CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 Theoretical Review

2.1.1 Visually Impaired Students (VIS)

Individuals who have visual impairments that result in an inability to see or experience significant vision loss are referred to as visually impaired. The eyes, as part of the human sensory system, play a crucial role in daily life. The term "visually impaired" does not only refer to those who are completely blind but also includes individuals who have limited vision, which is insufficient for carrying out daily activities effectively. In the field of special education, children with visual impairments are commonly known as visually impaired students.

The characteristics of visually impaired students vary depending on the degree of vision loss. Common characteristics include:

1. Difficulty in accessing visual information, requiring alternative formats such as Braille, large print, or audio resources.
2. Strong reliance on other senses (hearing, touch) for navigation and learning.
3. Challenges in spatial awareness and mobility, often requiring orientation and mobility training to move independently.
4. Need for adaptive technology, such as screen readers, refreshable Braille displays, and speech-to-text software, to facilitate communication and learning.

According to the World Health Organization (WHO) and other educational frameworks, visual impairment is generally classified into two main categories:

1. Low Vision: Individuals with limited visual ability that can still be used for certain tasks, often with assistive tools such as magnifiers or large print materials.
2. Blindness: Individuals who have little to no functional vision and rely primarily on tactile (Braille) and auditory (screen readers, audiobooks) methods for learning.

There are many types of visual impairments such as mild visual impairment, moderate visual impairment, severe visual impairment, and lastly, blindness. It is measured by Logarithm of the Minimum Resolution Angle (logMAR). Higher numbers implying lower visual acuity, meanwhile lower numbers implying better visual acuity. Mild visual impairment interpreted as visual acuity worse than 0.3 logMAR, moderate visual impairment interpreted as visual acuity worse than 0.5 logMAR, severe visual impairment interpreted as visual acuity worse than 1.0 logMAR, and blindness interpreted as visual acuity worse than 1.3 logMAR (Perrault et al., 2023).

Table 2. 1
Types of Visual Impairments

Types	logMAR	Description
Mild Visual Impairment	Visual acuity > 0.3 logMAR	Light visual acuity reduction with an indication of difficulty seeing small details but does not interrupt daily visual activities.
Moderate Visual Impairment	Visual acuity > 0.5 logMAR	Visual acuity is impaired significantly with an indication requiring extra equipment to see objects or read.
Severe Visual Impairment	Visual acuity > 1.0 logMAR	Poor visual acuity, vision is severely limited vision, visual aids may no longer be effective.
Blindness	Visual acuity > 1.3 logMAR	Visual acuity level is very limited or no visual acuity at all.

Visually impaired students, or students with visual disabilities, are individuals who experience partial or total loss of vision, affecting their ability to process visual information optimally (WHO, 2023). Visual impairment is generally categorized into low vision, where students can still perceive light and shapes with assistive tools, and blindness, where no functional vision is present (American Foundation for the Blind, 2022). Education for visually impaired students requires specialized approaches, such as Braille literacy, assistive technology, and adaptive learning strategies, to ensure equitable access to education (Miyauchi, 2020).

The education of visually impaired students is grounded in several learning theories that emphasize active engagement, multisensory learning, and inclusive education. Constructivist Learning Theory (Piaget, 1970) suggests that students actively construct knowledge based on experiences, highlighting the importance of experiential and tactile learning for visually impaired students. Methods such as touch-based exploration, auditory learning, Braille, embossed diagrams, and tangible models enable deeper conceptual understanding. Chit et al. (2024) reinforces the significance of engaging multiple senses auditory, tactile, and kinesthetic to enhance learning. This approach benefits visually impaired students by incorporating audiobooks, tactile graphics, screen readers, and haptic feedback devices, which improve memory retention and comprehension.

S. L. Moore (2007) advocates for inclusive education through multiple means of engagement, representation, and expression. Tools such as Braille textbooks, speech-to-text software, and interactive digital resources ensure accessibility while fostering independent learning. By integrating these theoretical perspectives, educators can develop effective and inclusive learning environments that support the academic

success of visually impaired students, emphasizing active participation, sensory engagement, and adaptive learning.

A growing body of research has underscored the importance of specialized learning strategies in facilitating the education of visually impaired students. Scholars have examined various approaches to enhance the learning experiences of these students, with particular emphasis on assistive technologies and adaptive instructional methods.

Such studies provide compelling evidence of the effectiveness of innovative tools in enhancing academic performance and fostering greater engagement among visually impaired learners. Richard Jackson (2012) demonstrated that the integration of audiobooks and screen readers significantly enhanced reading comprehension among visually impaired students by improving their access to textual information. Tanwar (2021) explored the effectiveness of tactile learning tools in science education, reporting a 30% increase in conceptual understanding among students who utilized hands-on materials. Dennis (2024) investigated the role of adaptive technology in language learning, finding that speech recognition software facilitated pronunciation practice and contributed to improved communication skills.

This study builds upon previous research by focusing on the development of an interactive audiobook as an innovative tool for teaching English to visually impaired students. While prior studies have highlighted the effectiveness of audiobooks and screen readers in providing access to written materials, they often lack interactive features that actively engage learners. This research seeks to address that gap by incorporating interactive elements, such as quizzes, adaptive feedback, and speech recognition technology, to create a more dynamic and participatory learning experience.

By integrating these features, the proposed audiobook is designed to enhance listening comprehension, vocabulary acquisition, and pronunciation skills, which are essential for language learning. Additionally, the inclusion of adaptive feedback mechanisms allows students to receive immediate responses based on their progress, thereby fostering greater motivation, independent learning, and retention of knowledge.

2.1.2 Teaching English for Visually Impaired Students (VIS)

Visually Impaired Students (VIS) refer to learners who experience partial or complete vision loss, requiring alternative methods of accessing educational materials. According to the World Health Organization (WHO, 2021), visual impairment includes conditions ranging from low vision to total blindness, affecting students' ability to read traditional print materials. In the context of English language learning, VIS rely heavily on auditory and tactile resources, such as audiobooks, Braille texts, and screen readers, to acquire linguistic skills. Teaching English to VIS requires specialized instructional approaches that cater to their unique needs, ensuring they can develop proficiency in listening, speaking, reading, and writing without visual input.

