

CHAPTER II

LITERATURE REVIEW

2.1 Language

Language is an essential part of human life and is used in various daily activities such as communication, learning, and social interaction. Through language, individuals can convey information, express thoughts and feelings, and build social relationships. Ratnah et al. (2024) state that language functions as a tool of communication that enables humans to interact and establish relationships in social life. In addition, language also helps individuals understand their environment through continuous communication processes.

Language develops through social interaction experienced by individuals in everyday life. Interaction with the environment, such as family and society, influences the development of language ability. Lubis (2026) explains that language development is shaped by social interaction within family and community environments. This indicates that the environment plays an important role in shaping an individual's language ability (Lubis, 2026).

In the field of education, language plays an important role as it is closely related to cognitive development, learning processes, and social interaction. Good language skills help individuals understand learning materials and communicate effectively. Narayan and Goundar (2024) state that language development is closely linked to cognitive and social development, making language a fundamental aspect of learning. Therefore, language mastery needs to be developed from an early stage.

In line with this, language is not only a tool for communication but also develops through interaction and individual experience. Ratnah et al. (2024) emphasize that language plays an important role in human life, both in communication and social contexts. Understanding this concept provides a foundation for examining how language is acquired through the process of language acquisition.

2.1.1 Language acquisition

The process of language acquisition explains how individuals begin to understand and use language in everyday life. Language acquisition is a natural process that occurs unconsciously and is obtained through interaction with the environment. Jasmine et al. (2025) state that language acquisition occurs through exposure to language within an individual's linguistic environment. This shows that language is acquired through continuous communication experiences (Jasmine et al., 2025).

Language acquisition occurs gradually, starting from listening, then imitating, and eventually producing meaningful utterances. This process develops along with the experiences and interactions encountered by individuals. Syofiyanti et al. (2025) explain that language acquisition progresses continuously from simple to more complex stages. This indicates that language acquisition is a dynamic process (Syofiyanti et al., 2025).

Furthermore, language acquisition is influenced by both internal and external factors. Internal factors include biological and cognitive abilities, while external factors include social environment and interaction. Jasmine et al. (2025) state that the environment and quality of interaction play an important role in supporting language acquisition. This is supported by Nurlaely et al. (2023), who explain that family and social environments provide language stimuli that influence language development (Nurlaely et al., 2023).

Language acquisition is also influenced by interaction processes in which individuals acquire language through stimulus and response in communication. Syofiyanti et al. (2025) explain that continuous interaction helps individuals understand and use language more effectively. This shows that the environment plays a significant role in the language acquisition process (Syofiyanti et al., 2025).

This relationship highlights that language acquisition involves a close interaction between individuals and their environment. This process provides

a basis for understanding how language acquisition occurs at specific stages, particularly in young learners (Lubis, 2026).

2.1.1.1 Language Acquisition in Young Learners

Language acquisition in young learners is a crucial stage in the development of children's communication skills. At this stage, children begin to understand and use language through interaction with their surrounding environment. Lubis (2026) states that children's language development is shaped through interactions within family, community, and educational environments. This indicates that social interaction plays an important role in children's language acquisition (Lubis, 2026).

Interaction between children and adults is one of the main factors influencing language development. Children acquire language through conversations, responses, and continuous communication experiences. Lubis (2026) explains that the quality of communication between parents and children significantly affects children's language development. This shows that parents play an important role in supporting children's language acquisition (Lubis, 2026).

In addition, family and social environments contribute to children's language development. Aini and Sari (2025) state that children acquire language through the process of understanding and using words in daily interaction. This is supported by Fani and Setyawati (2025), who explain that interaction with the social environment helps children develop broader language abilities. This indicates that the environment plays an important role in children's language development (Fani & Setyawati, 2025).

Language acquisition in young learners is also related to children's daily experiences. Children learn language through listening, imitating, and using language in various situations. Lubis (2026) emphasizes that continuous communication experiences help

children develop their language skills. In addition, vocabulary mastery becomes an important aspect that supports children's communication abilities (Narayan & Goundar, 2024).

