DEVELOPING VOCALITY: AN AI-POWERED APPLICATION TO ENHANCE STUDENTS' SPEAKING PROFICIENCY

Tantan Sutandi Nugraha[1], Dena Surya Gumilah[2]
[1,2]SMP Negeri 3 Lakbok, Ciamis, Indonesia
tantansn@gmail.com[1], denakerja@gmail.com[2]

Abstract

Students' English-speaking proficiency is often hindered by limited practice opportunities, high anxiety, and a lack of personalized feedback in traditional classroom environments. This Research and Development (R&D) study aimed to develop VOCALITY, an AI-powered web-based application, and to determine its effectiveness in improving the speaking proficiency of junior high school students. Employing the 4D model (Define, Design, Develop, Disseminate), this research involved 32 students and three English teachers at SMPN 3 Lakbok. The process included a needs analysis, product development, expert validation, and a pre-test/post-test design to measure effectiveness. Data were analyzed using descriptive statistics and a paired-samples t-test. The findings revealed two key outcomes: First, the VOCALITY application was validated by content and media experts as 'Very Good' (average score of 4.67), confirming its feasibility and quality. Second, the pre-test/post-test results showed a statistically significant improvement in students' speaking proficiency ($p<0.05$), with the mean score increasing from 62.50 to 78.75. The study concludes that VOCALITY is a valid and effective supplementary tool for enhancing speaking proficiency. The application successfully provides an autonomous learning platform that reduces anxiety and delivers instant feedback, thereby empowering students' speaking proficiency and offering a practical technological solution for English language teaching.
Keywords: *VOCALITY, Research and Development (R&D), Artificial Intelligence (AI), speaking proficiency, autonomous learning*.

INTRODUCTION

In the contemporary landscape of the 21st century, proficiency in the English language, particularly in speaking, has transcended its traditional academic role to become a critical competency for global communication, academic success, and professional advancement. In today's interconnected world, mastery of spoken English serves as a fundamental skill that not only enhances interpersonal communication but also facilitates access to international academic resources and broadens career opportunities across diverse professional fields (Wang et al., 2024). The status of English as a global lingua franca makes effective oral communication skills an absolute prerequisite for individuals aspiring to participate fully in the international community. This demand places significant pressure on educational systems worldwide to cultivate learners who are not only knowledgeable in English grammar and vocabulary but are also confident and articulate speakers. Speaking proficiency is a complex, multifaceted skill, encompassing aspects such as pronunciation, fluency, accuracy, and the appropriate use of vocabulary and grammatical structures in real-time interaction (Fulcher, 2003). Consequently, developing this skill requires consistent, targeted practice and constructive feedback, elements that are often challenging to implement effectively in conventional classroom settings.

The primary obstacles to developing proficiency are rooted in the structural limitations of conventional pedagogy, namely the dual deficits of practice and feedback. In many EFL contexts, classrooms with large student numbers and limited instructional time force a reliance on teacher-centered approaches, leaving individual students with only a few minutes of talk time per session. This conspicuous lack of opportunity for meaningful

practice is compounded by the inherent difficulty of providing timely and individualized feedback. A single instructor monitoring thirty or more students cannot possibly offer the detailed, formative analysis—such as on specific phonetic errors or improper intonation—that is crucial for skill acquisition (Hattie & Timperley, 2007). The feedback that is given is often delayed and general in nature, meaning students frequently remain unaware of their specific weaknesses and continue to fossilize errors.

Compounding these classroom-based challenges is the paradoxical role of modern technology in students' lives. The current generation of learners is inseparable from their personal gadgets, particularly smartphones—powerful tools with constant internet connectivity and high-quality microphones. However, their vast potential for educational enrichment remains largely untapped within formal learning frameworks. As Beatty (2013) argues in the context of Mobile-Assisted Language Learning (MALL), while students are highly engaged with their devices for social media, entertainment, and informal communication, the integration of these tools into structured language learning curricula is often minimal and haphazard. Instead of being viewed as powerful learning aids, these gadgets are frequently perceived by educators as sources of distraction. This represents a significant missed opportunity to leverage a familiar and engaging medium to provide the personalized, on-demand practice those classrooms cannot supply and those students so critically need.

