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IMPLEMENTATION OF SPEECH THERAPY SERVICES AND ASSESSMENT OF SPEECH DISORDERS IN REGIONAL PEDAGOGICAL-PSYCHOLOGICAL SUPPORT CENTERS

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ABSTRACT

The analysis of scientific-methodological literature, familiarization with the work experience of specialists from pedagogical-psychological support centers and public school teachers, as well as the study of the decisions of the Government of the Republic of Armenia regarding the assessment criteria and tools of an individual's functionality, indicate that the issues of speech therapy assessment for children with speech disorders, based on the WHO International Classification of Functioning, Disability, and Health (ICF), are underdeveloped. The Government of Armenia's 2003 Decision No.

780-N on "Medical-Social Examination Criteria" is often outdated. As of February 1, 2023, evaluations for individuals applying for medical-social examinations but not yet assessed are conducted according to the updated criteria set by this decision (Republic of Armenia, 2023).

The formation of a high-quality education system for children with special educational needs in Armenia and the challenges in implementing speech therapy assessments can be attributed to insufficient research and development in this area. Based on recent legislative changes, regional pedagogical-psychological support centers are responsible for evaluating children's special educational needs, providing relevant conclusions regarding their educational organization, offering support services, conducting consultations and training for teachers, and implementing other functions outlined by law.

Keywords: *speech therapy, speech disorders, pedagogical-psychological support, ICF framework (international classification of functioning, disability, and health), functional assessment, special educational needs, children, Armenia, standardized assessments, intervention strategies.*

LITERATURE REVIEW

Speech and language disorders have been the subject of extensive research within educational and psychological disciplines. Research highlights that speech therapy assessments are crucial in identifying communication disorders and ensuring early intervention strategies (Fornari et al., 2022). Studies emphasize the significance of standardized assessments in evaluating speech impairments and their impact on a child's educational performance (Coster, Khetani, & Haley, 2019). International frameworks, such as the WHO's International Classification of Functioning, Disability, and Health (ICF), have played a pivotal role in redefining assessment models by shifting from an impairment-based approach to a functionality-based approach (World Health Organization, 2007).

One of the critical challenges in speech therapy assessments is the lack of universal criteria for evaluation. Research indicates that assessment models should integrate medical and psycho-pedagogical frameworks to ensure a holistic understanding of a child's communication abilities (Johnston & Ng, 2018). The introduction of the ICF framework has allowed for a more structured approach to categorizing speech disorders, focusing on individual abilities and the role of environmental factors (Hall, Pedersen, & Jensen, 2022). However, studies also highlight inconsistencies in its implementation across different countries, with some regions facing resource constraints and inadequate training of professionals in applying these criteria effectively (Fornari et al., 2022).

In Armenia, research on speech therapy assessments remains limited, with existing studies focusing primarily on the role of pedagogical-psychological support centers and the application of government policies in special education (Aslanyan, 2021). While the Ministry of Education and Science

has established guidelines for speech therapy services (Republic of Armenia, 2017), further empirical research is needed to examine the effectiveness of these policies in real-world settings.

Studies from other regions provide valuable insights into best practices for speech therapy assessments. Research conducted in the United Kingdom and the United States suggests that early screening programs and standardized intervention strategies significantly improve speech outcomes in children with communication disorders (Lollar, Carlin, & Shapiro, 2020). Furthermore, evidence from Nordic countries emphasizes the importance of interdisciplinary collaboration in speech therapy, where specialists from different fields work together to develop individualized support plans (Hall et al., 2022).

