

Relationship between High School National Exam Scores and College Admission Test Scores in Indonesia

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Abstract--- *The focus of English instruction given in High Schools and Universities in Indonesia differs, thus the exams given are not parallel either. English in High School basically focuses on Reading Comprehension while in most universities students are prepared to take standardized test such as TOEFL or IELTS. This paper aims to investigate if there is a correlation between the High School National Exam Scores and College Admission Test Scores for English subject of first year university students in Jakarta and to find out the differences between both tests. The participants were 200 first year university students from two private universities in Jakarta. The data were two kinds of English Test Scores from High School National Exam (HSNE) and College Admission Test (CAT), which was given in the form of TOEFL-like test. To calculate the data, two sets of statistical analysis were performed, i.e. correlation and regression analysis. Besides the quantitative analysis, a qualitative study was also conducted regarding the English skills being tested in both tests. The results show HSNE scores significantly higher than CAT scores, denoting that HSNE test was easier than CAT test. Moreover, HSNE scores only gave low contribution to the attainment of CAT scores indicating that high school students were not properly prepared for college education, especially in English. This study implied that English subject given in high school should prepare students for studying in university.*

Keywords--- *English Score, HSNE, CAT, TOEFL, Correlation, Regression.*

I. BACKGROUND OF STUDY

In Indonesia, all 12th grade high school students have to take the national exam to be eligible for graduation. The national exam is simultaneously held all over Indonesia with the same test materials for all high schools. Based on Law no 20 year 2003, national exam should be carried out to set the standard of education for elementary and secondary school levels. For high school level, there are six school subjects which are tested in the exam, the three main subjects being Indonesian, English and Math and the other three subjects are chosen depending on the major (science, social, language or others) taken by the students in their high school. Results of national exam (in Indonesian Ujian Nasional - UN) will be used as the consideration for admitting the students to university.

However, besides High School National Exam (HSNE) results, universities in Indonesia oblige the candidates to pass certain admission test before accepting them to the universities. State-owned universities in Indonesia hold the Seleksi Nasional Masuk Perguruan Tinggi Negeri (SNMPTN) or National Selection for State University Admission, which is also administered by the government. This selection test is also done simultaneously all over Indonesia. Meanwhile, private universities, such as Bina Nusantara University or Atmajaya University in Jakarta, Indonesia,

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arrange their own College Admission Test (CAT), of which the results are used to determine the admission of new students.

College Admission Test usually consists of three kinds of test subjects, namely Academic Potential Test, English test and major-related test (for example drawing test is given to candidates of faculty of architecture, etc.) In case of English test, some universities require standardized test such as TOEFL test administered by official TOEFL center like ETS, while some others create their own test materials, which commonly also follow TOEFL format. For easy reference, we would use the term TOEFL for both official and home-made English tests in CAT. TOEFL as a standardized test is used by more than 9,000 academic institutions in 130 countries [1]. Besides being used as the admission requirement, universities in English speaking countries also use TOEFL to find out whether the students are likely to succeed in completing their academic program in the universities [2]. Thus, TOEFL scores which are considered as admission test scores have dual functions, for placement decision as well as for predicting the candidates' academic success [3].

There have been a number of researches that examined the correlation between TOEFL scores and students' academic performance [4,5]. Some studies found a positive correlation between the students' TOEFL scores and academic performance [6-8]. Other studies found low correlation between students' TOEFL scores and academic performance [9-11]. Regardless of the fact that the correlation was low or high, those studies confirm that TOEFL score which is used as the placement or admission decision can predict the likelihood of students' success in the university. The results of admission test such as TOEFL test can also be used as an indicator whether the students are ready for college-level courses in English subjects. If a student achieves a certain score on the placement test, that student is considered college-ready [12]. On the contrary, bad scores on the admission test may indicate that students are not prepared for entry level college English requirement which will allow them to complete their first year college English.

The students' readiness for college English can be reflected from their high school academic performance, which is often represented by their high school grade point average (HSGPA) or their graduate exam score (such as ACT). High school GPA is a free and existing measure obtained through the course of a student's high school experience, while ACT scores are usually obtained through testing in 11th or 12th grade [13]. If there is a big difference between the students' HSGPA and their college placement test results, there might be a clear gap between the knowledge that the students had when they graduated from high school and the level of knowledge that they actually need when they enroll in the university [14].

