

**THERAPEUTIC AND DEVELOPMENTAL APPROACHES FOR EARLY
LEARNERS WITH SIGNIFICANT SPEECH IMPAIRMENTS**

*ABORDAGENS TERAPÊUTICAS E DE DESENVOLVIMENTO PARA ALUNOS
PRECOSES COM DEFICIÊNCIAS SIGNIFICATIVAS DA FALA*

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ABSTRACT

The study's relevance is due to the need to improve correctional and developmental work with primary schoolchildren with severe speech impairments in inclusive education. The integration of digital technologies into the learning process of such children opens up new opportunities for their speech, cognitive and social development. The study aims to investigate the impact of modern innovative methods on developing speech skills in children with severe speech impairments. The research methodology is based on an integrated approach that includes a theoretical analysis of the literature, empirical observations, a pedagogical experiment and statistical data processing. The results have shown that using digital tools such as Speech Blubs and Articulation Station significantly increases the effectiveness of correctional work with children. Using innovative platforms helps to improve pronunciation, expand vocabulary and form the grammatical structure of speech. The study's practical significance lies in developing recommendations for teachers and speech therapists on adapting digital technologies to the needs of students with speech disorders. The proposed approaches enable enhancing the quality of education and the successful socialisation of children in the general education environment. The study's results can be implemented by adapting educational programmes, providing teacher training in a professional setting, and implementing inclusive education.

Keywords: correctional and developmental work, primary school children, digital technologies, inclusive education, speech development.

RESUMO

A relevância do estudo deve-se à necessidade de melhorar o trabalho de correção e desenvolvimento com crianças do ensino primário com deficiências graves da fala na educação inclusiva. A integração das tecnologias digitais no processo de aprendizagem destas crianças abre novas oportunidades para o seu desenvolvimento linguístico, cognitivo e social. O estudo tem como objetivo investigar o impacto de métodos inovadores modernos no desenvolvimento de competências de fala em crianças com deficiências graves da fala. A metodologia de investigação baseia-se numa abordagem integrada que inclui uma análise teórica da literatura, observações empíricas, uma experiência pedagógica e tratamento estatístico de dados. Os resultados mostraram que a utilização de ferramentas digitais como o Speech Blubs e o Articulation Station aumenta significativamente a eficácia do trabalho corretivo com as crianças. A utilização de plataformas inovadoras ajuda a melhorar a pronúncia, a alargar o vocabulário e a formar a estrutura gramatical do discurso. O significado prático do estudo reside no desenvolvimento de recomendações para professores e terapeutas da fala sobre a adaptação das tecnologias digitais às necessidades dos alunos com perturbações da fala. As abordagens propostas permitem melhorar a qualidade da educação e a socialização bem sucedida das crianças no ambiente educativo geral. Os resultados do estudo podem ser implementados através da adaptação de programas educativos, da formação de professores em contexto profissional e da implementação da educação inclusiva.

Palavras-chave: trabalho correccional e de desenvolvimento, crianças do ensino básico, tecnologias digitais, educação inclusiva, desenvolvimento da fala.

Introduction

Among the key problems of modern special education is the development of speech skills in primary school children with significant speech impairments. The success in adaptation of such children to the educational environment depends mainly on the effectiveness of correctional and developmental work, which, using innovative approaches, must be based on modern technologies. Working with children with severe speech disorders is particularly relevant for inclusive education, as they face new pedagogical methods and forms of interaction of participants in the educational process. The analysis of the scientific literature in this area shows that research in it is varied. For instance, Batsurovska and Lymar (2024) address the necessity of digitising the educational process and simultaneously include the newest technologies in the standard education practice in dealing with education. Valentini (2024) emphasises the role of the child's physical development in supporting cognitive processes, while Proskurniak (2022) emphasises the psychological support of children with a special educational need. Mencattini et al. (2018) simultaneously concur on interdisciplinary approaches between neuroscience, education and speech therapy. Despite many studies on this issue, the adaptation of digital tools to work with severely impaired speech children has not received enough attention. From a scientific point of view, the novelty of this study is integrating modern digital technologies into speech therapy and psychological practice to solve problems in children's speech development. The practical value of work lies in developing recommendations on adapting the educational environment and improving the effectiveness of various correctional and developmental work.

The study aims to study the effect of innovative methods (e.g., digital tools) on the development of speech skills of primary school children with severe speech impairment. The aim is to analyse the current state of research in this area, identify the main problems in using digital tools, and develop and test practical recommendations on how to use them effectively.