The comprehensive study, analysis, and generalization of scientific-methodological literature allowed us to identify answers to the following key research questions of interest:

- The characteristics of speech therapy assessment for children with speech disorders in the Republic of Armenia.
- The effectiveness of properly structured speech therapy assessments and interventions in overcoming speech-related difficulties and improving educational outcomes in public schools.
- The relevance of evaluating speech disorders based on a psycho-pedagogical classification rather than a functional classification, as applied by leading specialists in the field, and the coding of such disorders under the 10th International Classification of Diseases (ICD-10) prior to the adoption of the WHO ICF framework (F80-89, F98.5, F98.6, R47.1).
- Theoretical foundations and perspectives on the organization and implementation of speech therapy interventions using various models of speech disorder assessment, as well as the role and significance of functional assessment in this process.
- The specific features of speech disorder identification, prevention, assessment, and provision of speech therapy services for school-aged children in Armenia are based on functional assessment results and the criteria for recognizing a person (child) as having a disability through functional assessment.

Overall, the literature underscores the need to refine speech therapy assessment methodologies in Armenia, incorporate global best practices, and ensure alignment with international classification systems. Future research should explore innovative assessment tools, digital solutions for functionality evaluation, and strategies for enhancing the professional training of speech therapists and educators.

RESEARCH METHODOLOGY

The study utilizes theoretical and experimental research methods, including theoretical analysis of the Republic of Armenia's government decisions and scientific-methodological literature on "Functionality Assessment."

The research involved a detailed review of specialized literature on functionality assessment and the unique aspects of conducting speech therapy assessments for children with speech disorders. The findings help establish theoretical and practical guidelines for evaluating communication and speech development in children and expand the availability of pedagogical-psychological services (Aslanyan, 2021; World Health Organization, 2007).

The pedagogical observations allowed the assessment of the nature and content of speech therapy assessments for younger school-aged children, both in territorial pedagogical-psychological support centers and within the educational process. The findings highlighted key challenges in the organization of speech therapy assessments, including the lack of appropriate speech development programs for younger school-aged children and the need to ensure awareness and professional development for speech therapists and native language teachers.

During these observations, the necessity of structuring speech therapy services according to the ICF framework became evident. Implementing a structured information database reflecting the ICF codes and assessment components would facilitate more precise and comparable statistical data for evaluating the current level of academic abilities of children with speech disorders and analyzing their potential for speech development (World Health Organization, 2001). Additionally, this approach would allow for the systematic monitoring of speech therapy services, enabling data-driven policymaking, needs assessments, and evaluation of service effectiveness (Fornari et al., 2022; Hall, Pedersen, & Jensen, 2022).

Furthermore, within the research framework, the modeling of a speech therapy assessment system serves as a fundamental step toward providing more targeted services and establishing accessible conditions for implementing a structured speech therapy model. Moving beyond focusing solely on existing impairments is essential, as medical diagnoses alone do not always accurately determine the required speech therapy interventions provided by a regional pedagogical-psychological support center (RPPSC) specialist (Johnston & Ng, 2018).

The analysis of speech therapy assessments conducted for younger school-aged children with speech disorders confirmed the effectiveness of the proposed speech therapy assessment model. The study identified the principles and approaches of speech therapy assessment, aligning with the philosophy of the International Classification of Functioning, Disability, and Health (ICF), established by the World Health Organization (WHO) (Aslanyan, 2021; World Health Organization, 2001).

Additionally, a controlled study validated the need for a standardized approach to speech disorder assessment and the corresponding pedagogical-psychological support conclusions. The results emphasized that such conclusions should be based on speech therapist evaluations within the RPPSC to

ensure optimal educational conditions and effective implementation of speech therapy interventions for children with speech disorders.

PARTICIPANTS

This expert research study (conducted during 2023-2024) included 360 participants, consisting of first to fourth-grade students. Among them, 180 children with speech disorders were assessed based on the severity of their speech impairment, categorized as follows:

- Mild speech disorders – 12.3%
- Moderate speech disorders – 37.4%
- Severe speech disorders – 32.6%
- Profound speech disorders – 17.7%

The study evaluated the degree of need for specialized educational and developmental conditions for these children and determined the necessity of speech therapy services tailored to their specific needs.

