
The Impact of Talkpal.AI on English Speaking Proficiency: An Academic Inquiry

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ABSTRACT

This study aims to investigate the impact of using Talkpal.AI in improving the English-speaking ability of university students. The research problem is to what extent Talkpal.AI can enhance fluency and intelligibility in English speaking. The research methodology used was quantitative research with an experimental approach where the experimental group used Talkpal.AI while the control group did not use the application. The research participants were university students with varying levels of English proficiency. Data was collected through an initial test to assess the level of English speaking ability before intervention with Talkpal.AI and a final test after a certain period of using the application. Then, an independent t-test was conducted with significant results. The findings of this study show that students have not widely used Talkpal.AI because they do not know the Talkpal.AI tool and are not facilitated by the institution. Participants in the experimental group showed considerably improved speaking fluency and clarity compared to the control group. In addition, survey results showed that participants had a positive perception of using Talkpal.AI to support English learning. This study confirms that Talkpal.AI positively impacts improving English speaking in a university setting. The implications of this research highlight the potential of Talkpal.AI as an effective tool in supporting English language learning in higher education institutions, as well as suggesting further integration of this type of technology in the English language teaching curriculum. Hopefully, this research provide valuable insights into the effectiveness of using Talkpal.AI in improving English speaking skills among university students. The results of this study can provide helpful information for developing more effective English learning strategies in the academic environment.

Keywords: Talkpal.AI; Improving; English Speaking

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INTRODUCTION

English has become an essential international language in global communication, whether in business, education, or intercultural relations (Rao, 2019). English speaking proficiency is, therefore, a highly valued skill in today's modern world (Dincer & Dariyemez, 2020). In the academic environment, speaking English is necessary to fulfil the demands of the curriculum and prepare students for success in their future professional careers (Santos et al., 2018). However, many students need help developing adequate English speaking skills, whether due to time constraints, access to resources, or other constraints (Chen & Goh, 2011). According to Rubio (2021), Learning a new language is both thrilling and rewarding, but it could also be complicated, significantly when improving students' speaking skills.

Integrating information and communication technology (ICT) in language learning enables students to interact and immerse themselves in the language, regardless of location or access to traditional classroom settings (Jollibekova, 2024). Jollibekova also defines that ICT offers a range of resources, from online language learning platforms to virtual reality applications and mobile language learning apps, to support language learners in their journey to mastering English. Technology has played an increasingly important role in addressing these challenges in supporting language learning (White, 2007). One such technological tool that has attracted attention is Talkpal.AI, an application designed to assist users in improving their English speaking proficiency through its various features and functionalities. Talkpal is a GPT-powered artificial intelligence language instructor. Chat about various intriguing subjects by writing or speaking while receiving messages in a genuine tone (Talkpal.ai, n.d.). This study investigates the impact of using Talkpal.AI in improving English speaking among students.

Amidst technological advancements, language learning apps like Talkpal.AI are beginning to emerge as attractive alternatives. Talkpal.AI promises an innovative approach to improving English language skills through its artificial intelligence (AI) and interactive features. However, few studies have explicitly examined the underlying theories and concepts of Talkpal.AI as a language-learning tool. According to (Bajorek, 2017), there are many AI tools similar to Talkpal.AI, such as Rosetta Stone (Sharifi et al., 2015), Duolingo (Von Ahn & Hacker, 2011), Mango Languages (Teshuba, 2016), and Babbel (Witte & Holl, 2016) that each has their capabilities and advantages. Unlike other language learning applications, Talkpal uses cutting-edge AI to offer dynamic, enjoyable, and engaging language learning experiences. Artificial intelligence allows users to develop fluency through an active learning strategy. (Talkpal.ai, n.d.). The Talkpal platform offers a unique opportunity for users to engage with native speakers in a manner that resembles real-life scenarios. This approach allows learners to better understand the language through interaction and immersion. The Talkpal for Education solution provides educators with a convenient and straightforward administrative interface, enabling them to create accounts for their students with minimal effort. This feature empowers educators to facilitate language learning in a more structured and organized manner.