To address the interconnected challenges, this study employs a Research and Development (R&D) methodology, utilizing the 4D model (Thiagarajan et al., 1974), to design and develop VOCALITY. This AI-powered application is proposed as a transformative solution, designed to overcome the logistical constraints of large classrooms by providing a private, non-threatening environment for on-demand speaking practice. The core of VOCALITY is an AI engine that leverages Automatic Speech Recognition (ASR) to analyze a user's speech. Through a user-friendly interface, the application will generate a variety of texts across different topics, allowing students to record themselves and receive an instant evaluation. This evaluation provides objective, comprehensive feedback on key metrics such as pronunciation accuracy, fluency, pitch, and intonation, offering a level of granular detail that is impractical for a human teacher to provide consistently (Neri et al., 2008). This immediate, data-driven analysis is not merely a score, but a powerful formative tool that enables learners to identify specific weaknesses and actively correct their mistakes, helping to ensure the same errors do not become ingrained habits. This process directly fosters learner autonomy, giving students control to monitor and manage their own progress. Ultimately, this continuous cycle of feedback and correction not only enhances accuracy but also builds the essential confidence needed for learners to become fluent and effective speakers of English.

Therefore, the central objective of this research is to develop VOCALITY, a practical and accessible tool designed to empower students to take control of their learning. It provides the extensive practice opportunities and immediate feedback crucial for building both speaking skills and confidence. By automating the detailed feedback process and offering a private space for practice, VOCALITY directly addresses the classic classroom challenges of limited teacher time and student anxiety. This research is significant as it not only aims to deliver a functional educational product to bridge a critical gap in practice, but also contributes to the body of knowledge on the effective integration of AI within Mobile-Assisted Language Learning (MALL). More than just a product, this research seeks to cultivate a proactive and independent learner mindset in students. Ultimately, VOCALITY is envisioned as a supplementary tool that transforms students' personal gadgets from potential distractions into powerful instruments for linguistic empowerment.

METHODS

This study employed a Research and Development (R&D) design. R&D in education is a systematic process used to develop and validate new educational products. According to Borg and Gall (1983), educational R&D is a cycle of developing a product, field-testing it in the actual educational setting, and revising it based on the empirical data gathered during the testing phase. The primary goal is not to test a hypothesis but to create an effective and validated product that addresses a specific need in teaching and learning. For this research, the chosen developmental framework was the 4D model, proposed by Thiagarajan, Semmel, and Semmel (1974). This model is highly suitable for developing instructional media and tools as it provides a structured, systematic, and clear sequence of steps. The 4D model consists of four main stages: Define, Design, Develop, and Disseminate. Each stage was executed sequentially to ensure the resulting application would be pedagogically sound, technically functional, and effective in enhancing students' speaking proficiency.

The development process of the VOCALITY application followed the four stages of the 4D model. The initial Define stage focused on establishing the project's foundation through a needs analysis of target users, defining the technical scope based on the AI model's capabilities, and formulating the research goals. The outcome of this stage was a clear set of requirement specifications, which served as the foundation for the entire subsequent development process. This was followed by the Design stage, where the application's blueprint was created, including the User Interface (UI/UX) design, the engineering of AI prompts, and the development of validation instruments such as questionnaires.

Subsequently, in the Develop stage, a functional prototype of the application was built. This prototype was then refined through an iterative cycle involving validation by subject matter experts and small-scale trials with users to gather feedback. This feedback loop was crucial for ensuring that the final product was not only technically functional but also content-valid and relevant to user needs. Finally, in the Disseminate stage, the final application was deployed as a live web application. Its effectiveness was then measured through a summative evaluation, such as a pre-test/post-test study, and the entire process and its findings were documented for reporting and academic publication.

This research was conducted at SMP Negeri 3 Lakbok, Ciamis. The participants consisted of three English teachers and 32 eighth-grade students from Class VIII-A, who were involved in the field trial of the VOCALITY application.

This study's data collection employed a mixed-methods approach, combining both qualitative and quantitative data. The primary instruments were questionnaires, which were designed with a combination of Likert scales and open-ended questions to comprehensively capture user perceptions. Additionally, expert validation sheets were used to assess the feasibility of the prototype. To measure speaking proficiency, pre-tests and post-tests were administered, with student performances automatically scored by the application. The scoring was based on an analytic rubric that assessed five criteria: fluency, pronunciation, grammar, vocabulary, and content. The entire development process was also supported by systematic documentation (photos, videos, field notes, and screenshots) which served as authentic evidence of the research process.

