

CHAPTER II

LITERATURE REVIEW

A. The Concept of Speaking

1. The Definition and the Nature of Speaking

Speaking is a fundamental aspect of language learning and essential skills for effective communication, especially in a global language like English. These skills involve the ability to express oneself fluently and accurately, including pronunciation, vocabulary, grammar, and coherence. For learners, speaking ability reflects their confidence and ability to articulate ideas, including complex or abstract concepts. Effective speaking also demands adaptability, especially in challenging or ambiguous situations, such as debate or negotiation. According to Narueprempree and Tachom (2024), the evaluation of speaking skills considers fluency, confidence, and the ability to convey ideas clearly. Therefore, speaking serves as a practical communication tool as well as a means to demonstrate mastery of the English language.

The speaking process integrates a variety of cognitive and linguistic functions, starting with conceptualizing the message, encoding it linguistically, and articulating it. This process is in line with Levelt's blueprint that sees speakers as information processors. According to O'Sullivan (2024), this framework involves several stages: grammatical coding, phonological coding, and articulation,

with each stage working relatively independently. Additionally, speaking requires real-time monitoring to ensure accuracy and fit in conversations. Effective communication is achieved by adhering to conversational norms while considering the intent of the speaker and the audience. Thus, speaking is not only the act of producing sound, but also a dynamic interaction between thought, language, and social interaction.

Speaking is a multidimensional skill that requires three main components: linguistic knowledge, basic speaking skills, and communication strategies. Linguistic knowledge includes pronunciation, grammar, and vocabulary, while basic skills include speaking circles and signaling intent. Additionally, communication strategies such as paraphrasing and re-expression are essential to overcome language limitations (Wang & Sun, 2024). Given its complexity, the measurement of speaking ability cannot rely solely on general self-efficacy indicators, but must use a multidimensional perspective. This approach ensures an evaluation that covers a wide range of dimensions of speaking, from basic language skills to strategic and situational competencies. As such, effective speaking requires technical mastery and adaptability in a variety of communication situations.

Speaking involves production and perception processes that work simultaneously during communication. On the production side, the speaker formulates the message and translates it into a linguistic form, while perception involves decoding acoustic signals and interpreting the intended meaning (O'Sullivan, 2024). This dual nature emphasizes the importance of interaction, as speaking is not an isolated skill but rather occurs in a social context. In addition, the role of cultural and social norms shapes the practice of speaking, influencing aspects such as politeness, tone, and speech circulation. An understanding of these elements allows the speaker to effectively navigate the various contexts of the conversation, highlighting the mutual relationship between speaking and cultural competence.

In conclusion, speaking is a very complex and important skill that bridges linguistic knowledge, cognitive processing, and social interaction. These skills reflect the learner's ability to use language as a tool of communication, problem-solving, and expressing ideas. The complexity of speaking, which includes both technical and strategic dimensions, confirms the need for a comprehensive approach in its development and evaluation. As conveyed by Narueprempree and Tachom (2024), fluency in speaking is essential for success in an increasingly connected world,

demanding learners not only to master the mechanisms of language but also the ability to adapt and excel in various communication contexts.

2. *Components of Speaking*

Speaking is an essential skill in language learning that includes various components to ensure effective and meaningful communication. To achieve fluency, a speaker must master fluency, coherence, vocabulary, grammar, pronunciation, and interactive communication. These components play a crucial role in both academic contexts and everyday conversations. Research shows that speaking involves cognitive processes such as conceptualization, coding, articulation, and monitoring, which require the speaker to focus on various aspects simultaneously (Tsunemoto & Trofimovich, 2024). This complexity of speaking highlights the importance of systematically understanding and developing each component to improve a learner's speaking ability.

Fluency refers to the ability to speak fluently and without many unnecessary breaks. This fluency is closely related to coherence, which is the ability to organize ideas logically and connect them clearly. Fluent and coherent speakers can convey their thoughts effectively so that listeners can easily understand the message being conveyed (Chou, 2024). This ability is essential for successful

communication, especially in academic and professional situations, where clarity and logical flow are top priorities.

Vocabulary is the foundation of speaking ability because it allows speakers to express their ideas appropriately and effectively. A broad vocabulary mastery allows one to adapt language to a variety of contexts, both in casual conversation and formal presentations. Vocabulary also contributes to the depth and nuance of communication, helping the speaker convey complex ideas and emotions (Chou, 2024). Constant exposure to language through reading, listening, and speaking practice is essential for expanding vocabulary and improving overall speaking skills.

Grammar provides a structural framework in speech to ensure accuracy and clarity. Grammar includes rules for sentence formation, verb conjugation, and syntax. Grammatical mastery allows speakers to compose sentences that are clear and grammatically correct, increasing their credibility and confidence (Chou, 2024). In addition, mastery of grammatical structures allows speakers to communicate more effectively in a variety of contexts, both formal and informal.

Pronunciation includes clarity and precision in producing sounds, pressure patterns, and intonation. Good pronunciation ensures that listeners can easily understand

the speaker, thus minimizing misunderstandings and increasing the effectiveness of communication. Intonation and pressure also play a role in conveying emotion and emphasis, giving depth to spoken language (Tsunemoto & Trofimovich, 2024). By practicing pronunciation through listening and speaking exercises, students can increase clarity and confidence in verbal interactions.

Interactive communication involves the ability to engage in dialogue, respond to questions, and adapt to the dynamics of the conversation. This component emphasizes the importance of alternating turns speaking, actively listening, and providing relevant feedback during interactions. This supports meaningful exchanges between speakers and listeners, as well as encourages effective two-way communication (De Vrind et al., 2024). Developing these skills requires practice in real conversation, role-playing, and collaborative activities to improve responsiveness and adaptability.

Mastering the components of speech—fluency, coherence, vocabulary, grammar, pronunciation, and interactive communication—is essential to achieving effective communication. Each component makes a unique contribution to the speaker's ability to convey ideas clearly and persuasively. By practicing in a directed manner and conducting self-monitoring, learners can close the gap

between current speaking ability and the desired level (De Vrind et al., 2024). A comprehensive understanding of these components will ultimately enable individuals to excel in both academic and professional communication.

