced judgment or toward rigid simplistic thinking. Thinking critically is a process of making use the ability to think effectively that it may assist someone to make, evaluate, and decide on what to believe and what to do.

III. RESULTS AND DISCUSSIONS

A. Research Results

The results of the research and data analysis are intended to test the specified hypothesis. The technique used in the

testing was multiple linear regression statistics. The analysis is intended to discover the relations among the writing ability using English, the level of critical thinking, and the linguistic intelligence; are they positively or negatively related. In addition, it is also intended to predict the score of dependent variable if the score of independent variable undergoes decreasing or increasing. The data used in this research were scaled as interval or ratio.

The data was collected through questionnaire and test provided. The data was then illustrated in tables and graphs. The analyzed data exhibits the result is shown in Table 1:

TABLE 1. VALIDITY TEST RESULTS FOR CRITICAL THINKING VARIABLE

Item	Score	Information
1	0.392	Valid
2	0.392	Valid

Information: r-table with N = 136 and the significance level of 95% is 0.1416

From the test results illustrated in table 1 and 2, all items are said to be valid. Validity and reliability tests are not performed on the writing skills since it serves as fixed measure and is used globally to assess one's English ability.

Reliability Test

The result of reliability test is illustrated in the table 2:

TABLE 2. THE RESULT OF VARIABLE RELIABILITY TEST

No	Variable	Alpha Cronbach Score
1	Multiple Intelligence	0.860
2	Critical Thinking	0.563

The table above illustrates that the score of α = 0.903 > 0.5 so that it shows that the question items are reliable.

The Analysis of Multiple Linear Regressions

The steps taken in this analysis were; first, interpreting the determinant coefficient, second, testing the F statistic, and third, testing the partial regression using T testing. The output of SPSS for interpreting the determinant coefficient is shown in the table 3:

TABLE 3. THE RESULT OF MULTIPLE LINEAR REGRESSIONS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.602[a]	.362	.352	.92461
a. Predictors: (Constant), MTRTY, LING_INT				

The table shows that *adjusted R^2* = 0.362, it indicates that 36.2% of writing skill variation can be explained from two variables of *linguistic intelligence* and *critical thinking*, whereas the rest of 63.8% can be explained by others causes outside the model.

TABLE 4. THE RESULT OF F STATISTIC TESTING

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	64.765	2	32.382	37.731	.000[a]
	Residual	114.145	133	.858		
	Total	178.910	135			
a. Predictors: (Constant), MTRTY, LING_INT						
b. Dependent Variable: WRT_SKLL						

Based on the Anova table on the F test, the score of F is 37.731 with 0 probabilities. Since the probability is smaller than 0. 05, it can be concluded that the coefficient of regression of the independent variable was not equal to zero or that both independent variables simultaneously affected the dependent variable (*writing skills*). It also means that the score of the determinant coefficient R^2 is not equal to zero, or significant. The output of SPSS display for the significance testing of individual parameters is shown in table 5:

TABLE 5. THE RESULT OF SIGNIFICANCE TEST OF INDIVIDUAL PARAMETER

Coefficients

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
1	(Constant)	1.886	.365		5.172	.000
	LING_INT	.766	.095	.562	8.042	.000
	MTRTY	.271	.126	.151	2.156	.033
a. Dependent Variable: WRT_SKLL						

To interpret the coefficient of the independent variable parameter, *unstandardized coefficients* were used. Of the four independent variables included in the model, all variable are significant at α = 5%; it can be seen from the variable probability, which is under 0. 05. Eventually, it can be concluded that *writing skills* is affected by the *linguistic intelligence* and *critical thinking;* with the following mathematical equation:

$$Y = 1.886 + 0.766x_1 + 0.271x_2 \qquad (1)$$

The above mathematical equation shows that:
1. The positive constant coefficient indicates that with the absence of the independent variable, the score of writing skill is still positive.
2. The positive regression coefficients x_1 (*linguistic intelligence*) and x_2 (*critical thinking*) indicate that whenever the linguistic intelligence and critical thinking undergo increases, the score of writing skill tends to improve.

