



# The AI Google Voice Assistant on Ten Grade Students' Speaking Skills at Vocational High School

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## ABSTRAK

Terdapat permasalahan tantangan pada kemampuan berbicara siswa di Indonesia. Permasalahan berbicara tersebut dipengaruhi oleh rasa cemas, kesulitan dalam pemahaman, dan masalah kebahasaan yang disebabkan oleh kurangnya latihan berbicara. Di era digital atau modern teknologi sudah bisa digunakan sebagai media pembelajaran bahasa Inggris. Penelitian ini bertujuan untuk menganalisis pengaruh penggunaan Google Voice Assistant (GVA) terhadap keterampilan berbicara siswa. Penelitian ini menggunakan metode campuran sekuensial eksplanatori dengan kuantitatif menggunakan quasi eksperimen dan kualitatif dengan melakukan wawancara. Sampel data adalah siswa kelas 10 sekolah vokasi dengan kelompok eksperimen dan kelompok control dengan 22 siswa pada setiap group. Data dikumpulkan dari pre-test dan post-test. Berdasarkan analisis data statistik dengan menggunakan SPSS ditemukan sig. (2-tailed adalah 0,096) yang lebih tinggi dari 0,005 artinya tidak ada pengaruh yang signifikan. Data wawancara menggunakan model RASE menunjukkan bahwa siswa mengakui bahwa GVA menarik sebagai teman praktek berbicara, tetapi tidak dapat mencakup semua aspek yang dapat membantu siswa meningkatkan keterampilan berbicara mereka karena familiarity principle yang dimana mereka tidak familiar, bantuan komprehensif dalam memberikan materi, dan kurangnya kemampuan evaluatif untuk keterampilan berbicara mereka. Dapat dikatakan bahwa GVA tidak berpengaruh secara signifikan tapi bisa dikembangkan sebagai pedagogical agents.

## ABSTRACT

There are challenges in students' speaking skills in Indonesia. These speaking problems are influenced by anxiety, difficulty in understanding, and language problems caused by lack of speaking practice. In the digital or modern era technology is possible to use as media for learning English. This study aims to analyze the effect of using Google Voice Assistant (GVA) on students' speaking skills. This study uses a mixed method of explanatory sequential with quantitative using quasi-experimental and qualitative by conducting interviews. The data sample was 10th grade students of vocational schools with experimental groups and control groups with 22 students in each group. Data were collected from pre-test and post-test. Based on statistical data analysis using SPSS, sig. (2-tailed is 0.096) was found which is higher than 0.005 meaning there is no significant effect. Interview data using the RASE model showed that students admitted that GVA was interesting as a speaking practice partner, but could not cover all aspects that could help students improve their speaking skills because of the familiarity principle which they were not familiar with, comprehensive assistance in providing materials, and lack of evaluative ability for their speaking skills. It can be said that GVA does not have a significant effect but can be developed as a pedagogical agent.

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## 1. INTRODUCTION

Language is used for interaction with goals to communicate information or ideas. The four basic skills in the English language such as speaking, listening, writing, and reading and speaking have become more preferred skills to seeing success in learning English (Jaya et al., 2022; Juraboev, 2021). Speaking skills are important to have good communication in English because sometimes we need to deliver ideas or information verbally in fluently so that can be easier to understand by the listener. Speaking is known by how to say something that fluence to convey information not only from knowledge (Jaya et al., 2022; Nation & Newton, 2009). Good speaking skills are useful for developing networking and character that's why speaking has become important in language skills that need to be practiced in the appropriate way and good media. In the 21<sup>st</sup> century learning needs to involve learning processes such as critical thinking and problem-solving skills that are needed in the future (Cole & Feng, 2015; Wiraningsih & Santosa, 2020). Based on 21<sup>st</sup>-century learning also needs priority digital literacy for future students in careers in the modern era.

In the digital or modern era technology is possible to use as media for learning English. The technology itself now provides evidence as support for learning English as a Foreign Language. Technology as a part of digital

literacy is media or tool in the form of software or hardware that is used by humans in the modern era to help sustain human needs and increase the value of development, including in the field of education as a learning media (Fidyati, 2017; Putrawan & Riadi, 2020). AI (Artificial Intelligence) is one of the technologies that is an intelligence system developed in the form of an intelligent machine or software that can imitate human thinking generating databases. AI become an alternative to help and assist daily life. The term AI for the first time and was coined by John McCarthy in 1956 he said that AI is the science or technique of making a program or computer-based application and also an intelligent tool (Russel & Norvig, 2016; Santosa, 2023).. This technology cannot stop it; we just only can maximize the feature and can be dangerous if cannot use it appropriately. However, AI still can be useful to transform to achieve teaching and learning outcomes (Ayala-Pazmiño, 2023; Chen et al., 2020). Google Voice Assistant is a part of AI that is based on natural language processing (NLP) so that can give responses or commands in natural languages.

