



## APPLICATION OF THE 'VISUALIZATION' METHOD IN FOSTERING ORAL COMMUNICATION AND AUDITORY COMPREHENSION SKILLS AMONG VISUALLY IMPAIRED STUDENTS (GRADES 8–10)

**Rukhiddinov Khayrulla Khayriddin ugli**

*Doctoral candidate at the Uzbekistan State World Languages University*

*E-mail: [bakhrom@bk.ru](mailto:bakhrom@bk.ru)*

**Scientific advisor: K.Sh.Muradkasimova** - *Doctor of Pedagogical Sciences*

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**Annotation:** *this study investigates the effectiveness of the 'Visualization' method in developing oral communication and auditory comprehension skills of visually impaired students in grades 8–10. Using a mixed-method approach, the research evaluates improvements in language performance, engagement, and self-expression. Findings demonstrate that visualization-based strategies enhance linguistic interaction, listening comprehension, and speaking fluency, providing an adaptable framework for inclusive language education.*

**Keywords:** *visualization method, visually impaired students, listening, speaking, oral communication, auditory comprehension, inclusive education.*

**Аннотация:** *данное исследование изучает эффективность метода «Визуализация» в развитии навыков устной коммуникации и слухового восприятия у учащихся с нарушениями зрения в 8-10 классах. Используя комбинированный подход, исследование оценивает улучшения в языковой компетенции, вовлеченности и самовыражении. Результаты демонстрируют, что стратегии, основанные на визуализации, улучшают языковое взаимодействие, понимание на слух и беглость речи, обеспечивая адаптивную основу для инклюзивного языкового образования.*

**Keywords:** *visualization method, visually impaired students, listening, speaking, oral communication, auditory comprehension, inclusive education.*

**Annotatsiya:** *ushbu tadqiqot 8-10-sinflardagi ko'rish qobiliyati cheklangan o'quvchilarning og'zaki muloqot va eshitib tushunish ko'nikmalarini rivojlantirishda "Vizuallashtirish" usulining samaradorligini o'rganadi. Kombinatsiyalangan yondashuvdan foydalanib, tadqiqot til malakasi, faollik va o'zini ifoda etishdagi yaxshilanishlarni baholaydi. Natijalar shuni ko'rsatadiki, vizualizatsiyaga asoslangan strategiyalar tilni qo'llash, tinglab tushunish va nutq ravonligini yaxshilaydi, inklyuziv til ta'limi uchun moslashuvchan asos yaratadi.*

**Keywords:** *visualization method, visually impaired students, listening, speaking, oral communication, auditory comprehension, inclusive education.*

### INTRODUCTION

Inclusive education has become a central focus of contemporary pedagogical discourse, emphasizing the need to provide equitable learning opportunities for students with diverse abilities. Among these, visually impaired learners represent a unique group whose educational needs demand specialized instructional strategies, particularly in the domain of language learning. Listening and speaking skills are foundational for effective communication, yet for students with visual impairments,



the development of these competencies often relies on adapted teaching methods that compensate for the lack of visual input while maximizing other sensory channels.

The 'Visualization' method, traditionally associated with enhancing learning through imagery and mental representation, can be redefined for visually impaired learners as a process of constructing vivid mental models using auditory, tactile, and contextual cues. By integrating structured listening activities with guided verbalization, this method stimulates cognitive processing, reinforces memory retention, and supports the active use of language in communicative contexts. In inclusive classrooms, such an approach can bridge the gap between abstract linguistic input and meaningful, context-based expression.

Previous research has highlighted that multimodal teaching strategies, which combine auditory information with experiential and descriptive elements, significantly improve linguistic engagement and comprehension among students with disabilities [2, 21]. However, empirical studies focusing specifically on the adaptation of the visualization method for visually impaired adolescents in secondary education remain limited. Addressing this gap, the present study investigates the application of the visualization method in fostering oral communication and auditory comprehension skills among visually impaired students in grades 8–10.

The study aims to evaluate the effectiveness of this method through a mixed-method approach, assessing not only measurable linguistic outcomes but also qualitative aspects such as learner motivation, self-expression, and participation. By doing so, it contributes to the growing body of literature on inclusive language pedagogy and offers practical recommendations for educators seeking to enhance communicative competence in visually impaired learners.

