

I-SPEAK: The Developed Interactive Speech Proficiency Enhancement and Assistance Kit for Oral Communication

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Abstract. This study aimed to develop and validate a mobile application, I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit), designed to improve the oral communication skills of Grade 11 students. Addressing the persistent challenges in English proficiency and student engagement in Oral Communication, the research responded to the need for innovative, technology-based instructional materials aligned with the MATATAG curriculum agenda. Using the Design and Development research method, the study involved 30 Grade 11 learners from Biñan Integrated National High School and 15 Senior High School Oral Communication teachers and ICT Coordinators from six public schools in the City Schools Division of Biñan. Two Education Program Supervisors served as expert validators. Participants were selected through purposive sampling. The mobile app was assessed using a four-point Likert scale and analyzed through mean scores and an independent samples t-test. Results revealed that I-SPEAK is highly valid in terms of instructional components (objectives, concepts, directions, topics, exercises, and reflections) and highly acceptable in terms of functionality, accuracy, suitability, usability, and efficiency. A statistically significant improvement was found in the learners' performance as evidenced by increased posttest scores, confirming the app's effectiveness in enhancing speech proficiency. The study identified several educational values, including motivation, accessibility, innovation, relevance, and learner-centered engagement. In conclusion, I-SPEAK proved to be an effective and accessible tool that addresses the oral communication challenges of Grade 11 students and supports teachers in delivering lessons, especially during disruptions such as class suspensions. This research supports the integration of mobile-based learning tools in the senior high school curriculum to promote critical communication skills and time-on-task efficiency.

Keywords: Development study; ICT; Oral communication; Senior High School; Validation.

1.0 Introduction

Today, men live in a VUCAD world, where there is always "Volatility," "Uncertainty," "Complexity," "Ambiguity," and in a "Digital world". The world is facing complex and rapidly changing conditions that push people to plan and innovate mechanisms for survival. Living in a VUCAD world requires individuals and organizations to be adaptive, resilient, and capable of continuous learning. The ability to navigate uncertainty, make informed decisions in complex situations, and embrace ambiguity has become crucial for success and survival in today's dynamic environment. It also highlights the importance of fostering innovation and strategic thinking to stay ahead in an ever-evolving world.

In the Philippines, the educational system places significant emphasis on preparing students for the demands of the 21st century. This entails prioritizing the development of essential skills such as critical thinking, collaboration,

creativity, and communication. These skills are considered paramount for navigating the complexities of the modern world effectively. Nevertheless, despite the widespread acknowledgment of the significance of these skills, the educational system faces various challenges that hinder their effective integration and development among students. These challenges encompass a range of issues, including outdated teaching methodologies, limited access to resources and technology, overcrowded classrooms, socio-economic disparities, and insufficient teacher training and professional development opportunities.

In the realm of oral communication skills, studies by Tomas (2021) have revealed deficiencies in this area, including a lack of clarity in expressing ideas, weak organizational structures in communication, and a general lack of student interest and motivation. These findings underscore the need for innovative teaching strategies and learning materials to enhance oral communication proficiency among students.

Moreover, the decline in English proficiency levels among Filipino students is a cause for concern, according to the EF English Proficiency Index cited by Santos et al. (2022). This decline is evident in various proficiency tests such as the Test of English for International Communication (TOEIC) and the International English Language Testing System (IELTS). The inability of many educated individuals to meet the expected proficiency levels in English raises questions about the effectiveness of current language education strategies. For instance, despite efforts to improve English language instruction, the Philippines has seen a progressive decline in its English Proficiency Index over recent years. This decline not only affects individual opportunities but also has broader implications for the country's competitiveness in the global arena.

These gaps pushed the Department of Education to revisit the K to 12 curriculum. They led to the creation of the MATATAG Agenda, focusing on relevant curriculum, accelerated education services, learner well-being, and teacher support. With today's educational framework being described as a more holistic and future-oriented approach, DepEd provides initiatives to enhance learners' performance. Initiatives like the National Learning Recovery Program and the MATATAG curriculum aim to address learning gaps intensified by the pandemic and current challenges. However, barriers like frequent class suspensions due to natural disasters and strikes hinder complete learning. To mitigate this, Modular Distance Learning (MDL) is implemented, but it has drawbacks such as students completing tasks merely for compliance and parents struggling to guide their children.

These observations emphasize the crucial role of teachers in providing better education to learners. Unico (2022) stated that teachers need to devise and prepare appropriate instructional materials before presenting lessons in class. Instructional materials help teachers achieve learning objectives and improve students' learning experience, making it more enjoyable and meaningful to them. The creation of digitized lessons includes various forms of content such as text, images, videos, interactive simulations, and assessments, which can make learning more engaging. In light of this, the researcher, who was part of the workforce of the Schools Division Office of Biñan City, has seen these observations as an opportunity to develop a mobile application named Interactive Speech Proficiency Enhancement and Assistance Kit (I-SPEAK) which is intended for Senior High School students for their Oral Communication in Context subject to increase the learners' motivation for learning and assist teachers in delivering lessons most especially during class suspensions and can also address the Time-on-task policy of the Department.