Literature review

An investigation of recent studies highlighted that the issue of correctional and developmental support for younger adult speakers with severe speech impairments is diverse in theory and practice. In particular, Batsurovska and Lyamar (2024) examine the influence of digitalisation on the quality of the learning process, which is relevant for the practical implementation of modern approaches to teaching. As Gylling-Andersen (2025) shows, the interaction between individual and collective development is important for forming integrative approaches in correctional and development work. In these cases, Yanovska (2023) and Lisova (2020) examine the peculiarities of cognitive development and the pre-preparation to solve problems in children with complicated speech disorders, giving practical recommendations for speech therapy. Kashina, Batsurovska and Makieievskyi (2024) propose some methodological approaches for creating didactic materials that might be used to personalise children's education with speech disorders.

Müller and Fráně (2023) analyse the relationship between borders and languages, emphasising the socio-political implications of multilingualism. The study provides European examples demonstrating how minor misunderstandings can escalate into major problems. Daniels (2016) examines the cultural and historical perspective of adolescent thinking development by Vygotsky's theory of pedagogy. This perspective is the basis for the development of pedagogical strategies for the formation of abstract thinking. Samoylenko, Batsurovska, and Kurepin (2024) explore new trends and prospects for machine learning models in artificial intelligence systems. The paper focuses on innovative algorithms that contribute to the development of AI in education and industry. Stehlik (2018) explores philosophical approaches to teaching in the 21st century. The author proposes child-centred learning that considers technological progress and the challenges of our time. Valentini (2024) assesses the development of motor skills in children and adolescents. The study demonstrates the positive impact of physical activity in schools on health, which is important for inclusive education. Stephens-Sarlós et al. (2024) analyse the effectiveness of a sensorimotor training programme

for children aged 5-8 years. The results show improvements in auditory and visual skills, which are consistent with current child development trends.

Starnawski, Gawlicz, and Duda (2021) analyse children's rights to education in Poland, focusing on the tensions between policy and reality. The study suggests ways to integrate children's rights into the school system. Proskurniak (2022) covers psychological and pedagogical support in inclusive settings. The paper provides practical models for supporting younger students with intellectual disabilities. Miroshnyk and Sidun (2021) examine the content of correctional and developmental work with children with special educational needs. The study focuses on individual approaches to learning. Trofymenko and Ilyana (2021) study the peculiarities of written language in children with alalia. Their findings contribute to developing speech therapy and educational methods for children with language disorders.

Matvieieva (2021) explores teaching younger students with dysgraphia. The author identifies theoretical foundations and practical methods to overcome this problem. Bilan (2021) examines psychological and pedagogical support for children with autism spectrum disorders, focusing on their educational and social integration. Richtrová (2018) provides diagnostic insights into specific language development disorders, which is helpful for educators and clinicians. Mencattini et al. (2018) propose an emotional modulation model for identifying developmental disorders. This interdisciplinary study brings together neuroscience and education. Henessy et al. (2024) analyse the cognitive developmental profile of children with intellectual disabilities. The study emphasises the importance of personalised support for this category of students. Feldman (2019) and Ndou and Omidire (2022) also address supporting children with speech and communication disorders, emphasising the importance of early diagnosis and systemic support. The studies by Bornman et al. (2020) and Zabrocka (2022) focus on the latest methods of supporting communication development, mainly through audiovisual technologies.

Müller and Fráně (2023) focus on the impact of multilingualism on learning processes, which is an important aspect in working with children with speech impairments. Valentini (2024) discusses methods of assessing children's motor

skills, which can serve as a basis for creating correctional programmes. Stephens-Sarlós, Stephens, and Szabo (2024) investigate sensorimotor training programmes that improve schoolchildren's cognitive and language development. Proskurniak (2022) focuses on an inclusive approach to working with children with intellectual disabilities. Meanwhile, Miroshnyk and Sidun (2021) offer practical recommendations for correctional and developmental work with younger students with special educational needs.

The study by Starnawski, Gawlicz and Duda (2021) examines children's rights to education and their provision in inclusive settings, which complements the topic of adapting the educational process for children with speech impairments. Tanaka (1988) and Richtrová (2018) analyse the specifics of diagnosing and managing speech disorders, offering new approaches to their correction. An interdisciplinary approach to the study of emotional development in the context of speech disorders is described in Mencattini et al. (2018). At the same time, Bilan's (2021) research focuses on the cognitive characteristics of children with mental disorders, offering psychological support programmes. Bornman et al. (2020) detailly studied early communication support provided to children with speech disorders.

