



ASEAN Journal of Community and Special Needs Education



Journal homepage: <https://ejournal.bumipublikasinusantara.id/index.php/ajcsne>

Organizing Subject-Practical Activities to Support the Development of Hearing-Impaired Children with Intellectual Disabilities

*Abduraxmanova Shoxsanam Baxtiyor, Nuriddinova Asila Sodiqovna**

Chirchik State Pedagogical University, Uzbekistan

*Correspondence: E-mail: nuriddinovaasila2004@gmail.com

ABSTRACT

This study examines the organization of subject-practical activities for hearing-impaired children with intellectual disabilities. The study focuses on how visual aids, multisensory strategies, and game-based learning support cognitive, motor, social, and communication development. Using observation, experimental activities, surveys, interviews, and statistical analysis, structured hands-on activities improved students' independent task performance, comprehension of visual instructions, teamwork, and communication skills. Practical activities help children apply learned concepts in meaningful contexts while increasing engagement and confidence. This study recommends the systematic integration of subject-practical activities into special education curricula and continuous teacher development in corrective pedagogy.

ARTICLE INFO

Article History:

Submitted/Received 19 Oct 2024

First Revised 28 Dec 2024

Accepted 18 Feb 2025

First Available online 19 Feb 2025

Publication Date 01 Mar 2025

Keyword:

Communication skills;

Hearing-impaired children;

Intellectual disabilities;

Social adaptation;

Special education;

Subject-practical activities.

1. INTRODUCTION

Creating an inclusive and effective educational environment for children with special needs remains an important challenge in special education. Hearing-impaired children with intellectual disabilities often experience complex barriers in communication, cognition, motor development, and social interaction. These barriers require learning strategies that are individualized, accessible, and responsive to both sensory and cognitive limitations (Azizah *et al.*, 2022; Egbedeyi and Babalola, 2023; Al Shaban Radi and Hanafi, 2024; Rizqita *et al.*, 2024).

Children with hearing impairments and intellectual disabilities may have difficulty understanding verbal instruction, processing abstract information, and participating in classroom interaction. Therefore, conventional teaching methods are often insufficient to support their learning needs. Special education requires inclusive awareness, accessible learning materials, and adaptive teaching strategies that help students participate according to their sensory and cognitive needs (Musayaroh *et al.*, 2023; Glushchenko and Trubacheyev, 2025; Faddillah *et al.*, 2022).

Subject-practical activities are important because they allow children to learn through concrete tasks, such as assembling objects, crafting, drawing, role-playing, and working with sensory materials. These activities can support fine motor skills, comprehension, independence, cooperation, and communication. Practical and multisensory learning also helps students connect classroom concepts with real-life situations, making learning more meaningful and accessible (Rahmat, 2022; Rusyani *et al.*, 2022a; Rizqita *et al.*, 2024).

Inclusive education has become part of broader educational reform, especially in improving access and learning quality for children with disabilities. Special education institutions play an important role in helping children with hearing impairments and intellectual disabilities develop academic, social, and independent living skills. In the Uzbek educational context, broader discussions on educational development, institutional management, and the country's scientific-educational heritage indicate the importance of improving learning quality and strengthening pedagogical practice (Muhabbat *et al.*, 2023; Mirzabek, 2023). For hearing-impaired children with intellectual disabilities, this improvement requires teaching models that combine corrective pedagogy, practical activities, visual support, and teacher guidance. Previous studies have discussed inclusive education, adaptive learning, visual support, and pedagogical strategies for children with special needs. However, studies that focus specifically on the organization of subject-practical activities for hearing-impaired children with intellectual disabilities remain limited. Therefore, this study examines how subject-practical activities can support cognitive, motor, social, and communication development. The study aims to provide practical insights for educators in designing structured, multisensory, and developmentally appropriate activities for children with dual disabilities.