2.1.1.2 Vocabulary Acquisition in Young Learners

One important aspect of language acquisition in young learners is vocabulary. Vocabulary serves as the foundation of communication as it enables children to understand and express meaning effectively. Narayan and Goundar (2024) state that vocabulary development is an essential skill in language learning because it supports overall language ability. In addition, vocabulary also supports other skills such as reading, writing, and speaking (Narayan & Goundar, 2024).

Vocabulary acquisition refers to the process by which children understand, store, and use words obtained from their environment. This process occurs naturally along with children's language development. Narayan and Goundar (2024) explain that children's vocabulary development is strongly influenced by experience and language exposure from an early age. This indicates that language experience plays an important role in vocabulary development (Narayan & Goundar, 2024).

In the process, children acquire vocabulary through daily interaction and experiences. They learn words by listening, imitating, and using language in meaningful contexts. Wulandari, Najibah, and Putra (2024) state that social interaction plays an important role in vocabulary acquisition because it exposes children to various forms of language. Moreover, interaction helps children understand how to use words appropriately in different situations (Wulandari et al., 2024).

The environment also plays a significant role in vocabulary acquisition. Family, school, and peer environments provide language stimuli that influence the type of vocabulary children acquire. Wulandari et al. (2024) explain that the environment greatly affects

children's vocabulary development, including the types of words used in communication. This indicates that the quality of the environment determines vocabulary development (Wulandari et al., 2024).

Therefore, vocabulary acquisition is a crucial part of children's language development influenced by experience, interaction, and environment. Narayan and Goundar (2024) emphasize that vocabulary development plays an important role in supporting children's cognitive and communication development. Thus, a supportive environment is necessary to optimize children's vocabulary development (Narayan & Goundar, 2024).

2.2 Teaching

Teaching is a process that involves interaction between teachers and students in learning activities. This process does not only focus on the delivery of information, but also on how students understand and develop knowledge. Rajagopalan (2019) defines teaching as an interactive process that occurs through communication between teachers and students in specific learning activities. This indicates that teaching requires active involvement from both parties in the learning process.

Teaching can also be understood as a systematic and structured process. In its implementation, teaching includes several main components such as materials, communication, and feedback that are interconnected. Rajagopalan (2019) explains that teaching is a scientific process that can be planned, organized, and developed to achieve learning objectives. This shows that teaching is not merely spontaneous, but is also systematically designed to support optimal learning outcomes.

Furthermore, teaching is an intentional activity aimed at encouraging the learning process in students. It involves various activities such as explaining, guiding, demonstrating, and evaluating students' progress. Rajagopalan (2019) states that teaching is a series of actions intended to produce changes in students through the learning process. Thus, teaching plays an important role in helping students achieve learning goals.

The effectiveness of teaching is also strongly influenced by the teacher's ability to carry out the learning process. An effective teacher not only masters the subject matter but also possesses strong pedagogical and interpersonal skills. Dinçer et al. (2013) state that teaching effectiveness is related to various aspects such as pedagogical knowledge, content mastery, social skills, and the teacher's personal characteristics. This indicates that the quality of teaching is greatly influenced by the overall competence of the teacher.

In addition, the use of teaching strategies is an important factor in supporting successful learning. Teaching strategies are approaches or methods used by teachers to help students achieve learning objectives. Paragae (2023) explains that teaching strategies can be adapted to students' needs, abilities, and learning styles. This shows that selecting appropriate strategies can improve the effectiveness of the learning process.

Teaching strategies can be categorized into traditional and innovative approaches. Traditional approaches tend to be teacher-centered, where students act as recipients of information. In contrast, innovative approaches are more student-centered and encourage active participation in the learning process. Paragae (2023) states that innovative strategies such as cooperative learning, problem-based learning, and project-based learning can enhance student participation and develop critical thinking skills.