Data analysis was conducted comprehensively. Qualitative data, including suggestions and comments, were analyzed thematically to inform product refinement. Quantitative data from questionnaires were analyzed using descriptive statistics (means, percentages). To determine the application's effectiveness, the pre-test and post-test scores were analyzed using inferential statistics, specifically a paired-samples t-test conducted in Microsoft Excel to identify any statistically significant improvement in speaking proficiency.

FINDINGS AND DISCUSSION

The Define stage yielded critical data regarding the needs of both teachers and students at SMP Negeri 3 Lakbok. Interviews with the three English teachers revealed a consensus on several key challenges. All teachers confirmed that the limited class time (typically 5x40 minutes per week) and large class sizes (averaging 32 students) made it extremely difficult to provide individual speaking practice. They reported that speaking activities were often limited to choral repetition or brief, structured dialogues. The primary challenge cited was the inability to provide immediate, personalized corrective feedback on pronunciation and fluency for each student. They expressed enthusiasm for a technological tool but were concerned about ensuring students used their phones for learning rather than for distractions like games or social media.

A questionnaire administered to the 32 students in the selected class showed that 91% owned a smartphone and used it daily for more than two hours. However, only 15% reported ever using their phone for English learning applications. A significant majority (84%) expressed feeling "shy" or "anxious" about speaking English in front of their peers for fear of making mistakes. Over 90% of students stated they wanted to improve their speaking skills but felt they lacked opportunities to practice outside the classroom.

After the VOCALITY application was developed based on the needs analysis, it underwent a rigorous validation process by content experts (the three English teachers) and a media expert. The feedback from junior high school English teachers indicates a highly positive reception of the VOCALITY application concept. There was a strong consensus that an AI-powered tool for speaking practice addresses a significant need among students. Teachers consistently agreed that the application could effectively supplement traditional classroom activities and would be especially beneficial for students who feel anxious speaking in front of their peers, thanks to its private and instant feedback feature. The respondents believe that using the application is likely to increase student motivation and confidence in their speaking skills. Overall, these findings validate the core pedagogical value of the application and confirm its potential as a useful tool in the English language classroom.

In the feedback provided by the teachers based on three aspects, the components of each aspect can be detailed. The first aspect, "Pedagogical Relevance and Concept," contains three statements: (1) The concept of an AI-powered application for speaking practice addresses a significant need among my students; (2) An application like VOCALITY has the potential to effectively supplement traditional classroom speaking activities; and (3) The feature of providing instant and private feedback is a key advantage for students who may feel anxious speaking in front of their peers.

Furthermore, the second aspect, "Application Content and Features," also has three statements: (1) The range of topics and text types provided for practice is suitable and engaging for students in junior high school; (2) The AI-generated feedback (assessing fluency, pronunciation, grammar, etc.) is a valuable tool for helping students identify specific areas for improvement; and (3) The user interface (UI) of the application appears to be clear, simple, and easy for students to navigate independently.

Finally, the third aspect, "Classroom Implementation and Potential Impact," consists of 3 statements: (1) I could realistically integrate this application into my teaching methods (e.g., as homework, for remedial practice, or as an in-class tool); (2) Using this application is likely to increase students' motivation and confidence in practicing their English-speaking skills ; and (3) The VOCALITY application is versatile enough to be effectively integrated into various teaching scenarios (e.g., as homework, individual in-class activities, or for remedial practice).

Table 1. Summary of Teacher Feedback on the VOCALITY Application

No	Aspect	Average Score (Out of 5)	Category
1	Pedagogical Relevance and Concept	4.78	Very Good
2	Application Content and Features	4.44	Very Good
3	Classroom Implementation and Potential Impact	4.44	Very Good
	Overall	**4.56**	**Very Good**

While the overall concept was strongly supported, the teachers also provided valuable and practical suggestions for improvement. A recurring theme was the need for features that provide more direct learning support, such as audio playback for correct pronunciation, a simple dictionary, and a "repeat after me" function. For classroom implementation, the teachers highlighted the importance of a teacher dashboard to assign tasks and monitor student progress. Furthermore, they identified significant real-world challenges, including unequal student access to smartphones and the cost of internet data, which suggests that an offline mode would be a highly beneficial future development. These suggestions provide a clear roadmap for refining the application to better meet the needs of both students and teachers in the school environment.

