

## THE EFFECT OF TEXT-TO-SPEECH (TTS) AS LANGUAGE EXPOSURE TOWARDS STUDENTS' READING COMPREHENSION

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### ABSTRACT

*The role of language exposure on improving learner's language skills is a known fact, it is proven with many research supported the claim that language exposure is indeed important. It is obvious for EFL learners to have enough reading comprehension skills to help them learn the language such as reading and understanding learning materials, understanding questions in a test, understanding instruction written in their assignment, etc. The problem lies on how EFL learners in Majalengka are conditioned to not have any English language exposure outside English class at school. The aims of this study is to find how English exposure affect the English reading comprehension of EFL learners who live in multilingual environment with lots of non-English language exposure. The researcher use one group pre-test post-test design. The researcher find that the text-to-speech treatment was indeed showing an effect towards students' reading comprehension. Text-to-Speech as Language Exposure is indeed has an effect towards Students' Reading Comprehension. Unfortunately the effect is negative as the mean score between pre-test and post-test decreased by 12 or 26,5%. The researcher believe that language exposure should not affect students negatively at any way therefore the researcher suggest for the next research, students' motivation, students' attention span, students' will, and students' seriousness should be take accountable, increased, and kept high during the test in which it is crucial to the final results of the research.*

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## INTRODUCTION

The role of language exposure on improving learner's language skills is a known fact, even going as far as become a popular belief that to master a language, go to the country who speaks the language, this belief of course do not coming out of nowhere nor just a little fun myth among language learners, it is proven with many research supported the claim that language exposure is indeed important. Language exposure is important for successful language learning (Arndt et al., 2023) because language exposure improve phonological short-term memory as well as vocabulary (Vaahtoranta et al., 2021) which will help learners to learn the language, it is also recommended for learners to keep exposed through any media (Al-Zoubi, 2018) just to show how important language exposure is. Those claims emphasize how language exposure affects learner in many ways but it all lead to improving learner language skills, one of said skills is reading comprehension.

For English learners on beginner level, little to no exposure does not mean they are helpless because even short period exposure can induced a significant changes in the brain that responsible for language control (Tu et al., 2015) which needless to say still an advantage for language learning. It is hard to say with the nature of Majalengka students and their multilingual tendency how effective an exposure can be because this very subject is still understudied (Cantone, 2022) therefore leaving the

researcher no choice but to try. With that being said the researcher still believe minimal exposure leave significant impact to word comprehension (Deanda et al., 2016) their reading comprehension (Papastefanou et al., 2021) and proficiency (Bacus & Alda, 2023), if multiple language exposure at early stage is proven to be an advantage (Clayden et al., 2023) then the researcher believe even with minimal exposure of English, Majalengka students will have enough reading comprehension to help them learn and study English further. With everything said above, the researcher will conduct a study of how minimum English exposure affects reading comprehension.

The researcher continue to write this paper with beliefs that language exposure affects reading comprehension and then wondering how everything will different if the settings are changed to such an extreme, wondering how language exposure will affect reading comprehension if everyone in the area is fluent in 2 non-English language and learning classic Arabic literature from the very young age with minimum exposure to English language, which in this context is little to no exposure.

Majalengka is a town in West Java, Indonesia. People in Majalengka learn and speak Sundanese beside Bahasa Indonesia as early as they start to learn to speak as a child. Parents in Majalengka tend to sent their children to Madrasah to mainly learn about Islam and Arabic language after school, go to elementary school and go to Madrasah afterward is almost as average as children in Majalengka can experience, it is the habit, the culture. Junior Highschool is the first time they experienced to learn English for real as one of the main subject, keep that in mind as now the average student will have English as the fourth language they have to learn which means required more work to acquire (Crespo et al., 2019)

Considering the problem and the background of the study, the researcher would like to find out how does Text-to-Speech as English language exposure affect students' reading comprehension? The aim of this study is to find how English exposure affect the English reading comprehension of EFL learners who live in multilingual environment with lots of non-English language exposure. This study will try to fill the gaps of previous studies which mostly focus on English language exposure in small multilingual family settings, family who is often move from countries to countries and adopting its language, or a common environment of subject who speak English with another language as its multilingual settings. Here we focus on a subject which multilingual environment does not include English and which the lack of its exposure is an issue.