Thus, both high school academic records and placement test results can be used as the indicator of how students are likely to perform in college [15,16]. Some literatures have proven this indication. Belfield [12] for example, found that college placement tests are positively but weakly associated with college GPA, but the correlation disappeared for high school GPA. Meanwhile, another study [17] found a 0.38 correlation of ACT (American College Testing) with first year college GPA and a 0.47 correlation of HSGPA with first year college GPA. However, in these studies, the main predictor for college academic performance was High School Grade Point Average (HSGPA), not the final exam scores. Moreover, in those studies the high school performance or placement test results were tested against the college GPA. To the best of my knowledge, there were barely any literatures

which correlate the high school academic results with the admission test results. Likewise, none of these studies use graduating exam score as the main variable.

Therefore, to fill the gap in the literature, in the present study, we are trying to find out whether the High School National Exam scores affect the attainment of College Admission Test scores, in particular for testing the students' mastery of English. Proficiency in English is used in the university as the basis for placement decision, for predicting the academic success and also as graduation requirement. Consequently, the English taught in high school should be in line or at least can prepare the students to study in higher education.

Research Objectives

There are two research questions that will be investigated in this study.

RQ 1: To what extent high school national exam score correlate with the college admission test score for the first year university students?

RQ 2: How do the test materials contribute to the different scores of HSNE and CAT?

II. METHODOLOGY

This study used quantitative approach which involved statistical analysis of the test results. This study was administered to 200 first year students of two private universities in Jakarta. They were chosen randomly from the new students' intake for the academic year of 2018/2019. The participants consist of 104 female and 96 male students, with the average age of 18.03 years.

The instrument used for this study was College Admission Test (CAT) Scores, which were used as the requirement for the admission to the university. The CAT was using the TOEFL format but in simplified version. While in its original version TOEFL test consists of reading, listening, speaking and writing test, the CAT version only consists of reading comprehension and structure sections. For this study, the CAT used consisted of 40 reading comprehension items and 20 structure and written expression items.

Another instrument used was the English scores of High School National Exam (HSNE). These scores were obtained after the students passed their High School National Exam. HSNE scores were also considered for the admission of the students into university.

The data were processed statistically using SPSS 20th version, specifically correlation and regression analysis. Correlation analysis was done to find out whether HSNE scores relate to CAT scores and regression analysis was done to discover the influence of HSNE scores toward the CAT scores. Moreover, further analysis was also carried out by comparing the materials of both tests.

III. FINDINGS

Table 1 showed the test statistics for the HSNE scores and CAT scores of the university students. The mean for HSNE was 78.10 with a standard deviation of 9.666, while the mean for CAT was 65.16 with a standard deviation of 16.035. The significant value, .000 was lower than the alpha value, .05, thus the null hypothesis was rejected. That means, there was a significance difference between the mean of HSNE and the mean of CAT.

The correlation showed the value of 0.556. This indicated a strong positive relationship between the scores of

HSNE and the scores of CAT. A strong positive relationship suggested that as the scores of HSNE increased the scores of CAT will likely increase as well.

Table 1: Test Statistics of HSNE and CAT scores

		Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean	Correlation	Sig.
Pair 1	UNScore	78.10	200	9.666	.683	.556	.000
	CATScore	65.16	200	16.035	1.134		

Table 2 showed the regression analysis results for HSNE scores against the CAT scores. The value of R^2 (R square) from the table of Model Summary showed the figure of 0.310, which indicated that only 31.0 % of the CAT scores can be explained by the changes of HSNE scores. There were around 69% of other factors that intervene with the score of CAT. In conclusion, HSNE scores only gave a very low contribution to the attainment of CAT scores.

Table 2: Regression Analysis of HSNE Score against CAT Scores

R	R square	Adjusted R. Square	Std. Error of Estimate
.556 ^a	.310	.306	13.357

IV. DISCUSSION

Based on the above findings, there are several things that can be emphasized. The first finding showed that there was a statistically significant difference between the English scores in HSNE and CAT. The mean score of HSNE was 78.10, while the mean score of CAT was 65.16. Judging solely from the scores, it seemed that the test materials of HSNE were easier than the test materials of CAT, thus generating higher scores.