For content expert validation, the expert assessed the application based on its pedagogical appropriateness and content relevance for junior high school students. The expert validation instrument is divided into three aspects. The first aspect, Pedagogical Appropriateness, consists of six components: (1) The application is designed to increase student motivation and interest in practicing speaking; (2) The instant feedback feature is effective in helping students identify and correct their speaking errors; (3) The application supports autonomous learning, allowing students to practice anytime without depending on a teacher; (4) The private and non-judgmental practice environment in the application helps build student confidence; (5) The interface and user flow are simply designed to minimize the student's cognitive load; and (6) The application provides adequate opportunities for students to repeat the material until they feel proficient.

The second aspect, Content Relevance to Curriculum, also includes six components: (1) The practice topics are relevant to the English language curriculum for the target grade level; (2) The types of texts and activities are suitable for developing the speaking competencies expected in the curriculum; (3) The vocabulary and grammar structures used in the content are appropriate for the target students' proficiency level; (4) The application's content considers a cultural context that is appropriate and understandable for students in Indonesia; (5) The material presented is authentic and reflects the use of English in real-world situations; and (6) The exercises within the application are aligned with the speaking skill assessment models used in schools.

Finally, the third aspect, Language Accuracy and Clarity, is detailed through the following six components: (1) All instructions and text materials in the application are free from grammatical and spelling errors; (2) The audio/pronunciation models presented as examples (if any) are clear, accurate, and use a standard accent; (3) The language used for instructions and navigation within the application is clear, simple, and easy for students to understand; (4) The expressions used in the practice materials sound natural and are appropriate for the context of daily conversation; (5) The audio model is accurate not only in word pronunciation but also in intonation, stress, and sentence rhythm; and (6) The text on the application interface (e.g., buttons, menus) has good readability in terms of font type and size.

The quantitative results are summarized in Table 2.

Table 2. Content Expert Validation Results

No	Validation Aspect	Average Score (Out of 5)	Category
1	Pedagogical Appropriateness	4.67	Very Good
2	Content Relevance to Curriculum	4.83	Very Good
3	Language Accuracy and Clarity	4.50	Very Good
	Overall	**4.67**	**Very Good**

The Content Relevance to Curriculum aspect received the highest score of 4.83. This confirms that the material, topics, and exercise types are highly suitable for the curriculum requirements and students in Indonesia. Meanwhile, the Language Accuracy and Clarity aspect received a score of 4.50, which is also considered very good. This score affirms that the language used in the application is accurate, clear, and natural, although there were some notes for refinement.

In addition to the quantitative assessment, the validator provided several constructive suggestions focusing on refining the user experience and adding content variation. To enhance the learning process for beginners, it was recommended that a simpler, more visual feedback option, such as using icons, be added so it does not feel overly technical. Furthermore, to improve accessibility and comfort for all students, the expert suggested incorporating a feature to adjust the font size. Regarding content, the validator recommended increasing the variety of informal expressions to better reflect daily teenage conversations and suggested that providing accent options, like British or American English, would be a valuable future update. Overall, the validator concluded that the VOCALITY application is highly viable and recommended that it proceed to the implementation stage after making these minor revisions.

The media validation instrument is also divided into three aspects. The first aspect, User Interface (UI) Design, contains four components: (1) The application's visual design (e.g., colour scheme, icons, illustrations) is attractive and appropriate for the target student users; (2) The layout of elements on each screen is well-structured, logical, and consistent throughout the application; (3) The readability of the text, including font type, size, and colour contrast, is excellent and comfortable to read; and (4) The icons and buttons used are intuitive and their functions are clear, making them easy for the user to understand.

The second aspect, User Experience (UX) & Navigability, focuses on four components: (1) The application as a whole is user-friendly, even for first-time users; (2) The navigation flow between pages or features is clear, logical, and does not confuse the user; (3) The instructions for completing each practice task (e.g., 'record your voice now') are presented clearly; (4) The application provides clear system feedback when the user interacts with it (e.g., when recording starts or analysis is complete).