3. *Factors Affecting Speaking Ability*

The ability to speak English is influenced by a variety of factors, both internal and external. These factors include psychological, social, and linguistic aspects, which directly affect students' speech performance. As a complex skill, speaking requires mastery of grammar, pronunciation, vocabulary, and confidence. However, many students face challenges that make it difficult for them to speak fluently. According to Ork et al. (2024), factors such as fear of mistakes, shyness, lack of motivation, and mother tongue barriers are the main causes of students' low speaking ability. In addition, lack of practice also plays a significant role in inhibiting students' speaking skills, so it requires special attention in the learning process. Fear of mistakes is one of the main factors that hinder students from speaking in English. This anxiety is often associated with concerns about negative judgments from teachers and peers (Ork et al., 2024). This fear is exacerbated by the embarrassment that discourages students from speaking in front of the class, thus hindering their participation in speaking activities. The

embarrassment that students feel can become an emotional barrier, reducing their courage to try to speak. These psychological factors show that support from teachers and a positive learning environment is essential to overcome students' fear and embarrassment in speaking.

Regular speaking practice plays an important role in improving students' speaking skills. However, many students admit that they lack the time and opportunity to practice their speaking skills (Ork et al., 2024). In addition, motivation is also a factor that affects students' desire to practice speaking. According to Nunan (1999), motivation is very important in determining the extent to which students are ready to communicate in English. Without sufficient motivation, students tend to lack confidence and are reluctant to practice speaking, making it difficult for their skills to develop. Therefore, providing encouragement and creating a supportive learning environment is an important step in increasing students' motivation and practice.

Linguistic factors, such as vocabulary, grammar, and pronunciation, are important components of speech. Deficiencies in any of these aspects can hinder students from speaking fluently (Ork et al., 2024). In addition, the use of mother tongue outside the classroom is also a challenge in improving students' speaking skills. Many

students are more comfortable using their native language, so they rarely practice English outside of the classroom environment. An environment that does not support English practice slows down the development of students' speaking skills. Therefore, it is important for teachers to encourage students to use English in and out of the classroom to improve their overall abilities.

Factors such as fear of mistakes, embarrassment, lack of motivation, minimal practice, linguistic barriers, and the influence of mother tongue have a significant impact on students' speaking ability. To help students overcome these challenges, teachers need to create a learning environment that is supportive, motivating, and offers consistent speaking exercises. In addition, students are also encouraged to actively practice outside the classroom to increase their confidence and abilities. By systematically addressing these barriers, students' speaking abilities can develop significantly, allowing them to communicate more effectively in a variety of contexts.

4. The Role of Speaking in Language Learning

Speaking has an important role in language learning, especially in the midst of globalization and rapid technological developments. As the education system prepares students for an uncertain future, mastery of oral communication is becoming increasingly important.

English as a global *lingua franca* has become a major need for individuals to be actively involved in world events and make a positive impact (Marinić & Moritz, 2024). Good speaking skills enable learners to convey ideas clearly, participate in cross-cultural dialogues, and build relationships in both academic and professional settings. Therefore, speaking should be a major focus in learning English, especially in non-native speaking environments, where communication competencies determine success at a global level.

Mastery of speaking skills in English enhances the individual's ability to interact meaningfully in global communication. Speaking is the main means of conveying ideas, sharing knowledge, and building collaboration among diverse cultural contexts (Van Huy et al., 2024). In an academic setting, the ability to speak allows students to explain complex ideas during discussions and presentations. Meanwhile, in the professional world, speaking skills strengthen networking skills and open up career opportunities. The importance of this role shows the need for language teachers to emphasize speaking as a practical tool for students in dealing with educational and employment challenges. With interactive methods such as simulations and role plays, teachers can create a learning

atmosphere that encourages students' confidence in verbal communication.

In addition to being important for academics and professionals, speaking English fluently also promotes personal development and cultural awareness. Public speaking in English facilitates the exchange of ideas and understanding between cultures on various global platforms (Shi et al., 2024). Through effective communication, students develop critical and persuasive thinking skills that strengthen their confidence. Furthermore, speaking becomes a bridge for cultural exchange, allowing individuals to appreciate different points of view and adapt in diverse social contexts. This transformational dimension empowers learners to build meaningful relationships and contribute positively in a multicultural environment.

Developing speaking skills also encourages inclusivity and global citizenship. English as a *lingua franca* allows learners from different language and cultural backgrounds to connect, share experiences, and collaborate on global initiatives (Marinić & Moritz, 2024). The ability to speak confidently prepares individuals to engage in diplomacy, fight for social issues, and represent their communities at the international level. In addition, good communication skills help individuals face real-world

challenges, bridge understanding gaps, and create mutual respect between communities. This confirms the social value of speaking skills, which go beyond individual benefits to support global harmony.

In conclusion, speaking is a fundamental skill in language learning that has important value for individuals and society. In an increasingly connected era, the ability to communicate effectively in English empowers learners to actively participate in academic, professional, and cultural exchanges. The emphasis on speaking skills in language learning encourages personal growth, cultural awareness, and global citizenship, thus preparing students for the complexities of the modern world. By integrating interactive and practical approaches in speaking teaching, educators can ensure students are prepared to succeed in a global society.

B. Worksheet

1. Definition and Characteristics of Worksheets

Worksheets are educational tools designed to support learning through structured guidance for students in a variety of disciplines. Worksheets serve as a systematic framework for recording data, observations, and analysis, especially in the context of practical learning such as physics experiments (Syamsidar et al., 2021). These resources help teachers simplify the learning process by

providing clear instruction, activities, and assessments. By encouraging active participation, worksheets increase student engagement and understanding. Additionally, worksheets can be customized to meet specific educational goals, making them suitable for a wide range of learning needs. Their adaptability and interactivity make worksheets an important tool in supporting effective teaching.

One of the main characteristics of worksheets is their role as an interactive learning resource. Worksheets often integrate various elements such as diagrams, simulations, and quizzes to encourage active learning as well as maintain student interest (Kotsis, 2024). For example, in physics lessons, worksheets guide students through the experimental process, from methods to data collection and analysis. This tool encourages students to think critically about the learning material, allowing them to draw conclusions from their findings. By including visual and interactive components, worksheets make complex concepts easier to understand and enhance deep understanding.