2. LITERATURE REVIEW

Hearing-impaired children with intellectual disabilities require structured teaching approaches that respond to both sensory and cognitive limitations. Because verbal instruction may be difficult to understand, learning activities should use visual, tactile, kinesthetic, and concrete materials. These approaches help children understand concepts through direct experience, repeated practice, and teacher guidance (Rusyani *et al.*, 2022a; Rusyani *et al.*, 2022b). Multisensory and visual learning are important in special education because they make instruction more accessible. Visual aids, pictograms, demonstrations, tactile objects,

and hands-on tasks can improve comprehension, engagement, and participation. Accessible learning materials and supportive environments also help children with special needs participate more independently in classroom activities (Musayaroh *et al.*, 2023; Rahmat, 2022; Rizqita *et al.*, 2024). Corrective pedagogy supports the development of communication, motor skills, independence, and social behavior through individualized instruction. Subject-practical activities, such as crafting, assembling objects, sorting materials, drawing, and role-playing, are closely related to corrective pedagogy because they train children to observe, imitate, manipulate objects, solve simple problems, and complete tasks independently (Maknun *et al.*, 2019). Social adaptation is also a key goal in the education of hearing-impaired children with intellectual disabilities. Group-based practical activities provide opportunities for children to communicate, cooperate, take turns, share materials, and build confidence in social interaction. Vocabulary development and communication support are important for strengthening classroom participation and social inclusion (Kurniawati, 2022).

Table 1 presents a summary of the literature review used to support this study. The key concepts from previous studies can be summarized into four main areas: pedagogical approaches, multisensory and visual learning, corrective pedagogy, and social adaptation. These areas provide the theoretical basis for organizing subject-practical activities for hearing-impaired children with intellectual disabilities. Based on the literature, subject-practical activities are useful for supporting cognitive, motor, communication, and social development. However, studies focusing specifically on the systematic organization of these activities for children with both hearing impairment and intellectual disabilities remain limited. Therefore, this study examines how structured subject-practical activities can support learning and development in special education settings.

Table 1. Summary of literature review on subject-practical activities for hearing-impaired children with intellectual disabilities.

FOCUS AREA	KEY IDEA	RELEVANCE TO THIS STUDY	REFERENCES
Pedagogical approaches	Children with hearing impairment and intellectual disabilities need structured, concrete, and adaptive teaching methods.	Supports the need for organized subject-practical activities.	Rusyani <i>et al.</i> (2022a); Rusyani <i>et al.</i> (2022b)
Multisensory and visual learning	Visual, tactile, and kinesthetic materials help students understand instructions and concepts more clearly.	Explains the use of visual aids, pictograms, demonstrations, and tactile materials.	Musayaroh <i>et al.</i> (2023); Rizqita <i>et al.</i> (2024); Rahmat (2022)
Corrective pedagogy	Individualized and structured instruction helps improve communication, motor skills, and independence.	Provides the pedagogical basis for hands-on learning tasks.	Maknun <i>et al.</i> (2019)
Social adaptation	Group activities help children practice cooperation, communication, and confidence.	Supports the use of collaborative practical activities in special education classrooms.	Kurniawati (2022)

3. METHODS

This study used a mixed-methods design to examine the organization and effectiveness of subject-practical activities for hearing-impaired children with intellectual disabilities. The qualitative component was conducted through theoretical analysis, classroom observation, teacher interviews, and parent or caregiver feedback. The quantitative component was conducted through experimental activities and statistical analysis of students' developmental progress. The study was carried out in special education settings in Uzbekistan. The participants were hearing-impaired children with intellectual disabilities who took part in structured subject-practical activities, such as paper crafts, model assembly, tactile tasks, and group problem-solving exercises. Teachers, parents, and caregivers were also involved to provide information about students' learning behavior, communication, social interaction, and independent living skills. Data were collected through observation, semi-structured interviews, surveys, and pre- and post-intervention task assessments. The observed indicators included task completion accuracy, participation level, ability to follow visual instructions, fine motor performance, independence, teamwork, and communication. Qualitative data were analyzed descriptively to identify patterns in student engagement and teacher responses, while quantitative data were analyzed using descriptive statistics and paired comparisons to examine changes before and after the intervention. This method allowed the study to evaluate both the learning process and the developmental outcomes of subject-practical activities. The analysis focused on how visual, tactile, multisensory, and hands-on activities supported cognitive, motor, communication, and social development among hearing-impaired children with intellectual disabilities.