There needs to be more academic literature on the theories and concepts underpinning the development and use of Talkpal.AI. Although Talkpal.AI offers a wide range of features and functionality to improve English speaking, the lack of systematic information about the theoretical underpinnings of the app is an essential concern in educational research. The unavailability of theories about Talkpal.AI creates an urgent need to fill this knowledge gap through thorough empirical research. Thus, this study aims to explore the theoretical and conceptual foundations of Talkpal.AI and evaluate its effectiveness in improving English speaking proficiency among university students.

Identification of problems in this study include The difficulty of students finding partners to encourage real-time speaking practice and practice comprehensive two-way conversations, English students still cannot speak English fluently due to the lack of supporting facilities such as flexible and efficient learning, the lack of students making good use of AI Tools and to meet English standards that can improve students' speaking skills.

The Talkpal.AI tool faces methodological challenges in evaluating its effectiveness in improving English language proficiency in educational settings. Contextual factors such as student motivation and learning style can impact its effectiveness. Successful integration into educational settings requires careful consideration of curriculum alignment, instructor support, and institutional policies to maximise the benefits of Talkpal.AI for language learning outcomes.

The main objective of this research is to identify and evaluate the theories and concepts underlying the development and implementation of Talkpal.AI as an English language learning tool. In addition, this research also aims to assess the impact of using Talkpal.AI in improving students' English speaking skills. This research is expected to contribute significantly to understanding the theories and concepts underlying Talkpal.AI as an English learning tool. In addition, the results of this research are also likely to provide valuable insights for developing similar applications in the future.

To achieve the research objectives, some research questions are as follows: How can talkpal.AI provide facilities for learning English speaking skills? How effective is Talkpal.AI in improving English students' speaking proficiency? Is there a significant difference in English speaking ability between students who use Talkpal.AI and those who do not?

The benefits of this research include an increased understanding of the theoretical foundations of language learning through technology applications, contribution to the development of more effective and evidence-based language learning applications, and provision of guidelines for developing effective curricula and learning strategies in higher education settings.

METHOD

This research employed a quantitative methodology with a quasi-experimental approach, utilizing a pretest-posttest control group (Rogers & Revesz, 2019). The experimental group used Talkpal.AI as an additional learning tool, while the control group did not use the application. This study was conducted at the Muhammadiyah Islamic Boarding School in Magelang with 4 participants. The study lasted two months, from the beginning of January to the end of February 2024.