Another important characteristic of worksheets is their ability to provide timely feedback and insights into student performance. Worksheets allow teachers to monitor student development formatively, identify strengths and weaknesses, and make necessary interventions (Madden et

al., 2023). Teachers can also use worksheets to assess students' understanding of concepts, adjust teaching strategies, and provide constructive feedback. Additionally, worksheets simplify the evaluation process, save time, and reduce teacher workload. This dual function demonstrates the worksheet's efficiency in supporting learning outcomes and teaching objectives.

Worksheets also promote active and experiential learning. By engaging students in activities that require problem-solving, critical thinking, and collaboration, worksheets create opportunities for meaningful engagement. For example, in physics learning, worksheets encourage students to explore real applications of theoretical concepts, thereby strengthening the relationship between knowledge and practice (Toh et al., 2012). This approach empowers students to take an active role in their education, developing important skills and values. Additionally, worksheets can be adapted for a variety of subjects and levels of education, ensuring their relevance in a variety of learning contexts.

In conclusion, worksheets have an important role in education by providing structured, interactive, and adaptive learning resources. Its ability to guide students through active participation, provide timely feedback, and support experiential learning makes it a crucial tool in the modern

classroom. Teachers can use worksheets to create engaging and effective lessons, improve student understanding, and encourage critical skills. As a high-value tool for teaching and assessment, worksheets continue to support meaningful learning experiences and contribute to the development of students' knowledge and competencies in a variety of areas.

2. *The Role of Worksheets in Learning*

Worksheets have an important role in the world of education as a tool that supports structured and effective learning. Worksheets are designed to help students explain observations, reflect on ideas, and test specific learning models (Bauman et al., 2023). In the process, worksheets encourage students to develop a deep understanding through planned activities. By providing clear guidance, worksheets allow students to organize information and complete tasks independently. Additionally, it serves as a bridge between theory and practice, making learning more applicative. The active involvement of students in completing the worksheet creates a dynamic and meaningful learning environment.

One of the main roles of worksheets is to increase student engagement in inquiry-based learning. In engineering courses, worksheets have been shown to be effective in helping students develop problem-solving

skills while staying engaged with the subject matter (Hazaveh & Wanless, 2021). Through task-based activities, students are directed to solve problems systematically and creatively. Worksheets also provide teachers with the opportunity to evaluate learning outcomes in real time. This way, the instructor can determine the pace of teaching that suits the needs of the class. The use of worksheets in the classroom creates an interactive and responsive learning process, improving students' understanding of the subject matter.

Worksheets also have a significant role in transforming passive learning into active learning. International students, for example, can use interactive worksheets to increase their motivation and concentration (Levenok & Sydorenko, 2024). By including innovative exercises such as word plays, drawing diagrams, or connecting sentences, worksheets create an engaging learning experience. These interactive activities allow students to better understand the material while engaging them emotionally. Additionally, exercises like these provide a fun and relevant learning experience, especially in the context of learning technical terms such as medicine.

In addition to helping students, worksheets also make it easier for teachers to deliver material. Teachers can use worksheets to structure targeted lessons and provide

relevant feedback. With a flexible design, the worksheets can be customized for a variety of subjects and levels of education. This tool also allows teachers to assess student performance in a measurable and objective manner. Through this approach, teachers can identify students' strengths and weaknesses, as well as provide appropriate learning interventions. Thus, worksheets not only support student learning but also increase teaching effectiveness

In conclusion, worksheets have a strategic role in supporting a structured, interactive, and effective learning process. These tools help students understand the material in depth, increase their engagement, and encourage active learning. On the other hand, worksheets also assist teachers in delivering material and evaluating student learning outcomes efficiently. With its various advantages, worksheets have become an irreplaceable tool in the modern world of education. Proper implementation will ensure the achievement of learning objectives and improve the quality of the learning experience for students and teachers.

3. Design Principles of Effective Worksheets

Effective worksheet design plays an important role in improving the quality of student learning. Well-designed worksheets not only help students understand concepts but also support active and collaborative learning. Certain

design principles are required to ensure worksheets can meet diverse learning needs. By paying attention to important elements such as relevant content, logical structure, and interactive elements, worksheets can facilitate inquiry-based learning to the fullest extent (Bouchée et al., 2023). These design principles allow students to engage deeply with the material and create a more meaningful learning experience.

One of the key principles in worksheet design is the emphasis on a well-organized structure. The worksheet should have a clear flow, from the introduction, the activity steps, to the conclusion that contains reflection or evaluation. This structure helps students understand the learning objectives and the steps they should follow. In addition, the instructions presented should be short, specific, and easy to understand so that students can complete the assignment independently. This approach not only improves learning efficiency but also reduces students' confusion when working on assignments (Şimşek, 2023).

The second principle is to include engaging interactive elements. An effective worksheet should be able to motivate students to actively participate through the use of diagrams, simulations, or technology-based activities. This element helps students connect abstract concepts with real applications, thus strengthening their understanding. In

the context of preschool, for example, interactive elements can also increase student engagement and encourage game-based learning (Şimşek, 2023). With this approach, worksheets become not only a learning tool but also a means to create an enjoyable experience.

The last principle is to pay attention to the flexibility and inclusivity of the design. An effective worksheet should consider individual differences, such as the student's abilities, learning styles, and developmental level. By providing diverse assignments and gradual levels of difficulty, worksheets can support the learning of all students fairly. In addition, worksheets can also be used to involve parents in the educational process, especially at the preschool level (Şimşek, 2023). This inclusive approach ensures that every student gets an equal opportunity to learn and grow.

In conclusion, effective worksheet design requires attention to structure, interactivity, and inclusivity. By adopting these principles, worksheets can be tools that not only support learning but also encourage active student engagement. In addition, well-designed worksheets also provide benefits for teachers and parents in supporting the overall educational process. Thus, the application of these design principles is key in creating an effective and enjoyable learning experience for students.