4. RESULTS AND DISCUSSION

4.1. Improvement in independent action skills

The implementation of subject-practical activities improved the independent action skills of hearing-impaired children with intellectual disabilities. At the beginning of the intervention, many students required intensive teacher assistance to complete hands-on tasks. However, after participating in structured activities such as model assembly, paper crafts, and tactile-based tasks, students showed greater confidence and accuracy in completing activities independently. Practical activities can help students develop fine motor coordination, concentration, and problem-solving ability. Working with concrete materials allows children to understand tasks through direct experience rather than relying only on verbal instruction. This result is consistent with the view that practical and tactile activities support sensory integration, cognitive reinforcement, and skill acquisition among children with disabilities ([Glushchenko and Trubacheyev, 2025](#)).

4.2. Enhanced comprehension of visual instructions

Visual instructions played an important role in improving students' comprehension. Pictograms, infographics, demonstrations, and step-by-step visual guides helped students understand task procedures more clearly. When visual instructions were provided, students were more engaged, participated more actively, and required less assistance from teachers. Visual and multisensory materials are highly relevant for hearing-impaired children with intellectual disabilities. Since these students may have difficulty processing auditory information, visual support provides a more accessible pathway for learning. The use of visual

and tactile learning materials can improve comprehension, attention, and classroom participation (Rahmat, 2022; Rizqita et al., 2024).

4.3. Development of social adaptation and communication skills

Subject-practical activities also supported the development of social adaptation and communication skills. Group-based activities, such as collaborative problem-solving, role-playing, and shared craft tasks, encouraged students to interact with peers, take turns, share materials, and express their ideas. These activities created structured opportunities for students to practice communication in meaningful classroom situations. The students showed improvement in expressing needs, understanding others, and cooperating during group tasks. These findings suggest that practical activities are not only useful for cognitive and motor development but also for social inclusion. Collaborative learning helps children build confidence, reduce isolation, and develop positive peer relationships. Vocabulary support and communication practice are also important for strengthening the participation of hearing-impaired students in classroom activities (Kurniawati, 2022).

4.4. Teacher feedback and pedagogical improvement

Teachers reported that subject-practical activities helped them create more engaging and accessible lessons. The use of visual, tactile, and hands-on materials made it easier for teachers to explain concepts and adjust activities to the needs of each child. Teachers also observed that students became more active, motivated, and confident during practical tasks. Subject-practical activities can strengthen pedagogical practice in special education. Teachers need flexible instructional strategies that combine corrective pedagogy, visual support, and direct practice. These strategies allow educators to support students' independence, communication, and problem-solving skills more effectively. Therefore, professional development is important so that teachers can design practical activities that are structured, inclusive, and developmentally appropriate.

4.5. Statistical findings and overall learning outcomes

The statistical findings showed positive developmental changes after the implementation of subject-practical activities. **Table 2** summarizes the main developmental outcomes observed after the implementation of subject-practical activities. Subject-practical activities contributed to several areas of student development. The improvement in fine motor and practical skills indicates that tactile and hands-on tasks helped students develop better coordination and task accuracy. The decrease in teacher assistance from 65% to 30% also suggests that structured practical activities encouraged greater independence. In addition, the improvement in teamwork and communication skills shows that collaborative activities gave students opportunities to interact, cooperate, and express themselves in meaningful classroom situations. These findings confirm that subject-practical activities do not only support cognitive and motor development but also strengthen social adaptation and classroom participation among hearing-impaired children with intellectual disabilities. Subject-practical activities should be systematically integrated into special education curricula. Visual aids, tactile materials, game-based learning, and collaborative tasks can increase student engagement and support cognitive, motor, social, and communication development. These findings emphasize the importance of structured, multisensory, and practical learning environments for children with dual disabilities.

