IMPROVING STUDENTS' ENGLISH SPEAKING SKILLS THROUGH LINGOPANDA: A DEEP LEARNING-BASED SPEAKING PRACTICE APPLICATION AT SMAN 4 PALOPO

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COKROAMINOTO PALOPO UNIVERSITY
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THESIS

Submitted as a complement to fulfilling the requirements to carry out research into writing a thesis at the English Study Program, Faculty of Teacher Training and Education, Cokroaminoto University of Palopo

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ABSTRACT

Muh. Fadil. 2026. Improving Students' English Speaking Skills through Lingopanda: A Deep Learning-Based Speaking Practice Application at SMAN 4 Palopo. Thesis. English Language Education Study Program, Faculty of Teacher Training and Education, Cokroaminoto Palopo University. Supervised by Andi Mangnguntungi S. and Reski Yusrini Islamiah Yunus.

This research aimed to Improve students' English-speaking skills using the Lingopanda Application at SMAN 4 Palopo. The research employed a quantitative approach using a pre-experimental method with a one-group pretest-posttest design. The population of this research consisted of all Grade XI students of SMAN 4 Palopo in the academic year 2025/2026. The sample consisted of 16 students selected through purposive sampling. The research instrument was an oral speaking performance test that assessed two aspects of speaking skills, namely pronunciation and fluency. The research procedures consisted of a pretest, four treatment meetings using the Lingopanda application, and a posttest. The collected data were analyzed using descriptive statistics and inferential statistics through the Shapiro-Wilk normality test and the Paired Sample t-test in SPSS version 26. The findings showed that the students' mean score increased from 40.00 in the pretest to 54.38 in the posttest. The Paired Sample t-test revealed that the significance value (2-tailed) was 0.000, which was lower than the significance level of 0.05 ($0.000 < 0.05$). Therefore, the alternative hypothesis (H_1) was accepted and the null hypothesis (H_0) was rejected. The findings indicate that the use of the Lingopanda application significantly improved students' English speaking skills, particularly in the aspects of pronunciation and fluency. Although the average achievement remained within the Fairly Poor classification, students demonstrated measurable progress in speaking performance after the implementation of the treatment.

Keywords**:** Lingopanda Application, Speaking Skills, Pronunciation, Fluency, Deep Learning.

CURRICULUM VITAE

Muh. Fadil was born in Cilallang on May 30th, 2004. He is the fifth child of five siblings, born to Bakkareng and Patimang. He began his formal education at SDN 249 Turungan Datu in 2010 and graduated in 2016. He then continued his studies at SMP Negeri 2 Belopa and graduated in 2019. In the same year, he entered SMA Negeri 7 Luwu and completed his senior high school education in 2022. After graduating from senior high school, he was registered as a student in the English Language Education Study Program at the Faculty of Teacher Training and Education, Cokroaminoto Palopo University, in 2022. In 2023, the researcher was active in organizational activities, such as participating as a participant in the English On Vacation event held in 2023 by the English Students' Association. This thesis is written as a partial fulfillment of the requirements for obtaining the Sarjana Pendidikan (S.Pd.) degree in English Language Education at Cokroaminoto Palopo University.

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Muh. Fadil

TABLE OF CONTENTS

Pages

LIST OF TABLES

LIST OF APPENDICES

CHAPTER I
INTRODUCTION

1.1 Background

In the digital era, rapid technological advancements have opened new opportunities in the field of education. One of the most transformative innovations is the integration of Artificial Intelligence (AI) and Deep Learning algorithms into language learning environments. As society continues to advance, intelligent systems have become essential across various sectors, including industry, business management, communication, and particularly education, where technology plays an increasingly influential role in teaching and learning processes (Joko Purwanto et al., 2025). In English Language Teaching (ELT), these technological developments offer potential solutions to persistent classroom challenges, particularly those related to improving students' active participation and building their speaking confidence.

English proficiency is widely recognized as a vital skill in the global era, supporting academic success, career advancement, and effective international communication. English language learning involves four primary skills: listening, speaking, reading, and writing. Speaking is one of the most important skills among the four English skills that English students must master. In line with this view, (Perdana et al., 2021) emphasize that speaking functions as an oral communicative process that enables learners to express ideas and opinions directly. However, speaking is also widely acknowledged as the most difficult skill to acquire because learners must simultaneously manage vocabulary, grammatical accuracy, pronunciation, and fluency in real-time communication.

Many researchers argue that successful speaking development requires frequent practice and immediate corrective feedback. (Muslem et al., 2021) emphasize that without direct correction and continuous rehearsal, learners tend to repeat the same errors and struggle to produce fluent speech. This challenge is intensified in learning environments where students lack opportunities to communicate in English outside of school. As a result, many learners remain passive, hesitant to speak, and unable to develop confidence in oral communication.

These challenges are clearly reflected in the local context of SMAN 4 Palopo. Based on preliminary interviews with the English teacher, Grade XI students consistently struggle with speaking skills, particularly in areas such as fluency and pronunciation. Students frequently hesitate, produce fragmented sentences, or mispronounce words, making it difficult for them to communicate effectively. The teacher also noted that many students lack enthusiasm for speaking activities, partly due to anxiety and fear of making mistakes. Interestingly, the issue is not the absence of technology; students have access to smartphones and the internet, but rather how technology is used. Instead of using digital tools to practice speaking productively, students tend to rely on passive digital activities, which hinders the development of actual communicative competence.

This condition highlights the urgent need to redirect students' digital habits toward productive learning activities. One promising approach is the use of AI-powered speaking applications that encourage students to practice speaking actively rather than relying on instant text-based solutions. Among the various AI technologies available, Deep Learning has gained attention for its advanced capabilities. Unlike traditional, rule-based AI, Deep Learning models process information using layered neural networks that mimic human cognition. In the field of language learning, these models power Natural Language Processing (NLP) and Automatic Speech Recognition (ASR), enabling systems to understand spoken input, detect errors, and provide real-time corrective feedback.

The relevance of Deep Learning-based applications in speaking instruction is supported by growing research in the last decade. (Priyatmojo & Fanania, 2025) found that AI-based pronunciation training applications, such as ELSA Speak and Duolingo, significantly improved students' accuracy and confidence, particularly when learners practiced in low-anxiety, self-paced conditions. Similarly, (Dai & Wu, 2023) found that ASR-enhanced speaking tasks positively affected students' fluency by providing immediate feedback that allowed learners to self-correct and repeat their speech. However, many existing applications still focus on isolated pronunciation drills or sentence repetition rather than spontaneous and contextualized communication.

To address this limitation, AI tools that simulate real conversational contexts are needed. One such application is Lingopanda (formerly Pingolearn), which integrates Deep Learning features such as AI Chat Voice, simulated conversations, partner call activities, and contextual speaking prompts. These features allow learners to engage in semi-authentic conversational interactions and receive immediate formative feedback to support speaking practice and self-correction. For students who struggle with fluency and pronunciation, Lingopanda provides repeated practice opportunities in a low-pressure environment, which is crucial for building confidence and improving oral performance (Fatimah & Ismahani, 2025). Although speaking skills consist of several components, this study operationalizes speaking skills through fluency and pronunciation, as these two aspects are directly observable, measurable, and closely related to the feedback mechanisms provided by the Lingopanda application.

However, empirical evidence on the effectiveness of Lingopanda in Indonesian senior high schools remains limited, particularly studies that measure improvement in fluency and pronunciation through performance tests. Therefore, the researcher would like to conduct research titled *"Improving Students' English Speaking Skills through Lingopanda: A Deep Learning-Based Speaking Practice Application at SMAN 4 Palopo,"* which aims to investigate the effectiveness of Lingopanda in improving students' speaking skills.

1.2 Problem Statement

Based on the explanation in the background, the central question in this research:

"Does the use of Lingopanda effective to improve students' speaking skills at SMAN 4 Palopo?"

1.3 Objective of The Research

This research aims to find out whether or not the use of the Lingopanda application effective to improve students' speaking skills at SMAN 4 Palopo.

1.4 Significances of the Research

The findings of this research are expected to provide practical benefits for several parties:

1. For Students:

   Lingopanda can serve as an effective tool to enhance their confidence, fluency, and pronunciation by providing personalized, low-anxiety practice that reduces their fear of making mistakes in real-time communication.

2. For Teachers:

   The study provides practical recommendations for integrating efficient, AI-powered supplementary tools, helping teachers deliver individualized speaking practice in line with communicative curriculum goals.

3. For Future Research:

   This study can serve as a reference for future research on AI-based speaking applications, particularly in exploring other speaking components, different learner levels, or alternative research designs in EFL contexts.

1.5 Scope of the Research

This study focuses on Grade XI students at SMAN 4 Palopo who use the Lingopanda application for English-speaking practice. This study focuses on students' speaking skills, with fluency and pronunciation as the measured aspects of speaking performance. Other components of speaking skills, such as grammar and vocabulary, are not included in this study to maintain methodological focus.

1.6 Operational Definitions

1. Lingopanda

   Lingopanda application is a digital language-learning application utilized as a learning medium in this study. It is implemented as the treatment to provide speaking practice through its main features, such as the Pronunciation feature and AI Chat feature.

2. Students' Speaking Skills

   In this study, students' speaking skills are operationally defined as students' oral performance in terms of fluency and pronunciation, as measured through an oral speaking performance test using an analytic speaking rubric.

3. Deep Learning

   Deep Learning refers to a technology used in Artificial Intelligence that allows a system to learn from data. In this study, it refers to the technology behind Lingopanda that helps the application recognize and process students' speech.

CHAPTER II
RELATED LITERATURE REVIEW

2.1 Some Pertinent Ideas

1. Speaking

Among the core language skills, speaking is particularly critical for EFL learners due to its communicative function. Given that English serves as the dominant global lingua franca, proficiency in speaking the language provides substantial benefits, including enhanced academic and professional prospects as well as smoother communication in international contexts. This argument is advanced by Gard and Gautam (2010, as cited in Susnawati et al., 2019). Speaking is a way people communicate with one another, and it occurs in almost every setting as a regular part of daily life. Through speaking, individuals interact and use language to share their thoughts, ideas, and feelings.

According to Perdana et al. (2021), speaking operates as an oral communicative process. It goes beyond the activities of reading and writing because it enables learners to articulate their ideas and opinions directly (Perdana et al., 2021). Furthermore, Apriyanto (2020) states that speaking is the primary instrument of human communication, essential for expressing thoughts, emotions, and arguments orally. In addition, Aziez et al. (2024) describe speaking as an interactive oral process through which individuals produce meaningful messages that can be directly received and responded to by listeners.

Overall, the explanations above suggest that speaking is a means for learners to express and exchange ideas orally while engaging in a cognitive, linguistic, and social process. To communicate effectively, students must master key components such as pronunciation, accuracy, and fluency. In foreign language contexts, speaking is essential because it helps learners understand others and be understood in return. As a continuous human activity that supports social interaction, speaking remains a central aspect of English language learning, particularly in modern educational settings that emphasize interaction, communicative competence, and higher-order thinking skills.

Speaking skills are one of the four English language abilities, including reading, writing, and listening. (Zuhriyah, 2017) explains that speaking refers to an individual's capacity to convey and communicate ideas orally, making it an essential component for English learners. According to Crisianita & Mandasari, (2022), speaking skills are a crucial communicative ability that allows learners to express ideas, share information, and interact with others using English. They explain that many students find speaking difficult due to low confidence and limited practice. Therefore, speaking skills must be developed through appropriate instructional strategies, such as small-group discussion, which provides students with more opportunities to practice, interact, and receive constructive feedback.

2. Aspects of Speaking

According to Duong (in Prasetya & Nuraeni, 2021), "there are five aspects of speaking. There are Vocabulary, Grammar, Pronunciation, Fluency, and Accuracy." Although speaking competence consists of several aspects, the present study focuses exclusively on fluency and pronunciation. These two aspects are selected because they represent observable and measurable indicators of oral performance and are directly targeted by the feedback mechanisms provided in AI-based speaking applications. Other aspects of speaking, such as vocabulary and grammatical accuracy, are not measured in this study to maintain methodological focus and validity.

a. Pronunciation

According to Alfa & Riziqien (2020), Pronunciation is the process of producing words correctly, and acceptable pronunciation is a vital aspect of speaking. Pronunciation involves producing individual sounds, good articulation, and correct voice features such as aspiration, voicing, voice placement, intonation, and stress. Pronunciation plays a significant role in oral communication; pronunciation errors can lead to the listener misunderstanding the meaning. Consequently, pronunciation is about how to produce acceptable and unambiguous lexical words in a language. Herawati and Mauriyat (2022) explain that pronunciation refers to the process and manner of articulating words in spoken language. It encompasses the way speech sounds are produced, particularly forms of articulation that are commonly accepted and intelligible to listeners, as well as the phonetic representation of spoken words.