Finally, the third aspect, Technical Functionality & Responsiveness, is evaluated through four components: (1) The application runs stably without experiencing errors, crashes, or force closes during use; (2) The application responds to user input (e.g., button taps) quickly and without disruptive lag; (3) The application's core function (voice recording and AI analysis) works accurately and as intended; and (4) The application can be installed and run properly on various smartphone devices with reasonable specifications.

The media expert concluded that the VOCALITY application possesses a very solid technical and design quality. While the clean interface, intuitive user experience, and stable functionality were highly praised, the validator offered several minor, constructive suggestions for future refinement. To further enhance user engagement and personalization, it was suggested that theme customization options, such as a dark mode, could be

implemented. This could be complemented by a short onboarding tutorial upon first launch to help new users more effectively understand all of the application's features. On the technical front, a key recommendation was to develop a feature allowing practice materials to be downloaded for offline access, which would significantly improve accessibility for students with limited internet connectivity. The expert emphasized that these suggestions are refinements rather than essential fixes, concluding that the application is already of high quality and is viable and ready for user deployment.

Table 3. Media Expert Validation Results

No	Validation Aspect	Average Score (Out of 5)	Category
1	User Interface (UI) Design	4.50	Very Good
2	User Experience (UX) & Navigability	4.75	Very Good
3	Technical Functionality & Responsiveness	4.75	Very Good
	Overall	**4.67**	**Very Good**

To determine the effectiveness of VOCALITY, a pre-test and post-test were administered to the 32 students before and after a four-week implementation period. There was a notable increase in the mean score from the pre-test to the post-test. The results, scored using a standardized speaking rubric, are presented below.

Table 4. Descriptive Statistics of Pre-test and Post-test Scores

Statistic	Pre-test Score	Post-test Score
Number of Students	32	32
Mean	62.50	78.75
Standard Deviation	6.82	5.98
Minimum Score	50	68
Maximum Score	75	90

For inferential statistics, a paired-samples t-test was conducted to determine if the improvement was statistically significant. The result showed that the p-value (Sig. 2-tailed) was 0.000, which is less than the significance level of 0.05. This result indicates that there is a statistically significant difference between the students' speaking proficiency scores before and after using the VOCALITY application.

The increase in confidence and independent practice facilitated by the VOCALITY application correlated directly with an improvement in student speaking test results. Students who practiced regularly demonstrated noticeably improved fluency, speaking with fewer pauses and less hesitation. This suggests that repeated practice in a safe environment allowed them to automate lexical and grammatical responses, freeing up cognitive resources to focus on conveying meaning during a test. Furthermore, the AI-generated feedback sharpened the students' ability to self-correct. This awareness of their common errors made them more accurate during formal assessments. The psychological factor was also crucial; reduced anxiety meant students could perform calmly and optimally, allowing them to demonstrate their true abilities without being hindered by fear.

This positive outcome was rooted in the students' initial reception of the application, which was overwhelmingly positive, particularly among those with high speaking anxiety. The core concept of private, independent practice with instant feedback was a primary attraction. Students reported feeling freer and less afraid of making mistakes without the pressure of peer judgment. The automated feedback feature allowed them to immediately identify and correct their errors, which encouraged a cycle of repetition and improvement.

This aligns with initial predictions from the teacher survey that the application was likely to increase student motivation and confidence.

Over time, this initial engagement translated into a tangible increase in student confidence, which was the most significant impact observed. Regular use of the application appeared to reduce students' psychological barriers to speaking, a key benefit anticipated by teachers. Students who were previously passive in class began to show more initiative in volunteering to answer questions or participate in discussions. The AI-generated feedback also proved to be a valuable tool in helping them identify specific areas for improvement, fostering a greater sense of autonomy and self-awareness in their learning process. Thus, VOCALITY functioned not only as a practice platform but also as an effective intervention that overcame key barriers, ultimately leading to better and measurable learning outcomes.