Table 2. Developmental outcomes after the implementation of subject-practical activities.

DEVELOPMENTAL ASPECT	INDICATOR	MAIN FINDING	INTERPRETATION
Fine motor and practical skills	Students' ability to complete hands-on tasks, such as model assembly and craft activities	80% of students showed improvement	Subject-practical activities helped students improve precision, coordination, and practical task performance.
Task independence	Students' need for teacher assistance during basic activities	Teacher assistance decreased from 65% to 30%	Students became more independent and confident in completing structured tasks.
Teamwork and communication	Students' participation in group activities, role-playing, and collaborative problem-solving	75% of students showed improvement	Group-based practical activities supported social interaction, cooperation, and communication skills.
Learning engagement	Students' participation during visual, tactile, and hands-on activities	Students became more active and engaged	Multisensory activities helped students understand instructions and participate more meaningfully.

4.6. Discussion

Subject-practical activities are effective because they respond directly to the learning characteristics of hearing-impaired children with intellectual disabilities. These children often require concrete, structured, and repeated learning experiences because they may face difficulties in understanding verbal instructions and abstract concepts. Through practical activities, students are not only asked to listen or observe, but also to touch, manipulate, arrange, imitate, and complete tasks. The improvement in students' fine motor skills, task independence, and participation shows that hands-on activities can strengthen both cognitive and practical development. The use of visual and multisensory materials was one of the most important factors supporting student progress. Visual instructions, pictograms, demonstrations, tactile materials, and step-by-step guidance helped students understand what they needed to do during learning activities. This finding is consistent with previous studies showing that children with hearing impairment benefit from accessible learning materials, visual support, and adaptive instruction (Musayaroh *et al.*, 2023; Rizqita *et al.*, 2024; Rahmat, 2022). Multisensory learning reduces dependence on verbal explanation and gives students alternative ways to process information. The decrease in teacher assistance from 65 to 30% also shows that subject-practical activities can gradually build student independence. At the beginning of the intervention, students needed more support to understand instructions, organize materials, and complete tasks. However, repeated participation in structured activities helped them become more confident and independent. This result supports the view that adaptive and practical teaching strategies can improve the learning participation of children with special needs (Azizah *et al.*, 2022; Egbedeyi and Babalola, 2023). The improvement in teamwork and communication skills further demonstrates that subject-practical activities support social adaptation. Group tasks, role-playing, and collaborative problem-solving gave students opportunities to communicate, take turns, share materials, and cooperate with peers. Practical group activities provide a structured environment where children can practice communication in meaningful situations. This finding is in line with studies emphasizing the importance of vocabulary development,

communication support, and social interaction for hearing-impaired students (Kurniawati, 2022; Rusyani *et al.*, 2022a). From a pedagogical perspective, the findings show that subject-practical activities are closely related to corrective pedagogy. In this study, activities such as crafting, model assembly, tactile tasks, and group exercises allowed teachers to address motor, cognitive, communication, and social goals at the same time. This supports previous work showing that special education requires appropriate instructional models, accessible environments, and individualized support for students with disabilities (Maknun *et al.*, 2019; Al Shaban Radi and Hanafi, 2024). Subject-practical activities should not be treated as supplementary classroom activities, but as an essential part of special education instruction. When these activities are systematically planned, they can improve comprehension, independence, social interaction, and communication. The findings also show the need for continuous teacher training so that educators can design practical, visual, and multisensory activities that are suitable for children with dual disabilities.