However, unlike previous work, adequate methods for adapting contemporary digital technologies to the benefit of children with severe speech disorders are not yet available. Furthermore, the aspects of speech therapy, psychological and pedagogical, combined in correctional and developmental work, must be further studied in terms of interdisciplinary approaches.

Materials and methods

These methods were used for the study: an integrated approach that combined theoretical and practical methods with a comprehensive analysis of the problem of correctional and developmental support problems in speech-impaired children in primary school. Those included analysis, synthesis, comparison and generalisation of scientific literature, regulatory documents and methodological

recommendations. Using these methods, it was possible to study current trends in correctional pedagogy and speech therapy and identify scientific ways of developing speech skills in children with severe speech impairments. Empirical research methods included observation of the educational process in specialised educational institutions, questionnaires of teachers, speech therapists and parents of children, and testing and diagnostics of the level of speech development of younger students. This allowed us to collect primary data and evaluate the approaches' effectiveness. Experimental methods included a pedagogical experiment testing modern digital tools and speech therapy programmes for children's speech development. The effectiveness of the proposed methods was assessed by comparing the indicators before and after introducing innovative technologies. Statistical methods were used to process the data obtained. With the help of quantitative and qualitative analysis, the dynamics of changes in the speech development of schoolchildren were assessed, and the relationship between the use of modern methods and the results achieved was determined. Thus, the comprehensive application of theoretical, empirical, experimental and statistical methods allowed us to achieve scientific validity of the results and formulate practical recommendations for correctional and developmental work with younger pupils with severe speech disorders.

Results

Existing approaches to correctional and developmental support for primary school children with severe speech impairments include a variety of methods and strategies aimed at overcoming speech disorders, developing communication skills and socialising children. The main approaches include the following:

1. Speech therapy approach. Speech therapy methods involve systematic work on correcting sound pronunciation, developing phonemic awareness, increasing vocabulary and shaping the grammatical structure of speech. They are based on individual and group sessions using articulation exercises, logorhythmics, game technologies and speech training.

2. Psychological and pedagogical approach. This approach focuses on the development of the child's cognitive, emotional, and social skills. It uses psychological support techniques, therapeutic play, and the integration of speech exercises into academic subjects to promote the child's overall development.
3. An inclusive approach involves including children with severe speech impairments in the general education environment, provided that adapted curricula are created, specialists (speech therapists, psychologists, teacher assistants) are supported, and auxiliary teaching aids are used.
4. Interdisciplinary approach. This approach combines methods of speech therapy, psychological work, and pedagogical work. It includes cooperation between specialists of different profiles to ensure an integrated approach to child development. An important component is the involvement of families in the correctional and developmental process.
5. Technological approach. Modern digital technologies, such as interactive programmes, computer games for speech development, and electronic textbooks, facilitate the acquisition of new knowledge and increase motivation to learn.
6. Sensorimotor approach. It is based on developing fine motor skills closely related to speech functions. Classes include exercises to develop movement coordination, sensory integration, and manipulative actions.
7. A child-centred pedagogical approach. It involves considering each child's individual characteristics, such as developmental level, interests, needs and abilities. Emphasis is placed on creating a favourable learning environment and adapting learning materials.

They all seek to create an environment of sustainable motivation to learn, develop language and cognitive abilities, and socialise the child. The application of these depends on student needs, capabilities, and available resources within the educational institution.

Current methods of corrective and developmental support include innovative tools and approaches for developing speech and cognitive skills in young students with severe speech impairments. Yet their utility depends on their benefits and drawbacks, which need to be considered when developing educational programmes. Table 1 presents the advantages and disadvantages of modern correctional and developmental support methods for younger students with severe speech disorders.

Table 1 – Advantages and disadvantages of modern methods of correctional and developmental support for younger pupils with severe speech disorders

Methodology	Advantages	Disadvantages
Speech therapy techniques	Effectiveness in correcting sound pronunciation, development of phonemic awareness	Require long-term individual work; require the involvement of a specialist
Psychological and pedagogical	Comprehensive impact on cognitive and emotional development	High dependence on teacher qualifications; need for specialised knowledge
Inclusive approach	Provides socialisation of the child in the general environment	Schools do not always have enough adaptation resources
Technological methods	Increase motivation through the use of digital tools	Need for access to technical facilities and staff training
Sensorimotor exercises	Improvement of speech functions through the development of fine motor skills	Have limited effectiveness without a comprehensive approach
Individualised approaches	Focused on the needs of the individual child	Labour-intensive and resource-intensive

Source: developed by the author based on Batsurovska & Lymar (2024), Stephens-Sarlós, Stephens, & Szabo (2024).