This increase in confidence and self-directed learning correlated directly with tangible improvements in formal speaking assessments. Students who practiced regularly demonstrated noticeably improved fluency and pronunciation, speaking with fewer pauses and greater clarity—skills the application was designed to assess. Their newfound awareness of common error patterns, facilitated by the AI feedback, translated into higher accuracy during graded tasks. Crucially, the reduction in speaking anxiety allowed students to perform more optimally under the pressure of a formal test environment, enabling them to demonstrate their abilities more fully. Therefore, the application served as a crucial bridge between informal practice and formal performance, effectively translating increased student engagement into measurable academic gains

The user interface of the VOCALITY application is designed with a clean, modern, and user-friendly approach to ensure students can focus on the learning process without being distracted by complicated elements. This design philosophy is applied throughout all parts of the application, from the topic selection to the feedback page. Students access the application on their phones via a link shared by their teacher. The home screen, which directly presents a selection of topics, can be seen in Figure 1.

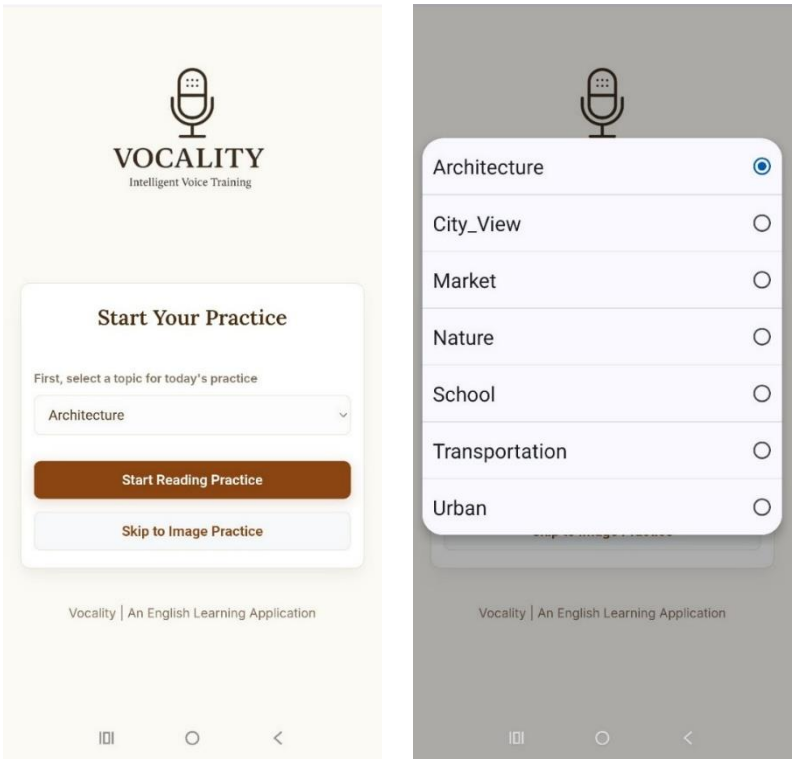

Figure 1. VOCALITY interface with topic options

Upon selecting a topic, the application generates a corresponding text for the student to read aloud and record using their microphone. After the recording is complete, the student receives comprehensive feedback which includes a score, their own voice recording, and a transcript of their speech that can be compared to the original voice and script by application. This entire process, from reading the text to receiving feedback, is illustrated in the following Figure 2.