Back on speaking skills, there is a problem of challenges to students' speaking ability in Indonesia. This is also proven by a data survey about speaking ability in Indonesia based on the English First English Proficiency Index (EF EPI) based on data conducted in the 2022 edition that Indonesia is in position 81 out of 111 countries (Juraboev, 2021). The common problem is come from students feel embarrassed to speak with their friends to practice it. The lack of learning level in Indonesian students is also caused by curriculum changes every short period (Jaya et al., 2022; Zein et al., 2020). The problem of speaking that affected by anxiety, difficulty in comprehension, and linguistic problems that are caused by a lack of practice speaking. The problem of speaking in vocational school even for freshmen and seniors with their perceptions are quite similar. The problems of speaking are caused by worry mistakes, lack of ideas, low participation during speaking, less motivation, and condition in the classroom (Andas & Rutniatyanti, 2020; Haka et al., 2021). This also found based on preliminary interviews and observation at SMK Negeri Bali Mandara that the students faced difficulty and felt confident when trying to speak directly. The researcher tries to Implement Google Voice Assistant to practice their speaking skills.

The researchers also found several studies to find out the effect of using AI applications, especially Google Voice Assistant for learning activities. Firstly, researched the impact of using the Google Assistant application on EFL youth students. The others research the use of devices to talk using Google Assistant to improve students' speaking skills (M S Hadi & Junior, 2022). The research was conducted on the effect of chatbots on the communication skills of EFL students (Kim et al., 2021). The investigation was conducted on the perceptions of EFL students on the use of Google Assistant for foreign languages (Chen et al., 2020; Tai & Chen, 2020). A narrative study was also conducted to explore Google Voice Assistant in EFL Classroom from an Indonesian Voice teacher. The Study from EFL Learners' Perceptions and Problems on Google Assistant to assist English language learning (Muhammad Sofian Hadi & Sanusi, 2022; Moulieswaran & Kumar, 2023). There is also research on teachers' perceptions of AI chatbots for English education (Giffari et al., 2023; Yang, 2022).

Based on the preliminary study and research that has been done about AI, especially Google Voice Assistant, it can be concluded that the use of AI especially Google Voice Assistant for learning English can be used in practicing English and has a good impact. However, there is still a lack of seeing the effect of Google Voice Assistant compared with the practice of speaking with people (which means practicing speaking with their friends) that influences students to practice speaking skills for Vocational School. Therefore, the researcher wants to conduct research with this theory, but with a different setting context and a specific method to find out the effect and the students' opinion of using Google Voice Assistant on grade 10 students speaking skills. This research will take place at SMK Negeri Bali Mandara because this case study will examine student responses at the school regarding the use of Google Voice Assistant as a technology-based AI in learning English, especially speaking ability to determine the effectiveness and the relationship between these variables.

## 2. METHOD

This study was the explanatory sequential mixed method by doing quasi-experimental for quantitative and interviews with RASE for qualitative (Creswell, 2012). The quantitative by quasi-experimental methods were collected and analyzed first and equipped with qualitative data by interviewing the students. The researcher collected data by using a non-equivalent control group design. The population is a domain in general, which includes subjects and objects with certain characteristics needed (Creswell & Creswell, 2018). The population of this research are students at SMK Negeri Bali Mandara in the 10<sup>th</sup> grade in the academic year of 2023/2024. There are two groups experimental and control groups that are chosen randomly from 2 classes with similar major and number of 22. The pre-test was given and analysed to see the normality, homogeneity and t-test to ensure that the students abilities are not significant and can be indicate equivalent. After knowing that both groups have similar ability, the next step is continued by giving treatment with the use of media for practice speaking. The experiment group practice their speaking with Google Voice Assistant as partner. Meanwhile, the control group practice speaking with real human or their friend. The material taught for both groups is similar, namely "How to Handling a Guest".