B. Results and Discussion

Based on the data analysis, there are relations among the level of critical thinking, linguistic intelligence, and the writing ability of the employees of the Indonesia's biggest state owned company. From the correlation coefficient of 0.362, it shows that among the critical thinking levels, linguistic intelligence, and writing ability using English, the correlation is quite significant. This means that the relation among the critical thinking level, linguistic intelligence, and

writing ability are positively related. This also means that if the employee's critical thinking ability and linguistic intelligence are high, the writing ability tends to improve. On the contrary, if the employee's critical thinking ability and linguistic intelligence are low, the writing skills tend to come down.

The discussions of the research results for each variable are described as follows: One's ability to write in his or her mother's or foreign language can be used as a benchmark for assessing his or her language competence. One who can write properly and correctly shall have a better language competence. It can be seen from the fact that one must firstly master the three skills; listening, speaking, and reading before mastering writing skills. In other words, writing skills can be said as the most complex skill.

The data of English writing of PT. Telkom employees are the primary data collected from the writing test of IELTS; one of many requirements to participate in Global Talent program. The IELTS (International English Language Testing System) is a globally acknowledged test intended to test one's ability in using English. The test comprises four language skills; listening, reading, speaking, and writing. The writing test takes 60 minutes. The participant works on 2 given tasks. In order to get through this test, English is used for various purposes to show one's ability in adjusting the writing style for the different topics and context. Sentence structure, vocabulary, grammar use, and style shall be scored. After completing the series test, the participants shall be scored and be given the following "band score".

The writing test in IELTS for the employees is turned into Y variable and the average score of 4.5 is gained with the lowest score of 4 and the highest score of 8.

TABLE 6. THE CATEGORY AND PERCENTAGE OF THE WRITING ABILITY OF THE EMPLOYEES OF PT. TELKOM IN IELTS

No.	Number of Respondents	Category	Score	Percentage
1	0	Real users	9	0%
2	4	Very good users	8	3.45%
3	33	Good users	7	24.05 %
4	30	Competent users	6,5	45 %
	32		6	
5	12	Simple users	5,5	17.28%
	2		5	
6	13	Limited users	4,5	10.22%
	12		4	
7	0	Very Limited users	3,5	0%
	0		3	
8	0	Intermittent users	2	0%
9	0	User with no language skills	1	0%
Total	137			100%

Based on the analysis of the research data provided in the table, it can be acknowledged that most of the employees of PT. Telkom participating in the selection for Global Talent Program have good writing ability in English. It is indicated by the findings that 3.45% of the employees are the *very good* users of English, 24.05% are the *good* users, 45% are the *competent* users, 17.28% are the *simple* users, and 10.22% are the *limited* users.

Based on the explanation, the writer assumes that linguistic intelligence relates closely with the English learning, and one of them involves writing skill. According to Gardner [16], writing activity is an activity mastered by those who have linguistic intelligence. The characteristics of linguistic intelligence comprise; the passion of writing creatively at house, composing fictious story, telling jokes and fairytale, having strong mind in memorizing names, dates, or small things, enjoying reading books in the spare times, spelling out words fast and easily, enjoying funny rhymes and word games, enjoying crossword puzzle or playing games such as scrabble or anagram, enjoying to listening spoken words (story, radio program, reading books, etc.), having extensive vocabularies for particular age group, and having excellences at school lessons involving the activities of reading or writing. Furthermore, Amstrong mentioned that one with higher linguistic intelligence may think through words, love the activities of reading, writing, telling story, and playing word games.

From the results, it can be summarized that the level of linguistic intelligence of the employees of PT. Telkom participating in the Global Talent Program is divided into three groups; high, middle, and low. The percentages of each category are 42.21 for those with high linguistic intelligence, 47.11% for the middle, and 11.68% for the low.