In the context of language learning and education, pronunciation can be understood as the production of sounds during spoken communication (Khasanah & As Sabiq, 2020). In addition, Gower et al., as cited (in Saputri et al., 2022), define pronunciation as the manner in which a language is orally produced, which plays a crucial role in supporting the comprehension of spoken English and in enabling speakers to convey meaning clearly and effectively. This view implies that successful communication depends not only on the act of speaking but also on the listener's ability to accurately interpret the linguistic code. When pronunciation is unclear, listeners may struggle to understand the intended message, highlighting the importance of shared linguistic knowledge in spoken interaction. Based on these perspectives, pronunciation can be concluded as the way words are produced in speech, encompassing accurate sound articulation, appropriate stress patterns, rhythm, and intonation to ensure intelligible and meaningful oral communication.

b. Fluency

According to L et al., (2024), Fluency is the capability to speak at an effective and smooth speed, and to produce the right words without excessive thinking. Excellent fluency directly boosts an individual's confidence in expressing ideas and also improves overall communication skills. Speaking fluency refers to an individual's capacity to produce oral language smoothly and continuously with minimal hesitation, either in formal performance settings or in interpersonal communication (Dede, 2020). For this reason, fluency constitutes a fundamental component in the development of speaking skills, particularly for learners of English as a foreign language. In classroom contexts, students are expected to gradually enhance their speaking ability by using the target language with confidence and continuity, supported by adequate vocabulary and limited pauses or interruptions (Winaryo & Gusdian, 2021). When fluency is achieved, speech tends to flow naturally and is delivered with clarity and coherence.

From a pedagogical perspective, speaking fluency is often regarded as a basic indicator of successful oral communication, as it reflects learners' ability to convey ideas effectively in real-time interaction. The development of fluency requires sustained practice, regular exposure to authentic communicative situations, and the reduction of psychological barriers such as anxiety and fear of making

errors. Learners may improve their fluency through various activities, including conversational practice, role-playing, and the use of digital or mobile-based applications that promote consistent speaking practice. Ultimately, fluency-oriented instruction aims to enable learners to express their ideas smoothly without excessive pauses or unnecessary self-correction.

3. Types of Speaking

The following are types of Speaking According to Brown (2004), there are five types of Speaking including:

a. Imitative

Imitative is imitating a word to practice pronunciation. As stated by Messum (2007), imitation can be understood as gaining the ability to perform an activity through observation of others, highlighting that the learner's motivation arises from watching another individual perform the task.

b. Intensive

Intensive speaking practice involves generating concise pieces of spoken language to exhibit one's ability in limited aspects of language use, including grammar, word choice, phrasing, and sound patterns.

c. Responsive

Responsive assessment tasks involve brief exchanges that test learners' ability to comprehend and respond in limited contexts, such as short dialogues, common greetings, casual conversations, basic requests, and simple remarks.

d. Interactive

Interactive speaking tasks are distinguished by their greater length and complexity, as they often involve several conversational turns and participation from more than one individual.

This study is grounded in Computer-Assisted Language Learning (CALL). According to Beatty (2013), CALL positions technology as a tool that facilitates language learning by expanding opportunities for practice, enabling interaction, and supporting feedback that helps learners improve their performance. In this research, Lingopanda is treated as a CALL-based learning medium because its Pronunciation feature and AI Chat voice interaction provide repeated speaking practice and immediate feedback, which are expected to improve students' speaking skills.

4. Deep Learning

a. Definition of Deep Learning

Deep Learning is a subfield of Artificial Intelligence (AI) and Machine Learning that focuses on the development and application of artificial neural networks with multiple hidden layers to model complex patterns in data. Unlike traditional machine learning approaches that typically depend on manually engineered features, Deep Learning allows systems to learn feature representations automatically from raw data inputs. According to Ahmed et al., (2023), Deep learning is an approach to machine learning that utilizes multilayer artificial neural networks to automatically learn data representations. Through this layered structure, deep learning models are able to gradually extract low-level and high-level features, enabling them to process complex tasks such as image recognition, speech processing, and natural language understanding with an efficiency that generally surpasses conventional machine learning methods.

More recent perspectives further refine this definition. According to Dube, (2018), Deep Learning is not just a "layered neural network for feature extraction," but also a mathematical and geometric framework, allowing for a formal analysis of how models map high-dimensional inputs to outputs, how the structure of the data space affects model reliability (including vulnerability to adversarial attacks), and how the mathematical properties of deep networks can be explained theoretically. This property makes Deep Learning particularly effective for tasks involving sequential and temporal data, such as speech and natural language.

From an educational technology standpoint, Abdi et al. (2023) said that Deep learning is a computational approach that automatically learns multi-level representations from learner-generated data. Their work shows that deep learning enables intelligent educational systems to interpret student input more accurately, thereby supporting adaptive, real-time feedback and data-driven instructional decision-making.

b. Deep Learning in Language Learning

In recent years, deep learning has played a transformative role in language learning technologies, especially in developing intelligent tutoring systems, conversational agents, and pronunciation training tools. Deep learning allows

systems to process and analyze large amounts of linguistic data, leading to more accurate modeling of language use and learner performance.

According to Jiang Fu (2020), deep learning enables language learning systems to perform comprehensive pronunciation analysis through phoneme error detection, articulation quality assessment, and the provision of data-driven feedback. This makes deep learning a very relevant component in the development of intelligent and automated language learning technology.

According to Anitha & Reddy (2025), the development of deep learning has made a great contribution to improving the quality of English learning applications, especially in the aspect of speaking skills. They explained that the integration of deep learning technology in speech recognition systems allows language learning applications to provide accurate, real-time feedback on students' speaking performance.

Furthermore, previous researchers emphasized that the use of deep learning also allows the creation of a personalized and adaptive learning experience. By analyzing the learning patterns and characteristics of users, the app can adjust the difficulty, speed, and focus of the material to match individual needs. This approach not only increases the effectiveness of speaking exercises but also provides space for learners to practice more intensively through a responsive and supportive digital environment.

c. Deep Learning-Based Automatic Speech Recognition (ASR)

Automatic Speech Recognition (ASR) refers to the technology that converts spoken language into written or machine-interpretable text. Contemporary ASR systems are predominantly built upon Deep Learning architectures, including Deep Neural Networks (DNNs), Long Short-Term Memory (LSTM) networks, and Transformer-based models. These architectures enable ASR systems to process continuous speech signals and recognize linguistic units with high accuracy.

According to Shahamiri (2021), the deep learning-based Automatic Speech Recognition (ASR) system can recognize speech more accurately because the learning model is directly from acoustic data without relying on artificial phonetic rules. This end-to-end approach allows the system to process the articulation variations and voice blurring that are common in speakers with dysarthria, and the

results show a significant improvement in accuracy compared to traditional methods. These findings confirm that deep-learning ASR is more robust to differences in speech patterns, so it has the potential to be applied to language learning contexts that also involve pronunciation variability.

Moreover, Deep Learning-based ASR enables iterative practice and self-correction. Learners can repeat speaking tasks multiple times while receiving consistent feedback, allowing them to refine their pronunciation and improve fluency progressively. Purwanto et al. (2025) emphasize that such immediate feedback mechanisms significantly enhance learners' awareness of spoken language errors and promote sustained improvement.

In summary, Deep Learning-based ASR serves as a critical technological and theoretical component in modern speaking practice applications. Its ability to analyze spoken input accurately, provide real-time feedback, and support autonomous learning makes it a powerful tool for improving EFL learners' speaking fluency and pronunciation.

5. Lingopanda

a. Definition of Lingopanda

Lingopanda is an artificial intelligence–based English learning application designed to facilitate English speaking practice through interactive and conversational activities. The application was previously known as *Pingolearn* and has undergone an official rebranding to *Lingopanda*, as announced by its developer on the official platform. Despite the change in name, the pedagogical functions, learning objectives, and technological features of the application remain fundamentally the same. Consequently, empirical studies conducted under the name *Pingolearn* are considered conceptually and functionally relevant to Lingopanda in the context of this research.

From an educational perspective, Lingopanda can be categorized as a mobile-assisted language learning (MALL) application that integrates artificial intelligence to support autonomous learning, particularly in speaking practice. The application emphasizes oral language production by engaging learners in spoken interaction with an AI system, rather than relying solely on receptive or text-based activities. This design is consistent with communicative language teaching principles, which

view speaking as a skill that develops through active use and meaningful interaction.

Empirical evidence regarding the use of Lingopanda has been documented in previous research. A study conducted by Fatimah & Ismahani (2025) identifies the application as an effective learning medium that enables students to practice speaking independently in a low-anxiety environment. Their findings indicate that the absence of direct teacher or peer evaluation allows learners to focus on expressing ideas without excessive fear of making mistakes, thereby fostering greater willingness to speak.

Based on these considerations, Lingopanda can be defined as an AI-assisted speaking practice application that utilizes interactive speech-based activities and automated responses to support the development of English speaking skills in EFL contexts.

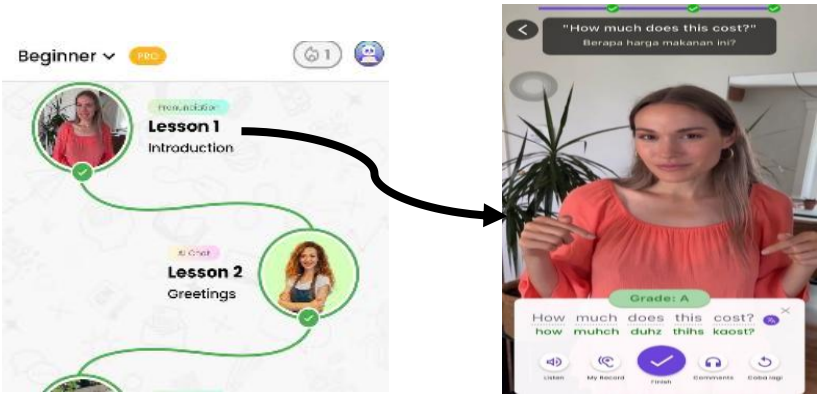
b. Features of Lingopanda for Speaking Practice

Lingopanda provides several features designed to facilitate English speaking practice. One of its core features is AI-based voice interaction, which requires learners to produce oral responses to system-generated prompts. According to Sa et al. (2025)**,** AI-powered voice recognition technology is effective in improving EFL learners' pronunciation competence. Through regular speaking exercises and live automated feedback, learners can recognize and correct their articulation errors more quickly.

1) Pronunciation Feature of Lingopanda Application

The pronunciation feature in the Lingopanda application is designed to help learners improve their pronunciation accuracy through guided imitation, audio modeling, and automatic feedback. This feature focuses on learners' ability to produce correct sounds, word stress, and intonation in spoken English.

The pronunciation feature consists of the following components:



a) Pronunciation Model

In this feature, learners are provided with a native-like pronunciation model in the form of spoken sentences. As shown in the application interface, the sentence "How much does this cost?" is presented with clear audio pronunciation. This model allows students to listen to accurate English pronunciation before producing their own speech.

b) Phonological Awareness through Listening

The sentence *"How much does this cost?"* helps learners recognize important pronunciation elements, such as:

1) Word stress: stress on the content words *much* and *cost*
2) Connected speech: natural linking between words (*does this* → /dəz ðɪs/)
3) Intonation pattern: rising–falling intonation commonly used in polite questions

By repeatedly listening to the pr onunciation model, learners develop awareness of how English sounds are naturally produced in real communication.

c) Speech Imitation and Voice Recording

After listening to the model, learners are required to imitate the pronunciation by recording their own voice. This imitation process trains students to articulate English sounds correctly and to reduce mother-tongue interference. The recording feature encourages active participation rather than passive listening.

d) Automatic Accuracy Scoring

The application provides immediate feedback in the form of an accuracy score, such as "Grade A," which indicates that the learner's pronunciation closely matches the target model. This scoring system motivates learners to repeat the pronunciation practice until they achieve better accuracy.

e) Bilingual Support for Comprehension

To support understanding, the sentence *"How much does this cost?"* is accompanied by its Indonesian translation, *"Berapa harga makanan ini?"*. This bilingual display helps learners focus on pronunciation without being confused by meaning, especially for beginner-level students.