After the treatment was given for several meetings, both groups were given a post-test, and the results were analyzed using SPSS v.26 to see the significant differences between the two groups. The categories of speaking are content, pronunciation, fluency, vocabulary, and grammar adapted from (Brown, 2004; Laskowski, 2010). This study also used interviews with the RASE (Resources, Activity, Support, and Evaluation) model by (Churchill et al., 2013). The interview section was from some students of the experiment group.

### 3. RESULT AND DISCUSSION

#### Result

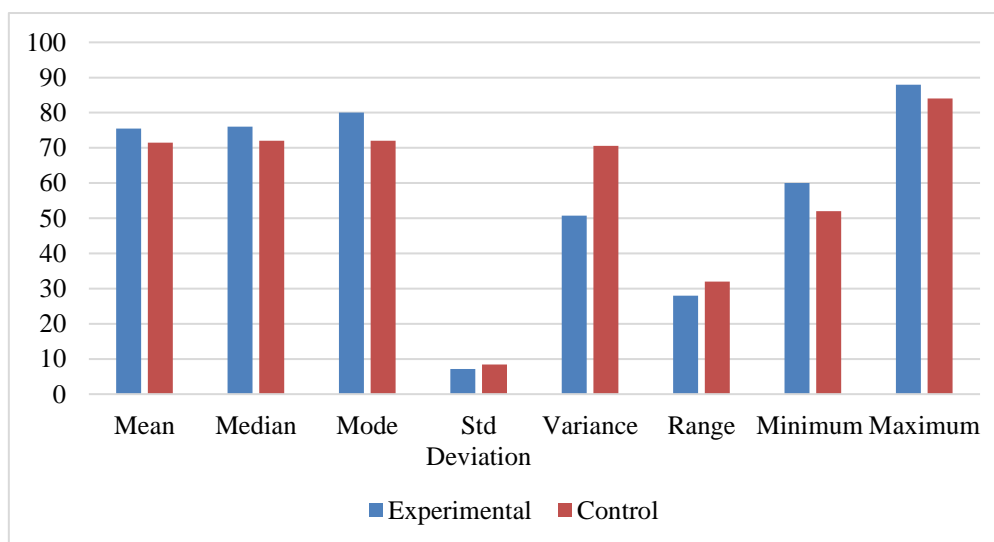
Results are the main part of scientific articles, containing: final results without data analysis process, and hypothesis testing results. Results can be presented with tables or graphs, to clarify the results verbally. Discussion is the most important part of the entire content of scientific articles. The objectives of the discussion are to answer research problems, interpret findings, integrate findings from research into existing sets of knowledge, and compose new theories or modify existing theories.

The results of the pre-test are used to know whether the students have similar abilities before treatment and the post-test is used to know the significant effect after treatment. The test score is based on the speaking categories such as content, pronunciation, fluency, vocabulary, and grammar, adapted from (Brown, 2004; Laskowski, 2010). Descriptive data analysis can be seen in Table 1.

**Table 1.** Descriptive Analysis

		Experiment Group	Control Group
N	Valid	22	22
	Missing	0	0
Mean		75.45	71.45
Median		76.00	72.00
Mode		80	72
Std. Deviation		7.123	8.399
Variance		50.736	70.545
Range		28	32
Minimum		60	52
Maximum		88	84

a. Multiple modes exist. The smallest value is shown



**Figure 1.** Bar Chart of the Comparison between Experimental and Control Group

Inferential statistics is to predict after collecting the data from the sample. Inferential statistics can be seen in the results of hypothesis testing. The normality and homogeneity tests are being conducted first and the result is show in Table 2 and Table 3.

**Table 2.** Normality test of pre-test

Group	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Score Pre- Experiment Group	0.159	22	0.151	0.922	22	0.083
Test Control Group	0.201	22	0.021	0.934	22	0.151

a. Lilliefors Significance Correction

**Table 3.** Homogeneity Test of Pre-test

Levene Statistic		df1	df2	Sig.
Score Pre-Test	Based on Mean	0.207	1	0.652
	Based on Median	0.283	1	0.598
	Based on the Median and with adjusted df	0.283	1	41.989

After the data are indicated normal and homogenous, the next independent sample t-test is tested and the result can be seen in Table 4.