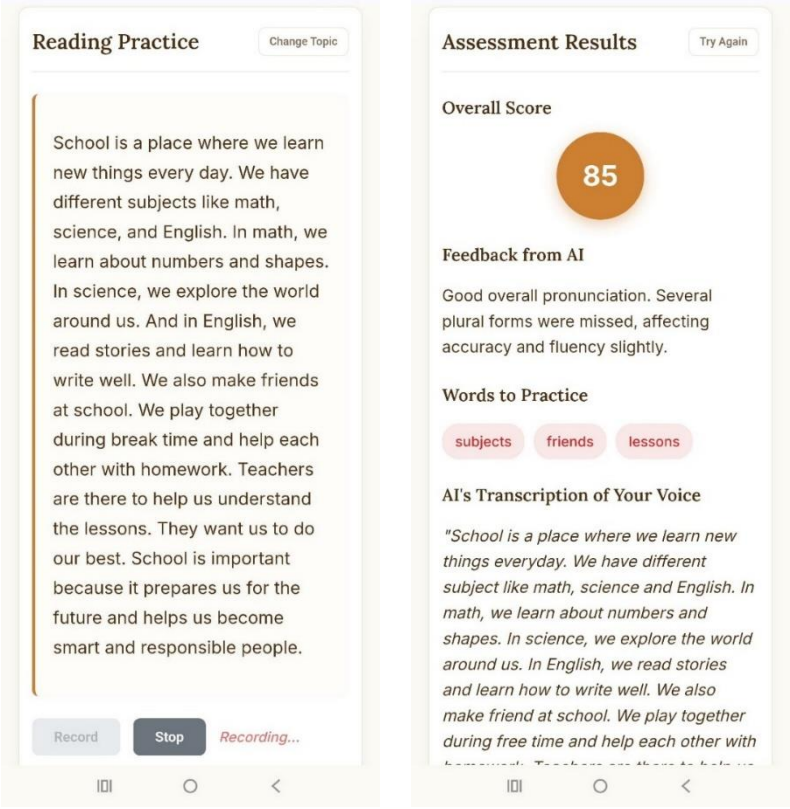

Figure 2. Voice Recording of Text Reading and Feedback

Next, students must describe an image corresponding to the chosen topic to practice their speaking skills. This task is similar to the previous one, with the key difference being that no transcript is provided to be read. The voice recording will receive a score for each assessment aspect, namely fluency, pronunciation, grammar, vocabulary, and content, as well as overall feedback from the application. This feedback can be seen in the following Figure 3.

Here is a detailed explanation of the key advantages offered by the VOCALITY application, designed to be an effective and user-friendly speech training tool: (1) High Accessibility: As a web application, VOCALITY can be accessed from any device with a modern browser without needing installation; (2) Personalized Learning Experience: Users can choose practice materials according to their interests or needs, which significantly increases learning motivation; (3) Instant and Detailed Feedback**:** The assessment provided immediately after a practice session allows users to promptly identify and correct their mistakes; (4) Safe, Pressure-Free Environment: Users can practice repeatedly without pressure or embarrassment, which is key in learning a language and developing speaking skills.

The effectiveness of the VOCALITY application can be understood through its direct response to the core challenges outlined in the introduction. First and foremost, it addresses the critical lack of practice opportunities inherent in traditional classroom settings.

By shifting the locus of practice from the time-constrained classroom to the student's personal device, the application provides a platform for unlimited, autonomous practice. This effectively transforms students' passive smartphone time into active learning sessions, supplying the sheer volume of engagement that is fundamental to skill development.