Teaching English to visually impaired students presents unique challenges that require specialized instructional strategies. Research highlights the importance of adaptive teaching methods, the role of assistive materials such as embossed cards and large-print worksheets, and the need for professional development among teachers to enhance instructional effectiveness (Soledad et al., 2022; Karthiyayeni, 2024; Coşkun, 2013). Despite positive perceptions of teacher and peer collaboration, students still face difficulties due to limited teaching resources and the complexity of learning Braille (Ahmad & Khasawneh, 2021). Therefore, an inclusive, learner-centered approach that

emphasizes all four language skills listening, speaking, reading, and writing is essential to ensure the effective acquisition of English (Madhavi, 2017).

Inclusive education has become a fundamental approach to providing equal learning opportunities for students with different abilities, including those with visual impairments. However, teaching English in inclusive classrooms remains challenging since most learning processes rely heavily on visual input and teaching materials designed primarily for sighted learners. As Abid Zaki & Khan (2021) point out, teaching visually impaired students along with the sighted learners in an inclusive classroom has been a challenging task for teachers for much of the learning is a visual process and most of the current educational curriculum is oriented towards sighted learners. This highlights the need for adapted materials and teaching strategies that accommodate the unique learning needs of visually impaired students.

In line with this, Martinien et al. (2024) emphasize that appropriate teaching and assessment strategies are critical in ensuring equitable education for visually impaired and sighted students in inclusive EFL classrooms. This finding suggests that teachers should modify their instructional and evaluation methods to ensure accessibility, fairness, and active engagement for all learners. Such an approach resonates with the objectives of inclusive pedagogy, where adaptation and flexibility play essential roles in promoting participation and comprehension among learners with visual impairments.

Morever, Martínez-Hernández & Bellés-Fortuño (2021) assert that learners with disabilities in our classroom need the opportunity to show their knowledge in a way that adapts to their needs, oftentimes with the help of ICTs or other tools; otherwise, test results might be invalid. This statement underscores the importance of incorporating technology and assistive tools, such as audio-based materials and digital

media, to provide equitable access to language learning and assessment. Therefore, in developing English learning materials for visually impaired students, the use of audio-supported resources like audiobooks can serve as an effective means of bridging accessibility gaps and supporting inclusive educational practices.

Audiobooks play a crucial role in addressing these challenges by providing an accessible, auditory-based learning tool that supports language acquisition for visually impaired students. Unlike traditional print materials, audiobooks enhance listening comprehension, vocabulary development, and pronunciation skills, making them a valuable supplement to English instruction. Additionally, interactive audiobooks with features such as speed adjustments, comprehension quizzes, and real-time feedback can further enhance engagement and motivation. By integrating audiobooks into the curriculum, educators can create a more inclusive learning environment that accommodates the diverse needs of visually impaired students, ultimately improving their English language proficiency.

Several studies have examined the effectiveness of audiobooks and assistive technologies in teaching English to visually impaired students. Guha (2020) found that creating customized audiobooks for visually impaired students can enhance their speaking skills and English comprehension. Through a community service-based academic program, students involved in audiobook production contributed to providing more inclusive and accessible learning resources for visually impaired learners. Meanwhile, Kocyigit and Artar (2015) revealed that using audiobooks in English as a foreign language instruction increased the motivation and engagement of visually impaired students. This study highlighted how text-to-speech technology and audio-based materials help students better understand vocabulary, grammar, and pronunciation.

Additionally, Madhavi (2017) emphasized the importance of adaptive teaching strategies that combine various assistive technologies, including audiobooks and multisensory methods, to enhance the learning experience of visually impaired students. These studies demonstrate that integrating audiobooks into English language instruction can support language skill development, boost learning motivation, and create a more inclusive learning environment for visually impaired students.

The present study builds on previous research by focusing on the development of an interactive audiobook tailored specifically for 11th-grade VIS at SLB Negeri 1 Tabanan. While prior studies have explored the general benefits of audiobooks and assistive technologies, this research aims to create a structured audiobook curriculum aligned with the students' language proficiency levels and learning needs. By integrating real-time feedback, comprehension exercises, and adaptive listening features, the proposed audiobook seeks to enhance motivation, engagement, and overall language acquisition.

Furthermore, the study aligns with the Universal Design for Learning (UDL) framework, ensuring that the audiobook provides an inclusive and accessible learning experience. The findings are expected to contribute to the field of inclusive English language education, offering practical recommendations for educators working with visually impaired students.

2.1.3 Audio Book

An audiobook is a recorded version of a text that is read aloud, enabling learners to access content through listening rather than reading (Guha, 2020). It serves as an alternative learning resource, particularly beneficial for individuals with visual

impairments or reading difficulties (J. Moore & Cahill, 2016). According to Wagar (2016), audiobooks enhance cognitive processing by allowing learners to engage with textual information through auditory channels, supporting comprehension and retention.

In recent years, audiobooks have evolved beyond simple narrated texts to include various interactive and engaging features. As technology advances, different types of audiobooks have emerged to cater to diverse learning preferences and needs. Audiobooks can be categorized based on their structure and features:

1. Traditional Audiobooks: Simple narrations of books or educational materials without additional interactive elements.
2. Enhanced Audiobooks: Includes features such as background music, sound effects, or dramatized narrations to improve engagement.
3. Interactive Audiobooks: Incorporates adaptive features like quizzes, speech recognition, and real-time feedback to promote active learning.

There are three aspects of good audiobook mentioned by Desriana and Budiningsih (2018) such as :

Table 2. 2
Aspect and Indicators of Good Audiobook

Aspect	Indicators
Audio	Narration: narrator voice volume, intonation, tempo, pronunciation Music: the use of appropriate music, such as theme music, transition music, bridge music, background music.
Book Component	Book title, book instructions, basic competencies, indicators, material, assignments and exercises, summary and final chapter assignment.
Time	Each track has a maximum limit of between 25-45 minutes.

The use of audiobooks in education is supported by several learning theories that emphasize cognitive processing and information retention. These theories provide insight into how audiobooks enhance learning by utilizing auditory channels to reinforce comprehension and reduce cognitive overload. One of the key theories is Dual Coding Theory (Paivio, 1986), which suggests that combining verbal (audio) and non-verbal (visual) representations enhances memory retention and comprehension. Audiobooks align with this theory by providing an auditory learning experience that complements traditional text-based instruction. By engaging both verbal and auditory processing, audiobooks help learners retain information more effectively.