This study developed I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit): a mobile application for Oral Communication. In detail, this study aimed to design I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) mobile application for senior high school students for Oral Communication; establish content validity and acceptability of the designed I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) mobile application for Senior High School students for Oral Communication; and determine the pretest and posttest results of Grade 11 students in the use of the mobile application in Grade 11 Oral Communication.

2.0 Methodology

2.1 Research Design

This research utilized the design and development research method, as defined by Richey and Klein (2013, cited in Lama, 2023), which involves a systematic study of the processes of design, development, and evaluation to create materials that enhance target group development.

2.2 Participants and Sampling Technique

The study aimed to evaluate the impact of the I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) mobile application on the oral communication proficiency of Grade 11 students at Biñan Integrated National High School. The school was chosen for its large enrollment and recognition as a top-performing institution. A purposive sampling method selected 30 Grade 11 Humanities and Social Sciences students, a group focused on communication skills, as respondents. Additionally, 15 teachers and education supervisors assessed the application's validity and acceptability using a 4-point Likert scale.

2.3 Research Instrument

The research employed two research instruments: for the learners, a researcher-made fifty (50) pretest and posttest found in the developed I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) mobile application was provided. The inter-raters were provided with an online adopted 4-point Likert scale questionnaire that measured the acceptability and validity of the developed I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) mobile application (Torrefranca, 2017, as cited in Herrero, 2022).

2.4 Data Gathering Procedure

The researcher coordinated with the designated Principal of Biñan Integrated National High School, submitted an endorsement letter, scheduled the data-gathering activity, and worked with the HUMSS strand adviser to facilitate the pretest, posttest, and implementation of the I-SPEAK mobile application, ensuring proper orientation, informed consent, and secure data retrieval through an online database. Additionally, a content validity and acceptability questionnaire was distributed via Google Forms to school heads, Oral Communication teachers, Master teachers, ICT Coordinators, and the Education Program Supervisor, with collected data uploaded to Google Drive and forwarded to the statistician for analysis.

2.5 Data Analysis Procedure

To determine the validity and acceptability of the developed I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) mobile application, the frequency, simple mean, and percentage Likert scale were used. Meanwhile, to distinguish the significant difference in the respondents' pretest and posttest in Oral Communication in the first quarter, a t-test was utilized.

2.6 Ethical Considerations

This research adhered to the ethical guidelines stipulated in the school's Research Manual. Learners were provided parental consent before proceeding with the data gathering, and responses were kept confidential. Furthermore, the questionnaire was created solely to collect the data required for the study, with no personal or confidential questions given to the respondents.

3.0 Results and Discussion

The developed mobile application for Oral Communication: I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) consists of contextualized lessons for the first quarter, which are focused on the basic concepts and topics in Oral Communication. In addition, the instructional material has video lessons with five (5) item exercises and fifteen (15) item quizzes per chapter. Lastly, the developed instructional material followed the I-D-E-A format (Introduction-Development-Engagement-Assimilation), making the mobile application similar to the DepEd modules taken by students. Learning objectives set are MELC-based as they encompass the first quarter of the subject. Checking of lessons (their aesthetics, content, and sequence), and validation of pretest and posttest were done before the creation of the mobile application.

3.1 Design of the developed I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit)

The overview of the topics discussed in each chapter of the developed mobile application: I-SPEAK. The mobile application consisted of seven (7) chapters, each with learning objectives and video lessons. The learning objectives were adopted from the DepEd modules since the aim of the material is to provide an alternative delivery modality of the subject. The designed mobile application was named I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) because the primary goal of the research was to enhance the oral communication skills of the learners.

Table 1 below presents the final list of learning objectives along with their corresponding topics covered in the I-SPEAK mobile application for the Oral Communication subject.

Table 1. Final List of Learning Objectives and Topics in I-SPEAK Mobile Application

MELC	Learning Objectives	Topic
Explains the functions, nature and process of communication	1. explain the nature and process of communication. 2. understand the relationship of the functions of communication to everyday life; and 3. illustrate the process of communication.	Functions, Nature and Process of Communication
Differentiates the various models of communication.	1. differentiate the various models of communication; 2. explain the process of communication through the elements involved; and 3. recognize the importance of the models in understanding the communication	Communication Models
Uses various strategies in order to avoid communication breakdown	1. define the concept of communication breakdown 2. identify the different kinds of barriers to effective communication; 3. explain the causes of communication breakdown 4. use appropriate strategies to avoid communication breakdown and achieve the goals of relationship and community building.	Strategies to Avoid Communication Breakdown
Examines sample oral communication activities	1. determine the verbal and nonverbal cues that a speaker uses to achieve a purpose 2. identify the purpose in a sample speaking engagement 3. utilize knowledge on the functions of communication in analyzing various communication situations 4. examine sample oral communication activities 5. evaluate the effectiveness of an oral communication activity 6. recognize the importance of different communicative functions in our daily life	Examining Oral Communication Activities Based on Functions of Communication and Usage of Verbal and Nonverbal Cues
Identifies the various types of speech context.	1. define speech context. 2. identify the various types of speech context in different situations; and 3. employ appropriate verbal and non-verbal behavior in different speech context.	Types of Speech Context
Distinguishes types of speeches and speech style	1. distinguish the types of speeches according to purpose and delivery 2. determine the types of speeches used in different real-life situations 3. distinguish the types of speech style 4. identify the social situations in which each speech style is appropriate to use 5. observe the appropriate language forms in using a particular speech style	Types of Speeches and Speech Style
Responds appropriately and effectively to a speech act	1. describe speech act 2. distinguish types and classification of speech act 3. determine the appropriate response in different social setting 4. respond appropriately and effectively to a speech act	Types of Speech Acts

The mobile application was a user-friendly, self-paced application giving learners freedom to use it anytime and anywhere, without needing a data or internet connection. The integration of using a data connection or the internet was to provide the teacher access to all the learners' accounts. This made monitoring of academic performance easier for the teachers. The mobile application was also designed to motivate learners to finish tasks enjoyably. Answering questions and receiving immediate feedback (correct answers) with sound notifications made the mobile application interesting and engaging.