Modern correctional and developmental support methods greatly improve the quality of education of children with severe speech impairment since each pupil's necessary needs and individual specificity are considered. Such approaches help correct speech impairments and form cognitive, social and emotional skills critical to successful adaptation of children in the educational and social

environment. At the same time, their effectiveness depends on the correct choice of methods based on a thorough diagnosis of the child's needs and on the availability of resources, such as specialised tools, materials and equipment. Equally important is the level of qualification of specialists, who must be proficient in modern approaches, including methods of integrating digital technologies into correctional practice. An integrated approach to implementing such techniques, including cooperation between teachers, speech therapists, psychologists and parents, can form the basis for developing individual programmes tailored to the needs of each student, ensuring the comprehensive development and socialisation of children with severe speech impairments.

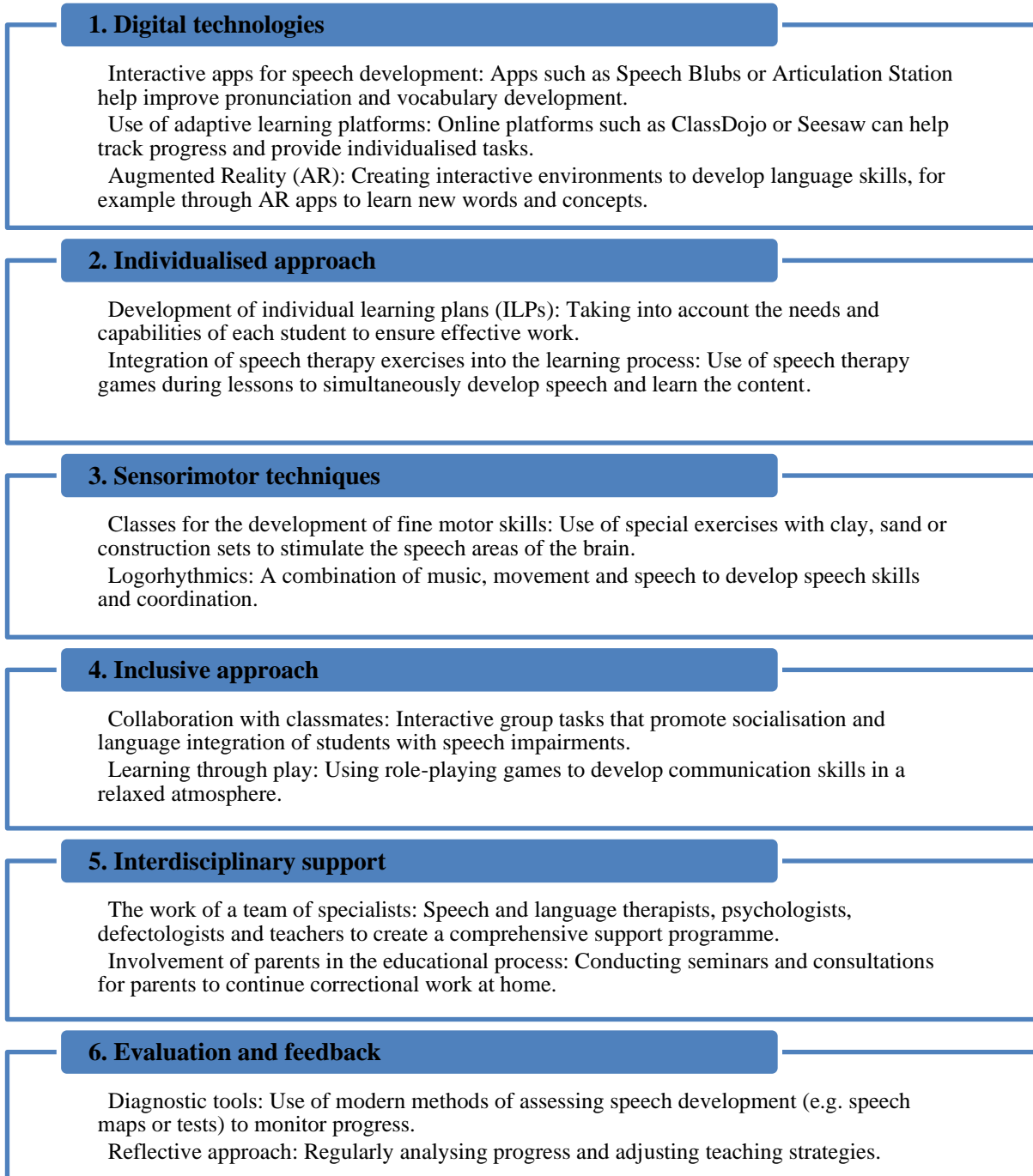
To improve the effectiveness of teaching younger students with severe speech impairments, it is advisable to use modern tools and approaches that combine innovative technologies, a personalised approach and interdisciplinary support. Below are some suggestions (Figure 1).