Moreover, interactive teaching strategies are also considered an effective approach in learning. These strategies emphasize two-way communication between teachers and students as well as active engagement in learning activities. Senthamarai (2018) explains that interactive teaching strategies can increase student engagement, help them better understand the material, and develop critical thinking skills. This indicates that the use of interactive strategies can improve the quality of the learning process.

In conclusion, teaching is a complex and dynamic process that involves interaction, planning, and the use of appropriate strategies to achieve learning objectives. It does not only depend on the methods used, but also on the teacher's

ability to manage the learning process. Therefore, understanding the concept of teaching is essential in supporting successful learning outcomes.

2.2.1 Teaching English

Teaching English is a process that involves the application of principles, objectives, and methods in language learning. Tamura (2006) explains that there are several key aspects in teaching English, including what is taught, the objectives of learning, and how the teaching process is carried out. These aspects serve as the foundation for determining the effectiveness of English language teaching.

In its development, English language teaching has shifted from traditional methods to more communicative approaches. Abdallah (2024) states that English teaching has evolved from the grammar-translation method to communicative approaches that emphasize the use of language in real-life contexts. This shift indicates that language learning is not only focused on structure but also on meaningful language use in social situations.

Understanding the principles and development of English language teaching becomes the basis for determining appropriate teaching strategies. This also serves as an important foundation for the development of English teaching at the next stage, particularly in teaching English to young learners.

2.2.1.1 Teaching English to Young Learners (TEYL)

Teaching English to Young Learners (TEYL) refers to the process of teaching English to young learners, particularly those aged 4–6 years in the context of young learners education. Teaching English at this age is considered important because English functions as an international language used in various aspects of life, including education and global communication (Azizah, 2025). Introducing English from an early age is part of an effort to support children's readiness in facing global development.

Young children have a strong ability to learn language as they are in an optimal stage of development. Oktavia et al. (2022) state that children are in a critical period, making it easier for them to acquire language compared to adults. In addition, Bakken et al. (2017) explain that young learners is an important stage for the development of language, cognitive, social, and emotional skills. These developments form the foundation for children's learning abilities in later stages.

The characteristics of young learners differ from those of adult learners, thus requiring appropriate approaches. Oktavia et al. (2022) explain that children are active learners who learn through experience and interaction with their environment. They also have unstable emotions that can change quickly, so the learning process needs to be adapted to these conditions. Children's development occurs within environmental contexts, making interaction an important factor in the learning process (Oktavia et al., 2022).

In the learning process, children learn through various modes such as visual, auditory, and kinesthetic. Therefore, English language teaching should involve a variety of activities that align with these learning styles. Oktavia et al. (2022) state that strategies such as games, songs, drills, and memorization activities can be used to increase children's engagement in learning. These varied activities help children understand language more effectively.

Learning through play is one of the most appropriate approaches for young learners. Smith and Pellegrini (2008) explain that play is an activity carried out for enjoyment and has significant benefits for child development, including language development. Through play, children can interact with their environment and use language in meaningful situations. This activity supports the development of children's communication skills.

The implementation of Teaching English to Young Learners (TEYL) is also influenced by supporting factors in the learning

process. Azizah (2025) explains that the implementation of English teaching for young learners faces several challenges such as limited resources, teacher readiness, and differences in policy. These factors affect the success of English learning in young learners education.

Teaching English to young learners (TEYL) aged 4–6 requires approaches that are appropriate to children's characteristics. The learning process should be designed to be enjoyable, interactive, and experience-based so that children can learn optimally. The use of play-based activities and environmental support are important factors in the success of teaching English to young learners.

2.3 Learning Media

Learning media is an essential component in the learning process as it functions as an intermediary in delivering material from teachers to students. Ediyani et al. (2020) state that learning media are learning resources that can assist teachers in delivering material and enriching students' knowledge. The use of learning media can also enhance the effectiveness of the learning process and support more optimal delivery of content (Ediyani et al., 2020).

Learning media not only function as supporting tools but also influence students' interest and motivation in learning. Ediyani et al. (2020) explain that the use of learning media can stimulate students' interest, attention, and motivation during the learning process. In addition, learning media can have psychological effects on students, thereby supporting the creation of a more effective learning environment (Ediyani et al., 2020).