4. Types of Worksheets and Their Applications

Worksheets are a very diverse learning tool and can be used in a variety of disciplines. The types of worksheets are designed to meet different learning needs, from practicing basic skills to developing critical thinking. Worksheets can be traditional, interactive, or project-based, each with a unique applicability. The proper use of each type of worksheet not only facilitates learning, but also increases student motivation and engagement. By understanding the characteristics and functions of each type of worksheet, educators can create a more effective and enjoyable learning experience (Madden et al., 2023).

Interactive worksheets are one of the most popular types because they allow students to actively participate in learning. An example of an interactive worksheet application is the use of a web-based platform like Liveworksheets, which allows students to work on assignments online anytime and anywhere. With features such as video, audio, and game-based exercises, interactive worksheets increase student motivation while making it easier for teachers to manage learning activities. Additionally, this type of worksheet is perfect for practicing students' digital skills, especially in subjects such as mathematics and foreign languages (Madden et al., 2023; Roswahyuliani et al., 2024). Electronic worksheets (e-

worksheets) also play an important role in technology-based learning. This type of worksheet provides flexibility for students to access the material at any time through their electronic devices. For example, in math learning, e-worksheets help students understand complex concepts such as trigonometric functions through interactive problems. E-worksheets also encourage students to think critically by providing questions that require in-depth reasons behind the chosen answers. This not only improves students' understanding but also helps them develop analytical skills (Roswahyuliani et al., 2024).

PjBL (Project-Based Learning)-based worksheets offer a more in-depth approach to learning. In science learning, for example, PjBL-based worksheets integrate data analysis, prediction, and conclusion making to help students understand concepts holistically. Additionally, this type of worksheet motivates students to actively engage in the learning process because they can see the results of their efforts firsthand. The effectiveness of PjBL-based worksheets also lies in their ability to hone students' problem-solving skills, which are highly relevant to real-world needs (Tupan et al., 2024).

In conclusion, the different types of worksheets provide flexibility for educators to tailor their teaching methods to the needs of students. Whether in interactive,

electronic, or project-based form, worksheets have great potential to enhance learning at all levels of education. By choosing the appropriate type and using it strategically, educators can create a more effective, engaging, and meaningful learning experience for students.

5. *Effectiveness of Worksheets in Learning Outcomes*

Worksheets are one of the learning tools that are often used to support the student learning process. Its effectiveness can be seen from its ability to help students understand the material better and achieve the learning goals that have been set. Research shows that structured worksheets, with attention to learning objectives, relevant content, and clear formats, can increase student engagement in learning (Olayta, 2022). In addition, worksheets allow students to learn independently and practice critical thinking skills, making them one of the important teaching materials in various levels of education.

Research on the subject of Electrical Installation and Maintenance shows that worksheets that are valid and well received by teachers and students are able to support learning. The activity component in the worksheet has a significant effect on student performance because it encourages them to engage directly in learning. However, other components such as learning objectives and assessments do not have a significant effect, which shows

the need for improvements in this aspect (Olayta, 2022). Thus, worksheet design should prioritize interactive activities that can improve students' understanding and skills.

Additionally, carefully designed competency-based worksheets have been proven to be effective in achieving expected learning outcomes. Research shows that worksheets that are aligned with learning competencies can increase student motivation and make it easier for them to understand the material (Angay, 2023). Aspects such as attractive presentation, relevant content, and ease of use are key factors in the success of the worksheet. These results confirm the importance of planned design to meet student needs and achieve learning objectives.

Another example of the effectiveness of worksheets can be seen in their use in the health sector, such as the 4Ms worksheet for elderly patients in the ER. These worksheets help direct the conversation between patients and clinicians, resulting in more focused care on the patient's needs. Nonetheless, more research is needed to improve the application of these worksheets, especially for the elderly who need help filling out the worksheets (McKnight, 2024). This suggests that the effectiveness of worksheets also depends on their adaptability to the context and needs of the user.

Overall, worksheets are an effective learning tool if they are well-designed and tailored to the needs of students. The success of a worksheet depends on the relevance of the content, engaging activities, and the ability to motivate students. In addition, worksheets should be continuously evaluated and developed to improve their quality. With the right approach, worksheets not only help students understand the material but also encourage them to become active and independent learners.

C. VAK Learning Model

1. Definition and Theoretical Foundation of the VAK Learning Model

The VAK (Visual, Auditory, Kinesthetic) learning model is a learning method based on the way the brain processes information through the main sensory channels: visual, auditory, and kinesthetic. This model was first developed by Richard Bandler and John Grinder in the late 1980s as part of Neurolinguistic Programming (NLP). Cabezas (2022) explains that the VAK model allows for dynamic and flexible teaching to meet the needs of students with diverse backgrounds. By using this approach, learning becomes more personalized and effective because it adapts to the individual's learning style, namely through visual observation, hearing, or physical experience (Carlos Orozco, 2024).

a. Visual Learning Style

The visual learning style focuses on absorbing information through observation and visualization. According to Cazau (2019), students with this style are easier to understand the material if it is presented in the form of graphs, diagrams, or pictures. Visual information helps them synthesize and organize content better, thus improving comprehension. This style is suitable for students who tend to think logically and need visual structure in learning. Materials such as concept maps, visual presentations, and educational videos strongly support this style. The combination of text and visual elements can strengthen students' memory and help them master complex concepts in a more systematic way.

b. Auditory Learning Style

Students with an auditory learning style are more likely to understand the material through verbal explanations and discussions. Miller (2021) mentioned that these students learn by listening to lectures, discussing with friends, or relaying information orally. Verbal interaction not only strengthens understanding, but also encourages them to become effective communicators. They more easily capture information through tone, intonation, and rhythm. Activities such as debates, group discussions, and listening to audio recordings are highly appropriate

methods. In this process, verbal feedback from teachers or classmates plays an important role in improving material mastery (Carlos Orozco, 2024).

c. Kinesthetic Learning Style

The kinesthetic learning style involves physical movement and hands-on experience. Armstrong (2022) explains that students with this style learn better through object manipulation and practical activities, such as experimentation, dramatization, or simulation. Experiential learning allows students to be actively engaged, thereby improving understanding and retention. This style is suitable for students who need physical activity to focus and understand the material. Activities such as lab experiments, educational games, or group projects involving handwork provide real-life experiences that help students internalize concepts in depth.