The implementation of the proposed tools and approaches will contribute to the comprehensive development of students with severe speech impairments, increase their motivation to learn, and help them integrate into the educational environment. An integrated approach allows us to take into account each child's individual characteristics and provide effective support at all stages of learning.

A systematic evaluation was conducted to determine the effectiveness of the digital tools, including the analysis of scientific data, practical experience and user feedback. The study was conducted in four specialised institutions in Ukraine that provide education and rehabilitation for children with severe speech impairments. The sample included Special School No. 23 in Kyiv, Inclusive Resource Centre No. 5 in Lviv, Svitlyachok Centre for the Development of Children with Special Needs in Odesa, and Inclusive Children's Education Centre in Dnipro. 153 people were interviewed, including 46 speech therapists, 32 teachers and 75 parents. Participating speech therapists had 3 to 15 years of experience and worked in correctional and developmental cases. Teachers represented inclusive and special classes, and parents participated actively in the corrective proceeding. We could

cover different regions of Ukraine and types of educational institutions, and this sample was representative enough to ensure that the data was representative.

Figure 1 – Tools and approaches to improve the efficiency of the learning process



Source: developed by the author.

Five digital tools already being used with children with severe speech impairments in correctional and developmental work were studied. The projects

were chosen due to their popularity with professionals and faculty, accessibility, and relevance to the needs of children with speech impairments. Here is the list of tools:

1. "Speech Blubs is a mobile application that uses interactive exercises to develop pronunciation and increase vocabulary.
2. "Articulation Station is an articulation training programme aimed at correcting pronunciation through exercises using illustrations and audio examples.
3. "ClassDojo is a classroom management platform that allows you to create individual learning tasks and track your child's progress.
4. "Seesaw is an online platform for interactive learning that helps parents and educators work together on child development.
5. "Voki is a tool for creating virtual characters that voice the text, which helps to develop listening and speech reproduction skills.

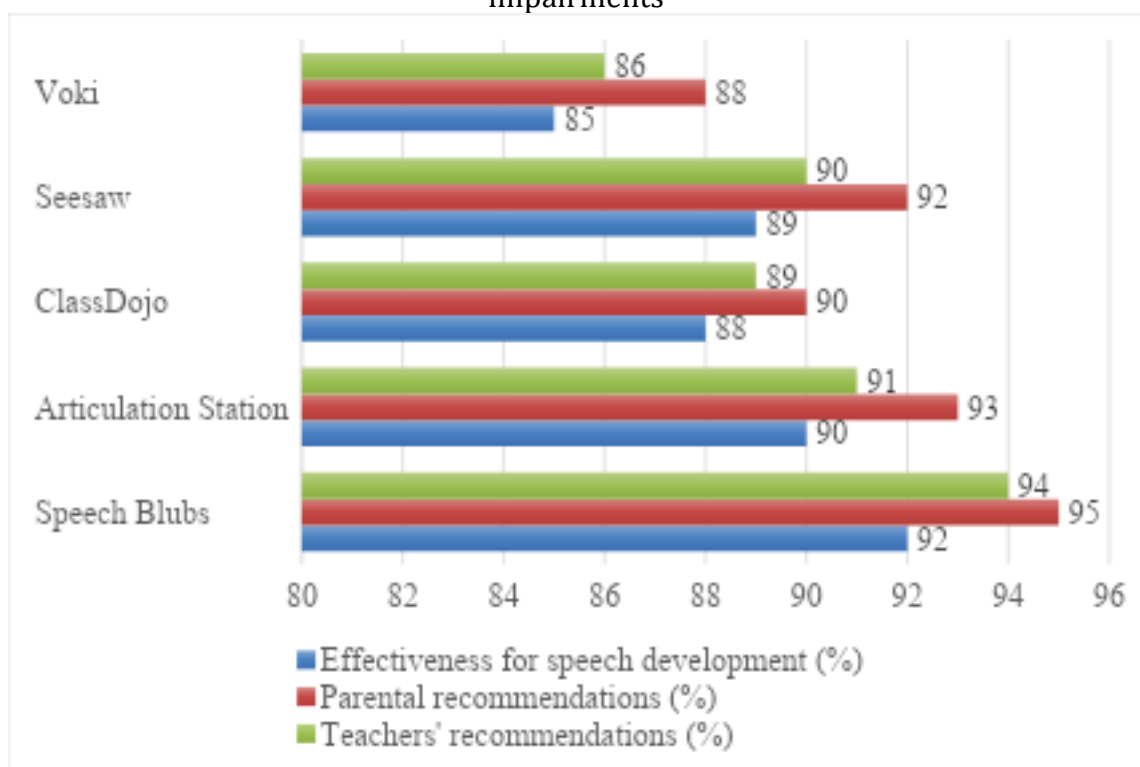
These tools were tested in real-life settings with children during individual and group sessions. The analysis of their effectiveness was based on the results of questionnaires (Appendix A), observations and monitoring of children's progress.