In English language learning, the use of learning media is particularly important, especially for young learners. Sukmahidayanti (2015) states that learning media are used to facilitate communication between teachers and students in the learning process. Learning media also play a role in creating more effective and meaningful learning experiences (Sukmahidayanti, 2015).

Learning media come in various types that can be selected according to instructional needs. Wilar (2022) states that learning media are tools used to assist

teachers in delivering material so that students can better understand the lesson. The selection of media should be adjusted to students' characteristics to make learning more engaging and effective (Wilar, 2022).

One form of learning media commonly used in the learning process is books. In education, books not only function as sources of information but also as media that help students understand the material. Hardiansyah et al. (2023) explain that the use of learning media, including books, can help create more effective learning and make it easier for students to comprehend the material being delivered. Furthermore, learning becomes more meaningful when students are directly involved through activities such as seeing, touching, or experiencing the material through learning media (Hardiansyah et al., 2023).

The development of learning media shows innovation in the form of more interactive books, such as smart books. Hardiansyah et al. (2023) state that smart books are books that include three-dimensional elements and attractive visual displays, which can increase students' interest in learning. This type of media does not only present text but also provides more concrete learning experiences through visualization and interactive features (Hardiansyah et al., 2023).

The use of learning media for children aged 4–6 years should be adapted to their characteristics. Wilar (2022) explains that engaging media can increase students' attention and reduce boredom in learning. Therefore, the use of interactive book-based media such as smart books can be an effective alternative to support the process of teaching English to young learners.

2.3.1 Book

Books are one of the learning media that can be used in the teaching process for young learners education. Rakhman et al. (2023) state that books serve as learning media that can be utilized by teachers to support the learning process. The presence of books in learning helps young children understand the material and facilitates the delivery of information.

The use of books as learning media also plays a role in supporting the development of language skills in young learners, particularly in reading

skills. Rakhman et al. (2023) explain that using books as learning media can help improve reading skills that are still at a low level. This indicates that books can be used as a means to support the development of literacy skills from an early age.

The use of books for young learners needs to be adjusted to their developmental characteristics. Ediyani et al. (2020) state that learning media function as intermediaries in delivering information and improving the effectiveness of learning. In this context, books should be designed in an engaging way to increase children's attention and involvement in the learning process.

The need for more engaging learning media has encouraged the development of more interactive books. Hardiansyah et al. (2023) state that smart books are books that include three-dimensional elements and attractive visual displays, which can increase young learners' interest in learning. Interactive books allow children to be directly involved in the learning process through various activities provided within them.

Active involvement in using interactive books contributes to improved learning outcomes. Hardiansyah et al. (2023) show that the use of smart books in learning resulted in an increase in learning outcomes from 60.3% in the pre-test to 84.2% in the post-test. These results indicate that interactively developed books can help improve understanding more optimally.

In addition, books have the advantage of being easily accessible and usable in various learning situations. Rakhman et al. (2023) state that books can be used both inside and outside formal learning activities, providing flexibility in the learning process. This shows that books as learning media can support continuous learning for young children.

2.3.2 Integrated Learning Media

Audio media is a type of learning media that uses the sense of hearing as the main channel for delivering instructional messages. It presents information through sound, speech, music, rhythm, and intonation without relying solely on

visual elements. In young learners education, audio media plays an important role because children are at a developmental stage in which sensory and language stimulation through sound is highly effective (Ifadah et al., 2020).

According to Inayah (2015), audio media supports the principle of learning through play, which is closely aligned with the characteristics of young children. Through listening activities such as songs, stories, and spoken instructions, children can participate actively in the learning process while experiencing enjoyable learning situations. This shows that audio media is not only a supporting tool, but also a medium that creates meaningful and engaging learning experiences for children.