Table 2 presents the eight sections included in the I-SPEAK Mobile Application, each designed to support and enhance the oral communication skills of learners.

Table 2. Sections in the I-SPEAK Mobile Application

Section	Description
Pretest	A 50-item test that aims to determine the knowledge of learners before the lesson
Chapters 1-7	Each chapter of the mobile application shows the introduction and learning objectives. Under the chapter section are 5 sub sections: Discussion, Exercise, Quiz, Speak with me, and Reflection.
Discussion	In this part, learners can watch the video lesson
Exercise	This is a 5-item game exercise that aims to provide learners a recap of the discussion
Quiz	This involves a 15-item test to check if learners understood the video lesson.
Speak with me	This is like a 4-word drill that targets users to enhance their speaking skills and knowledge about select English words.
Reflection	This is the last part of each chapter where learners are asked what they have learned from the lesson.
Posttest	A 50-item test that aims to determine the knowledge of learners after finishing the seven lessons in Oral Communication

The pretest was the first part of the mobile application, which aimed to test their knowledge of Oral Communication, followed by an Introduction and Learning Objectives. Discussions came next, which were presented as video lessons to explain information in Oral Communication better. This research also included five (5) item exercises to add excitement to users. After the short exercise, learners were tasked to answer a fifteen (15) item quiz to check whether they understood the lesson or vice versa. The research also included an extra exercise for the learners entitled: SPEAK with ME. In this part, common mispronounced words were presented with a description and their correct pronunciation (a voice record). From the title, I-SPEAK, the mobile application was also designed to add vocabulary words and guide them with the proper pronunciation of English words. At the end of each chapter, learners were asked to complete the reflection statement: In this module, I learned that... After completing the reflection, the Posttest was the last task for the users. This served as a basis for the teacher to determine whether they understood the seven (7) chapters of the mobile application. After completing all the chapters and the posttest, the students received a Certificate of Completion if they passed the posttest (with a score of at least 38 points). Students who got below 38 received a Certificate of Participation. In using the mobile application, a user can only proceed to the next section once they complete the current part. Every section contained a locked component, requiring users to finish all tasks before advancing to the next lesson. This was to make learners experience all the learning tasks of each lesson.

Following the Programmed Instruction Learning of B.F. Skinner, the I-SPEAK mobile application, used the principle of small steps, providing a structured and self-paced learning experience to learners. In addition, positive reinforcements were also present in the mobile application, which can be seen in the pre- and posttest, exercise, and quiz parts, wherein once the learner clicks the correct word, there will be a sound notification for the proper word as well as a different sound notification for the incorrect answer. Another was the automatically generated certificate of completion. By completing all seven chapters and passing the posttest, users will receive a Certificate of Completion, which can boost motivation to learn more about Oral Communication.

As emphasized by Skinner (1954, as cited in Aniciete, 2022), the significance of positive reinforcement in shaping and maintaining behaviors enhances the learning process. This happens when a positive consequence or reward follows a specific behavior, which encourages the individual to repeat that behavior in the future. All necessary lessons for the first quarter, ranging from simple to complex, were included in the mobile application. The development was guided by the Cognitive Load Theory, which states that educators should create a more conducive place for effective learning, understanding, and retention of information by a well-planned and structured flow of information for learners, minimizing heavy cognitive loads. Furthermore, with the assistance of two Information Technology (IT) Experts, the I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) mobile application was developed using Firebase Console, a mobile and web application development platform compatible with Google's products. It was created with a 147 MB download size and was compatible with Android Marshmallow 6.0 and the latest version. The researcher guided the respondents in installing, creating an account, and using the mobile application.

3.2 Content Validity and Acceptability of the developed I-SPEAK mobile application

The general validity and acceptability of the designed mobile application I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) used the following pre-determined criteria: for the Validity: Objectives, Concept, Topics, Directions, Exercises, and Reflections; for the Acceptability: Functionality, Accuracy, Suitability, Usability, and Efficiency.

Objectives

The table below presents the results on the validity of the objectives of the I-SPEAK mobile application for the Oral Communication subject. Results highlight how well the app's learning goals align with educational standards, particularly the Most Essential Learning Competencies (MELCs) set by the Department of Education.