Exposure to a language can be described as the contact one have with the language they try to learn (Al-Zoubi, 2018). Language exposure can happen anywhere, anytime, whether it is in the classroom, outside classroom, when the learner is studying, or when they are having private time. Reading comprehension can be described as a process that combined the information from the text with the already existing information to create a meaning (Nunan D. Terrell T. D. Brown H. D., 2003)

## **METHODS**

The researcher use one group pre-test post-test design. These types of design are very similar to true experiments, but with some key differences. An independent variable is identified but not manipulated by the researcher, and effects of the independent variable on the dependent variable are measured. The researcher does not randomly assign groups and must use ones that are naturally formed or pre-existing groups. Identified control groups exposed to the treatment variable are studied and compared to groups who are not. From a total population of thirty classes, 932 students, the researcher choose one class with 32 students as a sample, although only 30 students can partake in the research as participants because 2 students can't go to school from sickness. The class chosen is I class of 7th grade, the class have English subject twice a week at Monday and Tuesday. The participant given a pre-test and a post-test according to the indicator of reading comprehension (Westphal, 1986) with a total of 25 questions for each test to find whether the participant with said exposure can answer correctly, in other words the researcher will test the limit of the participant's reading comprehension, of course within Junior Highschool level. The collected data will then be assessed using this formula  $(\text{Correct Answer})/(\text{Total Question}) \times 100$  for the test. The numbers then will determined how English exposure affect learner's reading comprehension, the results may vary either for good or bad, but one thing for sure is that the

finding will be helpful to give us a light in this understudied issue and how the next research can improve it using these findings.

## RESULTS AND DISCUSSION

### *Subheadings – Level 2*

After the tests and treatment have been conducted, the researcher collected enough data through one group pre-test post-test model and so the data is analyzed, the descriptive statistics show there is difference in the data between pre-test and post-test, Test of Normality shows the data is normal, and through One-Sample T-Test the researcher find that the text-to-speech treatment was indeed showing an effect towards students' reading comprehension, at least according to the data. For more detailed explanation can be read below, while for the full detail can be found at appendix. Below is the data description.

**Table 1.** Descriptive Statistics

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Pre-test	30	24	76	45.20	12.302
Posttest	30	8	68	33.20	14.561
Valid N	30				

This is the data of descriptive statistic results, on the table below you can see N which is a symbol for the amount of participant, you can also see minimum score, maximum score, and standard deviation of both pre-test and post-test. According to the data of descriptive statistic results, the maximum pre-test score is 76, the minimum pre-test score is 24, the mean of pre-test score is 45.20 and the standard deviation of the pre-test is 12.302. Meanwhile the results

for the maximum post-test score is 68, the minimum post-test score is 8, the mean of post-test score is 33.20 and the standard deviation of the post-test is 14.561. Now that every number have been explain let's analyze the data.

**Table 2.** Test of Normality

<b>Shaphiro-Wik</b>		
Statistic	df	Sig.
0.953	30	0.209
0.914	30	0.018

Because the research use one group pre-test post-test model to conduct the research, the researcher will only analyzed the data of what is mandatory for the research model which is the Test of Normality. Also because the data do not exceed thirty sample or in other word the N value do not exceed 30 therefore the Shapiro-wilk test is chosen for the result of Test of Normality. From the data shown above, you can see Statistic, df, and Sig. which all of it have two rows of numbers. The first row show you the pre-test data analysis in which 0,953 for Statistic, 30 for df, and 0,209 for Sig. That means the second row show you post-test data analysis in which 0,914 for Statistic, 30 for df, and 0,018 for Sig. Because both of the Sig. value is higher than 0,005 that means the data is normal and we can go into the next step.

