



## Utilization of Audiovisual Media to Improve Vocabulary Comprehension of Deaf Children

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### ABSTRACT

English learning remains a significant challenge for students in Indonesia, particularly for deaf students who rely heavily on visual input and often face limitations in conventional teaching methods. Traditional methods such as lectures or written explanations are often ineffective due to communication barriers experienced by deaf students. However, research specifically focusing on the use of audiovisual media in English learning for deaf students is still very limited. Audiovisual media, such as educational videos and animations, are considered effective strategies to support knowledge development and strengthen the understanding of new concepts in deaf students. This study aims to examine in depth how audiovisual media can improve English language learning comprehension in deaf students. The study used a qualitative case study design. Data were collected through interviews, classroom observations, and documentation at a Special School (SLB) in Percut Sei Tuan, North Sumatra, involving deaf students who had been studying English for one year at the Special School (SLB). Data were analyzed using Braun and Clarke's thematic analysis, and data validity was ensured through data triangulation. The results of the study show that audiovisual media significantly increases students' understanding, learning focus, and active involvement, thus strongly supporting inclusive education practices.

*Keywords: audiovisual media, vocabulary comprehension, deaf children*

## Pemanfaatan Media Audiovisual untuk Meningkatkan Pemahaman Kosakata pada Anak-Anak Tunarungu

### ABSTRAK

Pembelajaran bahasa Inggris masih menjadi tantangan besar bagi siswa di Indonesia, terutama bagi siswa tunarungu yang sangat mengandalkan input visual dan seringkali menghadapi keterbatasan dalam metode pengajaran konvensional. Metode tradisional seperti ceramah atau penjelasan tertulis yang sering kurang efektif karena hambatan komunikasi yang dialami siswa tunarungu. Namun penelitian yang secara khusus fokus pada penggunaan media audiovisual dalam pembelajaran bahasa Inggris bagi peserta didik tunarungu masih sangat terbatas. Media audiovisual, seperti video edukatif dan animasi, dianggap sebagai strategi yang efektif untuk mendukung pengembangan ilmu pengetahuan dan memperkuat pemahaman konsep baru pada peserta didik tunarungu. Penelitian ini bertujuan untuk mengkaji secara mendalam bagaimana media audiovisual dapat meningkatkan pemahaman pembelajaran bahasa Inggris pada siswa tunarungu. Penelitian menggunakan desain studi kasus kualitatif. Data dikumpulkan melalui wawancara, observasi kelas, serta dokumentasi di sebuah Sekolah Luar Biasa (SLB) di Percut Sei Tuan, Sumatera Utara, dengan melibatkan siswa tunarungu yang telah belajar bahasa Inggris selama satu tahun di Sekolah Luar Biasa (SLB). Data dianalisis menggunakan analisis tematik Braun dan Clarke, dan validitas data dijamin melalui triangulasi data. Hasil penelitian menunjukkan bahwa media audiovisual secara signifikan meningkatkan pemahaman pemahaman, fokus belajar, serta keterlibatan aktif siswa, sehingga sangat mendukung praktik pendidikan inklusif.

*Kata kunci: media audiovisual, pemahaman kosakata, tunarungu*

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## INTRODUCTION

Learning English presents challenges for Indonesian learners due to linguistic differences between English and Indonesian, particularly in listening skills that require exposure to authentic input (Pangestika et al., 2017; Asmawati, 2017; Abdullah & Rahman, 2017; Anwar et al., 2017;). These challenges become more complex for children with special needs, particularly those with hearing impairments, who experience barriers in accessing auditory information that is central to foreign language learning. According to Mayer (2007), deaf learners encounter persistent difficulties in acquiring foreign languages because spoken language is primarily delivered through auditory channels that are not fully accessible to them. As a result, deaf children rely more heavily on visual modes of communication to construct meaning.

Recent research supports this view, as Borowicz and Olszak (2025) demonstrate that deaf learners depend heavily on visual and multimodal strategies in foreign language learning to overcome auditory limitations.