To obtain a more objective characterization of the participants and ensure a comprehensive analysis of the study results (specifically in assessing their speech disorders), the study classified participants based on documented evaluation procedures related to speech assessment. These procedures included:

- Educational documentation regarding speech evaluation,
- Conclusions from pedagogical-psychological assessments regarding the need for special educational conditions,
- Studies on the special educational conditions required for organizing the child's education.
- Based on these assessments, children with speech disorders were divided into four groups according to functional limitation thresholds, as defined by the WHO ICF (Table 1).

Table 1.

Functional Limitation Thresholds According to the World Health Organization's International Classification of Functioning, Disability, and Health (ICF).

Code	Level of Functional Limitation	Percentage of Limitation
xxx.0	<i>No any limitation</i>	0-4%
xxx.1	<i>Mild</i>	5-24%
xxx.2	<i>Moderate</i>	25-49%
xxx.3	<i>Severe</i>	50-95%

xxx.4	<i>Profound</i>	96-100%
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DATA COLLECTION AND ANALYSIS

• The study employed quantitative data collection methods to comprehensively evaluate speech therapy awareness related to assessment practices in Yerevan's No. 1, 2, 3, and 4 RPPSCs. The data collection included:

• Surveys and Questionnaires: Standardized surveys were administered to teachers, therapists, and parents, evaluating their understanding of speech therapy assessment procedures and their impact on children's educational progress (Johnston & Ng, 2018).

The observations and assessments conducted in RPPSC confirm that the effectiveness of speech therapy interventions for younger school-aged children largely depends on the application of speech therapy assessment standards and pedagogical-psychological evaluation criteria used to determine the need for special educational conditions. Aligning these assessments with internationally recognized classification frameworks, such as the WHO ICF, ensures a more structured and objective approach to evaluating children's speech development and functional limitations (World Health Organization, 2001).

At the study's initial stage, a social awareness survey was conducted among speech therapists and teachers (n=120), pedagogical-psychological support specialists (n=116), and students (n=80). The survey assessed their awareness and understanding of speech therapy assessment procedures.

The survey was conducted using systematically designed and structured questionnaires developed for this research. The questionnaire items were aligned with the criteria for determining the need for special educational conditions and the timeframe and scope of pedagogical-psychological support services, as outlined in the educational documentation.

The awareness assessment of pedagogical-psychological specialists and public school teachers focused on the RPPSC level and their role in speech therapy assessment implementation. The primary objective of this process was to evaluate the respondents' level of awareness regarding the services provided at the regional level, as these support services are exclusively available to children who have been assessed and formally identified as requiring Special Educational needs within the established regional assessment framework.

Based on the RPPSC level assessment results and the timeframes and scope indicators of pedagogical-psychological services, recommendations were made regarding the appropriate educational and developmental interventions for children.

Thus, the research analysis of speech therapy assessment practices conducted in Yerevan's No. 1, 2, 3, and 4 RPPSC provided insights into the existing challenges related to classification based on functional impairments. This analysis facilitated the development of optimized approaches for speech therapy assessment and, consequently, the improvement of speech therapy interventions.

During the validation studies, the research examined the specific characteristics of organizing speech therapy assessments within the framework of universal inclusion. The study also identified existing challenges, obstacles, and limitations in implementing inclusive education in public schools, particularly from the perspective of speech therapy service organizations.

RESULTS AND DISCUSSION

The study identified key findings regarding:

- The characteristics of speech therapy assessments for children with speech disorders in Armenia.
- The effectiveness of properly structured speech therapy assessments in improving educational outcomes in public schools.
- The appropriateness of using a psycho-pedagogical classification for speech disorders instead of a functional classification before adopting the WHO ICF framework in the 10th International Classification of Diseases (ICD-10).
- The role of functionality assessment in organizing and conducting speech therapy interventions.
- The identification and provision of speech therapy services based on functionality assessment results for school-aged children.

Speech therapists, teachers, and other specialists' awareness levels vary significantly. Most RPPSC speech therapists and teachers are partially or fully aware of how pedagogical-psychological support services are provided. In contrast, pedagogical-psychological support team members and students show lower levels of awareness.

