

A Correlational Study between Listening, Structure, and Reading Comprehension of TOEFL

Nurhalimah¹, Randhi Nanang Darmawan²
nurhalimah@poliwangi.ac.id¹, randhi@poliwangi.ac.id²

*Affiliation: Tourism Business Management Department
Politeknik Negeri Banyuwangi^{1,2}*

Abstract

TOEFL as Test of English as Foreign Language is common test used in many countries an all over the world. The main objective of this study was to investigate the correlation between listening, structure, and reading comprehension in TOEFL. In this research, there were several questions regarding the three variables including listening, reading, and grammar that were focusing on the correlation between them. There were 30 students of Tourism and Business Management Department of Politeknik Negeri Jember, from whom the data was gathered, who were selected to be the sample. Quantitative method with Pearson Product Moment Correlation to prove whether there was a significant correlation among the three variables used in this research as statistical analysis. Based on the problem formulation, it can be concluded that there was significant correlation between the variables of listening, structure, and reading comprehension skills of the students of Tourism and Business Management at Politeknik Negeri Banyuwangi. For the correlation between listening and structure, the correlation coefficient was 0.642 which was considered as high. The moderate degree of correlation was found for the correlation between listening and reading with the correlation coefficient of 0.474. However, it was found that the correlation between structure and reading comprehension was weak with the correlation coefficient of 0.511. From the results of the study, it can be concluded that listening, structure, and reading comprehension in TOEFL were inter-correlated.

Keywords: Correlational Study, Listening, Structure, Reading Comprehension, TOEFL

Introduction

English has an important role as an International language, such as to establish social communication or relationship. In addition, English is not frequently learned as a tool for understanding and teaching U.S or British cultural values (Brown, 2006). Instead, English has become a tool for International communication in transportation, commerce, banking, tourism, technology, diplomacy, scientific research, etc. It is easy for us to conduct the international relation with all nations in the world if we have good command of English. There are several reasons why English has become an International language, namely; 1) migration by English speakers, 2) colonialism by the British, 3) the international role and influence of the USA commerce, international communications, media, films, and the spread of the new technology (Crystal, 2009). Moreover, mastering English skills is essential since most people in the world who use

English as means of communication, not only in the formal settings, such as education but also in the daily communications.

English does not only have a vital role as a means of communication but also for studying science and technology, and Indonesian students are no exception. Many scientific books are written in English that make many students, especially in EFL contexts, find difficulties to understand the written materials in English. Therefore, English becomes one of compulsory subjects for students in Indonesia, especially in the formal education and it had been taught in every educational level, starting from junior high school. For Tourism Business Management students at Politeknik Negeri Banyuwangi English is used in daily conversation. All the students must be able to communicate English fluently and they must have certain ability in the four language skills, namely listening, speaking, reading, and writing that supported by the two language components (grammar and vocabulary). Therefore, all the students must master English in order to help them improve their proficiency as foreign learners through their education. Proficiency can be defined as the ability to communicate both in spoken and written contexts while completing study including in university level (Ghenghes, 2015).

English is the most commonly preferred language in the digital era. With the application of English in the digital environment and education 4.0, there is a considerable aftermath in industry 4.0 and its applications (Hariharasudan, 2018). Many countries use English as their second language or foreign language. Education 4.0 is introduced in many educational institutions using digital English as a medium of instruction. It is important to keep in mind that promoting education 4.0 through digital English is a welcoming move for achieving the fruitful result (Anggraeni, 2018). Thus, it becomes an important reason why all the students must be master English in order to help them to improve their English skills.