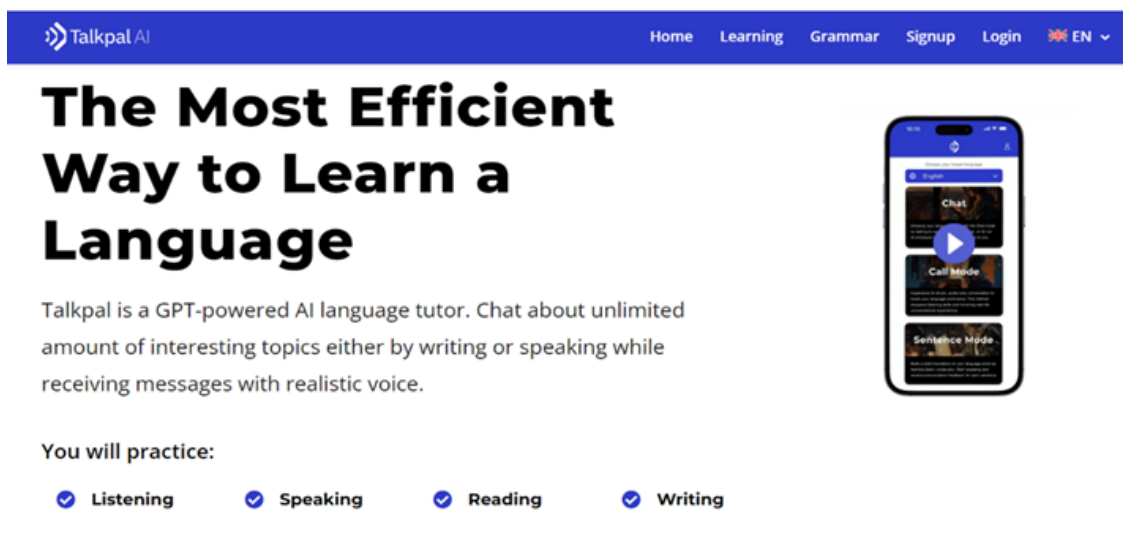
In this study, to test the effectiveness of Talkpal.AI, an experimental group of two participants was given access to the tool for two months, while the control group did not receive this intervention. Before the intervention, a pretest was administered to both groups to determine their initial English proficiency in pronunciation. After the two months, two posttests were conducted to evaluate progress in speaking ability. The difference in final pronunciation scores between the control and experimental groups was then analysed to assess the impact of Talkpal. AI. This experimental design aimed to determine whether the use of Talkpal.AI resulted in measurable improvements in English pronunciation compared to those who did not have access to the tool.

Data was collected through an oral test recorded live by Talkpal.AI. Assessment of pronunciation score, which includes Accuracy, Fluency, Completeness, and Prosody, was obtained through the features available in Talkpal.AI. In addition, information related to the experimental group's use of Talkpal.AI was also collected, including frequency of use, types of exercises completed, and feedback given to users. This data will be used to evaluate the effectiveness of Talkpal.AI in improving the English-speaking ability of the experimental group, as well as to analyse the relationship between app usage and measurable pronunciation score improvement. The data from the oral tests was subjected to descriptive statistical analysis to ascertain the mean difference between the pretest and post-test scores of the two groups. Using a t-test (GOSSET, 2016), inferential statistical analysis is used to determine if the difference between control and experimental groups is significant; The independent t-test formula can be seen in equation (1)

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \quad (1)$$

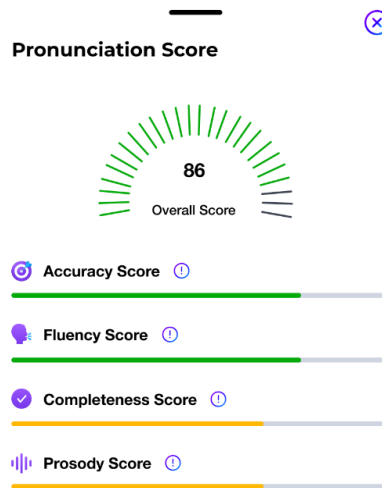
\bar{X}_1 and \bar{X}_2 are the means of each group. S_1^2 and squared are the variances of $n1$ and $n2$ are the sample sizes of each group. Next, t is the value of the t statistic used to determine whether the difference between the two groups is statistically significant. This formula is used after collecting pretest and posttest data from both groups and calculating their means, variances, and sample sizes. After the t value is computed, it is compared with the critical t value at the appropriate degrees of freedom to determine whether the difference between the two groups is statistically significant. In addition, Talkpal.AI usage data will be analysed qualitatively to understand the extent to which the app is used by university students and its impact on their English language learning.

RESULT AND DISCUSSION



Picture 1. Display of Dashboard of Talkpal.Ai

Figure 1 shows the main page of Talkpal. AI. After the user opens the talkpal.AI website, it will appear on the monitor screen. On this page, students are offered to learn various languages with four skills: reading, writing, listening, and speaking. The page on the takpal.AI dashboard makes it easy for users to adapt to its use.