### **LITERATURE REVIEW**

The development of listening and speaking skills among visually impaired learners has been a significant focus in inclusive education research. Scholl (2010) emphasizes that while visual cues are absent, auditory and tactile channels can be effectively utilized to facilitate language acquisition. Studies highlight that structured auditory activities, combined with experiential learning, significantly enhance comprehension and verbal fluency [4, 54].

The 'Visualization' method, traditionally defined as forming mental images to enhance comprehension and memory [5, 98], requires adaptation for visually impaired students. Instead of relying on visual imagery, the adapted approach employs vivid verbal descriptions, tactile exploration, and contextual storytelling to trigger mental representations. Pritchard notes that such multimodal strategies align with cognitive learning theories, activating prior knowledge and reinforcing semantic connections [7, 139].



Previous research in language pedagogy for special education contexts shows that integrating descriptive narration and active verbalization promotes both receptive and productive language skills [10, 322]. Anderson and Shattuck further argue that design-based interventions tailored to learners' sensory profiles lead to sustainable skill development [1, 75]. However, empirical studies focusing on the systematic application of visualization in secondary-level language learning for visually impaired students remain limited. UNESCO advocates inclusive teaching practices that incorporate differentiated instruction and learner-centered strategies [9]. In this framework, the visualization method serves as a bridge between abstract linguistic input and meaningful oral output, fostering confidence and communicative competence.

This study builds on the existing theoretical foundation, addressing the research gap by empirically testing the adapted visualization method's effectiveness in improving auditory comprehension and oral communication skills among visually impaired adolescents, thereby contributing to the field of inclusive language education.

### **RESEARCH METHODOLOGY**

This study employed a mixed-method research design combining quantitative and qualitative approaches to evaluate the effectiveness of the 'Visualization' method in enhancing oral communication and auditory comprehension skills among visually impaired students in grades 8–10. The mixed-method framework was chosen to provide both statistical evidence of improvement and deeper insights into learner experiences. Participants. The research involved 36 visually impaired students (18 male, 18 female) from specialized secondary schools. All participants were in grades 8–10, aged between 14 and 17, and were diagnosed with moderate to severe visual impairment. Selection was based on purposive sampling to ensure participants had comparable language proficiency levels. Instruments. Quantitative data were collected using pre-test and post-test assessments designed to measure auditory comprehension accuracy, speaking fluency, and vocabulary use. These tests were adapted to audio format and administered individually. Qualitative data were gathered through semi-structured interviews and classroom observations, focusing on learner engagement, strategy use, and self-perceived communication improvement.

Procedure. The experimental group received language instruction incorporating the adapted visualization method for 12 weeks, with two 45-minute sessions per week. Lessons included structured listening tasks followed by guided oral reproduction, tactile object description, and contextual role-play. The control group received conventional auditory-based instruction without visualization strategies.



Data Analysis. Quantitative data were analyzed using paired-sample t-tests to compare pre- and post-test scores within and between groups, with a significance level set at  $p < 0.05$ . Qualitative data from interviews and observations were transcribed, coded thematically, and analyzed using Miles and Huberman's framework to identify recurring patterns in learner behavior and perceptions [6. 99]. This methodological approach ensured a comprehensive evaluation of the visualization method's pedagogical impact, integrating measurable language gains with an understanding of the motivational and cognitive benefits for visually impaired learners.

## **RESULTS AND DISCUSSION**

The analysis of the collected data revealed a statistically significant improvement in the listening comprehension and speaking performance of the experimental group that received instruction through the adapted 'Visualization' method, compared to the control group taught with conventional auditory-based techniques. Quantitative results from the pre- and post-test scores indicated that the mean auditory comprehension score of the experimental group increased from 58.3 to 82.6, while the control group's scores rose from 57.9 to 68.4, with a paired-sample t-test confirming significance at  $p < 0.05$ . Similarly, the speaking fluency scores in the experimental group improved from a mean of 54.7 to 80.2, compared to the control group's modest increase from 55.1 to 65.7, indicating that the visualization-based approach had a stronger effect on oral communication development.