The TOEFL is an internationally accepted standardized test of English that measures the academic English proficiency of non-native speakers of English (Phillip, 2001). The TOEFL test measures the ability of non-native speakers of English to use and understand English as it is spoken, written, and heard in college and university settings. In Indonesia, the TOEFL test is originally conducted by the English Language System (ELS), a specific institution for TOEFL test, known as institutional TOEFL. The university or college may also administer a TOEFL-like or a TOEFL-equivalent test, or a TOEFL prediction that is used for internal usages in order to examine the students' English proficiency. English proficiency test as a valid test to measure one's English ability in a country where English as a foreign language and it is taken not only in attempting to pursuing study abroad but also as a requirement to complete college, especially in institutions. For instance, TOEFL test is one of the requirements for students who want finish their study at Tourism Business Management Department of Politeknik Negeri Banyuwangi. In this case, the students are obligated to achieve a minimum score of 450.

The TOEFL scores are somehow depending on how well the students mastering the certain skills and competence such as listening, structure and written expressions, and reading comprehension on TOEFL test. Based on those reasons, the researchers

were interested in analyzing the correlation between the variables above. In this research, the researchers analyzed the correlation between listening, structure/ grammar, and reading skills of the test of English as a Foreign Language. One of the reasons why the researchers decided to choose this topic was because TOEFL must be taken by all the students of Tourism Business Management Politeknik Negeri Banyuwangi before they graduate from college. On the other hand, it was also expected that this could help the students to progress their education in order to achieve a good career in the future.

Research Method

The aim of this research was to investigate whether there was any correlation between listening, grammar/ structure, and the reading comprehension skills of the students at Tourism and Business Management Politeknik Negeri Banyuwangi. As such, the structure (X) as the independent variable and the dependent variables were listening (Y1) and reading comprehension skills (Y2). Since the study attempted to prove the correlation between the variables, the design employed in this study was correlation research.

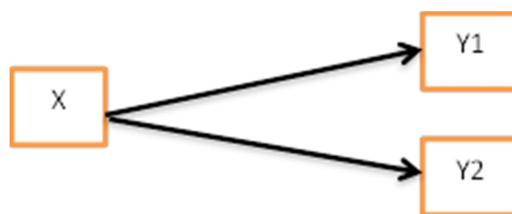


Figure 1. Constellation of the Problem

The assessment of the factors mentioned was carried out through three sets of instruments (listening, structure, and reading test) taken from Longman Preparation Course for the TOEFL test (Phillip, 2003). Through these instruments, the researchers intended to measure the level of the students' mastery in TOEFL exam pattern including listening, structure, and reading comprehension skills toward 30 students of Tourism and Business management Students at Politeknik Negeri Banyuwangi. Furthermore, the relationship between structure mastery (X) and listening comprehension skills (Y1), structure mastery (X) and reading comprehension skills (Y2), and listening comprehension skills (Y1) and reading comprehension (Y2) were partially assessed. Thus, basically this research was done to find out the relationships between structure mastery (X) with listening comprehension skills (Y1), grammar mastery (X) with the reading comprehension skills (Y2), listening comprehension (Y1) and reading comprehension (Y2) skills of the Tourism and Business Management students at Politeknik Negeri Banyuwangi.

The research was quantitative that involved the utilization and analysis of numerical data using specific statistical techniques to answer questions like *who, how much, what, where, when, how many, and how*. It also described the methods of explaining an issue or phenomenon through gathering data in numerical form. Fraenkel and Wallen (2008) defined the quantitative research is "The belief that facts and feelings can be separated, that the world is a single reality made up of facts that can be discovered." In this case, the quantitative research seeks to establish relationships between variables and look for and, sometimes, explain the causes of such relationships.

Based on the above definition, the researchers concluded that quantitative research was essentially about collecting numerical data to explain a particular phenomenon, the particular problem which was likely to be answered by using the quantitative methods.