Table 3. *Level of Validity in terms of Objectives*

Indicators	Mean	Interpretation	Rank
Relevant	4.00	Highly Valid	1
Specific and clearly stated	3.80	Highly Valid	5
Measurable	3.87	Highly Valid	3
Attainable	3.87	Highly Valid	3
Result-oriented	3.87	Highly Valid	3
Time-bound	3.67	Highly Valid	6
Overall	3.84	Highly Valid	

Objectives were Highly Valid (3.84) as to the level of validity of the developed mobile application for Oral Communication entitled: I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit). All indicators were verbally interpreted as Highly Valid. Furthermore, the indicator “Relevant” had the highest computed mean of 4.00, while the indicator “Time-bound” had the lowest calculated mean of 3.67.

The findings indicate that the mobile application "I-SPEAK", designed for the Oral Communication subject, is highly valid with its intended objectives, which are aligned with DepEd’s Most Essential Learning Competencies. The evaluation demonstrates that these objectives are closely linked to the topic and adhere to the SMART criteria: Specific, Measurable, Attainable, Result-oriented, and Time-bound. Clearly defined learning objectives enable learners to grasp key concepts with clarity, thereby reducing cognitive load and enhancing comprehension of the lessons. Moreover, well-defined objectives set direction in learning, fostering learner engagement and motivation.

Utbo and Arenga (2021) mentioned that time-bounded instructional tools enhance learners in creating their personal goals and advancing at their speed, catering to their individual needs. Deadlines helped learners remain focused on their modules, fostering a sense of responsibility and effective time management. As stated in the study of Montalbo and Villanueva (2020), students who had a clear understanding of the lesson's objectives during the class were able to enhance their competencies more effectively as they were given an overview of what they should do to gain positive learning outcomes.

Concepts

Table 4 presents the results on the validity of the concepts presented in the I-SPEAK mobile application for Oral Communication.

Table 4. *Level of Validity in terms of Concepts*

Indicators	Mean	Interpretation	Rank
1. Gives insights and ideas as to what the activity is all about.	3.80	Highly Valid	2
2. Provides background of the concepts and information about the topic to be solved.	3.87	Highly Valid	1
3. Attracts learners’ attention	3.73	Highly Valid	3.5
4. Arouses learners’ interest in solving exercises	3.73	Highly Valid	3.5
Overall	3.78	Highly Valid	

Concepts were Highly Valid (3.78) in terms of the overall evaluation of the validity level of the I-SPEAK mobile application for Oral Communication. All indicators were verbally interpreted as Highly Valid. Furthermore, the indicator “Provides a background of the concepts and information about the topic to be solved” has the highest computed mean of 3.87. In contrast, the indicators “Attracts learners’ attention” and “Arouses learners’ interest to solve exercises” have the lowest computed mean of 3.73.

Results showed that the mobile application is highly valid in terms of its presented concepts. The evaluation considers key aspects related to engaging users and facilitating learning. The application is highly valid in providing clarity and understanding about the activities, giving users insight into what they will be doing. Also, background information and context regarding the concepts and topics prove their validity in enhancing their comprehension and readiness to engage. Overall, the app demonstrates good content delivery and preparation.

Similarly, Eom (2023) conducted a rigorous assessment of the conceptual validity of mobile learning constructs using confirmatory factor analysis (CFA). This statistical method examines how well observed variables represent underlying theoretical factors. The results showed high convergent and discriminant validity, with factor loadings exceeding 0.70—indicating that the measurement items strongly correlated with their intended constructs. This validates the internal structure and reliability of the mobile learning model. Eom emphasized that well-defined and accurately measured constructs, such as instructional clarity, content relevance, and user engagement, are critical in capturing and sustaining learners’ attention and interest. Thus, teachers should make their teaching methods and materials suited to the students' needs and grade levels. Students must easily understand the concepts and develop essential literacy skills like reading, writing, and numeracy. When teaching methods were aligned with students' needs, they could significantly improve their learning experience.

Topics

Table 5 presents the evaluation results on the validity of the topics integrated into the I-SPEAK mobile application for Oral Communication. This section assesses whether the subject matter is organized, appropriate, and aligned with curriculum standards.

Table 5. *Level of Validity in terms of Topics*

Indicators	Mean	Interpretation	Rank
1. Sequenced according to MELCs	3.87	Highly Valid	3
2. Logically presented	3.93	Highly Valid	1.5
3. Address learners' needs	3.93	Highly Valid	1.5
Overall	3.91	Highly Valid	

Topics were Highly Valid (3.91) in terms of the level of validity of the developed mobile application for Oral Communication, entitled: I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit). All indicators were verbally interpreted as Highly Valid. Furthermore, the indicators "Logically presented" and "Address learners' needs" had the highest computed mean of 3.93, while the indicator "Sequenced according to MELCs" had the lowest calculated mean of 3.87.

The findings indicate that the developed mobile application, I-SPEAK, demonstrates high validity in terms of the topics covered. It presents topics logically and sequentially, effectively addressing the needs of the target learners. Additionally, the development process involves rigorous planning, designing, and evaluation to ensure the thoroughness and quality of the final product before it is made available to both learners and teachers. Overall, these aspects contribute to the effectiveness of I-SPEAK as a tool for enhancing oral communication skills.

According to Conde (2021), crafting instructional materials demands a structured methodology and a more transparent framework or format. When conveying the material's content, it was essential to arrange topics logically and coherently. The guidance provided should be clear, concise, readable, and easy to follow. Moreover, the topics should align with the course's sequence, the material should adhere to proper grammar, and its writing style should be informal and approachable.