The employees with low linguistic intelligence may have a higher level of other multiple intelligences. The employees with high linguistic intelligence may have higher levels of other multiple intelligences. The theory of multiple intelligences is a promising and important improvement. This theory sees that one's intelligence is complex and varied. In other words, every individual may have more than one kind of intelligences. Howard Gardner states that there are eight kinds of intelligence that may be owned by every individual; they are verbal-linguistic; logic-mathematic; visual-spatial; kinesthetic; musical; interpersonal; and naturalist.

Thinking critically is a process of making use of the ability to think effectively that it may assist one to make, evaluate, and decide on what to believe and what to do. On the contrary, thinking creatively is a process of thinking to express new relations, to see things from new perspective and to form new combination from two or more concepts that have been mastered previously. From definitions above, it is clear that the ability to think critically and creatively is mostly required to overcome particular problems.

Based on the primary data, the tendency to think critically that is scored based on CCTDI score, the respondents are classified into *strong, positive, ambivalent,* and *negative for*

the total score and the forming characteristic score for the tendency of thinking critically (*truth-seeking, open-mindedness, analyticity, systematic arrangement, confidence, inquisitiveness, maturity of judgment*). No respondents with the total score of having tendency to think critically are included in the negative category.

Based on the data calculation, the employee's tendency to think critically is assessed from seven characteristics: the *strong* category, the highest score was obtained on the *maturity of judgment* characteristic; the positive category, the highest was obtained on the characteristics of *systematically, inquisitiveness, analytically;* followed by *open-mindedness,* and *confidence in reasoning*. The ambivalent category, the highest was obtained on the *truth-seeking* characteristic. As stated earlier, no negative category was discovered for the employees' level of critical thinking. Based on the research result, it can be said that *maturity of judgment* is the most influential characteristic on the employees' ability to write in English. The characteristics of *systematically, inquisitiveness, analytically, open-mindedness,* and *confidence in reasoning* show influences, yet they are not significant. The *truth-seeking* characteristic, though influential, has a significant value.

IV. CONCLUSION

Based on the data analysis of this research, it can be summarized that most of PT. Telkom employees, participating in the selection for Global Talent Program and becoming the respondents in this research, have good English writing skills. It can be indicated from the findings that 3.45% of the employees are included in the *very good* users of English, 24.05% are in the *good* users, 45% are included in the *competent* users, 17.28% are in the *simple* users, and 10.22% are in the *limited* users.

The tendency of PT. Telkom employees to think critically, participating in the selection for Global Talent Program and becoming the respondents in this research, is scored based on CCTDI score. In addition, it is also classified into the categories of *strong, positive, ambivalent,* and *negative* for the total score and the forming characteristic score of critical thinking (*truth-seeking, open-mindedness, analyticity, systematic arrangement, confidence, inquisitiveness, maturity of judgment*). From the score, it can be summarized that 14.02 % respondents are included in the strong category for their thinking level, 73.26% having the tendency to think critically are included in the positive category, and the other 12.72% are included in the ambivalent category. No respondents with the total score of having tendency to think critically are included in the negative category.

The linguistic intelligence of PT. Telkom employees, participating in the selection for Global Talent Program and becoming the respondents in this research, is divided into three groups; high, middle, and low.

There are correlations in the writing skills of PT. Telkom employees with their linguistic intelligence and their

critical thinking. From the statistical data analysis using the *Analysis of Multiple Linear Regressions*, the score of *adjusted R^2* is obtained. It indicates that 36.2% of the *writing skill* variations can be explained by the variations of the two variables of *linguistic intelligence* and *critical thinking*, whereas the rest of 63.8% can be explained by other causes not included in the model. The regression coefficient of x_1 (*linguistic intelligence*) and x_2 (*critical thinking)* are scored positive; thus, if the *linguistic intelligence* and *critical thinking* increase, the score for the *writing skill* tends to rise.

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