The data collection was taken from the population of Tourism Business Management students at Politeknik Negeri Banyuwangi with 30 students served as sample. The researchers used coefficient correlation to analyze the data. Next, the researchers started to focus on the students' scores of listening, structure, and reading comprehension. The researchers, then, determined if there was any correlation between the students' achievements in the listening, structure, and reading comprehension. The researchers used the formula of Pearson Product Moment Correlation Coefficient to describe and find out the significance of the correlation between the three variables; variable X, Y1, and Y2. Variable X belonged to the independent variable, while variables Y1 and Y2 belonged to the dependent ones. The statistical report of correlation Pearson (*product moment*) was done by the use of software of statistical analysis called *Jamovi*. *Jamovi* is open source software which aims to simplify two aspects of using R. It offers a point-and-click graphical user interface (GUI). It also provides functions that combine the capabilities of many others, bringing a more SPSS or SAS like method of programming to R. To know the degree of correlation, the researchers conducted and interpreted a bivariate (Pearson) correlation as follow:

Table 1. Degree of Coefficient (Pearson) Correlation

| Degree of Correlation | Meaning |
|-----------------------|---|
| Perfect | If the value is near ± 1 , then it is considered to be perfect correlation; as one variable increases, the other variable tends to increase as well (if positive) or decrease (if negative) |
| High Degree | If the coefficient values lies between ± 0.50 and ± 1 , then it be said to be a strong correlation |
| Moderate Degree | If the value lies between ± 0.30 and ± 0.49 , then it is said to be medium correlation |
| Low Degree | When the value lies below ± 0.29 , the it is said to be a small correlation |
| No Correlation | When the value is zero |

(Aspelmeirer, 2005)

The steps which were taken in this research can be seen below:

1. Study of literature about TOEFL, quantitative research, and Pearson correlation (*product moment*).
2. Determine 30 students served as sample from the population of Tourism Business Management student at Politeknik Negeri Banyuwangi.
3. Take TOEFL test in language laboratory at Politeknik Negeri Banyuwangi.
4. Classify test result of TOEFL scores based on Listening, Structure, and Reading comprehension.
5. Determine value of r_{xy} with formula:

$$r_{xy} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} \dots\dots\dots$$

Notes:

- n : The number of students in the sample
- r_{xy} : The coefficient correlation between X and Y
- X : The number of X score
- Y : The number of Y score

6. The step number 5 was done three times, in order to determine the correlation coefficient between Listening-Structure, Listening-Reading, and Reading-Structure, so that all the TOEFL components could analysed whether there is a significant correlation or not.
7. The steps numbers 5 and 6 were all done by *Jamovi* software, firstly by inputting the test result data in step number 3, then by selecting the Regression menu and then Correlation Matrix.
8. Conduct analysis of *Jamovi* output related to correlation coefficient results and also some relationship regression graphs between Listening-Structure, Listening-Reading, and Reading-Structure.
9. Draw conclusions from the results of research that has been done based on step number 8.

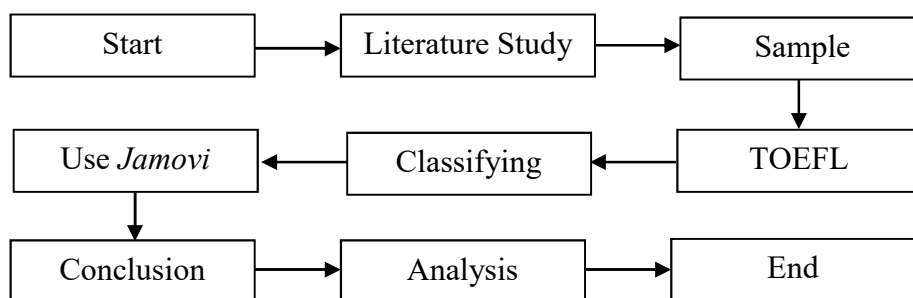


Figure 2. Schema of research steps

Results and Discussion

From the data analysis, it comes out that there are three results that will be elaborated in this paragraph. First, there was a significant relationship between listening and structure of the students of Tourism and Business Management of Politeknik Negeri Banyuwangi. It can be seen with a correlation coefficient of 0.642 which was classified as a high degree correlation and the determination coefficient was 0.001, which means that 0.1% of the scores of the listening comprehension was affected by the mastery of structure. Second, there was a significant correlation between listening and reading comprehension skills of the Tourism Business Management students of Politeknik Negeri Banyuwangi. This can be indicated with a correlation coefficient 0.474 which was classified as a relatively moderate degree correlation with a determination coefficient of 0.008, which means that 0.8% of the scores of the listening comprehension were influenced by the reading comprehension skills. Lastly, there was significant relationship between the structure and reading comprehension of the