The study of the effectiveness of digital tools for working with children with severe speech impairments included an assessment of their usability, impact on speech development, and recommendations from teachers and parents. The graph (Figure 2) shows a comparative analysis of the main parameters that reflect the effectiveness of each tool.

The results showed that Speech Blubs scored the highest among all the tools, with 95% of parental and 94% of teacher recommendations, indicating its high effectiveness (92%) for speech development. Articulation Station also demonstrates high results: 93% of parental recommendations, 91% of teacher recommendations, and a 90% effectiveness rate. Comparatively, ClassDojo and Seesaw have similar effectiveness rates (88% and 89%, respectively) but received slightly fewer parental recommendations (90% and 92%). Voki showed the lowest results: 85% effectiveness, 88% parental recommendation, and 86% teacher recommendation. Their focus can explain the difference between the tools. For example, speech blubs and articulation stations focus on correcting pronunciation, which is key for

children with speech disorders. Seesaw and ClassDojo are more focused on the overall learning process in place with participants. Voki, despite its engaging format, scores lower due to its limited impact on pronunciation development. Thus, Speech Blubs and Articulation Stations are the most effective tools for working with speech disorders, as evidenced by the highest ratings of effectiveness and recommendations.

Figure 2 – Evaluation of digital tools for working with children with severe speech impairments