Another relevant theory is Cognitive Load Theory (Sweller, 1988), which highlights the importance of minimizing extraneous cognitive load in learning. Audiobooks support this by offering a structured approach to information delivery, reducing the need for excessive textual processing and allowing learners to focus on comprehension without feeling overwhelmed.

Audiobooks play a crucial role in enhancing educational outcomes by providing an alternative learning modality that supports diverse student needs. Research has demonstrated that audiobooks contribute significantly to literacy development by improving listening comprehension and language acquisition, particularly for students facing reading difficulties (Best, 2020). Additionally, audiobooks enhance accessibility for visually impaired learners by offering an inclusive medium for consuming educational materials that might otherwise be inaccessible in printed formats.

Moreover, the integration of interactive audiobooks equipped with real-time feedback and engagement mechanisms has been found to increase student motivation and active participation in learning (Montgomery, 2009). These resources also promote independent learning, allowing students to control their pace of study, thereby fostering

self-directed learning and flexibility in the educational process (Tusmagambet, 2020). The benefits of audiobooks in education highlight their potential as a valuable tool for fostering literacy, accessibility, engagement, and autonomy in learning environments. Several studies have examined the effectiveness of audiobooks as a learning medium in various educational contexts. Best (2020) explored the role of audiobooks in enhancing children's literacy, particularly in their first language, highlighting their effectiveness in supporting literacy education. Similarly, Aydın and Tunagür (2021) investigated the impact of audiobook applications on sixth-grade students' listening skills and attitudes toward learning. Their findings indicated that audiobook applications contribute to improved listening abilities and foster positive attitudes toward education.

In another study, Whittingham et al. (2013) analyzed the use of audiobooks in school libraries and found that participation in audiobook clubs helped struggling readers improve both their reading skills and attitudes toward reading. Furthermore, Amalia Utomo and Istiqomah (2020) examined the use of audiobooks as a learning tool for visually impaired students in inclusive schools. Their research demonstrated that audiobooks can serve as an effective learning aid in English language education, with internal and external factors influencing their success.

The studies reviewed highlight the significant role of audiobooks in literacy development, listening skills, and reading comprehension. They also underscore their effectiveness as an educational resource for students, particularly those with visual impairments. By incorporating interactive elements into audiobook design, the current study builds on existing research to enhance learning experiences for visually impaired students, offering a more inclusive and adaptive approach to English language education.

2.1.4 Heyzine Flipbook

Heyzine is an online platform that allows users to create flipbooks from PDF files while integrating interactive elements such as images, videos, and audio. Its user-friendly interface requires no technical expertise, making it accessible for special education teachers to develop customized learning materials. The platform includes features like interactive buttons and hyperlinks, enabling users to embed audio descriptions that enhance content accessibility. Additionally, students can access flipbooks via shared links, allowing for continuous engagement with the material as long as they have an internet connection. These features highlight Heyzine's potential as a tool to assist special education teachers in providing more inclusive learning resources for visually impaired students (VIS), who often have limited access to suitable learning media (Ota, 2019).

Heyzine aligns with fundamental principles of audiobook development for VIS, offering an engaging, structured, and accessible approach to content delivery. One of the key benefits of audiobooks in language learning is their ability to enhance listening skills, as research has shown that exposure to narrated texts improves listening comprehension and pronunciation. Heyzine's integrated audio feature enables students to repeatedly listen to narrated content, reinforcing their understanding and pronunciation. This is particularly advantageous for VIS, who rely heavily on auditory input for language acquisition. Furthermore, the structured nature of flipbooks, with navigational features and page-turning animations, supports logical content progression, thereby enhancing comprehension and retention (Alnahdi & Dean, 2014).

Another significant advantage of Heyzine is its ability to support self-paced learning. The platform allows students to engage with the material at their own pace, revisit specific sections as needed, and reinforce their understanding through repeated

exposure. This aligns with differentiated learning approaches that cater to the diverse needs of VIS. Moreover, the interactive elements of Heyzine, such as clickable buttons and embedded audio, contribute to increased student engagement and motivation. Research indicates that interactive digital learning materials significantly enhance student participation and provide a more immersive learning experience (Mayer & Fiorella, 2021).

The integration of Heyzine into audiobook development is further supported by Tomlinson's (2011) Theory on Material Development, which emphasizes that effective learning materials should be engaging, accessible, and tailored to students' specific needs. Heyzine fulfills these criteria by offering an interactive, audio-supported platform that enhances accessibility and learning outcomes for VIS. By leveraging technology to bridge the gap in educational accessibility, Heyzine presents an innovative yet pedagogically sound approach to language instruction for students with visual impairments.

Several studies have explored the application of Heyzine in developing learning materials. For instance, Uin et al. (2024) developed an interactive e-module using Heyzine for "Chapter 0" of English for Nusantara for seventh-grade students at SMPN 2 Warunggunung. Their findings suggest that Heyzine-based modules can serve as an effective alternative for English language learning. Similarly, Nainggolan et al. (2024) developed a Canva-based Heyzine flipbook as an e-module for Pancasila Education at SMA Negeri 1 Percut Sei Tuan, demonstrating that such modules enhance student engagement and diversify learning activities. Berlian Ahmad Fauzi et al. (2024) further examined the feasibility of Heyzine flipbooks for teaching Lathe Machining Engineering to eleventh-grade students at SMK Kemala Bhayangkari 1 Jakarta,

concluding that Heyzine can be effectively integrated into vocational learning environments.

Heyzine presents a viable solution for developing interactive and accessible learning materials for visually impaired students. Its ability to integrate audio, facilitate self-paced learning, and provide interactive elements aligns with research on effective educational technology. As evidenced by various studies, Heyzine's implementation in different educational contexts highlights its adaptability and potential to enhance learning experiences. Therefore, incorporating Heyzine into the development of audiobooks for VIS not only supports accessibility but also promotes independent learning and engagement, reinforcing its role as a valuable instructional tool in special education.

2.1.5 Teaching Material

Teaching materials are essential components in the learning process, serving as the foundation upon which instructional activities are built. Well-designed materials can significantly enhance learner autonomy and motivation by offering meaningful and context-relevant input. In the digital age, teaching materials are no longer limited to printed resources. Effective teaching materials must not only support language acquisition but also accommodate learners' individual needs, including the use of multimedia and assistive technologies (Harsono, 2017). This is particularly important in inclusive education settings, where diverse learners require adaptive and accessible resources.