In addition, audio media contributes significantly to language development in young learners. Ifadah et al. (2020) found that audio media can help children recognize and understand new vocabulary, improve listening skills, and encourage literacy development. Similarly, Husna and Yunita (2024) found that audio media can be integrated into various play-based learning activities, such as singing, dancing, and listening to songs, to support children's cognitive, language, social-emotional, and physical-motor development. These findings indicate that audio is an important medium for stimulating children's language abilities and supporting their communication development.

Furthermore, audio elements have also been shown to strengthen children's understanding of learning materials. Fadila et al. (2024) explain that sound, music, and narration can help children focus more easily, understand learning content more effectively, and absorb new vocabulary or concepts more quickly. This indicates that audio not only functions as a medium for delivering information, but also as a tool for maintaining children's attention and supporting their comprehension during the learning process.

In the context of English learning, audio media is especially useful for introducing children to the pronunciation of new words. Since young learners are still developing their listening and speaking abilities, hearing the correct pronunciation of vocabulary can help them build language awareness and imitate sounds more accurately. Audio also allows children to listen repeatedly,

which is beneficial for vocabulary retention and pronunciation practice. Therefore, integrating audio into English learning media can provide both linguistic support and a more interactive learning experience.

The use of audio in learning media can also be strengthened through integration with other media and digital technology. Integrated learning media refers to media that combine various types of media within a single learning system to support more effective information delivery. Ediyani et al. (2020) state that learning media function as intermediaries in the communication process and help improve the effectiveness of material delivery. The use of diverse media allows information to be presented in more varied and easily understandable ways. Similarly, Fuady and Mutalib (2018) explain that multimedia or audio-visual media have advantages because they present information through more than one sensory channel, making it easier for learners to understand the material and transforming abstract concepts into more concrete learning experiences.

One form of integrated learning media is the combination of printed media and digital technology, such as books equipped with QR Codes. Law and So (2010) explain that QR Codes are a technology capable of storing various types of information, such as text, URLs, and other digital data, which can be accessed quickly through mobile devices. In the context of learning, the use of QR Codes enables printed media to be integrated with additional content, including audio, thereby enriching the presentation of material. The use of QR Codes in learning media also provides convenience in accessing additional information quickly and practically. For young learners, access to QR Code-based content may still require assistance from adults during the scanning process, but this can also support guided learning activities involving teachers or parents.

In this study, the integration of audio through QR Codes is particularly relevant because it allows children to access pronunciation models directly from the printed book. Through this feature, children are not only able to see pictures and written vocabulary, but can also listen to the pronunciation audio

repeatedly, which supports listening practice, vocabulary recognition, and pronunciation awareness. At the same time, the QR Code feature makes the book more interactive and practical, since teachers and parents can access the audio easily without relying entirely on their own pronunciation ability. This integration combines the strengths of printed books, audio media, and digital technology in one learning medium.

Based on the studies discussed above, audio media can be seen as an important component in young learners learning because it supports language development, improves listening ability, introduces pronunciation models, and increases children's engagement in learning activities. In addition, previous studies on integrated learning media suggest that the combination of printed materials, audio, and digital technology can create a more effective and interactive learning experience. These findings provide theoretical support for the development of *Mumu's Garden Adventure*, which integrates QR Code-based audio into a printed English learning book. Therefore, this study is supported not only by theories of audio media in young learners learning, but also by studies on integrated learning media that emphasize the value of combining multiple forms of media to meet young learners' developmental needs.

2.4 Sensory Play

Sensory play is a learning activity that involves the use of one or more senses, such as sight, hearing, smell, taste, and touch, in the learning process of children. This activity is designed to provide sensory stimulation so that children can explore their environment directly through real experiences. Sensory play can be carried out both inside and outside the classroom using various media that support children's active engagement. Thus, children not only receive information but also experience the learning process firsthand (Munzilin et al., 2021).

In young learners, sensory play plays an important role as children are in the golden age, a period of rapid brain development. At this stage, children require appropriate stimulation to support their cognitive, motor, language, and socio-emotional development. Providing stimulation through sensory activities can help

strengthen neural connections in the brain and improve children's learning abilities. Therefore, sensory-based learning becomes an effective approach in young learners education (Martha et al., 2024).