The VAK learning model provides a flexible framework to accommodate a wide range of student learning styles. By integrating visual, auditory, and kinesthetic methods, teachers can create more inclusive and effective learning. Pascu (2024) emphasizes that although each student has a certain learning style tendency, the combination of these three styles can provide more optimal results. Thus, the VAK model is not only an adaptive

approach, but also able to improve student engagement and their learning outcomes.

2. *Components of the VAK Learning Model.*

The VAK (Visual, Auditory, Kinesthetic) learning model identifies three main components that influence the way students learn, namely visual, auditory, and kinesthetic learning styles. Each of these components focuses on the dominant sensory channels that students use to receive and process information. Amponsah (2024) explains that these styles not only reflect individual preferences in learning, but also affect the way they interact with learning materials. Knowing these components is essential for designing more effective teaching methods, as approaches tailored to each learning style can improve students' understanding and retention of information.

a. *Visual Learning Components*

Visual learners tend to rely on illustrations, drawings, graphs, and diagrams to make sense of information. Titchiev et al. (2023) explain that visual learners are more effective when they can see visual representations of the material being studied. They have a strong visual memory and are easier to remember information presented in writing or in the form of images. Therefore, the use of concept maps, videos, and presentation slides is a very useful method for students with

this learning style. Visual learners tend to think in images, focus on the big picture, and prefer clear written instructions (Barbe et al., 2024).

b. Auditory Learning Components

Students with an auditory learning style prefer to receive information through hearing, be it through lectures, discussions, or audio recordings. Lincă and Matei (2024) note that they often have strong auditory memory and have an easier time remembering information conveyed verbally. These learners tend to be more interested in group discussions, debates, and oral instruction. They also often express emotions through the tone of their voice. Therefore, methods such as lectures, interactive discussions, and oral roles are particularly effective for students with auditory learning styles, allowing them to assimilate information to the fullest through verbal interaction.

c. Components of Kinesthetic Learning

Kinesthetic learners, according to Titchiev et al. (2023), are more effective in learning environments that involve physical activity and movement. They learn by observing and interacting directly with objects, as well as through conversations or practical experiments. Students with this style often find it difficult to stay still and prefer to move around while studying. They can understand the material better if they engage in activities that involve

physical touch or interaction, such as games, scientific experiments, or construction projects. This model provides great benefits to students who learn by involving their bodies in the learning process (Barbe et al., 2024)

The VAK learning model offers a more inclusive and adaptive approach to managing students' learning styles. By understanding the visual, auditory, and kinesthetic components, teachers can design activities that are more tailored to individual needs. As explained by Lincă and Matei (2024), the introduction of this learning style allows the use of various effective learning methods and optimizes students' academic achievement. Thus, the VAK model provides a robust framework for creating more personalized and effective learning experiences in a variety of educational contexts.

3. *Implementation of the VAK Learning Model in Education*

The VAK (Visual, Auditory, Kinesthetic) model is an approach that can increase the effectiveness of the learning process by adjusting students' learning styles. This approach focuses on classifying students into three main categories based on their dominant learning styles: visual, auditory, and kinesthetic. By knowing this learning style, educators can design teaching methods that are more in line with students' preferences, so that they can more easily understand the material and be actively involved in learning. The application

of this model aims to create an inclusive environment and support the achievement of optimal academic outcomes for each student (Sayed et al., 2024; Calunsag et al., 2024).

For students with visual learning styles, learning materials can be presented using a variety of visual elements such as posters, diagrams, graphs, and multimedia presentations. This approach allows students to more easily understand the concepts and relationships between information. By looking at information in a more concrete and structured form, visual learners tend to remember information better. Educators can also leverage learning technologies such as video or animation to enrich the visual learning experience of students (Sayed et al., 2024). The use of these elements has proven to be effective in helping them remember and understand the material being taught.

On the other hand, auditory students learn more effectively through the process of listening. Therefore, educators can deliver material through lectures, discussions, or audio recordings. Group discussions or debates can also be an effective method for improving auditory students' understanding, as they tend to be more active when engaging in verbal conversations. The use of teaching methods that involve sound elements, such as oral repetition or clarification through questions and answers, also supports the

strengthening of their memory of the information conveyed (Lincă & Matei, 2024; Sayed et al., 2024).

Meanwhile, kinesthetic students need more practical and hands-on learning. They learn best through physical experiences, such as experiments, simulations, or role-plays. These activities allow them to engage directly with the learning material, move their bodies, and experience first-hand learning. The approach can be in the form of problem-solving activities or practical tasks that require students to move and interact physically with the material. This method is very effective in supporting their comprehension, as they recall information faster through actions and direct experience (Titchiev et al., 2023; Calunsag et al., 2024).

Overall, the application of the VAK model in education helps to create a more personalized learning experience that suits the needs of each student. By understanding their dominant learning styles, educators can tailor teaching strategies to make them more effective and appealing to all types of learners. This not only increases student engagement in the learning process, but also encourages better academic achievement. As a result, students can learn in a way that is more in line with their style, thereby improving their motivation and overall learning outcomes (Sayed et al., 2024; Fedyshyn, 2024).

4. Advantages and Challenges of the VAK Learning Model

The VAK (Visual, Auditory, Kinesthetic) learning model offers a learning approach that accommodates a wide range of student learning styles. By integrating visual elements such as images and graphics, auditory elements such as discussion and music, and kinesthetic elements in the form of physical activity, the model is designed to improve student engagement and understanding. The main advantage of VAK is its flexibility in reaching a wide range of learning needs, creating an interactive and enjoyable learning experience. Research shows that the use of the VAK model can improve students' concept understanding, learning motivation, and academic outcomes (Idris & Jamil, 2025). However, like other methods, this model also has challenges that must be overcome to achieve maximum effectiveness, especially in the context of inclusive education.