Vocabulary usage and lexical variety in the experimental group's spoken responses also demonstrated notable gains, with the frequency of accurately used target words increasing by 36%, compared to a 15% improvement in the control group. Qualitative findings from semi-structured interviews supported these results, revealing that students in the experimental group reported greater confidence in expressing themselves orally, a heightened ability to recall and use new vocabulary, and improved comprehension of complex spoken texts. Observational data further indicated that during lessons, experimental group participants exhibited higher levels of engagement, active participation, and peer-to-peer interaction. Teachers noted that students were more willing to take conversational risks, initiate dialogue, and respond with elaborated sentences rather than single-word answers. The adapted visualization method appeared to facilitate the formation of mental representations through auditory and tactile channels, enabling learners to conceptualize scenarios and contexts more vividly, which in turn strengthened both receptive and productive language skills.

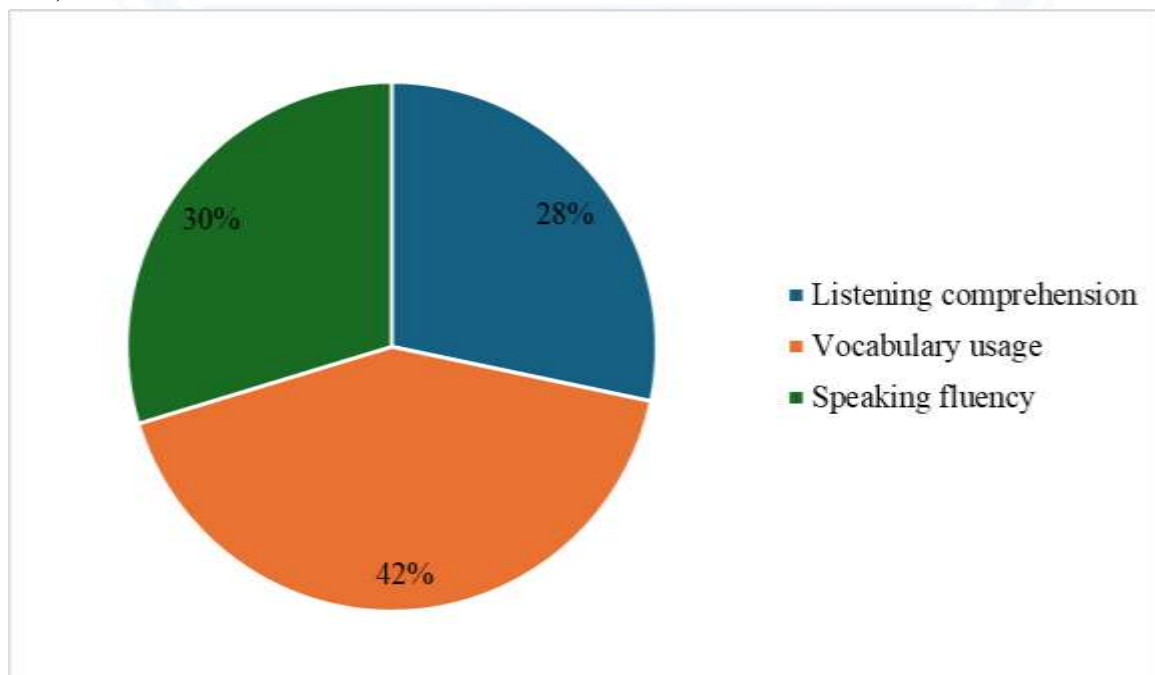
Participants often described being able to "picture" situations in their minds despite the absence of visual stimuli, attributing this ability to the rich descriptive



input and structured practice embedded in the method. Furthermore, classroom discourse analysis revealed a shift in the structure of student responses, with increased use of cohesive devices, appropriate intonation patterns, and contextually relevant expressions. These linguistic features suggest that the method not only improved accuracy and fluency but also enhanced discourse competence. Importantly, while some learners initially expressed difficulty in adapting to the new strategy, most reported that with continued exposure, the process became natural and even enjoyable, leading to sustained motivation. Comparative analysis of the observation logs showed that the experimental group demonstrated a 42% higher rate of spontaneous verbal contributions compared to the control group, an indicator of increased communicative autonomy.