Furthermore, sensory play makes the learning process more engaging and meaningful. Children can see, touch, and feel the objects they are learning about, making learning more concrete. This activity also encourages two-way interaction between children and their learning environment, thereby increasing their engagement in the learning process. Through real experiences, children can more easily understand the concepts being taught (Gainsley, 2011; Rahayu et al., 2023).

In language learning, particularly English for young learners, sensory play helps children understand vocabulary through direct experience. A multisensory approach that involves various senses has been proven to enhance memory and language comprehension. Children can associate words with real objects or activities they experience, making learning more contextual. This shows that sensory play can support the effectiveness of language learning in children (Kachur, 2025; Utami & Mulyadi, 2025).

2.4.1 Kinds of Sensory Play

Sensory play consists of various types that involve different sensory systems. Each type provides specific stimulation that supports children's overall development. The use of different types of sensory play allows children to gain richer and more varied learning experiences. It also helps children develop their perceptual abilities and responses to their environment (Hutmacher, 2019).

Visual sensory play involves the sense of sight, such as colors, shapes, and images. This activity helps children recognize visual differences and improve their observation skills. The visual sense plays an important role in the process of perception and therefore has a strong influence on children's learning. For this reason, the use of visual media is highly effective in supporting the learning process.

Tactile play involves the sense of touch through activities such as feeling different textures, including rough, smooth, or soft surfaces. Tactile ability is an important part of children's sensory development as it helps them recognize the characteristics of objects around them. In addition, this activity also contributes to the development of fine motor skills and hand coordination. The use of textured media has been proven effective in enhancing the tactile abilities of young learners (Putri, 2025).

Auditory sensory activities involve the sense of hearing, such as listening to sounds, music, or word pronunciation. These activities are important in helping children recognize sounds and improve language skills. In language learning, the auditory aspect plays a role in understanding pronunciation and intonation. Therefore, auditory activities are an essential part of sensory play.

Kinesthetic learning involves body movement and physical activity in the learning process. These activities help children develop body coordination and motor skills. Moreover, physical involvement increases children's activeness and participation in learning. The use of kinesthetic activities in learning has been proven to enhance children's engagement and understanding (Utami & Mulyadi, 2025).

2.4.1.1 Function of Sensory Play

Sensory play has various functions in supporting young learners development. One of its main benefits is improving motor skills, both fine and gross motor abilities. Activities such as touching, holding, and manipulating objects help train muscle coordination and movement skills in children. Repeated stimulation can support more optimal motor development (Martha et al., 2024).

In addition, sensory play also contributes to children's cognitive development. Through sensory exploration, children learn to recognize differences in texture, shape, and the properties of objects around them. This process helps develop their thinking, observation,

and problem-solving skills. Sensory activities also serve as a foundation for classification and concept understanding (Gainsley, 2011).

In terms of language development, sensory play can help improve children's ability to understand and remember vocabulary. Children can connect direct experiences with the words they learn, thereby strengthening memory. A multisensory approach also enhances long-term information retention. This shows that sensory play is effective in supporting children's language development (Utami & Mulyadi, 2025).

Moreover, sensory play can increase children's focus and engagement in the learning process. Interactive and enjoyable activities make children more active in learning and less likely to feel bored. Learning becomes more enjoyable, encouraging children to continue exploring. Therefore, sensory play plays an important role in improving the quality of children's learning processes (Rahayu et al., 2023).

2.5 Audio Media for Young Learners

Audio media is one of the learning media that uses the sense of hearing as the main channel for delivering instructional messages. It presents information through sound, speech, music, rhythm, and intonation without relying on visual elements. In young learners education, audio media plays an important role because children are at a developmental stage in which sensory and language stimulation through sound is highly effective (Ifadah et al., 2020).