Directions

The table below displays the evaluation results on the validity of the directions embedded within the I-SPEAK mobile application. This indicator ensures that users can understand and follow instructions throughout their interaction with the material.

Table 6. *Level of Validity in terms of Directions*

Indicators	Mean	Interpretation	Rank
1. Simple and clear	3.80	Highly Valid	3.5
2. Easy to follow	3.73	Highly Valid	2
3. Properly sequenced	3.87	Highly Valid	1
4. Can be done independently	3.80	Highly Valid	3.5
5. Guide non-native users of technology accordingly	3.60	Highly Valid	5
Overall	3.76	Highly Valid	

Directions were Highly Valid (3.76) as to the level of validity of the developed Interactive Speech Proficiency Enhancement and Assistance Kit mobile application. All indicators were verbally interpreted as Highly Valid. Furthermore, the indicator "Properly sequenced" had the highest computed mean of 3.87, while the indicator "Guide non-native users of technology accordingly" had the lowest calculated mean of 3.60.

The instructional material is designed for self-paced learning, allowing individuals to learn at their speed and convenience. The material enabled learners to progress through the material independently, without the constraints of a set schedule. This approach gives individuals the flexibility to absorb information, finish exercises, and master concepts at their own preferred pace. On the other hand, users request a user manual for the mobile application so they can use it more efficiently, including suggestions for recommendations.

As stated in the study of Cubillas (2020), instructional materials should be understandable to learners, regardless of the presence of a teacher. An instructional material would be considered adequate if it helped students be ready for curriculum standards by offering purposeful activities that matched their grade-level skills and concepts.

Exercises

Table 7 presents the evaluation results of the exercises integrated into the I-SPEAK mobile application in terms of their validity. The findings highlight that the exercises are not only appropriate and engaging but also structured to enhance learners' motivation and interaction with the content.

Table 7. *Level of Validity in terms of Exercises*

Indicators	Mean	Interpretation	Rank
1. Relevant to the objectives	3.80	Highly Valid	4
2. Appropriate to learners' abilities	3.93	Highly Valid	1
3. Adequate learners' language knowledge and skills	3.87	Highly Valid	2.5
4. Sufficient to determine the mastery level of learners	3.60	Highly Valid	5
5. Enhances learners' comprehension	3.87	Highly Valid	2.5
Overall	3.81	Highly Valid	

Exercises were Highly Valid (3.81) as to the validity level of the developed Interactive Speech Proficiency Enhancement and Assistance Kit (I-SPEAK) mobile application. All indicators were verbally interpreted as Highly Valid. Furthermore, the indicator "Appropriate to learners' abilities" had the highest computed mean of 3.93, while the indicator "Sufficient to determine mastery level of learners" had the lowest calculated mean of 3.60.

Data emphasize that exercises in the instructional material motivated learners to answer questions. Learners enjoy accomplishing the exercises and quizzes as these involve sound notifications whenever they get correct or incorrect answers. This is done through the integration of various elements, such as visuals, sounds, and other interactive components, to generate curiosity and interest among students. The mobile application also includes exercises that can be accomplished within a day. Meanwhile, the application consists of a database of students' quiz scores and exercises from their lessons.

In support of the results, the study of Mshayisa and Ivala (2022) emphasized that self-paced design, structured content, and an adaptive framework of an online learning environment contributed to the improvement of computer and communication self-efficacy as well as the motivation of learners. A well-planned and well-designed material played a crucial role in boosting student motivation for learning. Kondal and Prasad (2020) mentioned that exercises integrated with technology helped students overcome stage fright, relate to real-world situations, and improve communication skills.

Reflections

The table below presents the evaluation results on the validity of the reflection component integrated within the I-SPEAK mobile application. This focuses on how effectively the application encourages learners to think about and articulate their learning experiences.

Table 8. *Level of Validity in terms of Reflection*

Indicators	Mean	Interpretation	Rank
1. Motivates learners to express their learning experience	3.73	Highly Valid	3
2. Gives insights to the teacher if learners need remediation or enrichment	3.87	Highly Valid	2
3. Inspires the production of more innovative and novel ways of assessing learners' learning	3.93	Highly Valid	1
Overall	3.84	Highly Valid	

Reflections were Highly Valid (3.84) as to the level of validity of the developed mobile application, I-SPEAK. All indicators were verbally interpreted as Highly Valid. Furthermore, the indicator "Inspires the production of more innovative and novel ways of assessing learners' learning" had the highest computed mean of 3.93, while the indicator "Motivates learners to express their learning experience" had the lowest calculated mean of 3.73.

The mobile application, I-SPEAK, exhibited a high level of validity in terms of reflections, with an overall score of 3.84. All indicators within the reflection section are also highly valid, indicating consistency in the reflective learning. The inclusion of a reflection section within the I-SPEAK mobile application allows learners to express their learning experiences. Teachers gain insight into both positive and negative experiences learners encounter as they understand the lesson and use the mobile application.

Mdhlalose and Mlambo (2023) emphasized the significance of students' feedback through the utilization of social

media, interactive whiteboards, and other technologies. Feedback is crucial in improving instructional materials and in helping learners use the material.

Functionality

Table 9 presents the evaluation results on the functionality of the I-SPEAK mobile application in the subject Oral Communication. The indicators reflect the users' experiences with the app's interface, layout, navigation, and visual appeal. The results help assess whether the application meets functional standards that support effective and engaging independent learning.