For deaf students, English learning relies heavily on visual input and alternative modes of communication. Vocabulary comprehension is a fundamental component of English learning, as it supports meaning construction in reading, writing, and sign-supported communication (Nation, 2001; Sukying, 2025; Aminarti et al., 2026). However, acquiring English vocabulary remains challenging for deaf learners due to limited access to auditory input. Therefore, English instruction for deaf students requires approaches that align with their visual strengths. Previous studies indicate that audiovisual media, which integrate visual and verbal elements such as images, text, and movement, can effectively support vocabulary comprehension by facilitating meaning construction through visual channels (Mayer, 2007; Rahmah, 2018; Mukarrama et al., 2015).

Previous studies indicate that multimedia-based and audiovisual learning materials can effectively support vocabulary comprehension

among deaf learners. Visual-oriented instructional media, such as videos, images, sign-supported content, and subtitles, have been shown to facilitate meaning construction and improve vocabulary retention (Adnyani et al., 2021; Alqraini & Paul, 2020; Hidayah, 2024). More recent research also confirms that the integration of visual and verbal elements in multimedia instruction enhances vocabulary learning outcomes for students with hearing impairments (Alhazmi, 2024; Fadillah, 2025; Pratama & Hadi, 2023).

Although prior research has explored the use of audiovisual media in English language learning, most studies have focused on regular learners or students with special needs in general. Limited attention has been given to how audiovisual media specifically support English vocabulary comprehension among deaf students, particularly within Indonesian special education settings. Therefore, this research is designed to explore how the audiovisual approach supports deaf children in understanding English vocabulary.



Figure 1  
Raised Alphabet and Vocabulary Flashcards

This study employs audiovisual learning materials supported by visual aids such as flashcards, which help strengthen vocabulary knowledge through repeated exposure and the connection between word forms and meanings (Nation, 2001; Schmitt, 2000) and subtitles, which provide written linguistic input that supports comprehension by integrating text and visuals, especially for deaf learners (Mayer, 2007). In addition multisensory tools, including raised alphabet materials, are used to engage visual and tactile modalities, thereby supporting vocabulary understanding and retention (Fleming, 2001).



This study contributes to English as a Foreign Language (EFL) research by extending audiovisual learning perspectives to vocabulary instruction for deaf and hard of hearing (DHH) learners in Indonesian special education contexts. Practically, the findings offer pedagogical insights for EFL teachers in special and inclusive education to design visually oriented and accessible vocabulary instruction that aligns with deaf students' learning characteristics. These contributions highlight the importance of inclusive and visually supported approaches in EFL vocabulary learning for deaf students.

## LITERATURE REVIEW

### *Interactive Audiovisual Media for Vocabulary Learning*

English language learning for deaf and hard of hearing (DHH) children faces a major challenge in vocabulary acquisition due to limited access to sound and pronunciation. Therefore, audiovisual media is considered an important instructional tool to support vocabulary learning through visual and contextual reinforcement. Previous studies have shown that interactive multimedia integrating text, images, and sign language not only improves vocabulary comprehension but also increases students' learning motivation and engagement (Adnyani et al., 2021; Alqraini & Paul, 2020). Similarly, Pieter et al. (2024) demonstrated that Instagram-based videos using American Sign Language (ASL) significantly enhanced students' engagement and vocabulary recognition, as short video formats with attractive visuals made learning more accessible for deaf learners.

### *Videos and Adaptive Subtitles in Supporting Vocabulary Comprehension*

Continued by Hidayah (2024) in her research at SLB Gowa, it was found that learning videos with facial expressions, text, and lip movements play a significant role in clarifying word meanings for DHH students. Recent studies further confirm the effectiveness of video-based multimedia in vocabulary learning, as Fadillah (2025) found that educational video-based instruction significantly

improved students' vocabulary mastery by providing contextualized and visually rich input. Furthermore, Talaván (2019) emphasized that adaptive subtitles are not only supportive tools but also effective pedagogical strategies in vocabulary instruction. This is reinforced by Tamayo and Chaume (2019), who state that subtitles with visual support are able to improve sentence structure comprehension because the subtitles are aligned with children's potential for language acquisition, thus strengthening the connection between text and images.