One of the main advantages of the VAK learning model is its ability to increase student engagement through a multisensory approach. For example, visual students can understand material better with graphs or diagrams, while auditory students benefit from verbal discussions and explanations. Kinesthetic students, on the other hand, respond positively to activities that involve physical movement, such as experiments or simulations. This approach allows educators to accommodate a wide range of individual needs in a single

classroom, creating a personalized and effective learning experience. Research shows that the application of the VAK model in Mathematics classrooms, for example, can help students understand difficult concepts more effectively (Wan Hussin & Mohd Matore, 2023).

Despite its many advantages, the implementation of the VAK model faces several challenges, especially in the context of inclusive education. One of the main challenges is the difficulty of adapting this model for students with special needs (SEN). Some SEN students may have limitations that make it difficult for them to take advantage of certain elements of the VAK model, such as visual or kinesthetic. In addition, the lack of training for teachers in understanding and applying the VAK model is a significant obstacle. Teachers often have difficulty adapting this approach to the individual needs of students, which can reduce the effectiveness of learning (Kassim & Nordin, 2024). Therefore, comprehensive training for teachers is urgently needed.

Support from schools is also an important factor in the successful implementation of the VAK model. However, challenges often arise due to a lack of resources, such as adequate visual, auditory, and kinesthetic aids. In addition, the high administrative burden on teachers, such as the obligation to participate in various school programs, often reduces their time to design learning that is in line with the VAK model.

Schools should play a proactive role in providing training, resources, and a supportive environment to help teachers overcome these barriers (Kassim & Nordin, 2024). With this step, the implementation of the VAK model can run more effectively and provide maximum benefits for students.

The VAK learning model has great potential to improve learning effectiveness through a multisensory approach that accommodates the diverse needs of students. However, its success relies heavily on the ability of educators and the support of school management to overcome various challenges, including in inclusive education. With the right training, resource support, and shared commitment, the VAK model can be a highly effective tool for creating interactive, personalized, and meaningful learning. Joint efforts between educators, schools, and policymakers are needed to ensure the successful implementation of this model.

5. Impact of the VAK Learning Model on Learning Outcomes

The VAK (Visual, Auditory, Kinesthetic) learning model focuses on the utilization of key sensory receptors to improve student learning outcomes. With this approach, students can understand new concepts through visual images, sounds, or physical activity, depending on their preferences. This strategy allows students to recognize their dominant learning style, making the learning process more effective and enjoyable. Research shows that the VAK approach is able to

improve students' understanding of subject matter, especially through more personalized and interactive learning (Normurodova & Rahimova, 2024). Additionally, the implementation of the VAK model creates relevant learning experiences, encourages student engagement, and maximizes their academic potential.

The use of the VAK model has been shown to help students understand the material more deeply, especially through strengthening sensory connections. Visual students, for example, find it easier to understand lessons through diagrams or graphical presentations, while auditory students benefit from verbal discussions and explanations. Kinesthetic students, on the other hand, respond better to physical activities such as experiments or simulations. In this way, the VAK model provides an equal opportunity for students to understand the material according to their learning style (Sayed et al., 2024). Research shows that personalizing learning based on students' learning styles can significantly improve memory, concentration, and concept comprehension.

The VAK learning model also has a positive impact on student motivation and involvement in the learning process. With an interactive approach, students feel more interested and active in learning, as they can access the material in a way that is most convenient for them. Educators who use VAK strategies can create a fun and inclusive learning atmosphere,

which in turn encourages student engagement in classroom activities. For example, students with kinesthetic learning styles feel more enthusiastic when given physical activity, while auditory students feel supported by group discussions (Yatsyshyn, Kryven, & Ozarko, 2024). This approach makes learning more engaging, thereby improving overall learning outcomes.

One of the biggest impacts of the VAK model is its ability to create an inclusive learning environment. This approach allows educators to accommodate students with a wide range of learning abilities and needs, including students with special needs. By mapping students' learning styles, teachers can design appropriate materials and teaching methods, so that all students feel supported and have an equal chance to succeed (Sayed et al., 2024). In modern education, this approach is also considered relevant in supporting sustainable development goals, as it promotes equal access to quality education (Yatsyshyn, Kryven, & Ozarko, 2024).

The VAK learning model has a significant impact on student learning outcomes by increasing their understanding, motivation, and engagement. Through personalizing learning that matches students' dominant learning styles, this approach creates an inclusive and interactive learning environment. However, the success of this model requires careful planning as well as educator training to understand and implement VAK

strategies effectively. With the right approach, the VAK model can be an important tool in improving the quality of education and supporting the achievement of learning goals more broadly.

D. Designing Learning Materials

1. Principles of Designing Effective Learning Materials

The development of learning materials should be based on principles that ensure the effectiveness, relevance, and engagement of students. These principles include aspects of aesthetics, scaffolding, authenticity, affective and cognitive engagement, and revision. The goal is to create material that is visually appealing, contextual, and adaptive to learners' needs. According to Green (2023), effective design principles allow for the integration of language and technology elements to enhance the learning experience. Therefore, these principles serve as an important guide for content developers to create resources that are relevant, engaging, and support the achievement of learning objectives.

The aesthetic principles emphasize the importance of attractive visual design to support student understanding. The material should make optimal use of space and include visual elements, such as relevant images, that can facilitate the understanding of difficult concepts (Green, 2023). Additionally, engaging displays can increase students'

motivation to learn, especially in online learning that relies heavily on visual presentations. Minto (2024) emphasizes that visual appeal is one of the key aspects of enhancing the learning experience. By paying attention to aesthetics, materials can create a deep positive impression.

The principles of scaffolding provide a gradual learning framework from simple to complex. In language teaching, scaffolding includes context-based activities that encourage students to develop language understanding through the exploration of meaning globally (Green, 2023). For example, a material developer can start with simple tasks like recognizing vocabulary, then move on to complex tasks like creating dialogue. This principle supports students to build knowledge in stages, giving them time to think and reflect on their learning (Minto, 2024).

The principles of authenticity and affective engagement ensure that the material is relevant to the student's real life. Materials that use natural language and real-world tasks allow students to understand the context of their use in daily life (Minto, 2024). Additionally, by tailoring the material to students' needs and interests, developers can create meaningful learning. This principle also encourages the involvement of students' emotions and thoughts, reinforcing the learning process holistically. Jin

et al. (2023) added that authenticity-based materials improve students' ability to deal with real-world situations.