The development of English teaching materials has evolved from traditional printed resources to technology-enhanced media that promote learner autonomy and

engagement. Santosa & Agustino (2020) highlights that the integration of information and communication technology (ICT) into English language learning transforms conventional classrooms into more dynamic environments. Through e-learning-based materials, students not only access content that supports their academic and professional development but also learn more independently and interactively. This perspective aligns with the current educational paradigm that encourages the use of digital resources to support diverse learners' needs, including those with visual impairments. Similarly, Ismawati et al. (2023) reports that interactive learning media validated by material experts, media experts, and classroom practitioners were considered feasible and effective for instructional use. The study also indicated that such media contribute to increased student motivation and engagement throughout the learning process, demonstrating the importance of technology-based instructional resources in modern education.

Similarly, Kusuma (2022) demonstrates that technology-based platforms such as WhatsApp, YouTube, and Google Forms have proven effective in supporting English language teaching, particularly for developing students' speaking skills during online learning. His study shows that digital platforms facilitate authentic language practice and interaction, allowing teachers and students to engage in meaningful communication beyond the limitations of physical classrooms. In the context of teaching visually impaired students, this finding reinforces the importance of using accessible digital tools, such as audiobooks to enhance listening and speaking competence.

In addition to technological integration, material relevance is a key aspect of effective English teaching resources. Armawan (2024) emphasizes that teaching materials should be developed based on learners' needs and contextual relevance to

ensure meaningful learning experiences. Materials that reflect students' real-life situations or local culture can improve engagement and comprehension. This is particularly relevant for visually impaired students, who require learning materials that are not only accessible but also contextually meaningful to their daily lives and communication needs.

Furthermore, Putu et al. (2024) reveal that interactive digital media, such as Wordwall-based learning tools, significantly enhance students' motivation and vocabulary mastery. Their study demonstrates that gamified and auditory-rich learning environments can make English learning more enjoyable and effective. This finding supports the idea that using interactive and audio-supported media like audiobooks can increase students' engagement, comprehension, and overall learning experience especially for visually impaired learners who rely on auditory input as their primary learning channel.

Furthermore, teaching materials should be aligned with the learners' background and learning objectives, ensuring that the material is not only informative but also engaging and comprehensible (Aprilani & Suryaman, 2021). This is especially crucial for students with special needs, such as those with visual impairments, who benefit greatly from auditory and tactile learning resources.

According to Tomlinson and Brian (2011) effective language learning materials should meet several criteria, as described in "Principles and Procedures of Materials Development." These include:

Table 2. 3
Principles of Good Language Learning Materials

No.	Principle	Description	For Visually Impaired Students
1.	Material should achieve impact	Materials should capture attention and leave a lasting	Use expressive narration, engaging background sounds,

		impression. This can be achieved through interesting themes, surprise, humor, or strong visual/audio elements to motivate learners to engage.	music, and emotional storytelling to replace visual elements and maintain interest.
2.	Materials should help learners to feel at ease	Learners should feel comfortable using the materials through clean layout, friendly language, and supportive atmosphere.	Ensure clear audio, calm and consistent tone, and avoid intimidating language or sudden loud sounds.
3.	Material should help the learners to develop confidence	Materials should build learners' confidence with achievable tasks and a sense of gradual success.	Provide step-by-step audio tasks and positive verbal feedback after each completed activity.
4.	What is being taught should be perceive by learners as relevant and useful	Materials should feel relevant and beneficial for learners' daily lives and long-term goals.	Include real-life contexts such as how to ask for help, introduce oneself, or navigate public spaces.
5.	Materials should require and facilitate learner self-investment	Effective learning happens when learners are emotionally and actively engaged.	Encourage personal involvement through storytelling, reflective questions, or choosing favorite topics.
6.	Learner must be ready to acquire the points being taught	Materials must match the learners' cognitive, linguistic, and emotional readiness.	Ensure content is not overwhelming and is presented gradually with appropriate repetition.
7.	Materials should expose the learners to language in authentic use	Learners need to hear natural and real-life language in conversations, texts, or cultural contexts.	Use authentic audio (dialogues, podcasts), and provide explanations if necessary for better understanding.
8.	The learners' attention should be drawn to linguistic features of the input	Learners should be explicitly guided to notice grammar, vocabulary, and sentence structures.	Use vocal emphasis, pauses, or brief instructions like "Notice how the verb changes in this sentence."

9.	Materials should provide the learners with opportunities to use the target language to achieve communicative purposes	Learners should use the language in real communication, not just answering questions.	Include speaking tasks, role-plays, or real-life scenarios that students can perform using audio.
10.	Materials should take into account that the positive effects of instruction are usually delayed	Learning results are not always immediate; materials should support long-term development.	Repeat important points and offer audio reviews to reinforce long-term understanding.
11.	Materials should take into account that learners differ in learning styles	Learners have different styles: auditory, visual, kinesthetic, etc.	Focus on auditory stimuli like rhythm, music, and sound cues; include tactile tools if available.
12.	Materials should take into account that learners differ in affective attitudes	Learners differ emotionally in confidence, anxiety, and motivation.	Use warm, supportive narration and include motivational stories from visually impaired role models.
13.	Materials should permit a silent period at the beginning of instruction	Learners may need time to absorb language passively before speaking.	Provide passive listening tasks like storytelling without pressure to respond immediately.
14.	Materials should maximise learning potential by encouraging intellectual, aesthetic and emotional involvement which stimulates both right and left brain activities	Materials should stimulate both logical and creative sides through stories, music, and personal experiences.	Use emotionally engaging narratives, reflective prompts, and appropriate background music.
15.	Materials should not rely too much on controlled practice	Overuse of drills (e.g., multiple-choice) should be avoided; allow creative expression.	Include open-ended audio tasks such as retelling stories, sharing opinions, or creating dialogues.
16.	Materials should provide opportunities for outcome feedback	Learners need feedback to understand their progress and areas for improvement.	Give verbal, constructive feedback and encourage oral self-assessment or reflection sessions.

These principles are essential for designing materials that are inclusive and effective, especially when addressing learners with visual impairments. In this study,

principles will serve as the basis for evaluating the quality of the English learning materials developed in the form of an audiobook for visually impaired students.