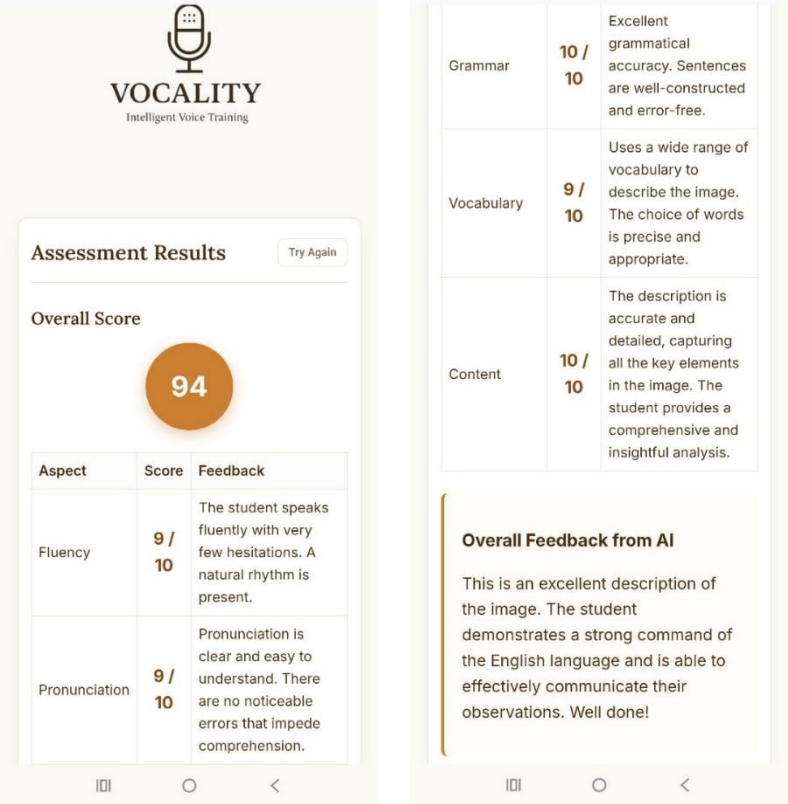

Figure 3. Feedback for speaking proficiency

Secondly, the application resolves the challenge of providing timely and individualized feedback, a task that is nearly impossible for a single teacher in a large class. Leveraging AI, VOCALITY delivers instant and granular feedback after every recording, allowing students to immediately identify specific phonetic errors or issues with fluency. This immediate, personalized analysis is crucial for preventing the fossilization of errors, enabling a continuous cycle of practice and targeted improvement that is often absent in conventional pedagogy.

Finally, VOCALITY successfully bridges the gap identified as the significant missed opportunity of untapped technology. Instead of allowing the smartphone to be a source of distraction, the application repurposes it as a powerful and engaging learning aid, directly aligning with the principles of Mobile-Assisted Language Learning (MALL). By integrating structured, on-demand practice into a device that is already central to students' lives, VOCALITY not only solves the logistical constraints of the classroom but also leverages a familiar medium to foster student autonomy and motivation, providing a comprehensive solution to the obstacles that traditionally hinder the development of speaking proficiency. This study demonstrates the immense potential of Mobile-Assisted Language Learning (MALL). By developing an application that is accessible, engaging, and effective, this research provides a tangible example of how to leverage the technology already in students' pockets for meaningful educational purposes, moving beyond the view of gadgets as mere distractions (Beatty, 2013).

The development of VOCALITY provides a powerful model for how AI can be integrated into language learning to empower students. It serves as a supplementary tool that does not replace the teacher but rather enhances their instruction by outsourcing the repetitive, mechanical aspects of speaking practice, thus freeing up valuable class time for more communicative and interactive activities.

Despite the positive results, this study has several limitations. First, the research was conducted with a small sample size (one class at one school), which limits the generalizability of the findings. Second, the absence of a control group makes it difficult to rule out other factors that may have contributed to the students' improvement. Finally, the four-week intervention period was relatively short, and a longitudinal study would be needed to assess the long-term effects on speaking proficiency and skill retention.

CONCLUSION

Based on the research and development process, data analysis, and discussion presented in the previous chapters, several conclusions can be drawn.

This research has successfully developed an AI-powered web-based application named VOCALITY using the 4D (Define, Design, Develop, Disseminate) model. The product was validated by content and media experts with an overall average score of 4.67, categorized as "Very Good," indicating that VOCALITY is a highly feasible and appropriate learning medium for junior high school students.

The implementation of the VOCALITY application resulted in a statistically significant improvement in the speaking proficiency of students at SMPN 3 Lakbok. The paired-samples t-test yielded a significance value of 0.000 ($p<0.05$), which confirms that using VOCALITY is significantly more effective than conventional methods alone for enhancing students' speaking skills.

VOCALITY effectively addresses the core pedagogical challenges identified in this study. It provides students with ample opportunities for autonomous practice, creates a private and non-judgmental environment that reduces speaking anxiety, and delivers immediate, personalized, and detailed feedback on pronunciation and fluency—capabilities that are difficult for teachers to provide at scale in a traditional classroom setting.

In essence, the VOCALITY application has proven to be an effective educational tool that empowers student voices, transforming their personal gadgets from sources of distraction into powerful instruments for language learning and skill enhancement.

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BIO STATEMENTS

Tantan Sutandi Nugraha, as an educator at SMP Negeri 3 Lakbok, his core focus is centered on the dynamic world of education and teaching. I am constantly motivated by a passion for innovation, not just to keep up with the times, but to stay ahead of them. For me, finding solutions is not merely about fixing problems; it's about approaching them in a transformative and revolutionary manner. He committed to creating a learning ecosystem that inspires and equips students with the skills to succeed in the future.

Dena Surya Gumilah is a forward-thinking educator known for his enthusiasm for trying new things in the teaching profession. His distinct strength lies in his expertise in informatics and coding, which he creatively applies to develop digital teaching tools and interactive learning solutions. By bridging the gap between computer science and pedagogy, Dena is committed to equipping students with relevant digital skills and fostering a love for learning through technology.