Overall, the development of effective learning materials requires the integration of principles that support engagement, relevance, and sustainability. By paying attention to aesthetics, scaffolding, and authenticity, developers can create material that is not only engaging, but also relevant and adaptive to learners' needs. Continuous revision and evaluation ensure consistency and quality of the material. Thus, these principles are an important foundation for creating meaningful and successful learning experiences (Green, 2023; Minto, 2024).

2. *Steps in Designing Learning Materials*

Designing learning materials is an important process that ensures that learning resources are appropriate to students' needs and educational goals. This step involves a systematic approach, starting from needs analysis to evaluation of the material that has been developed. The main goal of this design is to create a meaningful, relevant, and effective learning experience. Each stage in this process must consider the characteristics of the students, the learning context, and the use of appropriate methods and technologies (Minto, 2024). Thus, designed learning materials can increase student engagement and optimal learning outcomes (Giasiranis & Sofos, 2020).

1. Needs Analysis

The initial stage in designing learning materials is needs analysis, which aims to understand the specific needs of students and teachers. This step includes an assessment of the student's abilities, learning styles, cultural background, and learning objectives. In addition, relevant pedagogical approaches are also evaluated to ensure suitability with the teaching context (Minto, 2024). For example, a visual learning style may require material with graphic or video elements. This needs analysis provides guidance in identifying gaps in existing learning materials, so that new materials can be designed effectively to address these deficiencies.

2. Design and Production

Once the needs analysis is complete, the design and production process begins to develop engaging and relevant learning content. At this stage, designers and educators work together to determine learning objectives, choose formats, and design appropriate activities. This process also includes the use of visual and multimedia elements to enhance students' understanding (Mishra & Bartram, 2002). For example, the use of infographics in learning materials can help students understand complex concepts more effectively. In production, the format of the material is adapted for

print or digital distribution to ensure accessibility for all students.

3. *Evaluation and Revision*

The next step is to evaluate the material to ensure its effectiveness and suitability. Formative evaluations are carried out during development to improve weaknesses on an ongoing basis. After implementation, summative evaluation is carried out to measure the success of the material in achieving learning objectives (Giasiranis & Sofos, 2020). The results of these evaluations, including feedback from students and faculty, are used as the basis for revisions. The iterative revision process ensures that the material remains relevant to changing student needs, educational standards, and technological developments.

Designing learning materials is an ongoing process that requires systematic planning, evaluation, and revision. By conducting needs analysis, design and production, and comprehensive evaluation, learning materials can be made more effective and relevant for students. In addition, regular adjustments of the material ensure its conformity with educational standards and technological advances (Minto, 2024; Giasiranis & Sofos, 2020). With these steps, learning can be a meaningful and motivating experience for students.

3. Challenges and Best Practices in Learning Materials Design

The design of learning materials is a key element in the success of effective teaching. Teachers are required to consider various aspects such as student needs, curriculum suitability, and availability of resources. Howard and Major emphasize the importance of paying attention to these factors in order to produce relevant and meaningful material. In addition, teachers must also have confidence and competence in material design in order to be able to adapt the material to the needs of their students (Minto, 2024). With attention to the pedagogical and practical dimensions, the design of the material serves not only as a teaching aid but also as a means to support active and interactive learning.

One of the main challenges in material design is meeting the diverse needs of students. Classes are often made up of students with different cultural, linguistic, and ability backgrounds, so they require an inclusive approach (Hossain, 2024). Teachers must create materials that are able to bridge this gap, including paying attention to cultural misinterpretations. For example, English learning materials often lack a reflection of cultural diversity, which can lead to cross-cultural miscommunication (Kramsch, 1993; Cortazzi & Jin, 1996). Thus, the design of the material needs to introduce students to a broad cultural perspective.

Another challenge that is often faced is the limitation of resources and facilities. Not all schools have access to adequate technology or teaching aids, which can affect the implementation of learning materials (Minto, 2024). Teachers must be creative in using available resources and ensure that the designed material is practical to apply in the classroom. In addition, teachers need to consider stereotypes in learning materials, such as the portrayal of certain accents as superior or inferior, which can limit students' understanding of language diversity (Byram et al., 2002; Pennycook, 2007).

Teachers' confidence and competence also play an important role in the design of the material. Confident teachers tend to be more flexible in tailoring the material to the needs of their students (Howard & Major, 2024). This is supported by research showing that experienced teachers are more skilled at integrating anticipated learning outcomes into the learning process without relying entirely on formal lesson plans (Cevikbas et al., 2024). Competent teachers are also able to use targeted improvisation strategies to create meaningful learning experiences for students.

In the face of these challenges, teachers need to adopt flexible and adaptive practices. Good material design must consider student needs, curriculum context, and resource availability, while reflecting cultural and linguistic diversity

(Minto, 2024). That way, learning materials not only support the achievement of academic goals but also enrich students' learning experiences. Collaborative efforts between teachers, students, and other stakeholders are essential to creating effective and inclusive learning materials.

E. Theoretical Framework

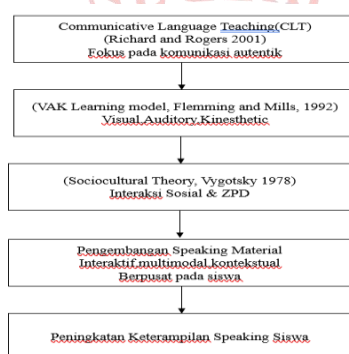


Figure 2. 1 Theoretical Framework

The theoretical framework of this research is based on the concept of Communicative Language Teaching (CLT) which emphasizes the importance of using language as a real communication tool. CLT is relevant in the context of teaching speaking because students are not only required to master the structure of language, but also use it to interact. Richards and Rodgers (2001) stated that CLT encourages the development of communicative competencies through task-based activities. This is in line with the research objectives that seek to improve students' speaking skills through a more interactive, contextual, and meaningful learning approach.