**Table 3.** One-Sample T-Test

	<b>t</b>	<b>df</b>	<b>Sig. (2-tailed)</b>	<b>Mean Difference</b>	<b>95% Confidence Interval of the Difference</b>	
					<b>Lower</b>	<b>Upper</b>
Pre-test	20.125	29	0.000	45.200	40.61	49.79
Post-test	12.448	29	0.000	33.200	27.76	38.64

After prerequisite test in which the data has been described and the data proven to be normal by Test of Normality, Hypothesis test can finally be conducted to find The Effect of Text-to-Speech as Language Exposure Towards Students' Reading Comprehension. Above are the results of one-sample T-Test. Take a look at the table above, there you can see many numbers but the main focus here for Hypothesis Test are Sig. and Mean Difference. The Sig. would determine whether or not the treatment has effect towards Students' Reading Comprehension, and the Mean Difference would determine how it is affected Students' Reading Comprehension. Both Pre-test and Post-test has Sig. value lower than 0,005 therefore from the results of One Sample T-Test it is proven that the treatment affected Students' Reading Comprehension and to see how it is affected take a look at Mean Difference value the Mean Difference value of the Post-test is lower than the Pre-test by 12 or 26,5 % therefore it is safe to assume that according to the data the treatment negatively affected Students' Reading Comprehension.

#### Hypothesis:

H<sub>0</sub>: Text-to-Speech as language exposure affect students' reading comprehension positively.

H<sub>a</sub>: Text-to-Speech as language exposure affect students' reading comprehension negatively.

Because according to the data it is proven that the treatment has effect by looking at the Sig. value lower than 0,005 and the effect is negative by looking at the decrease on the mean value of post-test by 12, therefore H<sub>a</sub> is accepted and H<sub>0</sub> is rejected. Text-to-Speech as language exposure affect students' reading comprehension negatively.

Now to answer the research question:

How does Text-to-Speech as English language exposure affect students' reading comprehension?

The answer is, Text-to-Speech as language exposure affect students' reading comprehension negatively.

Language exposure within context of being exposed to, and the use of, multiple languages in childhood has beneficial effects outside the linguistic domain although the evidence is still controversial (Clayden et al., 2023) that is a trigger which drive the researcher to choose this field and conduct the research, Language exposure also has strong impact to learner's language acquisition and significant correlation between exposure to the language and developing the four main language skills therefore it is recommended for learners to keep themselves exposed through many English media (Al-Zoubi, 2018) so the researcher conduct the research and write this paper to find the effect of language exposure through English media such as Text-to-Speech towards one of students' four main language skills, which is reading comprehension.

Two of many previous research contradict each other, one said that the benefit of language exposure is still controversial, where the other research five years prior to the former said it is proven of having strong impact to learner's language acquisition and significant correlation between exposure to the language and developing the four main language skills. The researcher took advice from Al-Zoubi (2018) using English media as language exposure and see whether it affects one of students' four main language.

According to the results of One-Sample T-Test, Text-to-Speech as Language Exposure do not affects Students' Reading Comprehension positively. The researcher find there is a decrease on the mean score between pre-test and post-test, in other words Text-to-Speech as Language Exposure negatively affected Students' Reading Comprehension. Still, the proof is not solid nor absolute, perhaps there are

some sort of unseen variable that also contributed to this results and further research is advised. The findings are align with Clayden (2023) as the researcher believes the results to be controversial and need further research. For now the researcher will go to the next step and conclude this research.

## CONCLUSION

Considering the data collected, analyzed, also the findings that come as the final results, the researcher state his conclusion for this paper:

First, Language exposure even though is countlessly proven to be important towards language learning, the field itself especially the relation with students' language skill is still understudied. In this paper the researcher try to explore the field and its relation towards students' reading comprehension using Text-to-Speech as the tool or medium.

Second, Text-to-Speech as Language Exposure do not affects Students' Reading Comprehension positively. Unfortunately the effect is negative as the mean score between pre-test and post-test decreased by 12 or 26,5%. Language Exposure by any means is not easy field to research and Reading Comprehension is also not easy to measure, the researcher believes there are still many unseen variable that also contributed to the decrease on the mean score between pre-test and post-test which then lead to its conclusion as negatively affect students' reading comprehension. The researcher believes that language exposure should not affect students negatively at any way therefore the researcher suggest:

For the next research, students' motivation, students' attention span, students' will, and students' seriousness should be take accountable, increased, and kept high during the test in which it is crucial to the final results of the research. Although the researcher understand that it is not easy task to do or even plan without long preparation and research duration.

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