Tourism and Business Management students at Politeknik Negeri Banyuwangi. It was shown by the correlation coefficient of 0.511 which was classified weak correlation. The coefficient determination was 0.004 which means that 0.4% of the reading comprehension was affected by the structure. After the input data proses were completed and the analysis was obtained, the output was analyzed by using *Jamovi* to determine the correlation coefficient among Listening, Structure, and Reading comprehension.

Table 2. The Correlation between Structure (X) and Listening (Y1)

| | | LISTENING | | STRUCTURE | |
|---|-----------------|-----------|-----|-----------|--|
| LISTENING | Pearson's r | — | | | |
| | p-value | — | | | |
| | Spearman's rho | — | | | |
| | p-value | — | | | |
| | Kendall's Tau B | — | | | |
| | p-value | — | | | |
| STRUCTURE | Pearson's r | 0.642 | *** | — | |
| | p-value | < .001 | | — | |
| | Spearman's rho | 0.471 | ** | — | |
| | p-value | 0.009 | | — | |
| | Kendall's Tau B | 0.336 | * | — | |
| | p-value | 0.014 | | — | |
| Note. * p < .05, ** p < .01, *** p < .001 | | | | | |

Based on output in table 1, the correlation coefficient value showed that the Pearson's r value was 0,642 that showed that the correlation between listening and structure was significant enough and the value was obtained from $\alpha=0.1\%$. p-value<0.001 showed that the correlation coefficient was significant. *Jamovi's* output also showed that a graph of the relationship between Listening and Structure as follows:

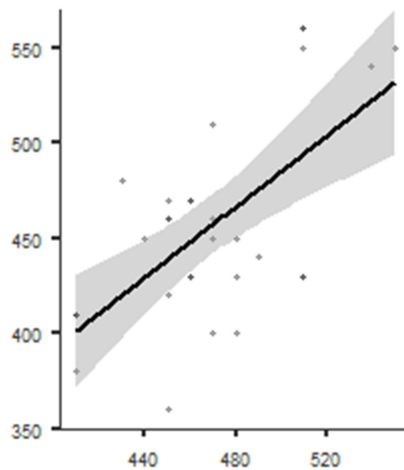


Figure 3. The Correlation between Structure (X) and Listening (Y1)

Then, to determine the correlation coefficient between Listening (Y1) and Reading (Y2), the Jamovi analysis result obtained can be seen as follows:

Table 3. The Correlation between Listening (Y1) and Reading (Y2)

| | | LISTENING | | READING | |
|------------------|-----------------|-----------|----|---------|--|
| LISTENING | Pearson's r | — | | | |
| | p-value | — | | | |
| | Spearman's rho | — | | | |
| | p-value | — | | | |
| | Kendall's Tau B | — | | | |
| | p-value | — | | | |
| READING | Pearson's r | 0.474 | ** | — | |
| | p-value | 0.008 | | — | |
| | Spearman's rho | 0.268 | | — | |
| | p-value | 0.152 | | — | |
| | Kendall's Tau B | 0.204 | | — | |
| | p-value | 0.155 | | — | |

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Based on output at table 3, the correlation coefficient showed that Pearson's r value was 0.474 which indicated that the relationship between listening and reading was less significant and the value is obtained from $\alpha=1\%$. The p-value=0.008, it showed that the correlation coefficient was significant. Jamovi's output also showed the graph of correlation between Listening (Y1) and Reading (Y2) as follows:

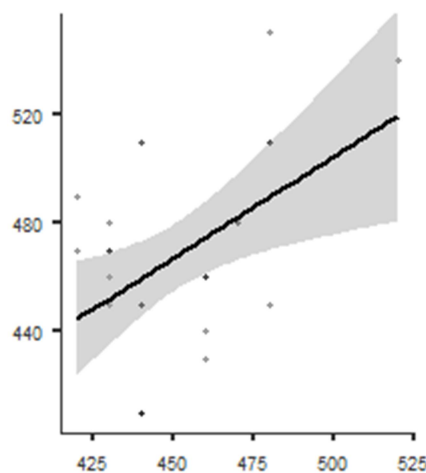


Figure 4 The Correlation between Listening (Y1) and Reading (Y2)

Then the final step was to determine the correlation coefficient between structure (X) and reading (Y2), the Jamovi analysis results were obtained as follows:

Table 4. Correlation between Structure (X) and Reading (Y2)

| | | STRUCTURE | | READING | |
|---|-----------------|-----------|----|---------|--|
| STRUCTURE | Pearson's r | — | | | |
| | p-value | — | | | |
| | Spearman's rho | — | | | |
| | p-value | — | | | |
| | Kendall's Tau B | — | | | |
| | p-value | — | | | |
| READING | Pearson's r | 0.511 | ** | — | |
| | p-value | 0.004 | | — | |
| | Spearman's rho | 0.258 | | — | |
| | p-value | 0.169 | | — | |
| | Kendall's Tau B | 0.179 | | — | |
| | p-value | 0.204 | | — | |
| Note. * p < .05, ** p < .01, *** p < .001 | | | | | |

Based on table 4, the correlation coefficient showed that the Pearson's r value was 0.511, which showed that the relationship between listening and reading was sufficient and that value is obtained from $\alpha=1\%$. The p-value=0.004, it showed that the correlation coefficient was significant. Jamovi's output also showed the graph of the relationship between Structure (X) and Reading (Y2) as follows:

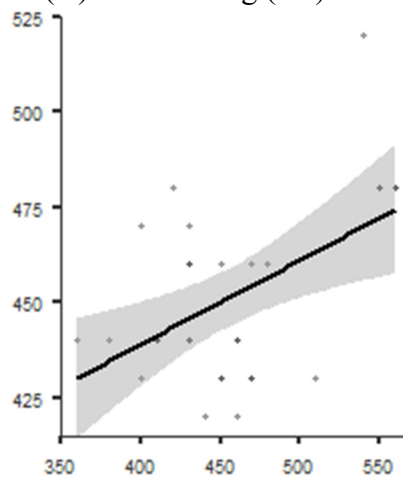


Figure 5 The Correlation between Structure and Reading

According to Mecartty (2000) there should be a significant contribution of the grammatical knowledge to the listening comprehension ability. One who has adequate language structure should also be aware of using it in the listening task. In this case, based on the study of the correlation between the two variables of structure and the listening comprehension, the researchers concluded that there is a significant correlation between the two variables of structure and listening comprehension skill. Furthermore, in line with the relationship between structure and reading comprehension, Grabe (2002) stated that fluent readers need a sound knowledge of language structure and vocabulary. Based on this study, the researchers found out that there was a significant correlation between the two variables of structure and reading comprehension. In other

words, a good grammatical knowledge directly affects the reading comprehension skill. Spring and French (1990) stated that listening and reading are both receptive language skills. In both listening and reading, the primary objective is to develop meaning. Listening comprehension develops prior to reading comprehension but the relationship between listening and reading becomes more complex as development progresses. In this study, the researchers found that there was significant correlation between listening and reading comprehension skills. This means that a good reading comprehension skill would certainly affect the listening comprehension skill and vice versa.