### *Multimodal and Enriched Subtitling for Deaf Learners' Vocabulary Acquisition*

On the other hand, Hassan & Neves (2019) developed the concept of "enriched subtitling," which combines text, color, and symbols to enrich the meaning of words in videos. Their results showed that audiovisual media can improve vocabulary comprehension for students with hearing loss, thereby increasing their acquisition of new vocabulary. As also stated by Drajeti et al. (2024) that a multimodal approach in English language learning for students with special needs has been proven to provide a more enjoyable learning experience, while Yasin and Mohamad (2024) added that visual aids such as images, animations, and videos are the most effective learning media for introducing new vocabulary to deaf students because they can help overcome student's hearing limitations.

### *Multisensory and Simple Visual Media for Vocabulary Understanding*

Sinaga et al. (2023) expanded the perspective on visual media by applying a question-and-answer method using image-based materials in vocabulary learning for deaf children. The use of image media provides deaf children with ease in understanding vocabulary and its context because they can see the visual results of the taught vocabulary. This proves that simple visual media can be an effective bridge between language and meaning, and this question-and-answer method also proves that deaf children are capable of understanding spoken

instructions. This was emphasized by Helbling et al. (2024) in a systematic review and meta-analysis study, which found that multisensory stimulation (visual, auditory, kinesthetic) suggests that multisensory stimulation has a significant impact on cognitive improvement and learning abilities in students with special needs. This result provides broad theoretical support and strengthens the audiovisual media-based approach in teaching deaf children, leading to positive effects on their overall language comprehension and cognitive improvement.

Therefore, some of these studies show that audiovisual media not only serves as entertainment but also has a very significant function as an inclusive pedagogical tool in educating the nation's children, especially those with special needs, as it can improve their understanding of the material taught contextually, making it easy to understand and remember, and providing a fun and memorable learning experience. The application of audiovisual media can be recommended in English vocabulary learning so that they can understand and use vocabulary more effectively.

## METHOD

This research uses a qualitative approach with a case study design, as explained by Creswell (2013), Fraenkel et al. (2012) which is a design suitable for deeply understanding a phenomenon in a real-life context. This study focuses on how audio visual stimuli including videos animations, subtitled images text, flashcards, and raised alphabets serve as multisensory aids that support vocabulary comprehension. Through this approach, the researcher aims to explore how audiovisual media facilitate deaf children in understanding the meaning of English vocabulary, addressing both the pedagogical strategies and the effectiveness of multisensory learning materials.

The subjects of this research are hearing-impaired children learning English at one of the special schools (SLB) in Sumatera Utara (Percut Sei Tuan) who have studied English for 1 year, with a total of 5 deaf students in one class at the 2nd grade junior high school level. In addition the

homeroom teacher was selected because she was the only English teacher at the junior high school level at the school, so she had insight into teaching strategies and the challenges faced. The principal was included in this study because she often interacted with the education office, which provided a broader understanding of student needs and the implementation of educational programs. The purpose of this study was to use audiovisual media as a means of teaching vocabulary to deaf students.

In this qualitative study, the researcher served as the primary instrument, directly interacting with participants to obtain in-depth information (Sugiyono, 2019). Data collection was carried out in three stages: preparation, implementation, and documentation, supported by interviews, classroom observations, and document analysis. The audiovisual media prepared included animated videos, subtitled images, flashcards, raised alphabets, and accompanied by worksheets. A set of 15 target vocabulary words was selected for learning and comprehension assessment. Interview guidelines were developed for the homeroom teacher and school principal, while observation sheets and documentation tools were prepared to systematically record student responses during lessons.

During the implementation stage, data were collected at a special school (SLB) in Sumatera Utara, semi-structured interviews with the homeroom teacher and principal explored their experiences, perceived benefits, and challenges in using audiovisual media. Classroom observations focused on students' engagement, attention, gestures, and facial expressions while interacting with audiovisual and multisensory. Documentation included audiovisual materials, student worksheets, photos, and videos of learning activities, used to triangulate data and strengthen the study's findings.