Table 9. *Level of Acceptability in terms of Functionality*

Indicators	Mean	Interpretation	Rank
1. The program is free of technical problems	3.67	Highly Acceptable	5
2. The program is self-instructed	3.73	Highly Acceptable	4
3. Graphics and color increase the instructional value of the program	3.93	Highly Acceptable	1
4. The program serves its purpose	3.80	Highly Acceptable	2.5
5. The program provides authorized, easy access	3.80	Highly Acceptable	2.5
Overall	3.79	Highly Acceptable	

Functionality was Highly Acceptable (3.79) as to the level of acceptability of the developed mobile application I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit). All indicators were verbally interpreted as Highly Acceptable. Furthermore, the indicator "Graphics and color increase the instructional value of the program" had the highest computed mean of 3.93. In contrast, the indicator "Program is free of technical problems" had the lowest calculated mean of 3.67.

The evaluation of the developed mobile application, I-SPEAK, indicates that its functionality is highly satisfactory, meeting users' expectations and needs. All aspects, such as being free of technical issues, self-guided, providing visually engaging content, and ensuring easy accessibility, are deemed highly satisfactory. Nevertheless, some users face delays due to the app's reliance on data or an internet connection, with a minimum requirement of 145 MB for usage. Despite these obstacles, learners completed the application's chapters and received Certificates of Completion.

As mentioned in the study of Elveña Jr. and Llarenas (2024), the researchers developed a calculus worktext aligned with curricular standards. They found that students rated the material highly in terms of clarity, usefulness, presentation, content relevance, and overall instructional quality.

Accuracy

As for the accuracy of the mobile application, the table below presents the results of the evaluation regarding the accuracy and reliability of the I-SPEAK mobile application in delivering content for the subject Oral Communication.

Table 10. *Level of Acceptability in terms of Accuracy*

Indicators	Mean	Interpretation	Rank
1. Program contains correct information about the topic	3.87	Highly Acceptable	1.5
2. Program provides learners the best choices for their answers	3.80	Highly Acceptable	3
3. Choices reflect a certain degree of similarity in meaning but distinct syntactic uses	3.87	Highly Acceptable	1.5
Overall	3.84	Highly Acceptable	

Accuracy was Highly Acceptable (3.82) as to the level of acceptability of the developed I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit). All indicators were verbally interpreted as Highly Acceptable. Furthermore, the indicators "Program contains correct information about the topic" and "Choices reflect a certain degree of similarity in meaning but distinct syntactic uses" had the highest computed mean of 3.87. In contrast, the indicator "Program provides learners the best choices for their answers" had the lowest calculated mean of 3.80.

It implies that the instructional material contains correct information about Oral Communication. The mobile application is based on the Most Essential Learning Competencies set by the Department of Education. This means that the program follows the standard set by DepEd. The program is also designed to offer learners a selection of the most advantageous options for their answers, providing them with comprehensive and well-considered choices to enhance their learning experience.

Likewise, Rice and Ortiz (2021) implemented the 4A Framework for evaluating digital instructional materials, highlighting “accountability”, which was referred to as materials created using authoritative and up-to-date content matching curricular standards.

Suitability

Table 11 presents the results of the evaluation on the suitability of the I-SPEAK mobile application for Grade 11 Oral Communication. The data highlights how appropriate and relevant the content and activities are for the target learners.

Table 11. *Level of Acceptability in terms of Suitability*

Indicators	Mean	Interpretation	Rank
1. Activities consider the varying attitudes and capabilities of the learner	3.80	Highly Acceptable	4
2. Activities are appropriate to the subject matter	3.87	Highly Acceptable	2
3. Activities are relevant, interesting, and self-motivating to the learner	3.87	Highly Acceptable	2
4. Use of enrichment activity is adaptable to classes with large number of learners	3.87	Highly Acceptable	2
5. Language of the program is within the vocabulary range of the target learners	3.73	Highly Acceptable	5
Overall	3.83	Highly Acceptable	

Suitability was Highly Acceptable (3.83) as to the level of acceptability of the developed I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) mobile application. All indicators were verbally interpreted as Highly Acceptable. Furthermore, the indicators “Activities are appropriate to the subject matter”, “Activities are relevant, interesting, and self-motivating to the learner” and “Use of enrichment activity is adaptable to classes with a large number of learners” had the highest computed mean of 3.87 while the indicator “Language of the program is within the vocabulary range of the target learners” had the lowest calculated mean of 3.73.

This denotes that the exercises and quizzes in the instructional material are relatable, engaging, and motivating to learners. Using different activity styles, users are immersed in the mobile application and have an enjoyable learning experience. Also, the mobile application is developed for a wide range of users since it is projected that the material would be recommended for use by all the Grade 11 learners in the Division of Biñan City, subject to approval of the top management, if the utilization of the developed material gains a positive reaction and effect on the learner-respondents.

In support of the results, Ferri et al. (2020) emphasized the importance of creating a well-planned strategy that is suitable for the learners. Their study suggested that the curriculum plan should include well-designed educational material in terms of its content, teaching methods, and shared objectives, ensuring consistency and effectiveness in learning. Additionally, an improved e-learning platform should be equipped with engaging digital resources like videos, animations, quizzes, and games, which are vital for sustaining students' interest in their lessons, especially in an online environment where distractions are plentiful.