Several studies have highlighted the importance of accessible and inclusive teaching materials in English learning. A study by emphasized the need for materials that are tailored to students' specific needs, particularly those with disabilities. In another study, research by Tomlinson and Brian (2011) explored the use of audio-based storytelling to teach English to students with visual impairments. The study found that students showed greater motivation and better understanding of the content when materials were delivered through audio formats. These findings indicate that audio-based teaching materials can play a significant role in supporting inclusive education.

Based on the theoretical insights and previous studies, it is evident that developing English teaching materials for visually impaired students requires thoughtful consideration of content format and delivery. Audio-based materials, such as audiobooks, align well with these principles and have been proven effective in previous research. Therefore, this proposal aims to develop an audiobook as an English teaching material specifically for 11-th grade visually impaired students at SLB Negeri 1 Tabanan. This development is expected to support inclusive education by providing accessible, engaging, and contextually meaningful learning experiences.

2.1.6 Adolescent Students

Adolescent students represent a group of learners undergoing a transitional phase from childhood to adulthood. During this period, they experience rapid development in various domains such as cognition, emotion, social interaction, and morality. These changes contribute to their growing need for autonomy and identity exploration (J. P. Allen & Loeb, 2015). Instructional approaches, therefore, must

consider these dynamic developmental changes to effectively support their learning process.One of the essential aspects of adolescence is the increasing importance of peer relationships and the ability to express autonomy in a healthy way. Research shows that adolescents who can maintain autonomy while staying connected with peers tend to demonstrate better academic engagement (Loeb et al., 2020). Thus, education should foster learning environments that support peer collaboration and personal initiative.

In addition to peer interaction and autonomy, identity formation plays a significant role in adolescent well-being. Adolescents who develop strong identity commitments tend to have better psychological outcomes, while those lacking identity direction despite high emotional independence may experience emotional struggles (Ruiz & Yabut, 2024). Therefore, learning experiences should be relevant to students' lives and support their identity development.

The characteristics of adolescent students can be classified into the following aspects:

Table 2. 4
Characteristics of Adolescent Student

Aspect	Indicator
Psychological Needs	Have basic needs such as autonomy, competence and social connection, which support academic engagement and emotional well-being.
Emotional Sensitivity	Show high emotional sensitivity; strong social skills are important to manage negative emotion.
Social Environment	Pay close attention to the school atmosphere; a supportive environment enhances emotional and social well-being.
Family and Socioeconomic Factors	Academic success in influenced by authoritative parenting and family socioeconomic conditions.

Technology Use	Highly dependent on technology for learning; identify as digital natives, especially Generation Alpha.
Educational Needs	Require a holistic, flexible educational approach that addresses emotional, social, and technological development.

These characteristics indicate that traditional, one-directional teaching methods are generally ineffective for adolescents. In contrast, interactive learning media, such as audiobooks, can enhance their attention, motivation, and comprehension. This is particularly relevant for students with visual impairments, for whom audio-based materials align with their sensory strengths.

Visually impaired adolescents face dual challenges in education: visual limitations and the unique psychosocial needs associated with adolescence. At this stage, students seek independence and identity formation, but physical and environmental barriers may hinder their active participation in both academic and social settings.

Gkora and Karabatzaki (2023) report that students with visual impairments often feel isolated and disengaged in classroom settings, negatively affecting their academic outcomes. Similarly, Agathi Stahopoulou and Kyriaki Siskou (2023) argue that repeated failure can reduce motivation and hinder goal-setting, even when students are eager to succeed.

Systemic and structural obstacles such as limited accessibility and inadequate technological support further restrict the participation of visually impaired students in secondary education (Fanshawe et al., 2023). These challenges impact not only academic performance but also the social integration essential for adolescent development.

Communication skills, particularly speaking, are crucial for all students, and especially so for those with visual impairments who may face difficulties with non-verbal communication. Akhter et al. (2021) emphasize that proficiency in oral communication is essential for academic and career success. Therefore, learning media that promote listening and speaking skills such as audiobooks are especially beneficial.

Assistive technologies also play an important role in empowering visually impaired learners. Khan and Khusro (2021) highlight the utility of screen readers like VoiceOver and TalkBack, which enable these students to access digital content independently. Given the technological fluency of today's youth, integrating inclusive digital tools is critical.

In the context of language learning, visually impaired students may face additional challenges in understanding spoken materials due to unfamiliar accents, rapid speech, and limited vocabulary. Alzamil (2021) underscores the importance of structured, clear, and repeatable audio resources to ensure effective comprehension. Hence, accessible and adaptable audio content is vital for inclusive education.

2.1.7 Listening

Listening is a fundamental skill in language learning that plays a crucial role in communication. It involves the ability to receive, process, and interpret spoken language effectively. Developing listening skills is essential for language learners as it helps them understand meaning, improve pronunciation, and enhance their overall language proficiency. According to Gilakjani and Ahmadi (2011), listening skills play a significant role in the communication process. They emphasize that listening is the most frequently used skill in daily life and serves as the foundation for developing other

language skills. Additionally, Michael Rost (2011) states that the development of listening skills is closely related to achieving speaking proficiency, highlighting the importance of listening in language learning.

Researchers have categorized listening into different types based on the purpose and manner in which it is practiced. Among these, three significant types of listening are intensive listening, extensive listening, and interactive listening.

1. Intensive Listening

   Intensive listening is the process of carefully listening to a short audio text with a focus on specific details. The goal is to understand linguistic elements such as vocabulary, grammatical structures, and other specific information. intensive use of English audio media on listening comprehension skills and learning motivation of high school students. The study results show that intensive listening can improve students' understanding and learning motivation (Bozavli, 2024).

2. Extensive Listening

   Extensive listening involves listening to longer audio texts to understand the general meaning without focusing on minor details. This activity helps learners improve overall comprehension and listening skills in a broader context. According to Ivone and Renandya (2019), extensive listening (EL) emphasizes exposure to large amounts of comprehensible and enjoyable audio materials. The main goal of EL is to help learners develop their listening fluency and overall language skills by understanding audio as a whole rather than focusing on specific details like vocabulary or grammar.

3. Interactive Listening

   Interactive listening refers to the process of listening that involves direct interaction between the speaker and the listener, such as in conversations or discussions. The interactive listening approach can significantly improve students' critical listening skills

(Ahmed & Bedaiwy, 2020). In this context, the listener not only receives information but also responds, asks questions, and contributes to the exchange of information. Listening instruction should include a range of listening types, such as intensive listening, selective listening, interactive listening, responsive listening, and autonomous listening.