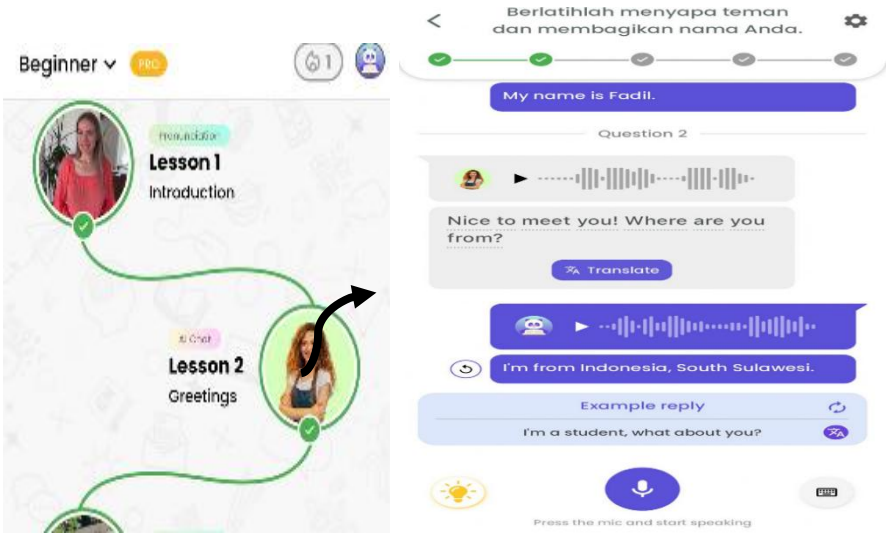
f) Contribution to Speaking Skills

Through repeated listening, imitation, and feedback, the pronunciation feature directly contributes to improving students' speaking skills, particularly in the aspect of pronunciation. This feature enables learners to practice independently and build confidence in producing accurate spoken English.

2) AI Chat Voice

The AI Chat Voice feature in the Lingopanda application is designed to improve students' speaking skills by engaging them in interactive and contextualized conversations with an artificial intelligence system. This feature emphasizes real-time language use and encourages students to speak spontaneously in meaningful communication.

The AI Chat feature includes the following elements:



a) Context-Based Conversation

As shown in the application interface, students are provided with a specific conversational context, such as *"Berlatihlah menyapa teman dan membagikan nama Anda."* This contextual instruction guides learners to produce relevant spoken responses based on real-life communication situations. The use of context helps

learners understand when and how certain expressions are used in daily conversations.

b) Audio Input and Voice Recognition

In this feature, students respond to the given prompts by speaking directly through the microphone. For example, after the prompt *"Nice to meet you! Where are you from?"*, students are required to give an oral response such as *"I'm from Indonesia, South Sulawesi."* The voice recognition system captures students' speech and allows them to practice producing spoken English rather than typing responses.

c) Pronunciation and Fluency Practice

The AI Chat Voice feature encourages students to speak continuously and naturally. By responding orally to conversational questions, learners practice fluency, including speech flow, pace, and reduced hesitation. At the same time, students are exposed to accurate pronunciation models through the audio prompts provided by the application.

d) Example Reply as Speaking Support

The application provides an *example reply*, such as *"I'm a student, what about you?"*, to support learners who may struggle to generate responses independently. This feature functions as scaffolding, helping students structure their spoken responses while still encouraging oral production.

e) Interactive Feedback and Repetition

Students are allowed to repeat their spoken responses and replay the audio prompts. This repetition enables learners to self-correct their pronunciation and improve fluency gradually. The interactive nature of the AI chat creates a low-anxiety environment, which is beneficial for developing speaking confidence.

f) Contribution to Speaking Skills

Through simulated dialogue, voice input, and contextual interaction, the AI Chat Voice feature directly contributes to the development of students' speaking skills, particularly fluency. This feature enables students to practice speaking independently while engaging in meaningful conversations that simulate real-life interactions.

Additionally, the application allows for unlimited repetition of speaking tasks

Learners can practice repeatedly at their own pace without external pressure, which is crucial for developing speaking proficiency. Collectively, these features position Lingopanda as a learning medium that supports active engagement, learner autonomy, and frequent speaking practice.

c. The Advantages and Disadvantages of Lingopanda

1) Advantages of Lingopanda

Lingopanda has several advantages as an AI-based speaking practice application. First, it allows students to practice speaking independently. Students can practice English speaking without always depending on a teacher or speaking partner. Second, the application provides immediate feedback, which can help students recognize and correct their pronunciation. Third, Lingopanda provides opportunities for repeated speaking practice. Students can practice several times until they feel more comfortable speaking English. Fourth, the application can make speaking practice more interactive because students can communicate with an AI-based speaking partner.

Therefore, Lingopanda can provide students with additional opportunities to practice speaking both inside and outside the classroom.

2) Disadvantages of Lingopanda

Although Lingopanda provides several benefits, it also has some disadvantages. First, students need a smartphone and a stable internet connection to use the application properly. Second, the feedback provided by an AI system may not always be as accurate as feedback from a teacher. Third, some students may have difficulties using the application because of limited technological skills. Fourth, AI-based speaking practice cannot completely replace real communication with teachers and other students because classroom interaction also involves emotions, context, and natural communication. Therefore, Lingopanda should be used as a supporting learning medium rather than as a complete replacement for the teacher.

The teacher still has an important role when Lingopanda is used in the learning process. First, the teacher introduces the application and explains how to use its features. Second, the teacher gives instructions and learning tasks based on the students' learning needs. Third, the teacher monitors students while they use the application and helps them when they have difficulties. Fourth, the teacher provides

additional feedback and explanation when the feedback from the application is not clear. Finally, the teacher evaluates students' speaking performance and gives further guidance.

2.2 Review of Previous Studies

The following are some previous studies related to research:

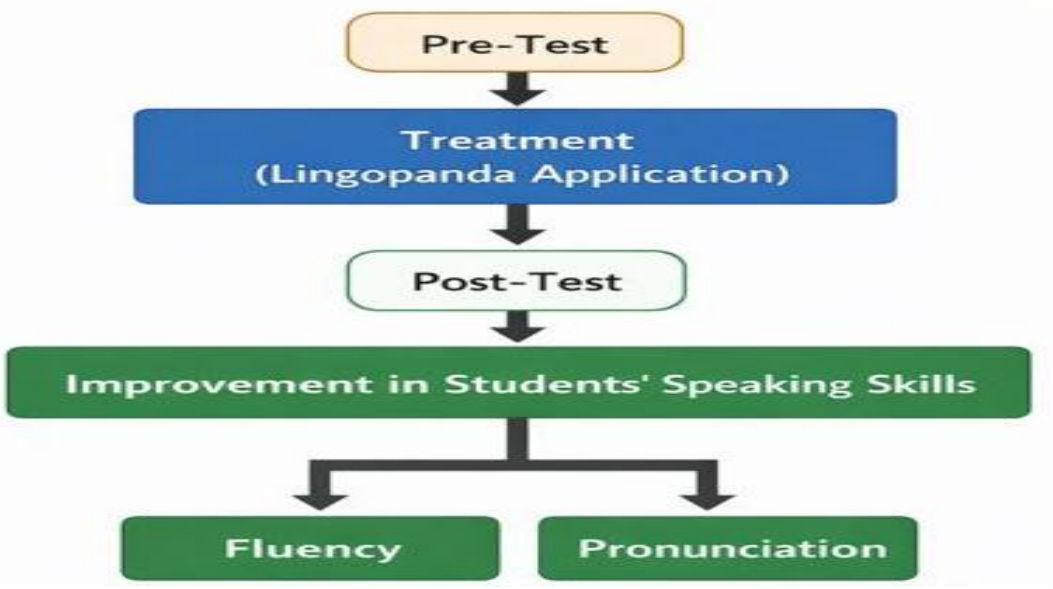
1. Fatimah and Ismahani (2025) conducted a study entitled “Students’ Perception of the Use of Mobile Application Pingolearn in Learning to Speak English.” This study aimed to investigate students’ perceptions of using the Pingolearn mobile application in learning English speaking. The findings indicated positive responses such as increased motivation, confidence, and interest in speaking English. However, the study mainly focused on perception and did not quantitatively measure the improvement of students’ speaking performance through pretest–posttest speaking tests. The similarity between the previous study and the present research lies in the use of a mobile application to support speaking learning. However, the difference is that the previous study emphasizes perception, while the present study measures speaking improvement quantitatively using speaking performance scores before and after treatment.
2. Jannah et al. (2025) conducted a study entitled “Innovative Teaching with TELL: Improving Speaking Skills through Digital Applications.” This study investigated the effectiveness of digital applications under Technology-Enhanced Language Learning (TELL) to enhance students’ speaking skills using descriptive quantitative and quasi-experimental approaches. The study reported improvements in students’ speaking performance and learning motivation. However, the study did not specifically position AI-driven automated feedback as the core mechanism that supports speaking improvement. The similarity between the previous study and the present research is that both examine digital applications to improve students’ speaking skills. However, the difference is that the present study focuses on an AI-based speaking application (Lingopanda) and operationalizes speaking skills through two measurable indicators fluency and pronunciation.

3. Wahono and Machfudi (2023) carried out a quasi-experimental study titled "Promoting Students' English Speaking Skills Using English Speaking Practice Applications." This study applied a quasi-experimental approach with pretest and posttest instruments to examine the effect of speaking practice applications on students' speaking improvement. The findings indicated that speaking practice applications contributed significantly to students' speaking development. Nevertheless, the applications discussed are generally described as practice tools and do not emphasize AI-based automated feedback mechanisms. The similarity between the previous study and the present research lies in the use of application-based intervention and pretest–posttest measurement. However, the difference is that the present study evaluates an AI-assisted application (Lingopanda) that targets speaking practice through features designed to support fluency and pronunciation development.
4. Bashori, et al. (2024) conducted a study entitled "I Can Speak: Improving English Pronunciation through Automatic Speech Recognition-Based Language Learning Systems." This study investigated the effectiveness of ASR-based language learning systems in improving learners' English pronunciation through an experimental implementation and reported improvements in pronunciation outcomes after the intervention. The study provides empirical evidence that AI-supported practice with feedback can facilitate measurable gains in pronunciation. The similarity between the previous study and the present research is the shared focus on AI-based feedback to improve pronunciation as an assessable speaking component. However, the difference is that Bashori et al. (2024) focuses primarily on pronunciation improvement through ASR systems, whereas the present study evaluates speaking skills more broadly, operationally measured through both fluency and pronunciation, using Lingopanda as the treatment.
5. Joko Purwanto et al. (2025) developed a study titled "Pengembangan Model Pembelajaran Berbasis Deep Learning untuk Peningkatan Keterampilan Berbicara Peserta Didik SMP Muhammadiyah Purworejo." This study used a quantitative approach and reported that a deep learning-based learning model contributed significantly to students' speaking improvement in the Indonesian

educational context. The study confirms the potential contribution of deep learning to speaking development. The similarity between the previous study and the present research lies in the shared emphasis on AI/deep learning to support speaking improvement and the use of quantitative measurement. However, the difference is that Purwanto et al. (2025) focuses on developing a learning model, while the present study focuses on evaluating the effectiveness of a specific AI-based mobile application (Lingopanda) as a classroom treatment, with speaking skills operationally measured through fluency and pronunciation.

Based on the reviewed studies, it can be concluded that digital applications and AI/deep learning approaches have a positive impact on students' speaking development. However, most previous research has either emphasized students' perceptions without measuring speaking gains, evaluated general speaking applications without AI-driven automated feedback, or discussed AI systems and model development without focusing on a specific mobile application in an authentic Indonesian high school context. Therefore, quantitative experimental evidence examining the effect of Lingopanda on students' speaking skills remains limited. This study addresses the gap by investigating the impact of Lingopanda on students' speaking skills operationally measured through fluency and pronunciation using a pre-experimental one-group pretest–posttest design.