The test materials for English exam in the 2018 HSNE consisted of 50 multiple choice questions. There were 15 listening comprehension items and 35 reading comprehension items. For the reading section there were 10 texts. Meanwhile, in the CAT the exam consisted of 40 reading comprehension items (of 8 texts) and 20 structure and written expression items. The CAT followed the format of TOEFL test.

The following two samples of reading comprehension texts and questions taken from both tests were compared in order to find sound explanations of how HSNE and CAT tests produce significantly different results.

For many years, many people believed that the cleverest animals after man were the chimpanzees. Now, however, there is proof that dolphins may be even cleverer than these big apes. Although a dolphin lives in the sea, it is not a fish. It is a mammal. It is in many ways, therefore, like a human being. Dolphins have a simple language. They are able to talk to one another. It may be possible for man to learn how to talk to dolphins. But this will not be easy because dolphin cannot hear the kind of sounds man can make. If man wants to talk to dolphins, therefore, he will have to make a third language which both he and the dolphins can understand. Dolphins are also very friendly toward man. They often follow ships. There are many stories about dolphins guiding ships through difficult and dangerous water. (147)

46. What is the proof that the dolphin may be even cleverer than chimpanzees?

A. Dolphin have a simple language
B. Dolphin can talk to one another
C. Dolphin is likes a human being
D. Dolphin are also very friendly
E. Dolphin likes guide the ship

Figure 1: Sample of HSNE English Test

The railroad was not the first institution to impose regularity on society, or to draw attention to the importance of precise timekeeping. For as long as merchants have set out their wares at daybreak and communal festivities have been celebrated, people have been in rough agreement with their neighbors as to the time of day. The value of this tradition is today more apparent than ever. Were it not for public acceptance of a single yardstick of time, social life would be unbearably chaotic: the massive daily transfers of goods, services, and information would proceed in fits and starts; the very fabric of modern society would begin to unravel. (109)

Figure 2: Sample of CAT - TOEFL Test

1. What is the main idea of the passage?
 - A. In modern society we must make more time for our neighbors.
 - B. The traditions of society are timeless.
 - C. An accepted way of measuring time is essential for the smooth functioning of society.
 - D. Society judges people by the times at which they conduct certain activities.

To compare both texts, the researchers were using Bachman's [18] framework of test method for evaluating a test. For this study, we will compare the length of text, lexical features, grammatical complexity and familiarity of topics. The length of reading passages is an important variable affecting the nature of reading [19], because the longer a reading passage is, the more difficult it is to comprehend the reading passage [20,21]. The argument for this is that a longer text will demand test takers to retain memory and process a lot of information. However, in the samples above, the HSNE text consists of 143 words while the TOEFL text consists of 109 words. Yet, the HSNE test generated higher scores than TOEFL test. Therefore, length of text alone cannot be used as the predictor of students' understanding of a reading passage. Some studies [22,23] have confirmed that students' performance were similar for both long and short ones.

Meanwhile, level of vocabulary might predict the test-takers' performance on reading test [24]. In HSNE text above, the words used are mostly high frequency words (such as animal, clever, language, etc.), with which the students have already been familiar. On the contrary, in the TOEFL passage, most words belong to low frequency words (such as: institution, precise, communal, etc.). Bachman [18] affirmed that there is a negative correlation between the difficulty in understanding the text and the frequency level of words. Passages containing more high frequency words are easier to comprehend than those with low-frequency words. Thus, the level of vocabulary used in both texts can explain why HSNE text seemed easier than TOEFL text.

Another difference relates to the grammatical features of both texts. Grammatical features such as the use of tenses, complex sentence structure can also put obstacles on readers' comprehension of texts [19]. One of the features that indicate grammatical complexity of a passage is the usage of subordination in sentences [25,26]. Let us look at one sentence in HSNE text, If man wants to talk to dolphins, therefore, he will have to make a third language which both he and the dolphins can understand. This sentence consists of three clauses: If a man wants to talk to dolphins; he will have to make a third language; which both he and the dolphins can understand. All the clauses were using simple words and easily understood. In contrast, the sentence in TOEFL text, for example: Were it not for public acceptance of a single yardstick of time, social life would be unbearably chaotic: the massive daily

transfers of goods, services, and information would proceed in fits and starts; the very fabric of modern society would begin to unravel, consists of five clauses, which are separated by a comma, a colon and a semi-colon. Besides the number of clauses and punctuations, this passage used advanced sentence structure such as *were it not*, which was unfamiliar for the students. Thus, in this case, grammatical complexity of TOEFL text can also cause the test to be more difficult for the students.