In addition to CLT, the theoretical framework is also based on the VAK Learning Model (Visual, Auditory, Kinesthetic). Fleming & Mills (1992) explain that each individual has different learning tendencies based on sensory modalities. In the context of speaking learning, the integration of VAK learning styles allows teachers to provide a variety of media and activities that suit students' needs. Visuals can be in the form of images or videos, auditory through dialogue and recording, while kinesthetics are realized through role play or simulation. This model is believed to be able to create a more interesting, interactive, and suitable learning experience for students.

The theoretical framework of this research is also strengthened by the Sociocultural Theory of Vygotsky (1978), which emphasizes that language development occurs through social interaction within *the Zone of Proximal Development* (ZPD). Interaction with teachers and peers acts as scaffolding to strengthen speaking skills. By combining CLT, VAK Learning Model, and sociocultural perspectives, this research has a strong theoretical foundation to develop speaking teaching materials. This framework ensures that the material produced is communication-centered, responsive to students' learning needs, and able to comprehensively improve speaking competence.

F. Some Related Previous Studies

Previous research has shown that interactive worksheets play an important role in increasing the effectiveness of language learning. Levenok and Sydorenko (2024) highlight the use of *Live Interactive Worksheets* in teaching Ukrainian language to foreign students, which is able to improve language skills independently as well as in face-to-face learning. In addition, this study confirms the role of interactive worksheets in encouraging active learning and student motivation through innovative exercises. Another study by Bouchée et al. (2023) developed a *PhET* simulation-based worksheet to help students understand the particle model in a box. These worksheets are redesigned through an iterative cycle to ensure their effectiveness and validity. The findings of these two studies suggest that worksheet designs that support active and technology-based learning can significantly improve students' conceptual understanding (Levenok & Sydorenko, 2024; Bouchée et al., 2023).

On the other hand, research on learning methods shows the importance of a multimodal approach in improving student learning outcomes. Chidingozi and Eke (2024) found that *the Visual Auditory Kinesthetic* (VAK) learning strategy significantly improved students' achievement in English grammar compared to the lecture method. The study suggests that the English curriculum should be designed to integrate

visual, auditory, and kinesthetic learning style elements. Research by Folakemi and Ganiyu (2024) supports this finding, where the use of mind maps has been shown to significantly improve students' understanding of genetic concepts. These findings reinforce the importance of using interactivity-based learning media, such as mind maps and interactive worksheets, in supporting meaningful learning and motivating students (Chidingozi & Eke, 2024; Folakemi & Ganiyu, 2024).

Previous research has shown that the use of interactive technology, such as digital worksheets, can improve students' speaking skills. Fuentes Chaglla (2023) analyzed the influence of technology-based interactive worksheets in experimental classes of high school students. The study showed a significant improvement in the experimental group, with higher post-test results than in the control group. The findings are supported by Ansah et al. (2024), who identified that online worksheets help students speak more confidently in a stress-free setting. Additionally, their research highlights how creative worksheet design can motivate students to actively participate in speaking learning. However, both studies noted constraints in the pronunciation of complex words and a lack of vocabulary, which could be overcome through an interactive gamification approach. These findings reinforce the importance of technology in improving speaking skills in a collaborative and fun way.

The use of student worksheets in teaching speaking skills has also attracted the attention of many researchers. According to Mufidah and Yaumi (2023), students state that worksheets help them actively speak, although most of the material still needs improvement to focus more on developing speaking skills. The study also showed that internal factors such as motivation and confidence, as well as external factors such as the learning environment, affect the effectiveness of speech learning. In this context, Ansah et al. (2024) emphasized the importance of designing worksheets that are adaptive to the needs of students, so that the learning process is more focused and relevant. The findings provide insight that the development of materials based on student needs and adjustments to teaching methods can maximize the learning outcomes of speaking skills.

Research related to student needs-based learning design is also relevant in teaching speaking skills. Guo and Modehira (2023) evaluated students' needs in improving intercultural communication competencies, which indirectly support speaking skills through culturally context-based learning. Meanwhile, Ruiz-Rojas et al. (2023) show that the integration of generative artificial intelligence and instructional design matrix can create personalized learning experiences, which improves the effectiveness of speech learning. This research reveals that technology-based approaches and student needs

analysis enable educators to design materials that are relevant and responsive to the challenges of the 21st century. As such, these findings emphasize the importance of innovative approaches, such as digital technologies and needs analysis, to improve speaking skills effectively and contextually.

Based on previous studies, several research gaps can be identified. First, despite a lot of research (Levenok & Sydorenko, 2024; Bouchée et al., 2023) demonstrate the effectiveness of technology-based interactive worksheets in language and science learning, with little focusing on the development of Visual, Auditory, Kinesthetic (VAK) approach-based worksheets to improve students' speaking skills. Second, although Chidingozi and Eke (2024) and Folakemi and Ganiyu (2024) emphasize the importance of multimodal approaches such as VAK in learning, there have been no studies that have integrated this approach with worksheet designs specifically geared towards speaking skills. Third, previous studies (Fuentes Chaglla, 2023; Ansah et al., 2024) show the role of interactive worksheets in increasing speaking confidence, but have not discussed much of the influence of student needs-based design with a holistic VAK approach. Thus, this study aims to fill the gap by developing VAK-based student worksheets that are specifically designed to improve students' speaking skills.

This research offers a new contribution to the development of learning materials by integrating the Visual,

Auditory, Kinesthetic (VAK) approach into the design of interactive worksheets that focus on speaking skills. The novelty of this research lies in several important aspects. First, this study adopts a multimodal approach of VAK to cater to a wide range of student learning styles, different from previous studies that only used technology-based worksheets. Second, this study was specifically designed to improve students' speaking skills, unlike previous studies that focused more on reading or grammar skills. Third, this study accommodates the local context by focusing on grade XI students at MAN 2 Bengkulu City, thereby producing learning materials that are relevant to the needs of students in the environment while offering a model that can be applied in other schools with similar contexts. Fourth, these worksheets are developed through student needs analysis and iterative cycle-based evaluation, ensuring a design that is adaptive and relevant to the demands of 21st century learning. Thus, this research is expected to make a significant contribution to the development of technology-based learning materials that support effective and contextual speaking skills.

Thus, this research is expected to make a significant contribution to the development of technology-based learning materials, especially in improving students' speaking skills through the VAK approach.