2.3 Conceptual Framework



This study is based on the assumption that the use of Lingopanda as a Deep Learning-based speaking practice application influences students' speaking skills. Lingopanda provides interactive voice-based activities, simulated conversations, and immediate automated feedback through Automatic Speech Recognition (ASR). These features encourage frequent oral practice and allow learners to notice and correct errors during speaking activities. As a result, students' speaking skills, as reflected in fluency and pronunciation performance, are expected to improve after the implementation of the treatment.

2.4 Hypothesis

Hypotheses are provisional statements formulated based on the research problem and theoretical framework. They represent tentative answers to the research questions and must be empirically tested through systematic research procedures. In line with the research problem concerning the effect of Lingopanda on students' speaking skills, the hypotheses of this study are formulated as follows:

H_0: The use of the Lingopanda application does not significantly improve students' speaking skills at SMAN 4 Palopo.

H_1: The use of the Lingopanda application significantly improve students' speaking skills at SMAN 4 Palopo.

Hypothesis Testing:

If sig. < α (0.05), H_0 is rejected and H_1 is accepted.

If sig. > α (0.05), H_0 is accepted and H_1 is rejected.

Based on the criteria above, if the significance value obtained from the statistical test is lower than 0.05, it indicates that the alternative hypothesis (H_1) is accepted. This means that there is a significant difference between students' pretest and posttest speaking scores after being taught using the Lingopanda application. Conversely, if the significance value is higher than 0.05, the null hypothesis (H_0) is accepted. This indicates that there is no significant difference between students' pretest and posttest speaking scores after the implementation of the Lingopanda application.

CHAPTER III
RESEARCH METHODS

3.1 Research Method

This study employed a quantitative research method with a Pre-experimental design: one-group pretest–posttest design. The quantitative approach was selected because it provides systematic procedures for collecting, measuring, analyzing, and interpreting numerical data, as well as for reporting research findings in an objective and structured manner. In quantitative research, particularly in survey and experimental studies, clear methodological stages are required, including the determination of population and sample, the specification of research design, the procedures for data collection and analysis, the presentation of results, and the interpretation of findings in a coherent research report (Creswell, 2021).

Experimental research designs use testing procedures to examine whether a particular treatment or intervention produces an effect on an outcome variable (dependent variable) (Creswell, 2021). In this study, students' speaking skills were operationally measured through two components, namely fluency and pronunciation.

Table 1 Research Design

Group	Pre-Test	Treatment	Post-Test
Experiment	O_1	X	O_2

Source : (Sugiyono, 2015)

Description:

X : Treatment (using Lingopanda application)

O_1 : The ability of the experiment class before the given treatment.

O_2 : The ability of the experiment class after the given treatment

3.2 Time and Location

This research was conducted at SMAN 4 Palopo during the 2025/2026 academic year, which is located in Kelurahan Balandai, Kecamatan Bara, Kota Palopo, Sulawesi Selatan. The implementation of the study takes place over four instructional meetings, excluding the pretest and posttest sessions. The research

location was selected based on the relevance of the research problem to students' speaking difficulties, particularly in fluency and pronunciation.

3.3 Population and Sample

The population of this study consisted of all eleventh-grade (Class XI) students at SMAN 4 Palopo in the 2025/2026 academic year. The eleventh grade comprised two parallel classes with relatively comparable English proficiency, as indicated by academic records and teacher recommendations.

The sample was selected using purposive sampling. One class, Class XI Merdeka 2 (N = 16), was chosen as the sample based on several considerations: (1) the English teacher recommended the class as feasible for implementing technology-assisted speaking instruction using Lingopanda, and (2) preliminary observation indicated that students in this class experienced difficulties in speaking, particularly in fluency and pronunciation, which aligned with the focus of this study.

3.4 Instrument of The Research

The instrument used in this research was an oral speaking performance test. The test was administered as a pre-test and a post-test to measure students' English speaking skills before and after the implementation of the Lingopanda application as a Deep Learning-based speaking practice tool. The speaking performance test required students to respond orally to simple prompts related to daily topics. Students' speaking performances were assessed using an analytic speaking rubric that focused on two aspects: fluency and pronunciation.

3.5 Procedure for Collecting Data

During the data collection process, the researcher performed three procedures as follows:

1. **Pre-Test**

The researcher introduced himself and explained the purpose of the study. Before the treatment, a pre-test will be conducted to measure students' initial speaking ability. Each student was asked individually to perform an oral speaking task by expressing their opinion on simple daily topics, such as friendship and school-related issues. Students are required to state their opinion on simple daily

topics, such as friendship and school-related issues. Students are required to state their opinion, give a reason, and provide a simple example. Each student spoke for about 3–5 minutes without reading any notes. The performance was assessed using an analytic rubric focusing on pronunciation and fluency. The results of this test were used as baseline data.

2. Treatment

a. The First Meeting

In the first meeting, the researcher introduced the Lingopanda application and explained how to use its features. Students were guided to create an account and familiarize themselves with the application interface. The learning materials focused on self-introduction and greeting expressions. Students practiced pronouncing words and sentences using the Pronunciation Feature and then engaged in simple conversations using the AI Chat Voice Feature. At the end of the meeting, students recorded their speaking performance to evaluate their initial progress in pronunciation and fluency..

b. The Second Meeting

In the second meeting, students learned topics related to food and drink preferences. They practiced pronouncing vocabulary and expressions related to daily conversations using the Pronunciation Feature. Furthermore, students participated in AI Chat Voice activities by answering questions and expressing their opinions about their favorite foods and drinks. Through these activities, students were encouraged to speak more confidently and fluently. At the end of the session, students completed a speaking task and recorded their responses.

c. The Third Meeting

In the third meeting, the learning activities focused on exploring places and giving recommendations. Students learned vocabulary and expressions related to places, tourism, and recommendations. They practiced pronunciation using the Pronunciation Feature and continued speaking practice through AI Chat Voice conversations. Students were asked to describe places they had visited or places they wanted to visit and explain the reasons for their choices. The speaking activities were designed to improve students' fluency and ability to organize ideas while speaking.

d. The Fourth Meeting

In the fourth meeting, students learned topics related to travel and nature. The activities integrated pronunciation practice and conversational speaking exercises. Students practiced pronouncing travel-related vocabulary and participated in AI-based conversations about travel experiences, travel plans, and outdoor activities. During this meeting, students demonstrated greater confidence and familiarity with the application. At the end of the treatment, students completed speaking tasks that required them to express their ideas more fluently and accurately in English.

3. Post-test

The post-test was conducted after the treatment to measure students' improvement in speaking skills. The format is similar to the pre-test, but students are required to give more developed responses. Students expressed their opinions on similar topics by clearly stating their ideas, giving at least two reasons, and providing a more detailed example. Each student was given 3–5 minutes to speak. The performance was assessed using the same rubric, focusing on pronunciation and fluency. The results were compared with the pre-test to identify students' improvement.

3.6 Technique of Analyzing Data

In analyzing the data, researchers used the following techniques:

1. Classifying the student's speaking ability

Table 2. Classifying the students' scores

Score	Classification
96-100	Excellent
86-95	Very Good
76-85	Good
66-75	Average
56-65	Fairly
36-55	Fairly poor
0-35	Poor

Source: Gay (2006)

2. Scoring Classification

In analyzing the collected data, the researcher must determine the scoring classification, which includes pronunciation and fluency.

Table 3. The scoring system for pronunciation

Score	Descriptor
5	Pronunciation is consistently clear and intelligible; minor errors are rare and do not affect meaning. Stress and intonation are generally appropriate.
4	Pronunciation is mostly clear; some noticeable errors occur, but the meaning remains understandable. Occasional problems with stress/intonation.
3	Pronunciation is generally understandable, but frequent errors occur; some words are unclear and may momentarily disrupt understanding.
2	Pronunciation errors are frequent and often reduce intelligibility; listener effort is needed to understand the message.
1	Pronunciation is largely unclear and frequently unintelligible; communication is seriously hindered.

Table 4 The scoring system for fluency

Score	Descriptor
5	Speaks smoothly with natural pace; minimal hesitation; ideas are delivered continuously with effective phrasing.
4	Generally fluent; occasional hesitation and self-correction occur but do not significantly interrupt communication.
3	Moderate fluency; noticeable pauses and hesitation; speech is sometimes halting, but the message can be conveyed.
2	Low fluency, frequent pauses and fragmentation, and difficulty sustaining continuous speech.
1	Very low fluency; long pauses and broken speech; unable to maintain continuous utterances.

Source: Adapted and modified from Brown (2004).

3. Scoring the Students point using the formula:

$$Score = \frac{The\ number\ student\ score}{Total\ point} X100$$

Source: Purwanto (2009)

4. Calculating the student percentage by using:

P = FN x 100%

Where:

P : Percentage

N : the total of the sample

F : number of frequency

Source: Gay (2006)

5. After calculating student scores and the average pre-test and post-test scores, researchers used the SPSS application to compare and analyze the pre-test and post-test results, whether there was an increase or change in scores.

CHAPTER IV
FINDINGS AND DISCUSSION

4.1 Findings

The pretest and posttest were conducted from April 30 to May 29, 2026. The pretest was administered before the treatment to determine students' initial speaking ability. Afterward, the students received four treatment sessions using the Lingopanda application. Following the completion of the treatment, a posttest was administered to measure the improvement in students' speaking ability.

The speaking assessment focused on two aspects, namely pronunciation and fluency. The treatment was administered in four meetings over a period of one month. The sessions were conducted one to two times per week, specifically on Tuesdays at 10.00 a.m. and Thursdays at 07.30 a.m. WITA. The data were obtained from pretest and posttest speaking performance tests administered to grade XI students of SMAN 4 Palopo. The assessment focused on pronunciation and fluency as indicators of speaking ability.

Table 5. Students Pretest and Posttest Scores

a. Pretest

No.	Name	Pronunciation	Fluency	Total	Classification
1	AR	3	3	60	Fairly
2	FU	3	4	70	Average
3	FA	2	3	50	Fairly poor
4	KA	2	3	50	Fairly poor
5	NA	2	2	40	Fairly poor
6	RR	2	2	40	Fairly poor
7	SI	4	4	80	Good
8	NZ	2	1	30	Poor
9	ME	2	2	40	Fairly poor
10	DG	1	2	30	Poor
11	MA	1	1	20	Poor
12	MN	1	1	20	Poor
13	MR	2	1	30	Poor
14	MQ	2	1	30	Poor
15	MF	2	1	30	Poor
16	MI	1	1	20	Poor

b. Posttest

No.	Name	Pronunciation	Fluency	Total	Classification
1	AR	3	4	70	Average
2	FU	4	4	80	Good
3	FA	4	3	70	Average
4	KA	3	3	60	Fairly
5	NA	3	3	60	Fairly
6	RR	4	3	70	Average
7	SI	4	5	90	Very good
8	NZ	2	2	40	Fairly poor
9	ME	3	3	60	Fairly
10	DG	2	2	40	Fairly poor
11	MA	2	1	30	Poor
12	MN	2	1	30	Poor
13	MR	3	2	50	Fairly poor
14	MQ	2	3	50	Fairly poor
15	MF	2	2	40	Fairly poor
16	MI	1	2	30	Poor

Based on Table 4.1, the highest score in the pretest was 80, while the lowest score was 20. In the posttest, the highest score increased to 90, while the lowest score increased to 30. These results indicate an improvement in students' speaking performance after the implementation of the Lingopanda application.

1. Scoring Classification of students pre-test and Post-test

a. The Results of the Pretest

Table 6. Classification of Students' Pretest Scores

Classification	Score Range	Frequency (f)	Percentage (%)
Excellent	96–100	0	0
Very Good	86–95	0	0
Good	76–85	1	6.25
Average	66–75	1	6.25
Fairly	56–65	1	6.25
Fairly Poor	36–55	5	31.25
Poor	0–35	8	50
Total		16	100

Source: Research Data, 2026

Based on Table 4.2, the classification of students' pretest scores showed that the majority of students were categorized at the lower levels of speaking achievement. Eight students (50.00%) were classified as Poor, while five students (31.25%) were classified as Fairly Poor. Only one student (6.25%) achieved the Good category, one student (6.25%) was classified as Average, and one student (6.25%) was categorized as Fairly. No students were classified as Very Good or Excellent. These findings indicate that the students' speaking ability before the treatment was relatively low, particularly in terms of pronunciation and fluency.

b. The Results of the Posttest

Table 7. Classification of Students' Posttest Scores

Classification	Score Range	Frequency (f)	Percentage (%)
Excellent	96–100	0	0
Very Good	86–95	1	6.25
Good	76–85	1	6.25
Average	66–75	3	18.75
Fairly	56–65	3	18.75
Fairly Poor	36–55	5	31.25
Poor	0–35	3	18.75
Total		16	100

Source: Research Data, 2026

Based on Table 4.3, the classification of students' posttest scores demonstrated an improvement in students' speaking ability after the implementation of the Lingopanda application. One student (6.25%) achieved the Very Good category, while one student (6.25%) was categorized as Good. Furthermore, three students (18.75%) were classified as Average, and three students (18.75%) were categorized as Fairly. Five students (31.25%) were classified as Fairly Poor, while three students (18.75%) remained in the Poor category. These findings indicate an improvement in students' speaking ability after the implementation of the Lingopanda application.