Picture 2. Pronunciation Assessment Tool on talkpal.AI

Picture 2 shows a Talkpal feature called "Pronunciation Assessment Tool in Chat and Call Mode". The Pronunciation Assessment Tool in Chat and Call mode on Talkpal.AI is designed to assess and help improve a user's pronunciation when communicating in a chosen language. It may use speech recognition technology and phonetic analysis to provide feedback on how the user pronounces words and phrases in the target language. In Chat mode, the tool may provide written or audio prompts to guide the user in improving their pronunciation, while in Call mode, live voice feedback may be provided to the user during the conversation; the aim is to help users practice and improve their speaking effectively in the chosen language the score show up to 100. According to Housen and Kuiken (2009), cited by (Michel, 2017), accuracy in speech production refers to the capacity to avoid errors. Ellis (2005), cited by (Kim, 2020), defines accuracy as the ability to prevent mistakes in performance, which may reflect higher levels of language control and a conservative orientation. Performance accuracy can be measured by analysing self-repair attempts or the number of errors produced (or lack thereof). Utterance fluency refers to the fluency that can be objectively measured in a speech sample by analysing its temporal aspects. According to (Kim, 2020); Skehan (2003); Tavakoli and Skehan (2005) state that utterance fluency is a multi-faceted construct. The authors have made a distinction between breakdown fluency, speed fluency, and repair fluency. The measurement of breakdown fluency is based on analysing the continuous flow of speech, which involves counting the number and length of filled and unfilled pauses. Speech speed or fluency can be measured by calculating the number of syllables per second. This metric refers to the rate at which speech is delivered. Prosody is the study of rhythm, emphasis, and intonation in speech. According to Arnfield (1994) in the book Zahid & Omar (2006), the scope of prosody is broader, including accent, rhythm, tempo, tessitura, slenderness, pressure, timbre, jungle, volume, and intonation. Jhon R in Tatham & Morton (2006) Firth is the figure who introduced the term prosodic phonology theory to the Firth school. Firth's ideas are outlined in his books and papers on linguistics and the tongues of men and speech.

Table 1. Data of respondences

No	Name of Students	Class (Senior High School)
1	DA	XII
2	NI	XI
3	AN	XI
4	HA	XI

Table 1 shows the respondent dataset lists four students taken simple random sampling along with their respective classes or grade levels, with the conclusion that Test taker "DA" is in grade 12 (XII Senior High School), and Test taker "NI", "AN", and "HA" were in grade 11 (XI Senior High School).

Table 2. The score for Speaking Pretest Using Talkpal's Pronunciation Assessment Tool

Students	Accuracy	Fluency	Completeness	Prosody	Overall score
DA	80	80	70	90	80
NI	90	80	50	80	75
AN	60	70	60	70	65
HA	60	80	70	80	72, 5

Table 3. The score for the first speaking Posttest Using Talkpal’s Pronunciation Assessment Tool

Students	Accuracy	Fluency	Completeness	Prosody	Overall score
DA	83	85	77	90	83,75
NI	90	80	64	82	79
AN	68	72	68	75	76,75
HA	67	82	76	82	76,75

Table 4. Score for second speaking Posttest Using Talkpal’s Pronunciation Assessment Tool

Students	Accuracy	Fluency	Completeness	Prosody	Overall score
DA	86	86	80	87	84,75
NI	92	80	68	84	81
AN	74	70	78	75	74,25
HA	77	84	79	86	81,5