A notable gap is observed in understanding the criteria for functional assessment and determining the scope of speech therapy services, where only 2.5% of RPPSC team members reported full awareness. Similarly, only 4.5% of specialists were aware of how scheduled visits by PPSC speech therapists are organized and documented, highlighting the need for improved training and communication within support structures.

Most speech therapists from RPPSC and public school teachers (77.3%), along with pedagogical-psychological support team specialists (88.9%), clearly understood how to provide pedagogical-psychological support services at the territorial level. However, they did not apply standardized classification criteria for speech disorders aligned with the WHO ICF in organizing speech therapy

assessments.

Specifically, they did not utilize the clearly defined descriptors and qualifiers provided by the ICF-Children & Youth (ICF-CY) framework for speech assessment. They did not accurately classify speech disorders under activity and participation domains (d-codes) using the corresponding ICF codes, which are essential for ensuring a consistent and standardized assessment approach.

Through pedagogical observations, the study assessed the nature and content of speech therapy evaluations in RPPSC and school settings. The findings highlighted existing challenges in the organization of speech therapy assessments, including the lack of appropriate speech development programs for younger school-aged children and gaps in the knowledge and awareness of speech therapists and language teachers regarding speech therapy assessment (Republic of Armenia, 2017).

Additionally, speech therapy services must be aligned with the WHO ICF framework, ensuring a more precise and comparable statistical analysis of children's speech abilities and development. This would facilitate data-driven policymaking and service delivery for children with speech disorders (World Health Organization, 2007).

In response to the functional assessment questionnaire question: "What criteria determine the provision of speech therapy services at the regional level, and how is the need for Special Education established?" The overwhelming majority of respondents (68%) reported difficulty answering. Senior undergraduate and graduate students from the Faculty of Special and Inclusive Education at Khachatur Abovian Armenian State Pedagogical University (51%) had insufficient awareness of this topic. Furthermore, only 45% of RPPSC speech therapists and public school teachers, 3% of pedagogical-psychological support team specialists, and 26% of senior undergraduate and graduate students from the Faculty of Special and Inclusive Education were able to explain how the pedagogical-psychological support team and educators, with parental involvement, summarize the outcomes of Individualized Learning Plan (ILP) activities, record them in the relevant IIP sections, and provide parents with information on determining the type of speech disorder.

The results of the study indicate that a significant proportion of speech therapists from RPPSC, public school teachers, specialists from the pedagogical-psychological support team, and senior undergraduate and graduate students from the Faculty of Special and Inclusive Education at Khachatur Abovian Armenian State Pedagogical University possess only partial knowledge and practical skills regarding:

- The provision of speech therapy services based on functional assessment criteria,
- The organization and implementation of appropriate speech therapy interventions,
- The alignment of speech therapy services with standardized functional evaluation frameworks.

This suggests a need for further training and professional development to ensure more effective and standardized implementation of functional assessment-based speech therapy services.

Based on the analysis, the following main points are highlighted.

Characteristics of Speech Therapy Assessments for Children with Speech Disorders in Armenia

Speech therapy assessments for children with speech disorders in Armenia remain underdeveloped and inconsistently implemented. Although RPPSC and public school speech therapists conduct evaluations, standardized frameworks are lacking. The transition to functionality-based assessment has not yet been fully integrated, leading to variation in assessment approaches across different institutions. This gap highlights the need for uniform assessment tools and training for professionals to ensure reliable and practical evaluations.

Effectiveness of Structured Speech Therapy Assessments in Educational Outcomes

Structured speech therapy assessments are crucial in improving educational outcomes for children with speech disorders. Proper assessment allows for the development of targeted interventions, enabling children to access appropriate support services and maximize their learning potential. Studies have shown that early identification and structured therapy can significantly improve a child's academic performance, social integration, and language skills (Coster, Khetani, & Haley, 2019). In Armenia, the absence of a standardized approach results in delayed interventions, impacting the child's ability to develop effective communication and literacy skills.