2. The Mean Score and Standard Deviation of Pre-Test and Post-Test

The results of pretest and posttest descriptive statistical analysis on improving students' speaking skills are shown in the following table.

Table 8. Results of Descriptive Statistical Analysis of Pretest and Posttest

Statistic	N	Mean	Std. Deviation	Minimum	Maximum	Sum
Pretest	16	40.00	17.889	20	80	640
Posttest	16	54.38	18.608	30	90	870

Source: SPSS Output, 2026

Based on the results of descriptive statistical analysis, a total of 16 samples were obtained. In the *pretest*, the minimum score was 20, and the maximum score was 80, with an average (mean) of 40.00. Meanwhile, in the *posttest*, the minimum Score increased to 30 and the maximum score increased to 90, with a mean score of 54.38. These findings indicate an increase of 14.38 points after the implementation of the Lingopanda application. The results suggest that the use of the Lingopanda application contributed positively to the improvement of students' speaking ability.

3. Normality Test Results

The normality test was conducted to determine whether the data were normally distributed or not. Because the number of samples in this study was less than 50 people, the normality test used the Shapiro–Wilk test. If the significance value (Sig.) is greater than 0.05, then the data is declared to be normally distributed. The normality test was performed using SPSS version 26.

Table 9. Normality Test Results

Groups	Shapiro-Wilk sig.	α	Description
Pretest	0,060	0,05	Normal
Posttest	0,336	0,05	Normal

Source: SPSS Output, 2026

Based on the results of the normality test, the significance value of the pretest was 0.060, and that of the posttest was 0.336. Since both significance values were greater than 0.05, the data were normally distributed. Therefore, the data met the assumption required for conducting the paired sample t-test.

4. Hypothesis Test Results

The paired sample t-test was conducted to determine whether there was a significant difference between students' pretest and posttest scores after the implementation of the Lingopanda application. The alternative hypothesis (H_1) was accepted if the calculated t-value exceeded the t-table value and the significance

value was less than 0.05. Based on the results of the analysis, the following data was obtained. Full results are presented in the appendix.

Table 10. Paired Sample Test Results

Comparison	Mean difference	Standard Deviation	T-value	df	Sig. (2-tailed)
Pre-Post	-14.375	6.292	-9.139	15	0.001

Source: SPSS Output, 2026

The results of the paired sample t-test showed that the calculated t-value was -9.139 with 15 degrees of freedom (df = 15). The significance value obtained was 0.001.

Since the absolute value of the calculated t-value (9.139) was greater than the t-table value (2.131) and the significance value (0.001) was lower than 0.05, the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_1) was accepted. Therefore, it can be concluded that the use of the Lingopanda application significantly improved students' speaking ability.

Furthermore, the mean score increased from 40.00 in the pretest to 54.38 in the posttest, indicating an improvement in students' speaking ability after the implementation of the lingopanda application.

4.2. Discussion

Based on the findings of this study, the use of the Lingopanda application significantly improved the speaking ability of grade XI students of SMAN 4 Palopo. This improvement can be seen from the increase in the mean score from 40.00 in the pretest to 54.38 in the posttest. Although the mean score remained within the Fairly Poor classification range, the statistical analysis showed that the improvement was significant. Therefore, the use of the Lingopanda application contributed positively to the development of students' speaking ability, particularly in pronunciation and fluency.

Before the treatment was conducted, most students experienced difficulties in speaking English. During the pretest, many students were unable to pronounce words accurately, frequently paused while speaking, and lacked confidence when expressing their ideas. This condition is reflected in the pretest classification results, where eight students (50%) were categorized as Poor, and five students (31.25%) were categorized as fairly poor. Only one student reached the good

category, while one student was categorized as Average, and one student was categorized as Fairly. These findings indicate that students' speaking ability was still relatively low before the implementation of the treatment.

The findings from the first treatment indicated that students were introduced to the Pronunciation Feature and AI Chat Voice Feature in the Lingopanda application. Based on the observation, students showed different levels of pronunciation and fluency. In terms of pronunciation, Student 1 experienced several pronunciation errors. For example, the sentence *"I want to learn English by speaking"* was pronounced as *"ay want to lerr engliss bai speeking"*, resulting in Grade C. After receiving immediate feedback from the application, the student repeated the sentence several times until achieving Grade A. Student 2 demonstrated better pronunciation by obtaining Grade A on the first attempt without repetition. In contrast, Student 3 pronounced the sentence as *"Ay want...to lerrn...englis...bai...spiking,"* which also received Grade C because several words were not pronounced accurately.

These findings indicate that students with lower pronunciation ability were still influenced by their first language and were unfamiliar with English pronunciation. However, the immediate feedback provided by Lingopanda helped students recognize and correct their pronunciation errors through repeated practice. This finding supports Beatty (2013), who states that CALL provides immediate feedback that helps learners improve pronunciation accuracy.

In terms of fluency, Student 1 frequently paused and used fillers while answering the AI Chat Voice questions. For example, when asked, *"Where are you from?"* the student answered, *"I'm from... uhm... Indonesian,"* and when asked about favorite food, the student responded, *"Yes... I hevv... uhm... kaofi."* Student 2 answered the questions smoothly without noticeable hesitation, while Student 3 frequently paused and produced short responses such as *"I... student"* and *"My... name... Fajar."* The differences in fluency indicate that most students were not yet confident in speaking English spontaneously. They required more time to organize vocabulary before answering. According to Brown (2004), fluency is the ability to speak smoothly with minimal hesitation. Therefore, the first treatment showed that students were still adapting to speaking English, although the lingpnda

application had begun to encourage them to practice pronunciation and speaking more actively.

In the second treatment, students practiced speaking through Lesson 3 (Coffee Choices) using the Pronunciation Feature and Lesson 4 (Food Choices) using the AI Chat Voice Feature. Compared with the first treatment, most students demonstrated better pronunciation and greater confidence in speaking, although differences in ability were still observed.

In terms of pronunciation, Student 1 showed improvement compared with the previous meeting but still experienced several pronunciation errors. For example, the sentence *"Coffee is one of my favorite beverages"* was pronounced as *"kofii is onn of my faporitt beverejs"*, resulting in Grade C/D. Likewise, *"I prefer cappuccino"* was pronounced as *"ay preper kapucino"* and received Grade B. After practicing repeatedly and receiving corrective feedback from the application, Student 1 gradually improved the pronunciation of several words. Student 2 consistently achieved Grade A on all pronunciation tasks, indicating accurate pronunciation and clear articulation. In contrast, Student 3 still showed lower performance. For example, the student pronounced *"Kofii is...on...of my...favorit...beverej"* and obtained Grade D, indicating that several words were not recognized accurately by the application.

These findings suggest that repeated pronunciation practice enabled students to improve their pronunciation accuracy, although students with lower speaking ability still required more practice to produce English sounds correctly. This finding supports Gilakjani (2016), who argues that continuous pronunciation practice and corrective feedback help learners reduce pronunciation errors and develop more accurate speech production.

In terms of fluency, students also demonstrated gradual improvement during the AI Chat Voice activities. Student 1 was able to answer questions using longer responses, although fillers and pauses were still observed. For example, when asked *"What snacks do you usually eat?"*, Student 1 answered, *"I usually go... for simple snack like... ee... biscuit, or fried snack like bakwan."* Student 2 responded more fluently by saying, *"I usually eat bread, crackers, and sometimes bananas,"* without noticeable hesitation. Meanwhile, Student 3 still paused frequently and

produced shorter responses, such as *"I... usually eat... chips... and... uh... bread."*

The improvement in fluency indicates that students gradually became more familiar with interactive speaking activities provided by the Lingopanda application. Although some students continued to hesitate while speaking, they were able to produce longer responses than during the first treatment. According to Brown (2004), fluency develops through continuous speaking practice that allows learners to express ideas more smoothly and confidently. Therefore, the second treatment showed that repeated interaction with the AI Chat Voice Feature helped students improve both their confidence and speaking fluency.

In the third treatment, students practiced speaking through Lesson 5 (Explore Local Spots) using the Pronunciation Feature and Lesson 6 (New Places to Visit) using the AI Chat Voice Feature. Compared with the previous meetings, most students demonstrated better pronunciation and greater speaking confidence, although some pronunciation errors and hesitations were still observed.

In terms of pronunciation, Student 1 showed noticeable improvement. Several sentences such as *"Where?"* and *"It is. I love being outdoors."* were pronounced correctly and received Grade A. However, pronunciation errors still appeared in some expressions. For example, Student 1 pronounced *"Oh, ay siitt"* instead of *"Oh, I see it,"* which received Grade C, and *"yeah, ihts pakted"* instead of *"Yeah, it's packed,"* which also received Grade C. Student 2 consistently obtained Grade A in all pronunciation activities and was able to pronounce the target sentences accurately without repetition. Meanwhile, Student 3 still experienced pronunciation difficulties. For example, the student pronounced *"Oh... ay... siiit"* and received Grade D, while the sentence *"Yeah... iht... paket"* also received Grade D because several words were pronounced inaccurately.

These findings indicate that repeated pronunciation practice gradually improved students' pronunciation accuracy, particularly for Student 1. Nevertheless, students with lower speaking ability still experienced difficulties in producing several English sounds correctly. According to Gilakjani (2016), continuous practice combined with corrective feedback helps learners improve pronunciation accuracy by reducing common pronunciation errors.

In terms of fluency, students also showed better performance than in the previous meetings. Student 1 was able to provide longer responses during the AI Chat Voice activity. For example, when asked, *"Is your city known for anything special?"*, the student answered, *"Is ehh famous for... ehm... its delicious street food."* Although fillers such as *"ehh"* and *"ehm"* were still used, the student was able to express complete ideas. Student 2 answered the questions fluently and confidently, for example, *"My favorite place is the city park because I like walking there with my friends,"* without noticeable pauses. In contrast, Student 3 continued to produce shorter responses with frequent pauses, such as *"Yes... eh... good food... and... beautiful place."*

The findings suggest that students became more confident in expressing their ideas after repeated speaking practice with the Lingopanda application. Although some students still hesitated while speaking, their responses became longer and more meaningful than in the previous treatments. This finding supports Brown (2004), who states that fluency develops through continuous speaking practice, enabling learners to communicate ideas more smoothly and confidently.

In the fourth treatment, students practiced speaking through Lesson 7 (Plan Nature Outings) using the Pronunciation Feature and Lesson 8 (Talking About Travel) using the AI Chat Voice Feature. By this stage, most students appeared more confident in using English and demonstrated better pronunciation and fluency than in the previous meetings.

In terms of pronunciation, Student 1 demonstrated noticeable improvement. Several expressions, such as *"I know. Me too."*, *"What do you want to do?"*, and *"I'm in. Let's go."* were pronounced correctly and received Grade A. However, some pronunciation errors were still found. For example, Student 1 pronounced *"Well, we cud go for a walk"*, which received Grade B, and *"Ay downt now. You pick"*, which also received Grade B. Student 2 consistently achieved Grade A on all pronunciation tasks, indicating accurate pronunciation and clear articulation. Meanwhile, Student 3 showed progress compared with the previous meetings, although several pronunciation errors remained. For example, the student pronounced *"Ay... dont... now... waat... doo... yoo... want... doo"*, which received Grade C, while other expressions such as *"Yeah... let's go"* and *"Aym... in... let's*

goo" successfully achieved Grade A.