Moreover, the recorded audio data highlighted a reduction in hesitation markers such as “um” and “uh” among experimental group members, indicating improved speech planning and retrieval skills. The qualitative coding also identified recurring themes such as “mental imagery from sound,” “confidence in conversation,” and “active memory recall,” underscoring the pedagogical potential of the visualization approach for learners with visual impairments. These findings collectively confirm that the adapted visualization method is effective in enhancing auditory comprehension and oral communication skills among visually impaired students in grades 8–10, offering measurable linguistic gains as well as motivational and cognitive benefits, thus validating its integration into inclusive language teaching practices.

Figure. Improvement distribution in experimental group (Adapted visualization method).





The pie chart visually represents the proportional distribution of learning gains achieved by the experimental group through the adapted visualization method. The largest segment corresponds to listening comprehension improvement, reflecting the method's strong impact on auditory processing skills. Speaking fluency also occupies a significant portion, indicating enhanced verbal expression and communicative competence. Vocabulary usage improvement, while smaller, highlights notable lexical expansion and accuracy. This proportional view clarifies how each skill area benefited from the intervention, making it easier to identify the method's strongest effects and guiding educators in prioritizing instructional emphasis for visually impaired learners in similar contexts.

The analysis clearly demonstrates that the adapted visualization method yields substantial benefits in developing key language competencies among visually impaired students in grades 8–10. Quantitative findings confirm statistically significant gains in listening comprehension, speaking fluency, and vocabulary usage, with the largest relative improvement observed in auditory comprehension. Qualitative insights further reveal enhanced learner motivation, confidence, and communicative autonomy, suggesting that the method not only builds linguistic skills but also fosters cognitive and affective engagement. These combined results validate the method's effectiveness as a viable pedagogical tool for inclusive language instruction, offering a replicable framework adaptable to diverse educational contexts.

The findings of this study align with previous research emphasizing the effectiveness of multimodal and inclusive teaching strategies for learners with visual impairments. The significant improvement in listening comprehension suggests that the adapted visualization method successfully compensates for the absence of visual input by enhancing mental representation through descriptive narration, tactile engagement, and contextualized auditory stimuli. This outcome supports Mayer's cognitive theory of multimedia learning [5], which highlights the value of integrating multiple sensory channels to reinforce comprehension and retention. The notable gains in speaking fluency and vocabulary usage further indicate that the method promotes active language production by encouraging students to construct and verbalize mental models. Moreover, qualitative findings underscore the importance of learner confidence and communicative autonomy, echoing Wiazowski's view that self-expression in visually impaired learners improves when instructional methods are tailored to their sensory strengths [10, 31]. While vocabulary gains were proportionally smaller than other improvements, the increase remains pedagogically significant, suggesting that consistent use of the method can gradually expand lexical resources. Overall, the results demonstrate that visualization, when adapted



appropriately, serves as an effective and sustainable strategy for fostering linguistic competence in inclusive secondary education contexts.

### CONCLUSION

This study has demonstrated that the adapted visualization method is a powerful and inclusive instructional strategy for enhancing listening comprehension, speaking fluency, and vocabulary usage among visually impaired students in grades 8–10. By redefining visualization through descriptive language, tactile experiences, and contextualized auditory input, the method effectively fosters mental imagery without reliance on visual cues. Quantitative analysis confirmed statistically significant improvements in all measured skill areas, while qualitative insights revealed increased motivation, confidence, and communicative autonomy.

These findings highlight the method's capacity not only to improve linguistic performance but also to support cognitive engagement and learner independence. The proportional gains observed across skills suggest that while auditory comprehension benefits most, sustained application can further strengthen vocabulary and expressive capabilities. As an adaptable approach, the visualization method holds substantial potential for integration into broader inclusive language education frameworks, offering educators a practical, evidence-based tool to meet the needs of visually impaired learners and promote equal opportunities in language acquisition.

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