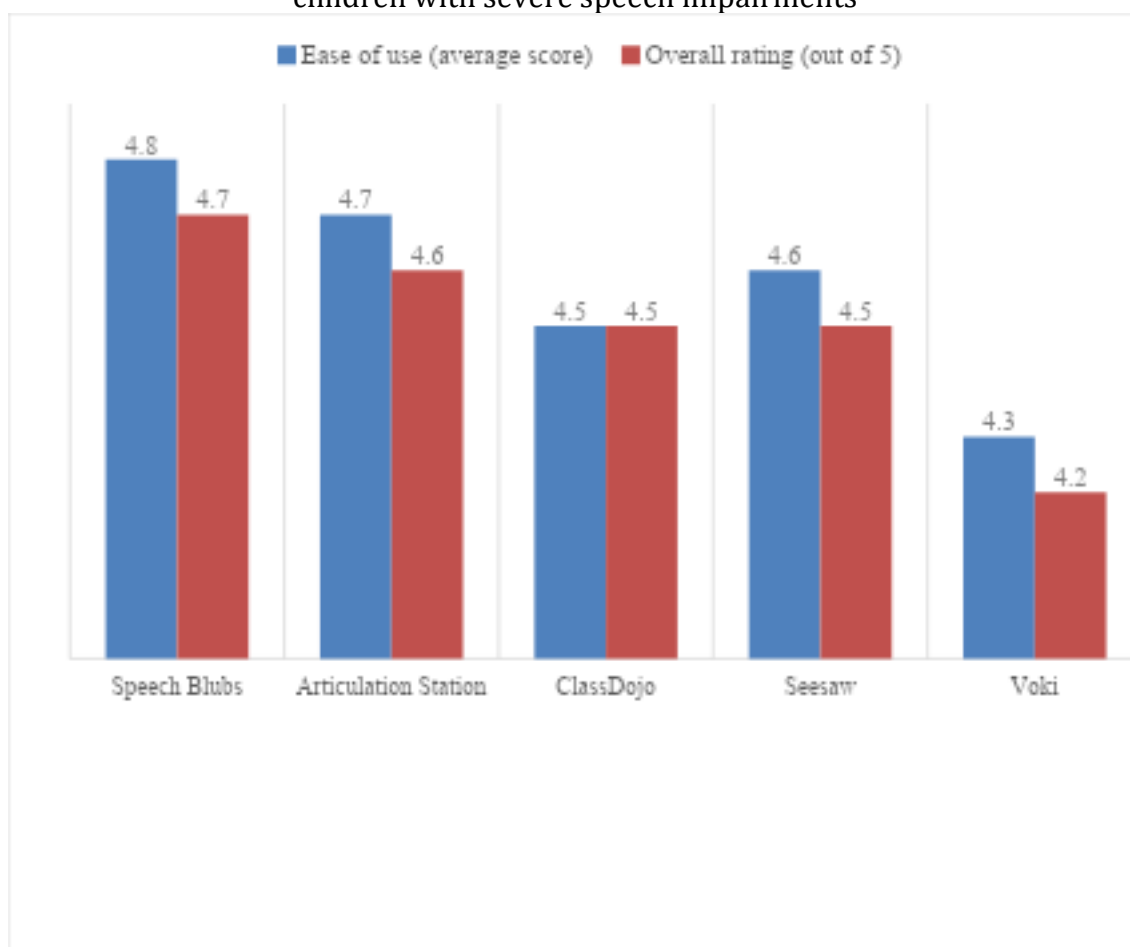


Source: calculated by the author.

A comprehensive analysis of their practical application was carried out to evaluate the effectiveness of modern digital tools used in correctional and developmental work with children with severe speech disorders. In particular, the usability of these tools, their impact on the development of speech skills, and the level of satisfaction of teachers and parents with their implementation in the educational process were studied. The comparative analysis was carried out according to the convenience of the interface, the ability to adapt to student's individual needs, and the overall effectiveness in achieving learning goals. The five

selected digital tools were tested in real-life conditions during group and individual lessons. Below are the results of comparing usability and overall effectiveness, demonstrating the differences between the tools. Figure 3 compares the average usability score and overall evaluation of five digital tools for working with children with severe speech impairments. These indicators help assess the tools' usability and their overall effectiveness.

Figure 3 – Ease of use and overall evaluation of digital tools for working with children with severe speech impairments



Source: developed by the author.

Speech Blubs (4.8) and Articulation Station (4.7) have the highest usability scores, indicating they are easy to use. Their overall scores are 4.7 and 4.6, respectively, underlining their effectiveness in correctional work. Seesaw received an average usability score of 4.6 and an overall score of 4.5, making it the third most practical. ClassDojo scored an equal 4.5 on both criteria, demonstrating stability.

Voki scored the lowest, with a usability score of 4.3 and an overall score of 4.2, indicating that it is limitedly adapted for children with speech impairments. The functional focus of the tools can explain the differences in scores. Speech Blubs and Articulation Station are focused on developing speech skills, making them most convenient for teachers and children. Seesaw and ClassDojo, while easy to use, are more focused on general classroom management than speech development. Voki, despite its innovative approach (creation of virtual characters), has lower scores due to the difficulty of adapting to the needs of children with severe speech impairments. The graph shows that tools with narrow specialisation in speech skills receive higher usability and overall effectiveness scores, while more general platforms remain less adapted to remedial tasks.

The study results show that integrating speech therapy and psychological and pedagogical approaches significantly increases the effectiveness of correctional and developmental work with children with severe speech impairments. Such interdisciplinary interaction allows for a comprehensive consideration of all aspects of a child's development, ensuring their speech, cognitive and emotional progress. Speech therapy approaches, such as articulation training, phonemic awareness development and grammatical structure correction, are the foundation of remedial work. For example, using tools such as speech blubs and articulation stations, combined with classical methods, allows for integrating modern technology into traditional practices, increasing the child's interest and facilitating learning. Psychological support is key in reducing emotional stress and increasing a child's motivation to learn. We know from research that interacting with technology, such as Seesaw, can bring teachers and parents closer to create a positive environment for children. Speech therapy exercises that include psychological exercises help one conquer the anxiety that often accompanies speech disorders. The learning process is allowed to adapt to the individual needs of the child using the pedagogical approach. For example, ClassDojo and Seesaw give you the ability to create tailored tasks for students based on where they are in their training progression. Methods to engage children to work together in a team help in social and communication skill development. Integrating these approaches is possible through the cooperation of

specialists from different fields: speech therapists, psychologists, teachers, and the active involvement of parents. For instance, you can combine psychological games for motivation, speech therapy exercises and pedagogical tasks for speech skills. Combining these methods into a single system using digital tools, such as Speech Blubs and Classadojo, we can implement this system quite effectively to solve the complex problem of a child's development.

This study confirmed the significance of connecting speech therapy, psychological, and pedagogical approaches to establish a holistic corrective environment focused on the needs of specifically handicapped children with severe speech impairments. An interdisciplinary approach not only improves speech skills but also contributes to the child's cognitive and emotional development and forms the basis for everyday socialisation.