These findings indicate that repeated pronunciation practice throughout the four treatment meetings helped students improve their pronunciation accuracy. Although some pronunciation errors were still observed, especially among lower-performing students, most students were able to produce English words more accurately than during the first treatment. This finding supports Gilakjani (2016), who states that continuous pronunciation practice accompanied by immediate corrective feedback contributes to the development of learners' pronunciation accuracy.

In terms of fluency, students also demonstrated better speaking performance. Student 1 produced longer and more meaningful responses during the AI Chat Voice activity. For example, when asked, *"Do you like staying at home or traveling more?"*, the student answered, *"I like traveling and... uhm... exploring."* Likewise, when asked about future travel plans, the student responded, *"I want... uhm... go to Raja Ampat City."* Although fillers such as *"uhm"* were still present, Student 1 was able to communicate ideas more confidently than in the previous meetings. Student 2 answered the questions smoothly and confidently with complete responses, such as *"I like traveling more because I enjoy visiting new places"* and *"I want to visit Bali with my family."* In contrast, Student 3 still produced shorter responses with several pauses, for example, *"I... like... travel... more"* and *"I... want... go... Toraja."* Nevertheless, compared with the first treatment, Student 3 showed greater confidence and required fewer pauses while responding.

These findings suggest that students' fluency improved gradually as they became more familiar with speaking English through continuous practice using the Lingopanda application. Repeated interaction with the AI Chat Voice Feature enabled students to produce longer responses and communicate their ideas more confidently. According to Brown (2004), fluency develops through continuous speaking practice that encourages learners to communicate naturally with fewer pauses and hesitations. Therefore, the fourth treatment demonstrated that regular speaking practice supported by technology contributed positively to the development of students' speaking fluency.

Overall, the findings from the four treatment meetings indicated gradual improvement in students' pronunciation and fluency. During the first meeting, many students still experienced pronunciation errors, frequent pauses, and hesitation while answering the speaking tasks. However, through continuous practice using the Pronunciation Feature and AI Chat Voice Feature, students gradually demonstrated clearer pronunciation, longer responses, fewer pauses, and greater confidence in speaking English. These improvements were reflected in the posttest results, where the mean score increased from 40.00 in the pretest to 54.38 in the posttest.

The improvement from the pretest mean score of 40.00 to the posttest mean score of 54.38 did not occur instantly. The increase was the result of continuous practice throughout the four treatment meetings. Through the Pronunciation Feature, students received immediate feedback on their pronunciation and were able to repeat exercises until they achieved better results. Meanwhile, the AI Chat Voice Feature provided opportunities for students to practice speaking interactively and independently. As a result, students gradually improved their pronunciation, fluency, and confidence in speaking English.

Although the posttest mean score remained within the Fairly Poor category, the distribution of students across the classification levels showed improvement after the treatment. The number of students classified as Poor decreased from eight students in the pretest to three students in the posttest. In addition, the number of students in the Fairly, Average, Good, and Very Good categories increased. This finding indicates that the Lingopanda application contributed positively to the improvement of students' speaking ability.

During the implementation of the treatment, several challenges were observed. Some students, particularly male students, occasionally left the classroom during the learning activities and did not fully participate in all speaking practice sessions. As a result, they had fewer opportunities to engage with the pronunciation exercises and interactive speaking activities provided by the Lingopanda application. This condition may have influenced the overall improvement of their speaking performance and could partially explain why some students remained in the lower achievement categories after the treatment.

Although the treatment resulted in a statistically significant improvement, the posttest mean score remained within the Fairly Poor classification range. This finding may be attributed to several factors. First, the duration of the treatment was relatively short, consisting of only four meetings, which may not have been sufficient to produce substantial changes in students' speaking performance. Second, many students began the study with very low speaking proficiency, as reflected in the pretest results, where most students were classified as Poor and Fairly Poor. Third, speaking ability is a complex skill that requires continuous practice over a longer period of time, particularly in the areas of pronunciation and fluency. Therefore, although students demonstrated measurable progress after the treatment, some students still remained in the lower achievement categories and required further practice to reach higher levels of speaking proficiency.

The results of this study are in line with the theory of Computer-Assisted Language Learning (CALL) put forward by Beatty (2013), which states that technology can help the language learning process by providing more practice opportunities, increasing interaction, and providing feedback that supports the development of students' language skills. In this study, Lingopanda functions as a technology-based learning media that facilitates students to practice speaking independently through smartphone devices with various available practice features.

In addition, the results of this study also support the theory of Deep Learning-Based Automatic Speech Recognition (ASR) which explains that artificial intelligence-based speech recognition technology is able to analyze users' pronunciation and provide corrections directly. According to Purwanto et al. (2025), feedback provided quickly and continuously can increase students' awareness of pronunciation errors thereby helping them improve their speaking skills gradually. This can be seen during the treatment process, where students can repeat the exercise until they get better pronunciation results.

The results of this study are supported by the research of Fatimah and Ismahani (2025), which found that the use of the Pingolearn application (now Lingopanda) is able to increase students' motivation, interest, and confidence in learning to speak English. In addition, research by Wahono and Machfudi (2023) also shows that the use of speaking practice applications can significantly improve students' speaking

skills. The findings of this study further strengthen that Artificial Intelligence-based applications can be an effective learning medium to improve students' speaking skills.

However, this study has several limitations. First, the treatment was conducted in only four meetings because the research schedule had to be adjusted to the school academic calendar, as the students were approaching their final examinations. As a result, the duration of the treatment was relatively limited. Second, this study only involved one experimental group without a control group. In addition, the number of participants was relatively small, which limits the generalizability of the findings. Other factors, such as students' learning motivation, initial speaking ability, and speaking practice outside the classroom, may also have influenced the results of the study.

Overall, it can be concluded that the use of the Lingopanda application is effective in improving students' speaking skills, as reflected in the increase in students' speaking scores after treatment. Therefore, Lingopanda can be used as an alternative technology-based learning media that supports the development of students' speaking skills in learning English.

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CHAPTER V
CONCLUSION AND SUGGESTION

5.1 Conclusion

Based on the results of the research and data analysis regarding the effect of the Lingopanda application on the speaking ability of grade XI students of SMAN 4 Palopo, it can be concluded that the use of the Lingopanda application had a significant effect on students' speaking ability. This is evidenced by an increase in the mean score from 40.00 in the pretest to 54.38 in the posttest, indicating an improvement of 14.38 points after the implementation of the treatment. The results of the paired sample t-test showed that the calculated t-value was 9.139, which was greater than the t-table value of 2.131, and the significance value was less than 0.001, which was lower than the significance level of 0.05. Therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted.

Based on these findings, it can be concluded that the use of the Lingopanda application significantly improved the speaking ability of grade XI students of SMAN 4 Palopo, particularly in the aspects of pronunciation and fluency

5.2 Suggestions

Based on the results of the research that has been conducted, the researcher provides the following suggestions:

1. For Teachers

English teachers are advised to use the Lingopanda application as a learning medium to help improve students' speaking skills. The use of technology-based applications can create a more engaging and interactive experience, and provide opportunities for students to practice speaking independently.

2. For Students

Students are expected to be able to use the Lingopanda application as a medium for continuous speaking practice outside of learning hours. With regular practice, students' pronunciation and fluency skills can develop better.

3. For the School

Schools are expected to support the use of technology in English learning by providing adequate facilities so that the learning process can take place more effectively and in accordance with the development of educational technology.

4. For the Next Researcher

Further research is recommended to use a larger sample size and involve a control group so that the results of the study can provide a broader picture of the effectiveness of using the Lingopanda application in improving students' speaking skills.

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A P P E N D I X

APPENDIX 1

PRETEST

No.	Nama	Pronunciation	Fluency	Total
1	Akbar Ramadhan	3	3	60
2	Fhinza Utami Putri	3	4	70
3	Firla Anggara Nur	2	3	50
4	Kamila	2	3	50
5	Nur Aisya	2	2	40
6	Rakina Ramadani	2	2	40
7	Sintia	4	4	80
8	Nur Asisah	2	1	30
9	Melati	2	2	40
10	Dafi Ghulam Rasyad	1	2	30
11	Muhammad Akbar	1	1	20
12	Muh. Nazar	1	1	20
13	Muh. Alvian Ramadhan	2	1	30
14	Muh. Al-Qibran	2	1	30
15	Muh. Fajar Herdiansy	2	1	30
16	Muh. Irsal Alfahresi	1	1	20

POSTTEST

No.	Nama	Pronunciation	Fluency	Total
1	Akbar Ramadhan	3	4	70
2	Fhinza Utami Putri	4	4	80
3	Firla Anggara Nur	4	3	70
4	Kamila	3	3	60
5	Nur Aisya	3	3	60
6	Rakina Ramadani	4	3	70
7	Sintia	4	5	90
8	Nur Asisah	2	2	40
9	Melati	3	3	60
10	Dafi Ghulam Rasyad	2	2	40
11	Muhammad Akbar	2	1	30
12	Muh. Nazar	2	1	30
13	Muh. Alvian Ramadhan	3	2	50
14	Muh. Al-Qibran	2	3	50
15	Muh. Fajar Herdiansy	2	2	40
16	Muh. Irsal Alfahresi	1	2	30

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pretest	.212	16	.053	.892	16	.060
posttest	.155	16	.200*	.939	16	.336

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
pretest	16	20	80	40.00	17.889
posttest	16	30	90	54.37	18.608
Valid N (listwise)	16				

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretest	40.00	16	17.889	4.472
	posttest	54.38	16	18.608	4.652

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	pretest - posttest	-14.375	6.292	1.573	-17.728	-11.022	-9.139	15	<.001

APPENDIX 2

Lampiran Pre-test and Post-Test

Subject : English
Skill Assessed : Speaking
Aspects Assessed : Pronunciation and Fluency
Time Allocation : ± 3–5 minutes per student
Test Type : Individual Oral Test

Instructions for Students (Oral Speaking Test)

1. You are required to respond orally to the given speaking prompts.
2. Use your own words when speaking.
3. You are not allowed to read from any written text or notes.
4. Speak clearly and naturally.
5. Your speaking performance will be assessed based on pronunciation and fluency.

Pre-Test Questions (Giving Simple Opinion)

1. What do you think makes a good friendship?
   You may talk about:
   • one idea
   • one reason
   • a simple example
2. Do you agree or disagree with the following statement? Give your reason(choose one).
   a. Students should not bring mobile phones to school
   b. School orientation is useful for new students
   c. Sports lessons are important for students
   d. Smoking should be forbidden at school

Post-Test Questions (Giving Opinion)

1. In your opinion, what makes a good friendship?
   You should:
   • clearly state your opinion
   • give at least two reasons
   • provide a detailed example
2. Do you agree or disagree with the following statement? Give your opinion.
   a. Students should be allowed to use mobile phones at school
   b. School rules are important for students
   c. Extracurricular activities should be mandatory
   d. Students should study more than play games

APPENDIX 3

Teaching Module	
General Information	
A. Identitas Modul	
Name	Muh. Fadil
School Name	SMAN 4 PALOPO
Subject	English
Class	XI
Material	Speaking Skills through Lingopanda Application
Elements	Speaking (Pronunciation & Fluency)
Learning Outcomes	Students can speak English more clearly and fluently after using Lingopanda as a learning medium
Times	2x40 Minutes
B. Initial Competence	
• Basic speaking ability • Familiarity with simple daily conversations	
C. Profile of Pancasila Students	
• Faithful and Devout God	Praying before and after learning.
• Global Diversity	Respecting different opinions during speaking practice
• Independent	Practicing speaking individually through the application.
• Creative	Responding to AI conversations creatively.
• Critical Reasoning	Evaluating pronunciation feedback from the application.
D. Learning Targets	
• Regular Students'	
E. Learning Models	

- Technology-Assisted Language Learning
- Practice-Based Speaking Learning

F. Assessment

- Individual

G. Kinds of Assessments

- Speaking performance test

Core Components

A. Learning Objective

1. Pronounce English words more accurately using Lingopanda's pronunciation feature.
2. Speak English more fluently through AI Chat interaction.
3. Respond to simple conversations with minimal hesitation.

B. Meaningful Comprehension

The Lingopanda application is used as a digital learning medium that provides pronunciation models and interactive AI conversations. Through repeated practice and instant feedback, students not only practice speaking but also naturally improve their clarity and fluency.

C. Sparking Questions

- What difficulties do you usually face when speaking English?
- Why is pronunciation important in speaking?
- Have you ever practiced speaking with an AI before?