Data analysis in this study follows the thematic analysis framework proposed by Braun & Clarke (2006), which consists of six stages to systematically explore how audiovisual media support vocabulary comprehension among deaf



students. The first stage is familiarization, which involves transcribing interview data from the homeroom teacher and the principal, organizing observation notes, and collecting supporting documents such as students' work. All data were read repeatedly to gain a comprehensive understanding of the use of audiovisual media in teaching English vocabulary.

The second stage is generating initial codes by identifying relevant data from interview transcripts and observation results, which were then used to facilitate the grouping of data. This is followed by the third stage, searching for themes, in which the coded data were grouped based on similarities to form several main themes representing patterns across the data. These themes were presented in the form of coding tables and diagrams to clarify their relationships.

In the fourth stage, reviewing themes, the identified themes were re-examined by comparing data from interviews, observations, documentation, and learning outcomes during the treatment to ensure consistency and alignment with the research objectives. The fifth stage, defining and naming themes, involves clearly describing each theme using direct quotations and narrative explanations to support the findings.

Finally, the sixth stage is producing the report, which includes the presentation of observation

results during the implementation of audiovisual media. The findings are supported by an improvement diagram showing the development of students' vocabulary comprehension across four meetings. This stage also incorporates triangulation by comparing multiple data sources to enhance the credibility of the findings, in line with Patton (1999).

## RESULT

The interview data were analyzed using a thematic approach to identify key patterns and meanings from participants' responses. The data were then organized into several categories based on similar ideas to ensure that the findings are systematically structured and easy to understand. To present these findings clearly, they are summarized in a thematic chart in the following section.

### 1. Thematic Table of Interview Results

The data are categorized into five main themes: Pedagogical Issues (PI), Digital and Social Engagement (DSE), Instructional Effectiveness (IE), Learning Dynamics and Barriers (LDB), and Teacher Professional and Emotional Experience (TPE), as illustrated in Table 1. The results are presented in the table below.

Table-1  
 Thematic Table of Interview Findings

Theme	Interview Statement	Description
Pedagogical Issues (Intellectual ability)	PI 1 <i>"I admit now... They are a little behind."</i>	Based on the data above, it can be concluded that deaf students generally possess normal intellectual abilities, although some experience delays in academic development. This suggests that hearing impairment does not directly affect cognitive capacity, but challenges arise from limitations in communication and learning access.
	PI 2 <i>"It seems that if someone is deaf, it doesn't really affect their age, they're just fine, except for those with intellectual disabilities,"</i>	
	PI 3 <i>"Deafness doesn't really affect the brain and intellect."</i>	

<p>Digital and Social Engagement (Students' use of technology and their social interaction)</p>	<p>DSE 1 <i>"They play on their cellphones."</i>DSE 2 <i>"Now the focus is on using oral communication for the future."</i>  DSE 3 <i>"The important thing is that the teacher can communicate well."</i></p>	<p>Based on the data above, it can be concluded that students are familiar with the use of technology in their daily lives, particularly mobile phones, which may support their social interaction. However, effective communication, especially oral communication, remains a key focus in preparing students for future interactions. This highlights the important role of teachers in facilitating meaningful communication in the learning process.</p>
<p>Instructional Effectiveness (Continuity of the method)</p>	<p>IE 1 <i>"By using sign language or audiovisual aids, there are no problems with deaf children"</i>  IE 2 <i>"It has been used since elementary school."</i></p>	<p>Based on the data above, it can be concluded that the use of sign language and audiovisual media is effective in supporting the learning process of deaf students. The consistent use of these methods from an early stage also contributes to better learning outcomes.</p>
<p>Learning Dynamics and Barriers (Learning process and the obstacles faced)</p>	<p>LDB 1 <i>"It's better if it's audiovisual, but not too difficult,"</i>  LDB 2 <i>"But if it's interesting like this, they will enjoy it, except for child C."</i> LDB 3 <i>"They already know the vocabulary but have difficulty pronouncing it."</i>  LDB 4 <i>"To discuss the globe, I just bring a globe."</i></p>	<p>Based on the data above, it can be concluded that students' learning engagement is influenced by the level of difficulty and the attractiveness of the learning media. While audiovisual materials enhance understanding and interest, pronunciation remains a significant challenge for students.</p>
<p>Teacher Professional and Emotional Experience (Support both sub-themes)</p>	<p>TPE 1 <i>"I am also a non-educator. My background is in psychology, but education is different from psychology."</i>  TPE 2 <i>"But I once felt successful teaching English, and now the child has graduated from college."</i>  TPE 3 <i>"I have served for 10 years, moved away once, but it felt different, so I came back here. How do I feel? It's a special kind of happiness."</i></p>	<p>Based on the data above, it can be concluded that teachers' professional and emotional experiences play an important role in the success of the learning process. Teaching effectiveness is not only influenced by educational background but also by experience and emotional commitment.</p>