Conclusion

Based on the problem formulation, it can be concluded that there was a significant relationship between the variables of listening, structure, and reading comprehension skills of the students of Tourism and Business Management at Politeknik Negeri Banyuwangi in TOEFL. (1) It can be seen by a correlation coefficient of 0.642 which was classified as a high degree correlation and the determination coefficient was 0.001, which means that 0.1% of the scores of the listening comprehension was affected by the mastery of structure. In other words, there was significant relationship between listening and structure. (2) There was significant correlation between listening and reading comprehension skills. This could be indicated with a correlation coefficient 0.474 which could be classified as a relatively moderate degree correlation with a determination coefficient of 0.008, which means that 0.8% of the scores of the listening comprehension were influenced by the reading comprehension skills. (3) There was significant relationship between the structure and reading comprehension skill. It was shown by the correlation coefficient of 0.511 which is classified weak correlation. The coefficient determination was 0.004 which means that 0.4% of the reading comprehension was affected by the structure.

This study revealed that the students' grammar mastery affected or at least had correlation with their reading and listening comprehension. In addition, listening was affected by the reading comprehension. Therefore, the writers suggest that teachers give more explanation and practice about grammar or structure contextually related to the students' interests. Moreover, it is recommended that the students learn more about the texts and they must get as many exposures as they become skilful in the reading materials. Furthermore, the institutions can also obtain the advantage of pedagogical implications in developing the skills of the teachers in the development of the teaching and learning process, especially in teaching TOEFL for EFL learners.

In addition, to improve students' listening skills, pedagogical implications can also be advantageous in obtaining the reading comprehension skills of the students at Tourism and Business Management, Politeknik Negeri Banyuwangi if teachers practice the following suggestions; (1) the teachers should encourage the students to read more. Thus, the students should learn the new words comprehensively in order to enhance the reading comprehension skills. (2) The teachers should facilitate the students in learning the new vocabularies continuously in the teaching and learning processes either in the classroom, outside the classroom or online learning. (3) The teachers should be aware in providing a conducive and meaningful learning atmosphere in the classroom so that it can help the students learn new words independently at home or anywhere they can. (4)

A variety of methods of teaching reading to the students in the classroom would be an advantage to make the teaching atmosphere in the classroom more interesting and meaningful for the students. It can be done by playing games or doing quizzes.

The suggestion for further research is the use of other learning media that are in accordance with increasingly developing technology. This aims to add to the basic knowledge of technology-based learning media that can be used in the learning process. Incorporating technology into language learning is no longer a new issue today. In fact, the Covid-19 Pandemic has brought the technology into its higher level.

References

- Anggraeni, C. D. (2018). Promoting Education 4.0 in English for Survival Class: What are the Challenges? *Metathesis*, 12-24.
- Aspelmeier, J. (2005) Table of critical values for Pearson's r
<https://pdf4pro.com/amp/view/table-of-critical-values-for-pearson-s-r-59198f.html>
- Brown. (2006). *Teaching Listening*. New York: Cambridge University Press.
- Crystal, D. (2009) *English as Global Language*. Cambridge: Cambridge University Press. doi: <https://doi.org/10.1017/CB09780511486999>
- Fraenkel, J. R., & Wallen, N. E. (2008). *How to Design and Evaluate Research in Education*. New York: McGraw-Hill Companies, Inc
- Ghenghesh, P. (2015). The Relationship Between English Language Proficiency And Academic Performance of University Students- Should Academic Institutions Really be Concerned? *International Journal of Applied Linguistics and English Literature*, 91-97.
- Grabe, W., & Stoller, F. L. (2002). *Teaching and Researching Reading*. London: Pearson Education Longman
- Hariharasudan, A., & Kot, S. (2018). A Scoping Review on Digital English and Education 4.0 for Industry 4.0. *Social Sciences*
- Mecarty, F. H. (2000). Lexical and Grammatical Knowledge in Reading and Listening Comprehension by Foreign Language Learners of Spanish. *Applied Language Learning*, 11(2), 323-348.
- Phillip, D. (2001). *Longman Complete Course for the TOEFL Test*. New York: Longman
- Phillip, D. (2003). *Longman Preparation Course for the TOEFL Test*. New York: Pearson Education, Inc.
- Spring, C., & French, L. (1990). Identifying Children with Specific Reading Disabilities from Listening and Reading Discrepancy Scores. *Journal of Learning Disabilities*. 23(1), 53-8.