**Table 4.** Independent Sample t-test of post-test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
Score Post-Test	Equal variances assumed	0.631	0.432	1.704	42	0.096	4.000	2.348	-0.738	8.738
	Equal variances not assumed			1.704	40.909	0.096	4.000	2.348	-0.742	8.742

Based on Table 4 the independent sample t-test that shown sig. the 2-tailed is 0.096 which is higher than 0.005 and that can be said there is no significant effect. The null hypothesis ( $H_0$ ) was accepted and the alternative hypothesis ( $H_1$ ) was rejected

The resources dimension shows that the implementation of Google Voice Assistant cannot provide resources like material as content in speaking skills but this platform can be only a practical partner. However, three students also said that they are using another platform as a resource for learning English. This means this platform cannot properly as a resource. Google Voice Assistant can help my speaking fluency become better. But as for sources of providing material, I don't think so because I have looked for learning resources that were not provided by Google Voice Assistant. I use Google or Google Translate as a resource.

The activity dimension that indicates using Google Voice Assistant is interesting as a new thing to practice speaking fluency this comes from the response from one student (S-1). This also shows that Google Voice Assistant can help to find a partner to practice speaking skills for those who feel embarrassed or not confident to speak directly with real humans and this is based on four student's responses (S-2), (S-3), (S-4), and (S-5). This platform is also not familiar with learning activities to practice speaking English, this statement comes from three students (S-3), (S-4), and (S-5)

The use of Google Voice Assistant as a support dimension again shows that only one can help as a practical partner to train speaking fluency when feel embarrassed to speak directly with real human and this comes from all of the five student's responses. That can be said that this platform only strengthens as a practical partner but in criteria of speaking skills this platform cannot cover all of the aspects.

It is very helpful because here Google Voice Assistant is like a friend, so if we talk to someone directly, we're a bit shy. Google Voice Assistant helps solve my problems when learning English because sometimes I like to be a bit complicated to speak, so here Google Voice Assistant can help. Furthermore, in the evaluation dimension of implementation, Google Voice Assistant cannot be used to evaluate of ability in speaking skills instead of giving feedback because this platform does not have common sense. This is from those of three students' opinion about that. I think Google Voice Assistant is quite useful for me because it seems like it responds to what we might talk about like we have friends, even though we are not direct people, but cannot give a comment like a teacher.

So, in my opinion, the feedback given by Google Voice Assistant is sometimes good, sometimes not, in the form of a response to a conversation, but cannot comment on whether the way of speaking is wrong or right. In my opinion, Google Voice Assistant can provide good responses, but Google Voice Assistant cannot give feedback or comments like a teacher. Based on those statements, it can be concluded that Google Voice Assistants can help students support and practice their speaking skills because Google Voice Assistant can be used even if there is no partner but can respond with a partner or can be a pedagogical agent. Furthermore, there some students are embarrassed and feel more efficient using that AI. However, the problem is Google Voice Assistant cannot give feedback and cannot provide any sources that related to speaking skills they just can only respond based on voice commands but with limitations and do not have common sense like humans to give feedback. The students were also not familiar with Google Voice Assistant for speaking in English and they have different ways when learning that cannot be done with Google Voice Assistant. Therefore, almost all students said that they usually use Google, Google Translate, Duolingo, and other platforms that are more familiar to them.

## Discussion

The purpose of this study is to look into the effect of Google Voice Assistant on the speaking skills of tenth-grade students at SMK Negeri Bali Mandara. The data was examined using descriptive and inferential statistics in the SPSS program v.26. Based on the data obtained shown that the average speaking score of experiment group practice using GVA is higher than the control group practice with real humans but not significantly. The experimental group's average score was 75.45, whereas the control group's average score was 71.45. The treatment for the experiment group was to practice speaking using GVA and the control group practiced speaking with their friend (Chen et al., 2020; Giffari et al., 2023). The treatment for each group begins with giving the students if expression that is relevant to use and the difference is just only when practicing their speaking based on that expression by using GVA for the experiment group and with a partner of their friend for the control group.

The inferential statistics analysis was also obtained; it can be found that there are no significant differences between these two groups. Based on the independent sample t-test of the post-test score, the significance 2-tailed was 0.096 which means that it is higher than 0.005. This indicates that the use of Google Voice Assistant does not give significant differences in the learning activity, especially speaking skills based on the decision that the null hypothesis ( $H_0$ ) was accepted while the alternative hypothesis ( $H_1$ ) was rejected.