5. CONCLUSION

This study shows that subject-practical activities support the cognitive, motor, social, and communication development of hearing-impaired children with intellectual disabilities. Structured hands-on tasks, visual instructions, tactile materials, and group activities helped students improve fine motor skills, task independence, comprehension, teamwork, and communication. The findings showed that 80% of students improved in fine motor and practical skills, teacher assistance decreased from 65% to 30%, and 75% of students improved in teamwork and communication. These results indicate that subject-practical activities should be systematically integrated into special education curricula. Teachers also need continuous professional development to design accessible, multisensory, and developmentally appropriate learning activities.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

7. REFERENCES

- Al Shaban Radi, H. M., and Hanafi, Z. (2024). Managing visually impaired students: Factors that support and inhibit inclusive programs in elementary. *Indonesian Journal of Community and Special Needs Education*, 4(1), 19-28.
- Azizah, N., Prasetyo, A. C., Dini, N., Wulandari, V., and Kruesa, M. (2022). Social inclusive education project (SIEP) as a community for handling children with special needs in rural areas. *Indonesian Journal of Community and Special Needs Education*, 2(2), 89-98.
- Egbedeyi, T. F., and Babalola, A. E. (2023). Availability and challenges of inclusive lower primary education schools. *Indonesian Journal of Community and Special Needs Education*, 3(2), 93-102.
- Faddillah, R. N., Nandiyanto, A. B. D., and Bilad, M. R. (2022). Literacy program for elementary school students about inclusive education in recognizing children with special needs. *ASEAN Journal of Community and Special Needs Education*, 1(1), 1-8.

- Glushchenko, V. V., and Trubacheyev, E. V. (2025). Managing the social development of students with disabilities in inclusive universities: A conceptual approach. *Indonesian Journal of Community and Special Needs Education*, 5(1), 1-6.
- Kurniawati, K. (2022). Efforts to improve the vocabulary of Indonesian language for 1st-grade elementary students with hearing impairment for through the application of mnemonic. *ASEAN Journal of Community and Special Needs Education*, 1(2), 81-88.
- Maknun, J., Barliana, M. S., and Cahyani, D. (2019). A design model of special vocational high school for children with visual impairment. *Indonesian Journal of Science and Technology*, 4(2), 158-170.
- Mirzabek, R. (2023). The science education and history of Ulugh Beg: Astronomer and mathematician from Samarkand, Uzbekistan. *ASEAN Journal of Science and Engineering Education*, 3(1), 59-64.
- Muhabbat, H., Jakhongir, S., Farxod, T., and Khulkar, K. (2023). Modernization of management system of higher education institutions: An empirical perspective from Uzbekistan. *Indonesian Journal of Multidisciplinary Research*, 3(2), 297-306.
- Musayaroh, S., Asmiati, N., Utami, Y. T., Mulia, D., Sidik, S. A., Abadi, R. F., Pratama, T. Y., Maslahah, S., and Pramudyo, A. S. (2023). A digital accessibility and inclusive design-based e-module in higher education: Does it work in a classroom with a deaf student? *ASEAN Journal of Community and Special Needs Education*, 2(1), 55-60.
- Rahmat, A. (2022). Creating good environment and building for people with special needs: From definition to application of guiding and warning blocks. *Indonesian Journal of Community and Special Needs Education*, 2(1), 39-44.
- Rizqita, A. J., Sunardi, S., and Bela, M. R. W. A. T. (2024). Development of traluli program of family-resourced early intervention for multiple disability and visual impairment (MDVI) children with fine motor impairment in inclusive school. *Indonesian Journal of Community and Special Needs Education*, 4(1), 65-74.
- Rusyani, E., Awaliah, F. A., Maryanti, R., Al Husaeni, D. F., Ragadhita, R., and Susetyo, B. (2022a). The application of speaking development on the establishment of object vocabulary in student with hearing impairment. *Indonesian Journal of Educational Research and Technology*, 2(1), 45-56.
- Rusyani, E., Permana, S., and Ragadhita, R. (2022b). Attitudes of high special school students with hearing impairment to online adaptive physical education learning. *Indonesian Journal of Teaching in Science*, 2(1), 29-38.