D. Learning Material

- Greeting and Introduction
- Daily Conversation
- Asking and Giving Opinion
- Short Interactive Dialogues

E. Tools in Teaching

Learning Tools	Smartphone, Lingopanda Application
Learning Source	Lingopanda Application

APPENDIX 4

LEARNING ACTIVITIES

The First Meeting (2×40 Minutes)

Theme: Introduction

Lingopanda Lessons: Lesson 1 (Pronunciation Feature—Introduction) & Lesson 2 (AI Chat Voice—Greetings)

Focus: Orientation + Pronunciation + AI Chat Voice (short conversation)

Learning Objectives

- Students understand the purpose of using Lingopanda for speaking practice.
- Students pronounce words/phrases for introduction more accurately using the Pronunciation feature.
- Students pronounce introductory expressions more accurately.
- Students respond to AI greetings with fewer hesitations.
- Students complete at least four AI speaking turns.

Opening (10 minutes)

- The teacher greets the students and leads a prayer.
- The teacher checks students' attendance.
- The teacher asks sparking questions:
    1. "Do you think pronunciation is important when speaking English?"
    2. "What difficulties do you face when pronouncing English words?"
    3. "Have you ever practiced speaking using an application or AI?"
- The teacher conveys the learning objectives and explains the learning flow: Pronunciation → AI Chat Voice → short recording.

Core Activities (60 minutes)

A. Orientation to the Treatment (5 minutes)

- The teacher explains that Lingopanda will be used as the learning medium for 4 meetings.
- The teacher explains speaking indicators assessed in this study: fluency and pronunciation (as part of speaking skills).
- The teacher explains classroom rules: use English; do not read full scripts; speak using keywords.

B. Application Demonstration (10 minutes)

- The teacher demonstrates how to open Lingopanda and access the lessons.

- The teacher shows how to use:
    - Pronunciation Feature (listen → repeat → receive feedback)
    - AI Chat Voice Feature (listen to AI prompt → respond orally → continue turns)

C. Lesson 1—Pronunciation Feature (20 minutes)

- Students log in to Lingopanda.
- Students open Lesson 1 (Introduction).
- Students listen to the model pronunciation and repeat the words/phrases.
- Students repeat the target sentences until the pronunciation feedback provided by Lingopanda improves.
- The teacher monitors and assists students who have difficulty (e.g., unclear sounds, stress).

D. Lesson 2—AI Chat Voice (20 minutes)

- Students open Lesson 2 (Greetings).
- Students listen to the AI prompts and respond orally (voice).
- Students must complete a minimum of 4 AI turns.
- Teacher guidance during practice:
    - encourage students to keep speaking even if they make mistakes;
    - remind students to speak in phrases (not word-by-word);
    - remind students not to read from a full script.

E. Treatment Evidence (5 minutes)

- Students record a 1-minute speaking output: “Self-introduction + greeting someone politely.”
- Teacher checks that recordings are saved/submitted (as required by the research procedure).

Closing (10 minutes)

- The teacher reviews today’s activities (Lesson 1 and Lesson 2).
- The teacher asks 2–3 students about their experience using Lingopanda.
- The teacher gives motivation and emphasizes that mistakes are part of learning.
- The teacher concludes the lesson and closes the class with a prayer.

Enrichment and Remedial

- Remedial: repeat Lesson 1 pronunciation tasks with a slower pace + redo AI chat with shorter answers.
- Enrichment: extend self-introduction (add hobbies/family/school life) and continue greetings with longer responses.

Learner and Teacher Reflection

- What pronunciation items were most difficult?
- Did you hesitate less during the AI conversation?

The Second Meeting (2×40 Minutes)

Theme: Coffee Choices & Food Choices

Lingopanda Lessons: Lesson 3 (Pronunciation—Coffee Choices) & Lesson 4 (AI Chat Voice—Food Choices)

Focus: Pronunciation accuracy + fluency through giving reasons

Learning Objectives

- Students pronounce food/drink-related words more clearly using the Pronunciation feature.
- Students respond to AI prompts about preferences with reduced pauses.
- Students give reasons for their choices using simple expressions.

Opening (10 minutes)

- Greeting, prayer, attendance.
- Sparking questions:
    1. "What is your favorite drink/food?"
    2. "Why do you like it?"
    3. "What makes you stop when speaking English?"
- Teacher explains flow: Pronunciation → AI Chat Voice → 2-minute recording.

Core Activities (60 minutes)

A. Review (5 minutes)

- Teacher reviews Meeting 1: pronunciation practice + AI speaking turns.
- Teacher highlights today's focus: *speaking smoothly when giving reasons*.

B. Lesson 3 Pronunciation Feature (20 minutes)

- Students open Lesson 3 (Coffee Choices).
- Students practice target words/phrases with a listen–repeat–feedback cycle.
- Teacher monitors intelligibility and corrects common issues (stress/ending sounds) when needed.

C. Guided Fluency Strategy (5 minutes)

- Teacher introduces a simple fluency frame:
  - "I prefer … because …"
  - "First…, second…"
- Students write keywords only (not full script).

D. Lesson 4—AI Chat Voice (25 minutes)

- Students open Lesson 4 (Food Choices) and respond orally.
- Minimum 4 AI turns; students must provide at least two reasons across the interaction.
- Teacher encourages students to speak continuously and avoid long pauses.

E. Treatment Evidence (10 minutes)

- Students record a 2-minute response: "My coffee/food choice + two reasons."
- Teacher checks submission/collection.

Closing (10 minutes)

- Teacher gives short feedback on common fluency problems (pauses, repetition) and pronunciation issues.
- Reflection question: "Which part helped you more today: pronunciation practice or AI chat?"
- Closing prayer.

Enrichment and Remedial

- Remedial: use 1 reason only + shorter sentences; repeat Lesson 3 until clearer.
- Enrichment: compare choices (coffee vs tea; spicy vs non-spicy) with a longer explanation.

Learner and Teacher Reflection

- Did your speaking become smoother than Meeting 1?
- Which words were still unclear?

The Third Meeting (2×40 Minutes)

Theme: Explore Local Spots & New Places to Visit

Lingopanda Lessons: Lesson 5 (Pronunciation—Explore Local Spots) & Lesson 6 (AI Chat Voice—New Places to Visit)

Focus: Longer speaking + detail (reason + example)

Learning Objectives

- Students pronounce place-related vocabulary more clearly.
- Students recommend a place and give reasons with fewer pauses.
- Students speak for 2–3 minutes with improved fluency and pronunciation.

Opening (10 minutes)

- Greeting, prayer, attendance.
- Sparking questions:
    1. "What place do you like to visit in your city?"
    2. "How do you describe a place?"
    3. "Do you hesitate when giving longer explanations?"
- Teacher explains flow: Pronunciation → AI Chat Voice (longer turns) → 2–3 minute recording.

Core Activities (60 minutes)

A. Review (5 minutes)

- Teacher reviews: "Today you must speak longer and give an example/detail."

B. Lesson 5—Pronunciation Feature (20 minutes)

- Students complete Lesson 5 (Explore Local Spots).
- Focus: clarity of place-related words/phrases and word stress.
- Teacher monitors and assists.

C. Mini-planning (5 minutes)

- Students prepare keywords: place + 2 reasons + 1 detail/example.

D. Lesson 6—AI Chat Voice (25 minutes)

- Students complete Lesson 6 (New Places to Visit) with voice interaction.
- Minimum 5 AI turns; students must include at least one example/detail in the conversation.
- Teacher ensures active participation and encourages smooth speech.

E. Treatment Evidence (10 minutes)

- Students record a 2–3 minute output: "Recommend a place + reasons + detail."

Closing (10 minutes)

- Teacher summarizes common improvement points and motivates students for final meeting.
- Reflection: "What strategy helped you speak longer today?"
- Closing prayer.

Enrichment and Remedial

- Remedial: reduce to 1 reason + 1 detail; repeat pronunciation items.
- Enrichment: add activities and itinerary (what to do there and why).

Learner and Teacher Reflection

- Are your pauses fewer than Meeting 2?
- Which pronunciation feedback appears repeatedly?

The Fourth Meeting (2×40 Minutes)

Theme: Plan Nature Outings & Talk about Travel

Lingopanda Lessons: Lesson 7 (Pronunciation—Plan Nature Outings) & Lesson 8 (AI Chat Voice—Talking about Travel)

Focus: Final practice resembling post-test format

Learning Objectives

- Students pronounce travel/nature words more clearly using the Pronunciation feature.
- Students talk about travel plans more fluently through AI Chat Voice.
- Students produce a 3-minute speaking output as final treatment practice.

Opening (10 minutes)

- Greeting, prayer, attendance.
- Sparking questions:
    1. "Do you like travelling or nature outings?"
    2. "What do you usually do when you travel?"
    3. "What makes your pronunciation unclear?"
- Teacher explains that today is the last treatment session before the post-test.

Core Activities (60 minutes)

A. Review and Goal Setting (5 minutes)

- Teacher states target: fewer pauses + clearer pronunciation.
- Teacher reminds: keywords only; no full script.

B. Lesson 7—Pronunciation Feature (20 minutes)

- Students complete Lesson 7 (Plan Nature Outings).
- Students practice key words/phrases and repeat until improved feedback.

C. Lesson 8—AI Chat Voice (25 minutes)

- Students complete Lesson 8 (Talking about Travel) with voice interaction.
- Minimum 5 AI turns; students must explain plan + activities + reason.

D. Final Treatment Evidence (10 minutes)

- Students record a 3-minute speaking output: "Travel plan + activities + reasons."
- Teacher confirms recording submission/collection.

Closing (10 minutes)

- Teacher gives final encouragement and highlights progress from Meeting 1 to 4.
- Reflection question: "Which improved most: fluency or pronunciation?"
- Teacher closes with a prayer.

Enrichment and Remedial

- Remedial: shorter response and repeated pronunciation practice; teacher-guided AI turns.
- Enrichment: extend travel talk using comparisons and a more detailed itinerary.

Learner and Teacher Reflection

- What is your biggest improvement after 4 meetings?
- What do you still need to improve for the post-test?

APPENDIX 5.

PRETEST AND POSTTEST SPEAKING TRANSCRIPT

1. Name: Muhammad Akbar Ramadhan

Pretest

Question 1

Researcher: "What do you think makes a good friendship? You may talk about one idea, one reason or a simple example"

Student: "I think I got friendship needs..needs…kindness, bcauses friends so be nice for example…my friends helps me"

Question 2

Researcher: "Do you agree or disagree with the following statement?Give your reason (choose one).

a. Students should not bring mobile phones to school

b. School orientation is useful for new students

c. Sports lessons are important for students

d. Smoking should be forbidden at school"

Student: "a. mobile phone. I disegri bcauses…mobile phones help lerning..for example…i search informasien."

Speaking Assessment (Pretest)

Speaking Aspect	Score
Pronunciation	3
Fluency	3
Total Score	60

Posttest

Question 1

Researcher: "In your opinion, what makes a good friendship? You should clearly state your opinion, give at least two reasons or provide a detailed example."

Student: "Good friends always support ech other. They also…respect ech others. Por eksampel…por exampell my friend..visit te me when I was sick."

Question 2

Researcher: “Do you agree or disagree with the following statement? Give your opinion.

a. Students should be allowed to use mobile phones at school

b. School rules are important for students

c. Extracurricular activities should be mandatory

d. Students should study more than play games”

Student: “b. I ag…I agree because school scrules make student disiplin.”

Speaking Assessment (Posttest)

Speaking Aspect	Score
Pronunciation	3
Fluency	4
Total Score	70

2. Name: Fhinza Utami Putri

Pretest

Question 1

Researcher: “What do you think makes a good friendship? You may talk about one idea, one reason or a simple example.”

Student: “I thing A good friendship needs trust, because we must respect fieligs. For example my frien listen to me.”

Question 2

Researcher: “Do you agree or disagree with the following statement?Give your reason(choose one).

a. Students should not bring mobile phones to school

b. School orientation is useful for new students

c. Sports lessons are important for students

d. Smoking should be forbidden at school”

Student: “B. School Orientation. I agree because…spors make us healthy. For example, wE ex…exreis…epri day.”

Speaking Assessment (Pretest)

Speaking Aspect	Score
Pronunciation	3
Fluency	4
Total Score	70

Posttest

Question 1

Researcher: "In your opinion, what makes a good friendship? You should clearly state your opinion, give at least two reasons or provide a detailed example."