Understanding and applying these three types of listening skills can help educators design effective teaching strategies to enhance students' listening abilities, particularly for those with special needs, such as visually impaired students.

Teaching listening skills in English language learning involves the implementation of structured strategies through three main stages: pre-listening, while-listening, and post-listening. Each stage plays a crucial role in enhancing students' comprehension and listening skills. The following sections explain these stages, supported by relevant research findings.

1. Pre-Listening

The pre-listening stage aims to prepare students before they engage with the listening material. Activities in this phase may include introducing the topic, activating prior knowledge, and teaching key vocabulary. These preparatory steps help students build context and anticipate the content, ultimately improving their comprehension. Pre-listening is considered the most influential phase as it plays an important role in determining the success of the task (Paranapiti, 2018).

2. While-Listening

The while-listening stage engages students in active listening with the goal of understanding both the overall message and specific details. Activities in this phase may include note-taking, answering comprehension questions, or identifying main ideas. The primary focus is to help students process and retain the information they

hear. Listening strategies consist of three distinct stages: pre-listening, while-listening, and post-listening. The while-listening stage involves activities such as identifying main ideas, taking notes, processing details, determining relationships between ideas, inferring vocabulary from context, and recognizing pronominal references (Zarrabi, 2017).

3. Post-Listening

The post-listening stage is designed to help students reflect on and consolidate the information they have heard. Activities in this phase may include class discussions, follow-up exercises, or written tasks related to the listening material. The goal is to reinforce comprehension, clarify misunderstandings, and connect new information with prior knowledge. Listening activities are designed to prevent failure, ensuring that students' comprehension of the text is well-supported. These activities are generally categorized into three phases: pre-listening, while-listening, and post-listening. Students can use these activities to enhance their listening skills (Movva et al., 2022).

According to Nunan et al., (2003) there are three aspects that is developed when practicing listening skills such as listening for gist, listening for details, and listening by inferring.

Table 2. 5
Aspect and Indicators of Listening Comprehension

Aspect	Indicator
Listening for Gist	Focuses on identifying main ideas, noting sequence of events. The materials can be announcements, advertisements, and short functional texts.
Listening for Details	Listening for specific information such as names, times, specific language forms, and etc. The material are some monologue texts, such as narrative, poetic,

	dramatic, response, explanation, information, discussion, exposition, recount, factual description, procedure and procedural recount can be implemented through film.
Listening by Inferring	Listening by inferring in context means listening the explicit meaning from contextual conversations. It is implied but not stated directly.

Listening is one of the most reliable learning methods, especially for visually impaired students, as it serves as their primary means of accessing information and acquiring language skills. Research has shown that the use of audiobooks significantly enhances their listening comprehension, vocabulary acquisition, and pronunciation. Audiobooks provide structured auditory input, allowing visually impaired students to engage with complex texts and develop their language proficiency effectively (Ivone & Renandya, 2019).

Studies have demonstrated that audiobooks not only improve listening skills but also increase students' motivation and engagement in learning. Research found that visually impaired learners who frequently used audiobooks performed better in listening comprehension and overall language acquisition compared to those who relied solely on traditional methods (Kartal, 2017).

Furthermore, a study by Purnamayanti et al. (2020) highlighted that incorporating audiobooks into the learning process significantly enhances literacy skills, including listening comprehension, among visually impaired students. The study emphasized the importance of integrating auditory-based learning materials to accommodate their educational needs effectively. These findings confirm that listening-based learning strategies, particularly the use of audiobooks, play a crucial role in

supporting visually impaired students' language development and overall academic success.

Listening is one of the most reliable learning channels for visually impaired students, as it becomes their primary means of receiving language input. Research supports the use of audiobooks as an effective medium to enhance listening comprehension, vocabulary acquisition, and pronunciation (Ivone & Renandya, 2019). Moreover, audiobooks increase motivation and engagement by providing accessible and stimulating language exposure.

In the context of inclusive education, these findings underline the need to design listening-based English learning materials that accommodate the unique needs of visually impaired learners. Integrating carefully selected and structured audio content ensures not only access to authentic language input but also supports language development through meaningful and motivating learning experiences. Therefore, this study focuses on developing English instructional materials tailored to 11th-grade visually impaired students in the form of an audiobook, which will function both as a learning resource and as an inclusive educational support tool aligned with listening instruction strategies.

2.1.8 Speaking

Speaking is one of the four fundamental skills in language learning, alongside listening, reading, and writing. It is an interactive oral process that involves the production, reception, and processing of information to convey meaningful communication (Leong & Ahmadi, 2017). Speaking begins with practicing and drilling set phrases, which helps learners become familiar with linguistic structures. Similarly,

Mustafa (2024) emphasizes that traditional language teaching methods relied on repetition drills and memorized dialogues to develop fluency. Moreover, speaking is a verbal skill that can be directly observed, making it a crucial component in language assessment (Brown in Crisianita & Mandasari, 2022).

Johnson and Morrow (1981) further highlight that speaking requires active interaction between a speaker and a listener, where both parties must respond promptly to maintain communication. Additionally, Cameron (2001) describes speaking as an active use of language to express meaning that is understandable within a social and contextualized setting. To achieve effective spoken communication, learners must have adequate knowledge of pronunciation, vocabulary, and cultural aspects of the language (Finocchiaro & Brumfit, 1983).

Akbarani (2019) stated in the process of building speaking skill, the ideal condition of speaking skill showed from the indicators of speaking, which is vocabulary, pronunciation, grammar, fluency, and comprehension.

Table 2. 6
Aspect and Indicators of Speaking Skill

Aspect	**Indicator**
Vocabulary	Speakers able to express ideas and thoughts clearly due to adequate vocabulary. Sufficient vocabulary also affects speakers' confidence while talking.
Pronunciation	Mispronounced words will cause misunderstanding and communication becomes less effective. The capability to pronounce the words correctly, word stress, intonation, and accent are things need to be considered in order to have good pronunciation.
Grammar	Grammar knowledge is the foundation to arrange words in an appropriate way. Utilizing grammar able learners to gain expertise in the target language both in oral and written form.
Comprehension	The ability to understand and respond appropriately according to the information. Without comprehension, communication cannot be done effectively.