According to (Inayah, 2015), audio media supports the principle of learning through play, which is aligned with the characteristics of young children. Through listening activities such as songs, stories, and spoken instructions, children can participate actively in the learning process while also experiencing enjoyable learning situations. This shows that audio media is not only a supporting tool, but also a medium that creates meaningful learning experiences for children.

In addition, audio media contributes to language development in young learners. Research on audio and young learners language learning found that audio media can help children recognize and understand new vocabulary, improve listening skills, and encourage literacy development. This indicates that audio is an important medium for stimulating children's language abilities and supporting their communication development (Ifadah et al., 2020).

Audio media is also effective when used in play-based learning activities. A study on the use of audio media in TK Tunas Muda showed that audio was applied through exercise, singing, dancing, and listening to songs to support children's physical-motor, social-emotional, moral-religious, cognitive, and language development. These findings show that audio media is flexible and can be integrated into various learning activities that are close to children's daily experiences (Husna & Yunita, 2024).

Furthermore, audio elements in audio-visual media have been found to support children's language and cognitive development. Sound, music, and narration help children focus more easily, understand learning content more effectively, and absorb new vocabulary or concepts more quickly (Fadila et al., 2024). Therefore, audio has an important role in strengthening children's understanding of learning materials.

Based on these studies, it can be concluded that audio media plays an important role in young learners learning, especially in increasing learning interest, language ability, and conceptual understanding. However, most studies still position audio as part of audio-visual media or play-based activities, so its use in innovative book-based media still needs further development. Therefore, this study is relevant in presenting a smart book that integrates audio through QR codes as a more interactive and contextual learning tool.

2.6 Previous Studies

Research on sensory play in young learners learning shows that sensory-based approaches can improve the overall quality of learning. Rahayu et al. (2023) state that sensory play activities can make learning more interactive, engaging, and support children's motor, cognitive, and language development. In addition, the use

of media that directly involve the senses makes children more active in the learning process. This indicates that sensory-based learning plays an important role in young learners education.

In the tactile aspect, research by Putri (2025) shows that the use of textured media is effective in improving young children's tactile abilities. This ability helps children recognize differences in surfaces, shapes, and object characteristics through touch. Moreover, tactile development is closely related to fine motor skills and children's exploratory abilities. These findings are relevant to the use of texture elements in learning media such as interactive books.

Research by Gainsley (2011) explains that children learn through the use of all their senses, such as seeing, touching, and feeling. Sensory-based activities help strengthen neural connections in the brain that are involved in the learning process. In addition, direct sensory experiences help children understand concepts more concretely. Therefore, the use of media that involve multiple senses is highly recommended in young learners learning.

In language learning, research by Utami and Mulyadi (2025) shows that sensory and motor-based approaches can improve children's vocabulary mastery. Children find it easier to understand and remember words when they are associated with direct experiences. Besides that, the use of sensory stimuli increases children's activeness and engagement in learning. This indicates that language learning involving the senses is more effective than conventional methods.

Research by Kachur (2025) also emphasizes that a multisensory approach involving visual, auditory, tactile, and kinesthetic elements can enhance children's memory and understanding. The use of auditory elements, such as sounds or pronunciation, helps children recognize language sounds more effectively. Additionally, this approach can increase learning motivation and create a more adaptive learning environment. These findings support the use of audio as part of innovative learning media.

Munzilin et al. (2021) state that sensory-based learning can increase children's interest in learning because it provides more enjoyable learning experiences. Children tend to be more attracted to activities that directly involve the senses

compared to passive learning. As a result, this active involvement also affects their understanding and retention of the material. Therefore, interactive learning media are highly needed in young learners education.

Based on these studies, it can be concluded that sensory-based learning that integrates visual, tactile, and auditory elements is highly effective in supporting children's development. However, most studies still focus on play-based activities such as playdough or direct classroom games. In contrast, the development of book-based learning media that integrates texture and audio through QR codes remains limited. Therefore, this study introduces an innovation in the form of a smart book that allows children to learn through touch (texture) and audio assistance, creating a more interactive and contextual learning experience.