Student: In my opinion a good friendshyip...is based on trust and support. Good friendship..go'..good friends helps each other and respect each other feeligs. For example my friend helmed…help me study…when I had difficluts...difficulties at school.

Question 2

Researcher: "Do you agree or disagree with the following statement? Give your opinion.

a. Students should be allowed to use mobile phones at school

b. School rules are important for students

c. Extracurricular activities should be mandatory

d. Students should study more than play games"

Student: "eeh yang C). I agree because ex..extraculicular activities helps students devlop talents and teamwork."

Speaking Assessment (Posttest)

Speaking Aspect	Score
Pronunciation	4
Fluency	4
Total Score	80

3. Name: Firla Anggara Nur

Pretest

Question 1

Researcher: "What do you think makes a good friendship? You may talk about one idea, one reason or a simple example."

Student: "I think a good friensep nees respect…bcauses friends have….helpech oter for ekssempel…my fries helps me studi."

Question 2

Researcher: "Do you agree or disagree with the following statement?Give your reason(choose one).

a. Students should not bring mobile phones to school

b. School orientation is useful for new students

c. Sports lessons are important for students

d. Smoking should be forbidden at school"

Student: " C) Sports lessons. I agreE bcauses…spor make us healthy, ekssempel wE…wE exreis every week."

Speaking Assessment (Pretest)

Speaking Aspect	Score
Pronunciation	2
Fluency	3
Total Score	50

Posttest

Question 1

Researcher: "In your opinion, what makes a good friendship? You should clearly state your opinion, give at least two reasons or provide a detailed example."

Student: "Good friends always support each other. They never laugh ad..at m…mistakes for example my friend encore…encored me before…a speech"

Question 2

Researcher: "Do you agree or disagree with the following statement? Give your opinion.

a. Students should be allowed to use mobile phones at school

b. School rules are important for students

c. Extracurricular activities should be mandatory

d. Students should study more than play games”

Student: “C) I diserg because student have different the hobss"

Speaking Assessment (Posttest)

Speaking Aspect	Score
Pronunciation	4
Fluency	3
Total Score	70

4. Name: Kamila

Pretest

Question 1

Researcher: “What do you think makes a good friendship? You may talk about one idea, one reason or a simple example.”

Student: “I thing ei gOOd friendshep ned support, because…help ex….ech oter. Ekxplet, mahaha my friend…help may studi.”

Question 2

Researcher: “Do you agree or disagree with the following statement?Give your reason(choose one).

a. Students should not bring mobile phones to school

b. School orientation is useful for new students

c. Sports lessons are important for students

d. Smoking should be forbidden at school”

Student: D) “Smoking. Ai…apaga…eigree, because…smoking is bid is bad. For eksplit its can mik students sick.”

Speaking Assessment (Pretest)

Speaking Aspect	Score
Pronunciation	2
Fluency	3
Total Score	50

Posttest

Question 1

Researcher: "In your opinion, what makes a good friendship? You should clearly state your opinion, give at least two reasons or provide a detailed example."

Student: "Friendship needs turst and…needs trust and..ho…honeysty…honest. Friends help exs oter in did..di..di..difficult tims. For exmplen my friends help…helpen me studi before the test."

Question 2

Researcher: "Do you agree or disagree with the following statement? Give your opinion.

a. Students should be allowed to use mobile phones at school

b. School rules are important for students

c. Extracurricular activities should be mandatory

d. Students should study more than play games"

Student: "A) I agreed because mobile phones can helpshehehe students..students learn…and contact prarsent."

Speaking Assessment (Posttest)

Speaking Aspect	Score
Pronunciation	3
Fluency	3
Total Score	60

5. Name: Sintia

Pretest

Question 1

Researcher: "What do you think makes a good friendship? You may talk about one idea, one reason or a simple example."

Student: "I think a good friendship needs turts, because we most respect feelings. For example, my friend listens to me."

Question 2

Researcher: "Do you agree or disagree with the following statement?Give your reason(choose one).

a. Students should not bring mobile phones to school

b. School orientation is useful for new students

c. Sports lessons are important for students

d. Smoking should be forbidden at school"

Student: "B) School orientasin. I agree becos sport s make us healthy. For example we…exercise every wEEk .

Speaking Assessment (Pretest)

Speaking Aspect	Score
Pronunciation	4
Fluency	4
Total Score	80

Posttest

Question 1

Researcher: "In your opinion, what makes a good friendship? You should clearly state your opinion, give at least two reasons or provide a detailed example."

Student: "I think a good friendship… means carie...caring and understading ear culture. Good friends stay together in happy and.. satier time…time…for example my friend always listen to me problem and give me at..advice…advice."

Question 2

Researcher: “Do you agree or disagree with the following statement? Give your opinion.

a. Students should be allowed to use mobile phones at school

b. School rules are important for students

c. Extracurricular activities should be mandatory

d. Students should study more than play games”

Student: “B. I agree because school rules make students more disipcline.”

Speaking Assessment (Posttest)

Speaking Aspect	Score
Pronunciation	4
Fluency	5
Total Score	90

APPENDIX 6

DOKUMENTATION

a. The researchers are doing a pre-test


b. The researchers are doing the treatment




c. The researchers are doing a post-test


APPENDIX 7. Research Permit Letter

PEMERINTAH KOTA PALOPO
DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU SATU PINTU
Jl. K. H. M. Hasyim, No. 5, Kota Palopo, Kode Pos: 91921
Telp/Fax. : (0471) 326048, Email : dpmptsppip@palopokota.go.id, Website : http://dpmptsp.palopokota.go.id

SURAT KETERANGAN PENELITIAN
NOMOR : 500.16.7.2/2026.0377/IP/DPMPTSP

DASAR HUKUM :
1. Undang-Undang Nomor 11 Tahun 2019 tentang Sistem Nasional Ilmu Pengetahuan dan Teknologi;
2. Undang-Undang Nomor 11 Tahun 2020 tentang Cipta Kerja;
3. Peraturan Mendagri Nomor 3 Tahun 2008 tentang Penerbitan Surat Keterangan Penelitian;
4. Peraturan Wali Kota Palopo Nomor 23 Tahun 2016 tentang Penyederhanaan Perizinan dan Non Perizinan di Kota Palopo;
5. Peraturan Wali Kota Palopo Nomor 31 Tahun 2023 tentang Pelimpahan Kewenangan Perizinan dan Nonperizinan Yang Diberikan Wali Kota Palopo Kepada Kepala Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu Kota Palopo.

MEMBERIKAN IZIN KEPADA

Nama	: **MUH FADIL**
Jenis Kelamin	: Laki-laki
Alamat	: Dusun Salu Paremang, Kec. Kamanre, Kab. Luwu
Pekerjaan	: Mahasiswa
NIM	: 2201404017

Maksud dan Tujuan mengadakan penelitian dalam rangka penulisan Skripsi dengan Judul :

ENHANCING STUDENTS ENGLISH SPEAKING SKILLS THROUGH LINGOPANDA: A DEEP LEARNING-BASED SPEAKING PRACTUCE APPLICATION AT SMAN 4 PALOPO

Lokasi Penelitian	: SMA NEGERI 4 PALOPO
Lamanya Penelitian	: 20 April 2026 s.d. 20 Juli 2026

DENGAN KETENTUAN SEBAGAI BERIKUT :
1. Sebelum dan sesudah melaksanakan kegiatan penelitian kiranya melapor kepada Wali Kota Palopo cq. **Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu Kota Palopo.**
2. Menaati semua peraturan perundang-undangan yang berlaku, serta menghormati Adat Istiadat setempat.
3. Penelitian tidak menyimpang dari maksud izin yang diberikan.
4. Menyerahkan 1 (satu) examplar foto copy hasil penelitian kepada Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu Kota Palopo.
5. Surat Izin Penelitian ini dinyatakan tidak berlaku, bilamana pemegang izin ternyata tidak menaati ketentuan-ketentuan tersebut di atas.

Demikian Surat Keterangan Penelitian ini diterbitkan untuk dipergunakan sebagaimana mestinya.

Diterbitkan di Kota Palopo
Pada tanggal : 20 April 2026

Ditandatangani secara elektronik oleh :
Kepala DPMPTSP Kota Palopo
Hj. NURLAELI, S.PT, MP
Pangkat : Pembina Utama Muda, IV/c
NIP. 19761007 200003 2 003

Tembusan, Kepada Yth.:
1. Wali Kota Palopo;
2. Dandim 1403 SWG;
3. Kapolres Palopo;
4. Kepala Badan Kesbang Prov. Sul-Sel;
5. Kepala Badan Kesbang Kota Palopo;
6. Instasi terkait tempat dilaksanakan penelitian.

Dokumen ini ditandatangani secara elektronik menggunakan Sertifikat Elektronik yang diterbitkan oleh Balai Sertifikasi Elektronik (BSrE), Badan Siber dan Sandi Negara (BSSN)

FAKULTAS KEGURUAN DAN ILMU PENDIDIKAN
UNIVERSITAS COKROAMINOTO PALOPO
Jl. Latammacelling No. 9 B Kota Palopo Sulawesi Selatan
Tlp. 0471-23421 Website http://www.uncp.ac.id

Nomor : 078/FKIP/UNCP/IV/2026 Palopo, 15 April 2026
Lampiran : -
Perihal : Permohonan izin melakukan penelitian

Kepada Yth.
Kepala Dinas Penanaman Modal dan PTSP Kota Palopo
di-
Tempat

Dengan Hormat,
Sehubungan dengan pelaksanaan penelitian bagi yang tersebut dibawah ini:

Nama	: Muh. Fadil
NIM	: 2201404017
Tempat/Tanggal Lahir	: Cilallang, 30 Mei 2004
Jenis Kelamin	: Laki-Laki
Program Studi	: Pendidikan Bahasa Inggris
Fakultas	: Keguruan dan Ilmu Pendidikan
Alamat	: Salu Paremang Selatan Kab. Luwu
Tempat Penelitian	: SMAN 4 Kota Palopo
Waktu Penelitian	: Bulan April - Mei 2026

Dimohon kesediaan Bapak/Ibu untuk menerbitkan surat izin melakukan penelitian di instansi yang Bapak/Ibu pimpin guna menyusun karya ilmiah **(Skripsi)** yang berjudul **"Enchancing Students English Speaking Skills Through Lingopanda: A Deep Learning-Based Speaking Practice Application at SMAN 4 Palopo".**

Atas bantuan dan kerjasamanya, kami ucapkan terima kasih.

An. Dekan
Wakil Dekan FKIP,

Karmila, S.Pd., M.Pd.
NIDN. 0923049001

Tembusandisampaikankepada yang terhormat:
1. Rektor UNCP (Sebagai Laporan)
2. Arsip

PEMERINTAH PROVINSI SULAWESI SELATAN
DINAS PENDIDIKAN
SMA NEGERI 4 PALOPO
Jalan Bakau Balandai No. Telp (0471) 21475 Website www.sman4plp.sch.id Email admin@sma4plp.sch.id

SURAT KETERANGAN PENELITIAN

Nomor : 421.3/ 226 -UPT.SMA.04/PLP/DISDIK

Yang bertanda tangan di bawah ini, **Kepala SMA Negeri 4 Palopo**, menerangkan bahwa :

N a m a	**: Muh. Fadil**
N I M	**: 2201404017**
Tempat / tgl. lahir	**: Cilallang,30 Mei 2004**
Jenis kelamin	**: Laki Laki**
Program Studi	**: Pendidikan Bahasa Inggris**
Alamat	**: Jln. Salu Paremang Selatan Kab.Luwu**

Yang bersangkutan telah mengadakan penelitian di **SMA Negeri 4 Palopo,** pada tanggal 30 April 2025 sampai dengan 29 Mei 2026, guna melengkapi Skripsi yang berjudul:

"Enhancing Students English Speakimg Skills Through Lingopanda: A Deep Learning-Based Speaking Practice Application AT SMAN 4 Palopo".

Demikian Surat Keterangan Penelitian ini kami buat, diberikan kepada yang bersangkutan untuk digunakan sebagaimana mestinya.

Palopo, 04 Juni 2026
Kepala UPT

MUHAKKIR, S.Pd
Pangkat : Pembina Utama Muda
NIP. 19730407 200012 1 004