The result from the interview to explore and know more deeply the reason this platform does not have a significant effect based on student's opinions by using RASE with four dimensions. In the recourses dimension, most students said GVA cannot provide material or content but can be a practical partner based on pedagogical agents a virtual agents in terms of conversation (Sagala & Widyastuti, 2022; Veletsianos & Russell, 2013). Some students also said that to familiarize use another platform as a resource. According to the TAM (Technology Acceptance Model) previous study the intention to use, where the behavior more tendency to use technology, and from those students' statements before treatment they more using another platform than Google Voice Assistant (Uyun et al., 2023). The students also said in the activity dimension that they are not familiar with using this platform for speaking English in learning activities, even though they feel interested when trying to speak with Google Voice Assistant in the treatment session.

This was in line with the familiarity principle or mere exposure effect is our tendency to develop, like, and use something because familiar with it (Stevenson, 2023). From the support dimension, students have said that Google Voice Assistant can help their problems to find a partner when feeling embarrassed about practicing their fluency but the aspect of speaking skills have come from content, pronunciation, fluency, vocabulary, and grammar which means this platform cannot cover all of the aspects in speaking. Based on the TAM theory by about perceived usefulness we believe using technology can help improve performance in some way (Alenezi, 2020; Tahar et al., 2020). Furthermore, from those statements, GVA can be useful but only in some ways like for a partner and training speaking fluency but they cannot be useful to improve all aspects of speaking skills. The other reason has come from the evaluation dimension where Google Voice Assistant actually cannot give a score or feedback like a teacher which has common sense and this also comes to students' opinion, even though they can do self-reflection when they speak with Google Voice Assistant.

AI also does not have common sense or feel to understand something they just can collect and generate the data that had been set by the developer. The problem also might be because the student's vocational schools are more focused on specific skills (Loyalka et al., 2015). Based on the previous research the use of Google Assistant can increase confidence in communicating and reduce speaking anxiety (Tai & Chen, 2020). Google Assistant is effective in helping students in developing speaking skills (M S Hadi & Junior, 2022). Google Assistant is effective as media for teaching pronunciation in Junior High School (Muhammad Sofian Hadi & Sanusi, 2022). EFL perception enjoyed using Google Assistant which motivated them to learn English (Chen et al., 2020). This research showed positive experiences from the teachers (Giffari et al., 2023).

Teachers' perceptions of AI chatbots can provide a significant role for tools in learning to improve communication interactions between teachers and students (Mouliéswaran & Kumar, 2023; Yang, 2022). However, the research survey shows the vast majority of students who are learning English had positive opinions

but the major problem is the lack of quality of Google Assistant on smartphones. The students increase while reading aloud or answering a question but there is no significant effect on pronunciation (Kim et al., 2021; Loyalka et al., 2015). The result from the previous study is a different result from this study where the previous one mostly showed positive results but this result shows that cannot be used to improve all aspects of speaking skills. This might be the different sample that uses students from vocational schools where they more focus on specific labor skills.

The explanation of the result data statistic shows there is no significant result for the experiment group. The result of the students' interview said that Google Voice Assistant is interesting to use as a partner or pedagogical agent if there are students who feel embarrassed to practice their speaking fluency without having conversations directly with real humans. However, Google Voice Assistant does not have a significant effect to implement on students speaking skills because they are not familiar with it, more often use another platform, cannot provide material as content, and cannot give feedback for evaluation. That indicates Google Voice Assistant can only be used as a partner to train their speaking fluency which cannot cover the other aspects of speaking skills as criteria in this research such as content, fluency, pronunciation, vocabulary, and grammar.

#### 4. CONCLUSION

Based on the findings of this research from the t-test analysis it can be concluded that there is no significant effect on students' speaking skills between students who practice speaking using Google Voice Assistant and students who practice speaking with real humans or friends in the class. The mean scores of the experimental groups (75.45) and control groups (71.45) which experimental group were higher but not as significant as the control groups and the significance 2-tailed is 0.096 which is higher than 0.05. From the result of the interview that almost all of the students said GVA is interested in using it as a partner for helping when feel embarrassed to practice directly with humans and train their speaking fluency. However, GVA cannot provide material as content, is more familiar uses another platform, and cannot give feedback for evaluation. This means this platform cannot cover the other aspects of speaking skills such as content, fluency, pronunciation, vocabulary, and grammar. After seeing the result obtained, it is recommended to find AI technology that can be used as media for learning English like GVA, even though this platform cannot be used for all of the aspects of speaking skills but still can be used as a partner to train speaking fluency for who are feel not confident. The use of AI technology in learning is important to adapt to the rapid and unstoppable development of AI, we only can use it appropriately so we do not get left behind in the digital era in the world of education.

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