The findings indicate that deaf students generally have normal intellectual abilities, although some experience delays in academic development due to limitations in communication and learning access. In terms of engagement, students are familiar with technology, but effective teacher communication remains essential in supporting both learning and social interaction. Furthermore, the use of sign language and audiovisual media is found to be effective, especially when applied consistently. Students' learning is also influenced by the level of difficulty and the attractiveness of the materials, where simple and engaging media increase participation. However, pronunciation remains a challenge despite students' understanding of vocabulary. Lastly, teachers' experience, both professional and emotional, plays an important role in the success of the learning process.

## 2. Student Progress Chart

The improvement in students' understanding, as illustrated in Figure 2, shows a positive trend across four meetings and supports the interview findings presented in the previous section.



Figure 2  
Student Progress Development by Indicator

Based on the graph above, there is an increase in vocabulary mastery, indicated by the navy line, which gradually increased from 55% to 100% after repetition and addition of vocabulary. The next improvement is the ability to recognize initial letters, represented by the orange line. Initially, students often forgot the initial letters (40%), but in the last meeting, the score rose to 80% because

only two students still occasionally made mistakes. The next improvement was in arranging letters into words, indicated by the green line. From the beginning, students were able to arrange words with assistance (60%), and this increased to 100% after repeated practice using flashcards and direct writing. The next improvement was reading or spelling. This stage progressed a little slowly from 20% to 60%. Only one student was able to pronounce short words with some clarity, while the others were still at the stage of spelling with some clarity. The final improvement is focus and participation, represented by the purple line. From the beginning, they had fairly stable focus and participation (50%), which increased to 95% by the fourth meeting as the treatment progressed.

The improvements shown in the chart are reflected in four stages of learning development, which explain how students' vocabulary comprehension gradually improved through audiovisual media. In the initial stage (vocabulary introduction and media adaptation), students were introduced to nine words, with four (mouse, frog, monkey, tiger) being unfamiliar. Students were able to arrange raised-letter words but often forgot initial letters and showed very limited pronunciation skills, with only one student able to pronounce simple words such as "cow" and "cat." Although students were active during Q&A sessions using flashcards, they remained shy when working independently and required guidance. Maintaining attention was challenging due to hearing limitations; however, visual cues such as lip-reading and hand signals were effective in gaining their focus.

In the reinforcement and interaction stage, learning emphasized repetition and the addition of new vocabulary. Students became more actively involved by independently selecting flashcards and arranging words. Peer curiosity encouraged interaction through gestures and sounds, fostering collaboration. Consistent routines also helped improve students' focus and understanding of the learning process. In the evaluation and collaborative understanding stage, students

completed a worksheet containing 12 animal vocabularies (cat, cow, tiger, zebra, fish, lion, bird, mouse, elephant, snake, horse, rooster). Two out of five students answered all questions correctly, while the others still struggled, particularly with remembering initial letters. At this stage, students demonstrated increased focus, confidence, and the ability to connect images with prior knowledge. In the final stage (independence and emotional involvement), students were able to write vocabulary independently based on flashcards. The 15 vocabulary items mastered at this stage included mouse, bird, rooster, cat, cow, horse, zebra, tiger, snake, fish, monkey, lion, frog, elephant, and duck. Difficulties with initial letters significantly decreased, with only minor errors remaining, particularly on the word rooster. Interaction became more communicative, and students showed emotional engagement through active participation and personal expression. Although pronunciation remained limited, letter recognition improved, and

students' focus and attention reached an optimal level.