Usability

In terms of the application’s usability, Table 12 presents the evaluation results of the I-SPEAK mobile application in delivering learning content for Oral Communication.

Table 12. *Level of Acceptability in terms of Usability*

Indicators	Mean	Interpretation	Rank
1. Material prepares the learners to think logically and critically	3.67	Highly Acceptable	8
2. Concepts in the material are simple and comprehensible	3.87	Highly Acceptable	2
3. Material enhances the learners’ comprehension and reading skills	3.87	Highly Acceptable	2
4. Material provides opportunity for the development of the language skills	3.80	Highly Acceptable	5
5. Learning contents provide adequate information on the topics presented	3.80	Highly Acceptable	5
6. Material encourages the learners to become actively involved in intellectual activities	3.80	Highly Acceptable	5
7. Activities seek to relate new concepts from previous learning	3.73	Highly Acceptable	7
8. As a whole, activities are teachable	3.87	Highly Acceptable	2
Overall	3.80	Highly Acceptable	

Usability was Highly Acceptable (3.80) as to the level of acceptability of the developed Interactive Speech Proficiency Enhancement and Assistance Kit. All indicators were verbally interpreted as Highly Acceptable. Furthermore, the indicators “Concepts in the material are simple and comprehensible”, “Material enhances the

learners' comprehension and reading skills", and "As a whole, activities are teachable" had the highest computed mean of 3.87 while the indicator "Material prepares the learners to think logically and critically" had the lowest calculated mean of 3.67.

Results demonstrate a high level of acceptability of the mobile application in terms of Usability. These findings suggest that the kit effectively supports learners in understanding and engaging with the content, thereby facilitating their comprehension and skill development. The Speak With Me feature of the I-SPEAK mobile application offers opportunities for enhancing language skills. Incorporated activities in the mobile application were usable in improving students' critical thinking, reading, and language abilities.

Moreover, Sanchez (2022) emphasized that the usability of learning material must be designed to enhance learners' logical and critical thinking skills through comprehensive content and engaging enrichment activities. The interactive nature of activities in a material should allow learners to enjoy and deepen their understanding. Furthermore, there should be clear connections between the previous and current lessons to increase learner engagement. A learning module plays a crucial role in achieving learning objectives for students and provides valuable guidance for teachers in teaching the subject area.

Efficiency

The table below shows the evaluation results on the efficiency of the I-SPEAK mobile application in delivering learning content for Oral Communication. The data reflects how well the application supports self-paced learning through the proper use of time and resources.

Table 13. *Level of Acceptability in terms of Efficiency*

Indicators		Mean	Interpretation	Rank
1.	Program quickly responds	3.67	Highly Acceptable	3
2.	Program utilizes the resources efficiently	3.80	Highly Acceptable	1.5
3.	Program utilizes the given time efficiently.	3.80	Highly Acceptable	1.5
Overall		3.76	Highly Acceptable	

Efficiency was Highly Acceptable (3.76) as to the level of acceptability of the developed mobile application for Oral Communication entitled: I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit). All indicators were verbally interpreted as Highly Acceptable. Furthermore, the indicators "Program utilizes the resources efficiently" and "Program utilizes the given time efficiently" had the highest computed mean of 3.80. In contrast, the indicator "Program quickly responds" had the lowest calculated mean of 3.67.

This implies that with the self-paced instructional material, users can finish the activity sections of the mobile application efficiently. These tasks include watching video lessons, doing exercises, and answering quizzes. The I-SPEAK mobile application is designed to provide efficiency in learning delivery. Meanwhile, there are some cases where users experience lagging of the mobile application, but a stronger internet connection promptly resolves these. The limitation of the mobile application is that it requires enough data or a stable internet connection to gain an enjoyable and productive learning experience with the application.

As stated in the study of Prondoza and Panoy (2022), the incorporation of technology resulted in an enhancement of learners' comprehension of the subject. Furthermore, lessons could be customized digitally to align with learners' goal-setting abilities and aid in the monitoring of their respective achievements. For instructional material to be effective, educators should create a design based on the resources available to learners, their accessibility to mobile devices, and other learning tools aligned with their capabilities. Through this, teachers could facilitate self-paced learning even in the absence of a traditional classroom setting, thereby empowering learners to explore topics independently.

3.3 Pretest and Posttest results of Grade 11 students in the designed mobile application for Oral Communication.

Pretest Performance

Table 14 presents the pretest results of the students before using the I-SPEAK mobile application. It shows their initial level of performance in Oral Communication and serves as a baseline for measuring the effectiveness of the developed instructional material.

Table 14. *Performance of 30 Students in the 50-Item Pretest*

Grade	Indicators	F	Percentage
90 – 100	Outstanding	10	33.33
85 – 89	Very Satisfactory	14	46.67
80 – 84	Satisfactory	3	10.00
75 – 79	Fairly Satisfactory	2	6.67
74 and below	Did Not Meet Expectations	1	3.33
Total		30	100.00
Mean		37.1	
Standard Deviation		5.36	
General Assessment		87.10	Very Satisfactory

The pretest score of the students was Very Satisfactory (87.10%). Among the 30 students, 33.33%, or 10 out of 30, performed Outstanding, while 46.67%, or 14 out of 30, achieved a Very Satisfactory performance. In addition, 10.00%, or three (3) of the students performed Satisfactory, 6.67% or two (2) students were Fairly Satisfactory, and only 3.33% or one (1) student out of 30 students received a rating of Did not meet expectations.