Fluency	Fluency allows someone to express their ideas and thoughts free flowingly without any pauses or hesitation when communicating.

Several factors influence students' ability to develop their speaking skills in English.

1. Psychological Factors

Psychological factors such as confidence, speaking anxiety, and motivation significantly influence students' ability to develop their speaking skills. According to Alrasheedi (2020), students with low confidence and high anxiety tend to hesitate when speaking, which limits their ability to practice and improve. Conversely, students with high motivation are more willing to engage in speaking activities, leading to better progress in fluency and pronunciation.

2. Environmental Exposure to English

Exposure to English in daily interactions, media consumption, or academic settings plays a crucial role in speaking development. Bhattacharya (2017) states that students who frequently hear and use English in real-life situations tend to develop better fluency and comprehension. Constant exposure helps learners internalize pronunciation patterns, sentence structures, and vocabulary, making it easier for them to communicate effectively.

3. Teaching Methods and Curriculum

The approach used in teaching and the structure of the curriculum can greatly impact students' speaking proficiency. Leong and Ahmadi (2017) emphasize that a communicative teaching approach that provides ample speaking practice opportunities significantly enhances fluency and accuracy. Methods such as role-playing, storytelling, and interactive discussions encourage students to use English actively, improving their confidence and communication skills.

4. Linguistic Factors

Linguistic components, including vocabulary mastery, grammatical accuracy, and pronunciation, are essential in developing speaking skills. Ky Nhan (2024) argues that students with limited linguistic knowledge often struggle with fluency and clarity in speech. Mastering a wide range of vocabulary and understanding grammar rules help students construct coherent and meaningful sentences, while proper pronunciation enhances comprehension.

5. Social and Cultural Factors

Social and cultural contexts influence students' ability to speak confidently in English. According Triwittayayon and Sarobol (2022) the norms and values surrounding language use, as well as opportunities for social interaction in English, affect speaking proficiency. Students in environments where English is frequently used in social settings tend to develop better conversational skills compared to those with limited exposure.

Understanding these factors is essential in designing effective language learning strategies, particularly for visually impaired students who rely heavily on auditory input. In this context, the development of an audiobook for teaching English at SLB Negeri 1 Tabanan provides a structured and immersive learning tool, addressing key challenges related to speaking anxiety, linguistic exposure, and interactive practice.

Several effective strategies for teaching English-speaking skills to visually impaired students, with an emphasis on using audiobooks, can significantly enhance their language proficiency. One of the key strategies is involving students in the creation of audiobooks. Research by Guha (2020)found that when students actively participate in recording audiobooks, their speaking skills improve as they practice pronunciation, intonation, and fluency. Additionally, this method provides meaningful learning

materials for visually impaired learners, making the learning process more engaging and beneficial for all participants.

Another effective approach is integrating assistive technology in language learning. Marpaung et al. (2022) highlight the importance of tools such as screen readers and audio-based learning applications, which enable visually impaired students to practice speaking independently while receiving immediate feedback. These technologies help bridge accessibility gaps in English language education. Furthermore, the use of audio media, such as audiobooks and recorded conversations, has been proven to support speaking development. Amalia Utomo and Istiqomah (2020) found that audio-based learning enhances pronunciation, rhythm, and speech clarity among visually impaired students in inclusive schools. By implementing these strategies, the teaching of speaking skills to visually impaired students can become more inclusive, immersive, and effective, ensuring they receive equal opportunities to develop their language proficiency.

The development of speaking skills in English language learning is supported by various linguistic and educational theories that emphasize interaction, comprehensible input, and multisensory engagement. These theories provide valuable insights into how visually impaired students can effectively acquire and enhance their speaking abilities, particularly through the use of audiobooks. One of the most influential approaches is Communicative Language Teaching (CLT), proposed by Richards and Rodgers (2001), which emphasizes interaction as the primary goal of language learning. CLT encourages real-life communication tasks where learners engage in meaningful exchanges. For visually impaired students, this approach suggests the use of interactive techniques such as role-playing, storytelling, and guided conversations to develop their speaking skills.

Audiobooks serve as an ideal medium for providing structured and comprehensible input, allowing visually impaired students to develop their speaking proficiency by exposing them to natural language use. Furthermore, Multisensory Learning Theory by Fleming and Mills (1992) highlights that learners absorb information more effectively when multiple senses are engaged. Since visually impaired students rely primarily on auditory and tactile learning, audiobooks play a crucial role in enhancing their speaking skills by offering clear models of pronunciation, intonation, and sentence structure. By integrating these theories, educators can create more inclusive and effective speaking instruction for visually impaired learners, ensuring equal access to language learning opportunities.

Several studies have highlighted the effectiveness of audiobooks and other auditory-based learning tools in improving the speaking skills of visually impaired students. Fajriah et al. (2021) found that audio storytelling activities enhanced students' confidence in speaking, increased their motivation and participation, and helped them develop better sentence structures and fluency. Similarly, Mukhtarova and Isakova (2023) demonstrated that audio-based technology significantly improved the speaking skills of visually impaired students. Methods such as listening and repeating, audio-based discussions, and interactive audiobooks contributed to greater fluency and pronunciation accuracy, while repeated audio exposure facilitated better vocabulary acquisition.

Furthermore, Richard Jackson (2012) emphasized that audio-supported reading enabled visually impaired students to process spoken language more effectively, leading to improvements in verbal expression, intonation, pronunciation, and speech rate. Overall, the findings indicate that the integration of audiobooks and auditory-based technology into language instruction has the potential to substantially improve the

speaking abilities of visually impaired students, particularly in the areas of pronunciation, fluency, and confidence.

This study focuses on developing an audiobook specifically designed material to improve the speaking skills of visually impaired 11th-grade students at SLB Negeri 1 Tabanan. This aligns with previous research findings that highlight the positive impact of audiobooks on speaking proficiency.

2.2 Empirical Review

Before conducting this study, the researcher reviewed several previous studies on the challenges faced by visually impaired students (VIS) and their teachers in learning and teaching English, as well as studies related to the development and evaluation of learning materials using models such as ADDIE, R&D, and SAM. These studies provide a foundation for understanding learners' needs and approaches to designing appropriate materials.