The next factor that can explain the difference in score is the topical knowledge or the real world knowledge. Topical knowledge could facilitate reading comprehension [27]. Texts in the areas where readers are familiar with will be easier to process rather than those from subjects they have not learned or heard about. Some texts in TOEFL test were from the areas of geology, physics, astronomy, paleontology, etc. These subjects were never discussed in high school, thus students will find it difficult to understand passages in those areas. As in the sample above, the topic is about sociology which is not too familiar for the students. Familiarity of subject matter may play a facilitative role in enhancing readers' understanding of the text [28].

Finally, the last difference is the type of question given in both tests. Even though both used multiple choice questions, the content of question is different. There are two types of comprehension questions: global and local comprehension [29]. HSNE test mostly used local comprehension, meaning only relate to a specific part of the reading passage. By contrast, TOEFL test emphasize on the global comprehension of the whole passage, such as asking about the main idea, title, the previous and the following passage. Moreover, HSNE test use textually explicit question, in which the answer is located in the same sentence while TOEFL test use textually implicit question which require the readers to combine information from more than one sentence. Implicit questions are more difficult to answer since they require a deeper processing.

The second finding of this study showed that there was a strong positive correlation between HSNE English score with the CAT English scores. Even though the contribution of HSNE score was very low (31 %), it can still be used to predict the attainment of CAT score. This result is consistent with Vinaja's [14] study which confirmed that Regent English examination scores made a statistically significant contribution to the prediction of ACCUPLACER English placement scores. Although we used different terminology, the variables being tested were basically similar. Regent English examination was used to measure the students' English performance before exiting high schools. Regent exam was given to 12th grade students before they graduate from high school. This is similar to the high school national exam in Indonesia. Similarly, ACCUPLACER was used as the placement test for entering certain universities in America. ACCUPLACER was used as an alternative of other admission tests such as SAT or ACT.

Results of graduation tests such as HSNE can determine whether high school graduates were better prepared for college-level courses. Yet, as the regression analysis results showed, the contribution level of HSNE exam scores in English was only 31 %. This indicated high school graduates were not properly prepared for studying in the higher level, especially in English. The result confirmed Venezia's [30] finding that successful completion of high school graduation examinations does not always indicate proper preparation for college entrance tests.

College entrance test or college admission test, particularly one which use TOEFL test format, can be used as an indicator or predictor of students' success in the university. A number of researchers have found a positive

association between students' TOEFL scores and academic performance [31,32]. Thus, a good score in CAT will expectantly results in good academic performance in the university, as can be shown in college GPA. A study by Karjo and Andreani [11] also found a positive correlation between TOEFL score for admission test and the students' GPA in the university, although the contribution was also low.

V. CONCLUSION

This study focused on the relationship between High School National Exam and College Admission Test in English of university students in Jakarta. It was found that there was a significant difference between the HSNE score and the CAT scores. The scores difference indicated that the test materials had diverse level of difficulty, thus influence the comprehension level of the students. CAT, which used TOEFL format, was found to be more difficult based on the comparison of length of text, lexical features, grammatical complexities, topic familiarity and question types. The second finding suggested that the HSNE score had a strong positive correlation with the CAT score. This implied that students who had good scores in their graduation exam will be likely to have higher scores in their college admission test. This also means that students will be more prepared to study in university level. In case of English, good scores in entrance test indicated students' readiness to study in university in which English is used as the language of instruction and English proficiency is a required before the student is allowed to graduate from university. However, the low predicting power of HNSE score toward the CAT score indicated that there was still a discrepancy between English subject taught in high school and the English required in university level. In other words, high schools had not provided the students with English instruction or materials which they need for studying in the higher level.

This study is limited in that the participants chosen were only from two private universities in Jakarta. For further study, students from state universities can be involved, thus the data being compared would be High School National Exam (Ujian Nasional) and National Selection for State University Admission (SNMPTN). Both tests are created by official state institution (Department of Education), thus the data will be more valid and the correlation will be more clearly shown.

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