Discussion

The results of the study confirmed the effectiveness of modern correctional and developmental methods for younger students with severe speech disorders, which indicates the feasibility of integrating technological, speech therapy and psychological approaches. For example, using tools such as Speech Blubs and Articulation Station is highly effective in improving pronunciation and vocabulary, consistent with the research of Stephens-Sarlós et al. (2024). Compared to other researchers, the results of this study support Valentini's (2024) findings on the importance of motor development in working with children. However, in our study, the sensorimotor approach showed less effectiveness in isolation from the comprehensive approach. This can be explained by the insufficient adaptation of individual techniques to the needs of children with severe speech disorders.

At the same time, in contrast to the findings of Proskurniak (2022) regarding the general inclusion of children with speech disorders, our study found that inclusive approaches require significant adaptation of the educational environment and the availability of qualified specialists to work effectively. This confirms the need for further study of the conditions of integration of such children into general

education institutions. Against this backdrop, the outcomes fit in with what is now believed about the function of digital items in correctional work, as pointed out by current investigations in talk treatment (Batsurovska & Lyamar, 2024). However, they expose some of the deficiencies related to the application of specific instruments like Voki, which are not well adapted to the particular demands of children with speech impairments. We compare with the findings of Bornman et al. (2020) and note some common conclusions on the need for an early diagnosis and the integration of techniques. However, our study recommends an interdisciplinary approach for better results, which agrees that further research in this area is needed.

Additionally, the results show how important parental involvement is in correctional and developmental work, as Gylling-Andersen (2025) has found, but more parental education is needed before implementing this approach is needed prior to implementing this approach.

Study limitations include a small number of respondents and a limited time frame for observation. More research could be conducted to enlarge the sample, increase the observation duration, and investigate the long-run results of the application of correctional and developmental techniques.

According to the results obtained, adapted educational programmes, also based on the use of digital tools and speech therapy techniques and their inclusion in them, are proposed. This will best support extreme cases of speech impairments and facilitate their socialising and development.

Conclusion and prospects for further research

The study has confirmed the effectiveness of integrating modern technologies, speech therapy techniques and psychological support in correctional and developmental work with primary school children with severe speech impairments. The proposed approaches contribute to the development of speech skills and the improvement of children's cognitive and emotional states, emphasising their interdisciplinary potential. The novelty of the work lies in the use of digital tools that increase children's motivation to learn and provide a

personalised approach to each student. The results of the study showed that adapting technological tools to the needs of children with severe speech impairments is a key challenge for the educational system. At the same time, the effectiveness of such tools as Speech Blubs and Articulation Station demonstrates the prospects for their further implementation in correctional practice. One of the study's limitations is the small sample of respondents, which needs to be expanded in future research to obtain more representative data. The practical significance of the findings lies in the possibility of using the developed recommendations to create adapted remedial education programmes that can be implemented in both specialised and general education institutions. The proposed approaches can also be used to improve the skills of teachers and speech therapists working with children with speech disorders. Further research in this area should focus on analysing the long-term results of the introduction of digital technologies in correctional practice and on studying the impact of interdisciplinary cooperation on the quality of the educational process. Developing innovative tools that consider children's needs should be a priority to ensure practical work with students with special educational needs. The findings indicate the need for a systematic approach to developing educational programmes that combines technological, psychological and pedagogical methods. Such an approach will improve the quality of education and ensure the socialisation of children with severe speech impairments, facilitating their integration into society.

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APPENDIX A

A questionnaire for evaluating digital tools in the work with children with severe speech disorders

Section 1. General information

Your role:

Speech therapist

- Teacher
- Father/Mother
- Child (with the help of an adult)

2. Do you have experience of using digital tools for learning? (Yes/No)

Section 2. Ease of use 3. How straightforward is the tool's interface?

- Very clear
 - Understandable
 - Complex
 - Very complex
4. Is it convenient to use the tool during classes/at home?
- Yes, completely
 - Partially
 - No

Section 3. Effectiveness 5. Have you noticed any improvement in your speaking skills since using the tool?

- Yes, it is significant
 - Notable
 - Minor
 - None
6. What aspects of broadcasting have improved?
- Sound pronunciation
 - Expanding your vocabulary
 - Formation of grammar
 - Other (please specify)

Section 4. Overall evaluation 7. What are the most significant advantages of the tool? (Please specify in free form)

8. What disadvantages have you noticed? (Please indicate in free form)

9. Would you recommend this tool for working with children with speech disorders?

- Yes
- No