Tahiri (2023) investigated the challenges experienced by visually impaired students in Moroccan universities. The study identified multiple barriers including administrative delays, insufficient academic support, and social isolation. These challenges hindered students' full participation in academic life, emphasizing the importance of inclusive learning environments and adaptive materials such as audio-based resources. Similarly, Sohaib et al. (2021) explored the difficulties faced by English teachers in Pakistan when teaching visually impaired students. Their findings highlighted limited access to appropriate learning resources and a lack of specialized training as major obstacles. Teachers often doubted the students' ability to learn English effectively due to the absence of adequate support tools. These studies collectively underline the urgent need for

accessible materials and teacher preparation to ensure inclusive and equitable English education for students with visual impairments.

Zahra et al. (2022) also revealed several challenges faced by English teachers in schools for visually impaired students. The first challenge was the negative mindset of visually impaired students themselves. The next challenge was that special education teachers were required to teach English even though they had never formally learned it due to systemic limitations. A third challenge was that English teachers had to convert all visual material into audio specifically for visually impaired students. Additionally, the absence of English teaching methods and aids tailored for visually impaired learners was a major obstacle. The study also noted that the available support facilities in schools were very limited, and the high expectations from parents placed additional pressure on teachers. Overall, the study highlighted the significant difficulties faced by English teachers in teaching VIS.

In response to these challenges, recent studies have focused on developing materials specifically designed for VIS. Guha (2020) emphasized that visually impaired students rely heavily on auditory learning and require structured narration at an appropriate pace. His study highlighted the importance of clear articulation, content segmentation, and appropriate speech speed in audiobook design. The findings also showed that when audiobooks are designed with these elements, VIS show improved comprehension, learning interest, and active participation in English learning. This suggests that audio-based design approaches directly address the limitations of visual information access and have the potential to answer research questions related to the design of appropriate learning materials.

Saputra et al. (2022) applied the ADDIE model to develop audio-based learning media for SLB-A YAPTI Makassar, demonstrating that a systematic instructional model

can enhance understanding and accessibility. Their findings also revealed that a structured approach helped teachers deliver material more effectively to visually impaired students and encouraged students to learn independently through media tailored to their sensory needs. Therefore, this study contributes to answering the research question regarding audiobook design for VIS. Soumia and Mohammed (2021) emphasized that combining auditory input with tactile elements further enhances learning for VIS. The study found that when learning media integrated these two modalities, students were better able to grasp abstract concepts in English. This reinforces the importance of a multimodal approach in audiobook design and shows that such strategies can address visual limitations and improve language comprehension.

Several studies have used the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation) in developing learning materials for students with special needs. Although the model provides a structured and linear framework, it has been criticized for being too rigid and not responsive enough to feedback during development. For instance,

Aydın and Tunagür (2021) used ADDIE to create audiobook applications that enhanced sixth-grade students' listening skills with promising outcomes. However, revisions and flexibility occurred only in later stages. Similarly, Dewi et al. (2024) stated that development approaches such as ADDIE and R&D are often considered inflexible and resource-intensive, making them less efficient in inclusive education settings.

To strengthen the design approach, Allen and Sites (2012) introduced the Successive Approximation Model (SAM) as a framework for iterative and rapid instructional development. The cycle in this model supports continuous revisions based on feedback, which is especially effective when designing media for learners with special needs. This supports the present study's use of SAM Two-Phase to develop English audiobook

materials for VIS. Compared to ADDIE and R&D, SAM offers more flexible and learner-centered development, which is the novelty of this study.

Although previous studies have introduced the SAM model in various contexts, its application remains limited in inclusive educational settings in Indonesia, especially in the development of English learning materials for visually impaired students. A recent study by Hoppe et al. (2021) focused on improving learning support quality for visually impaired students by evaluating automated description systems for digital content. While this highlights a growing concern for content accessibility, it does not directly connect with structured instructional design or audiobook development.

In terms of content validation, recent studies have also emphasized the importance of involving experts (expert judgment) to ensure the quality of learning materials during the development process, particularly to match the needs and characteristics of the target learners (Buitrago et al., 2023). Accordingly, this study involves expert judgment to evaluate the audiobook content using Tomlinson's (2011) principles for good language learning materials. These criteria emphasize that materials should: create impact; help learners feel at ease and build confidence; present relevant and useful content; encourage learner investment and engagement; expose learners to authentic language; draw attention to language features; allow communicative language use; support different learning styles and attitudes; and provide meaningful feedback, among others. The emphasis on content validation is also supported by Gutiérrez-Castillo et al. (2023), who emphasized the importance of expert evaluation in developing digital teaching competencies. This demonstrates that involving experts remains relevant in various contexts of learning material design and development.

Designing learning materials for visually impaired learners requires special attention to their sensory strengths and limitations. According to Guha (2020), audiobook content

for VIS should use expressive and slow-paced narration, contextual language, and embedded auditory cues to attract attention. Other studies also show that contextual learning strategies and material repetition can improve students' comprehension in audio-only formats, especially for learners with visual impairments (Gutiérrez-Castillo et al., 2023). Soumia and Mohammed (2021) encouraged multimodal designs that combine auditory instructions with tactile interaction where possible. While most previous studies focused on the general use of audiobooks, few have addressed design principles aligned with instructional theory and inclusive pedagogy.

Research conducted by Amalia Utomo and Istiqomah (2020) show that using audiobooks in inclusive classrooms can help visually impaired students understand material and increase their motivation in learning English. The study also noted that students became more confident in expressing themselves orally after consistently using audiobooks in learning. This supports answers to research questions related to early challenges and the effectiveness of implementing audio-based media to enhance the learning process. Similarly, Assiddiqhi and Rosa (2021) found that implementing audiobooks in EFL listening classrooms significantly improved students' listening skills through exposure to native pronunciation and authentic language. The study concluded that audiobooks can be an effective learning tool not only in terms of content but also in developing active listening habits essential in English acquisition, especially for students with visual limitations.

In the Indonesian context, although some studies have applied audio-based materials in special schools (e.g., Saputra et al., 2022; Amalia & Istiqomah, 2021; Assiddiqhi & Rosa, 2021), systematic development of English audiobook content based on instructional design models and validated through expert judgment remains scarce. This study fills that gap by not only focusing on inclusive English learning materials for visually impaired

students but also by implementing a rarely used development model (SAM Two-Phase) and involving expert evaluation based on internationally recognized criteria. This empirical foundation supports the design, development, and evaluation processes carried out in this study and reinforces the importance of tailored, iterative, and expert-informed material creation for visually impaired learners.