## DISCUSSION

The findings indicate that audiovisual media play a significant role in improving English vocabulary mastery among deaf students through structured and repetitive learning processes. The use of flashcards, animated videos, and raised alphabets enables students to recognize animal forms, understand vocabulary, and arrange letters into complete words. The consistent use of short animal videos featuring real-life visuals and subtitles, combined with regular review activities at the beginning of each lesson, supports students' memory retention and comprehension. This suggests that audiovisual media provide effective visual input that enhances learning for deaf students. To strengthen the validity of these findings, triangulation of data from three sources is presented in the following table.

Table-2  
Data Validity

Data Source	Form of findings	Verification results
Interview	Students show increased responsiveness through visual-based instruction	Consistent with observed student responses during classroom activities
Observation	Students experienced increased engagement with each meeting	Confirmed through increased participation and engagement across meetings
Documents (photos, worksheets, graph)	Visible increase in worksheet scores and graph progress	Verified by improved worksheet scores and progress chart data

The consistency across multiple data sources indicates that audiovisual media effectively improve students' vocabulary mastery through repeated and visual-based learning. This suggests that visual input plays a crucial role in supporting vocabulary acquisition among deaf students. This

finding is supported by Mayer (2007), who emphasizes the effectiveness of multimedia through visual and verbal integration, and is consistent with Yasin & Mohamad (2024), (Lubis et al. (2025), Hutasoit et al. (2025) and Talaván (2019), who highlight the role of audiovisual media



in enhancing vocabulary comprehension for deaf learners. Furthermore, Alhazmi (2024) and Drajadi et al. (2021) confirm that multimodal learning increases engagement and retention, while Olszak & Borowicz (2025) and Fadillah (2025) also report significant improvements in vocabulary mastery through video-based learning. Therefore, the convergence of interview, observation, and documentation data strengthens the validity and reliability of these findings.

While these findings are consistent with previous studies, this research offers several distinctive contributions. This study shares similarities with previous research in highlighting the effectiveness of audiovisual and visual-based media in improving vocabulary mastery among learners, particularly deaf students, emphasizing the role of visual input, repetition, and multimodal learning. However, this study differs in several important aspects. It focuses specifically on deaf students in a real classroom context and provides a detailed analysis of the learning process through four developmental stages. In addition, the integration of multiple learning tools, including subtitled videos, flashcards, and raised alphabets, as well as the inclusion of emotional and interactional aspects, provides a more comprehensive understanding of how audiovisual media support vocabulary learning.

## CONCLUSION

This study concludes that the use of audiovisual media plays a positive role in improving English vocabulary comprehension among deaf and hard of hearing (DHH) students. By integrating visual and sensory elements with repetitive activities, it helps students recognize and remember vocabulary and maintain focus while learning. Audiovisual media also creates a more engaging learning environment, thus encouraging active student participation despite hearing limitations.

This study has limitations, including a limited number of participants and a qualitative case study design, which means the research findings cannot

yet be widely generalized. Additionally, the effectiveness of audiovisual media is more dominant in visual vocabulary comprehension, while oral language skills, such as pronunciation, still require more specific additional approaches. However, this research has important implications for special and inclusive education, namely, that audiovisual media is an effective learning strategy for increasing the engagement, emotional comfort, and vocabulary mastery of deaf students. Additionally, teachers' emotional involvement and consistent interaction have been shown to contribute to creating a supportive learning environment and strengthening the relationship between teachers and students in special schools. Based on these findings, future research is recommended to involve a larger number of participants, a longer intervention duration, and to combine audiovisual media with sign language or speech therapy. Further research could also delve deeper into the emotional aspects of teachers and students to understand the affective dimension of the learning process for deaf students.

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