Data Analysis Student DA performed excellently in all aspects of the pretest, with high accuracy, fluency, completeness and prosody scores. However, in the first posttest, there was a moderate improvement in all aspects except completeness, which decreased slightly. In the second posttest, there was another improvement in all aspects, although it did not reach the pretest scores. Data Analysis Student NI had high scores in accuracy on the pretest, but there needed to be more completeness and fluency. In the first posttest, there was significant improvement in completeness and prosody, but fluency still required improvement. In the second posttest, there was an increase in fluency but a decrease in completeness. Data Analysis Student AN demonstrated standard performance in all categories on the pretest. There was a good improvement in the first posttest, especially in completeness and prosody. However, there was a decline in the second posttest, particularly in accuracy and prosody. Data Analysis Student HA showed good performance and performed well in fluency, completeness, and prosody on the pretest. In the first posttest, there was a steady improvement in all aspects. In the second posttest, there was another improvement in all aspects, particularly in accuracy and completeness. Generally, all students improved in speaking ability from the pretest to the first posttest. However, there were fluctuations in the test results between the first and second posttests, with some students declining their performance. The conclusion is that the training program successfully improved the students' speaking skills, but there is a need for review and adjustment to improve the consistency of the results.

Table 5. Measurement Results Between Treatment and Control Groups

Group 1 (Treatment)	Group 2 (Control)	Difference (Group 1 - Group 2)
65	67	2
72	78	6
62	65	3
68	72	4
\bar{X}_1 (Mean) : 66,75	\bar{X}_2 (Mean) : 70,50	Mean difference : 3,75
SD_1 : 3,70	SD_2 : 3,70	SE: 5,70
Test t-value: -0,66	Degrees of Freedom: 6	

Test of independent t-test values based on treatment and control groups with an overbar cap X sub 1 of 66,75, overbar cap X sub 2 of 70,50, t-value of -0.66 and 6 degrees of freedom, the t-distribution table was consulted to find the appropriate p-value. Then, using the p-value from the t-distribution table, the researcher can determine the statistical significance of the difference between Group 1 (Treatment) and Group 2 (Control). If the p-value is less than the set significance level of 0.05, the researcher rejects the null hypothesis and concludes that the difference between the two groups is statistically significant. The standard deviation for Group 1 (Treatment) is 3.70, and for Group 2 (Control) is 5.03, and the standard error is 5,70.

TalkPal can help students speak English, and The Talkpal.AI platform allows students to hone their language skills through interactive, enjoyable, and immersive experiences. Students can internalise the knowledge acquired in the classroom with various chat modes (Talkpal.ai, n.d.). The incorporation of advanced machine learning and artificial intelligence technologies by TalkPal enables the delivery of engaging, interactive, and customised language lessons, which address each learner's particular requirements. This approach ensures that progress is made more efficiently and accelerated (Talkpal.ai, n.d.). Some benefits include that Students may engage in captivating dialogues to optimise language retention and improve fluency.

They can receive immediate real-time feedback, personalised feedback, and suggestions to accelerate their language mastery.

The onboarding process at Talkpal is designed to be seamless and efficient to facilitate the integration of our AI-powered language tutoring platform into educational institutions' curricula. Our streamlined onboarding process ensures that schools and universities can easily access our language learning solutions and provide students with high-quality resources to enhance their communication skills.

CONCLUSION

The data analysis concludes that TalkPal's Pronunciation Assessment tool positively impacts students' language-speaking skills. The tool is designed to evaluate and help improve users' pronunciation in their chosen language using speech recognition technology and phonetic analysis. In the tests conducted, the students showed significant improvement in their speaking ability after using TalkPal, despite fluctuations in test results between the first and second post-tests. Nonetheless, the statistical analysis showed that the difference between the treatment and control groups was significant, signalling that TalkPal effectively improved students' speaking skills compared to the control group. In addition, this research also highlights the benefits and effectiveness of TalkPal in an educational context. TalkPal provides an interactive and engaging language learning experience and personalised real-time feedback and suggestions to accelerate students' language acquisition. Machine learning technology and advanced artificial intelligence allow TalkPal to present language lessons tailored to each student's needs, thus ensuring faster and more efficient progress. The prospects for TalkPal in education are bright, with the potential to become a valuable tool in improving the language-speaking abilities of students worldwide. As such, this research highlights the importance of technology integration in education to enhance students' communication skills in their target language.

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