This means that most students have prior knowledge of Oral Communication. Nevertheless, this still implies the necessity for improved instruction or instructional materials to enhance their performance. Especially today, students need more engaging materials than the printed modules during class suspensions due to natural hazards, transport strikes, and holidays.

Aniciete (2022) mentioned that teachers should conduct a pre-assessment of learners before the start of the lessons. This was integral to the teaching-learning process. Through diagnostic tests, teachers had the basis to create innovative tools to improve their teaching strategy, and positively impact the academic performance of the learners. Knowing the students' strengths and weaknesses guides the teacher to determine what to expect and where to start the lessons.

Posttest Performance

The table below presents the posttest results of the students after using the I-SPEAK mobile application. It highlights the overall level of achievement, the number of students who reached each performance level, and the positive outcomes observed. The data also reflects how the app supported learning in Oral Communication through engaging and interactive features.

Table 15. *Performance of 30 Students in the 50-Item Posttest*

Grade	Indicators	F	Percentage
90 – 100	Outstanding	28	93.33
85 – 89	Very Satisfactory	2	6.67
80 – 84	Satisfactory	0	0
75 – 79	Fairly Satisfactory	0	0
74 and below	Did Not Meet Expectations	0	0
Total		30	100.00
Mean		45.23	
Standard Deviation		2.91	
General Assessment		95.23	Outstanding

The posttest score of the students was Outstanding (95.23). Among the 30 students, 93% achieved an Outstanding performance, while 6.67%, or 2 out of 30, performed Very Satisfactory in the posttest.

The results prove that there is a positive effect on the academic performance of students in Oral Communication using the developed I-SPEAK mobile application. A hundred percent of the students received a Certificate of Completion, which means that all the respondents passed the 50-item posttest. Based on their feedback, students enjoy watching video lessons, doing the exercises, answering the quizzes, and doing the Speak with Me segment.

Similarly, studies of Bayotas (2022), Karim et al. (2023), and Muico (2021) demonstrated that the utilization of innovative materials led to an enhancement in students' proficiency levels in Communication. The instructional material enhances their comprehension of its concepts, principles, and patterns, which helps them answer accurately. Therefore, well-designed instructional material could effectively impart crucial knowledge and support sustained learning to learners.

Test of Significant Difference between Pretest and Posttest Performance

Table 16 below shows the results of the test used to determine whether there was a significant difference between the students' scores before and after using the I-SPEAK mobile application. A paired sample t-test was used to compare the pretest and posttest scores. The goal was to see if the mobile app helped improve the students' performance in Oral Communication.

Table 16. Test of Significant Difference between the Academic Performance in Pretest and Posttest

Test	Paired Differences			P value	Remarks	Decision
	Mean	SD	T			
Pre-test and Posttest	-8.13333	5.40583	-8.241	.000	Significant	Reject Ho

There was a significant difference between the mean scores of the students on the pretest and posttest. The probability value was .000, which was less than the level of significance at .05. Thus, the null hypothesis was rejected. There was an increase of 8.13% in the overall performance of the Grade 11 learners. This implies that the developed I-SPEAK mobile application has a significant effect on the academic performance of the learners, given their positive test results and responses on the utilization of the material. Similarly, El-Tantawy and Abdelaziz (2021) conducted a controlled pretest-posttest study with dental students using a mobile learning app for surgical instrument identification. They reported a statistically significant improvement in the intervention group ($P = .000$), while the control group exhibited no notable change ($P = .300$). This supports the conclusion that the app had a significant and positive effect on students' academic performance.

4.0 Conclusion

The development and validation of the I-SPEAK (Interactive Speech Proficiency Enhancement and Assistance Kit) mobile application effectively addressed the identified gaps in oral communication proficiency among Grade 11 students. The study demonstrated that the mobile application is a highly valid and acceptable instructional material based on evaluations from teachers, ICT coordinators, and education supervisors. The significant improvement in students' performance from pretest to posttest confirms the application's effectiveness in enhancing oral communication skills. I-SPEAK not only supports the delivery of lessons during class disruptions but also aligns with the Department of Education's MATATAG agenda by promoting learner-centered, technology-integrated instruction. It embodies key 21st-century skills such as digital literacy, independent learning, and effective communication, making it a relevant and sustainable tool for both teachers and students in today's VUCAD environment. The study highlights the effectiveness of mobile-based applications in enhancing academic performance and advocates for the continued integration of similar technological innovations into the senior high school curriculum.

5.0 Contribution of Authors

The author, Eva Joyce V. Cabantog, undertook a comprehensive research process encompassing data collection, analysis, and development for the study "I-SPEAK: The Developed Interactive Speech Proficiency Enhancement and Assistance Kit for Oral Communication." Following this, she reviewed and endorsed the final draft of the corresponding article.

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7.0 Conflict of Interest

The author confirms that they have no conflicts of interest regarding the publication of this paper.

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