Psycho-Pedagogical Classification vs. Functional Classification in Speech Disorder Assessment

Before adopting the WHO ICF framework, Armenia relied on a psycho-pedagogical classification system, categorizing speech disorders based on educational and psychological factors rather than functional impairments. While this approach was beneficial in addressing learning difficulties and behavioral aspects, it lacked a precise methodology for evaluating speech dysfunctions at a clinical level. The transition to a functionality-based classification provides a more comprehensive understanding of speech disorders, ensuring that therapy interventions are aligned with a child's actual communicative abilities rather than solely their educational performance (Johnston & Ng, 2018).

Role of Functionality Assessment in Organizing and Conducting Speech Therapy Interventions

Functionality assessment is essential for organizing and conducting effective speech therapy interventions. The WHO ICF framework introduces a holistic approach, evaluating speech impairments in terms of environmental, psychological, and physical factors. In Armenia, the adoption of

functionality-based assessments ensures that speech therapy services address the impairment and the child's ability to communicate in daily life. This approach allows specialists to develop ILPs considering speech and overall functional development (World Health Organization, 2007).

Identification and Provision of Speech Therapy Services Based on Functionality Assessment Results

A critical aspect of functionality-based assessments is the identification and provision of speech therapy services according to a child's specific needs. Assessments based on the ICF model help professionals determine the level of impairment, participation restrictions, and necessary accommodations for each child. In Armenia, integrating this model into territorial pedagogical-psychological support centers would streamline the referral and intervention process, ensuring that children receive timely and appropriate support. However, limited awareness and training among specialists remain significant barriers to fully implementing functionality-based speech therapy services (Fornari et al., 2022).

RECOMMENDATIONS FOR FUTURE RESEARCH AND PRACTICE

1. **Enhancing Training Programs** – Increased training sessions should be implemented for speech therapists, educators, and pedagogical-psychological support teams to ensure a uniform understanding of speech therapy assessments and intervention planning (Creswell & Poth, 2018).
2. **Developing hands-on workshops** to enable specialists to apply functional assessment criteria.
3. **Standardization of Documentation Processes** – The documentation and monitoring of speech therapy interventions should follow structured protocols to enhance transparency and accessibility (World Health Organization, 2007).
4. **Strengthening Parent Engagement** – The role of parents in IEP development and therapy planning should be reinforced through collaborative workshops and structured reporting methods (Johnston & Ng, 2018).

CONCLUSION

The study underscores the importance of developing and refining speech therapy assessment models to improve service accessibility. The proposed speech therapy model allows for a more targeted service provision based on functional classification criteria. The research findings highlight the need to standardize speech therapy assessment methodologies by international classifications, particularly the WHO ICF framework. The study recommends further research to enhance the effectiveness of speech

therapy assessments in Armenia, ensuring greater inclusion and equity in education for children with speech disorders.

At the same time, this study's findings highlight the critical need for further training and professional development in the field of speech therapy assessment and intervention. While speech therapists, public school teachers, pedagogical-psychological support specialists, and students possess some knowledge and practical skills, the limited awareness of functional assessment criteria and their application in speech therapy service provision suggests gaps in expertise that may impact the effectiveness of therapy interventions.

To ensure standardized, evidence-based, and effective speech therapy services, it is essential to expand professional development programs for speech therapists, educators, and pedagogical-psychological support specialists to enhance their competency in functional assessment-based therapy models. Besides, structured training modules on the WHO ICF framework should be integrated into the curriculum for future speech therapists and special education professionals, and practical workshops and hands-on experience opportunities should be developed, enabling specialists to apply functional assessment criteria in real-world settings. Strengthening interdisciplinary collaboration between speech therapists, educators, and healthcare professionals is crucial to ensure a holistic approach to assessment and intervention.

By addressing these training needs, professionals in speech therapy and special education will be better equipped to deliver high-quality, individualized interventions, ultimately improving educational and developmental outcomes for children with speech disorders.

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