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SOFIA UNIVERSITY - MARKING MOMENTUM FOR INNOVATION AND TECHNOLOGICAL TRANSFER

National Recovery and Resilience Plan
OF THE REPUBLIC OF BULGARIA

RESEARCH GROUP
MODERN TECHNOLOGIES

RESEARCH AREA
SOCIAL SCIENCES (POLITICAL SCIENCES, LAW, EDUCATIONAL SCIENCES)

APPLICATION OF ALTERNATIVE AND AUGMENTATIVE COMMUNICATION IN THE EDUCATIONAL INSTITUTIONS IN BULGARIA

INTRODUCTION

An accessible and inclusive environment is the main goal of modern education, especially for children with SEN (special educational needs).
The implementation of augmentative and alternative communication (AAC) tools, such as communication boards, technology-based specialized communication devices, computer programs, tablets, symbols, gestures, etc. in Bulgarian educational institutions, is key to supporting personal development, learning, as well as creating an accessible and effective educational environment for children with SEN.

PROJECT GUIDELINES

The present study aims to analyze the application of various AAC tools in educational institutions in Bulgaria, where children with special educational needs are educated, focusing on the effectiveness of the methods used, the challenges in their implementation, as well as the prospects for development.
The main research questions are:
1. What are the attitudes of pedagogical specialists towards the implementation of SEN?
2. To what extent are specialists prepared to apply these tools in their work with children with SEN?
3. What are the most commonly used forms of SEN in Bulgarian educational institutions?
4. What are the main barriers and challenges to the integration of SEN in our country?
5. What are the potential solutions for better implementation of SEN in the educational process?
The expected results are:
- Better understanding of the attitudes and challenges in the implementation of SEN;
- Identification of successful practices and problem areas;
- Formulation of recommendations for improving access to SEN and the training of specialists;

The data from the study are presented graphically in percentage terms. The qualitative analysis makes it possible to highlight some important trends in educational practice in our country.
Practical application of the results:
- Development of training programs for teachers in the use of AAC;
- Improving the resource provision of educational institutions with appropriate means for AAC;
- Improving inclusive education policies;

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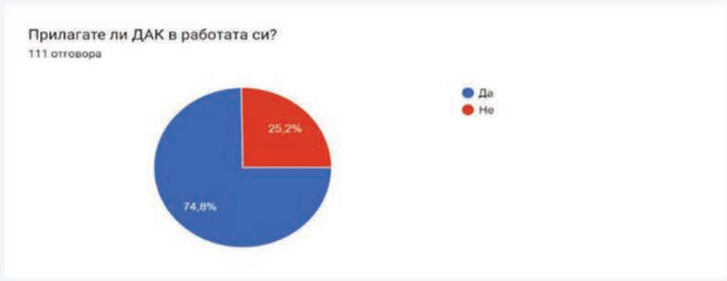
METHODOLOGY

The main **objectives** of the study are:
- Establishing the attitudes of pedagogical specialists (teachers, speech therapists, special educators, etc.) working with children with SEN in Bulgaria regarding the use of AAC;
- Analysis of the level of awareness and readiness of pedagogical specialists to implement AAC tools in the educational process;
- Identification of the challenges and barriers to the implementation of DAK in Bulgarian educational institutions (general education schools, kindergartens, centers for special educational support, etc.);
- Assessment of the effectiveness of AAC and their impact on improving the communication and learning of children with developmental disorders;
- Formation of recommendations for improving access to DAK tools in the educational system;

For the purposes of this study, a partially standardized study was applied, which combines both quantitative and qualitative methods, allowing for an in-depth analysis of the attitudes and practices related to the implementation of AAC tools in educational institutions in Bulgaria. The main research method for data collection is a **survey** (questionnaire), generated in Google Forms and distributed for electronic completion. The questionnaire contains open and closed questions, grouped thematically as follows:
1. Demographic characteristics (gender, age, educational level and specialty, professional experience, type of institution)
2. Level of awareness and attitude towards the use of AAC tools:
- knowledge of the types of AAC tools (non-technological or technological);
- sources of information about AAC (training, literature, practical experience);
- experience in working with AAC;
3. Practical application of AAC:
- assessment of the educational system in terms of the opportunities it provides for theoretical and practical training of specialists;
- recommendations based on personal experience and needs for improving the access and effectiveness of AAC in educational practice;

Participants in the study are 111 pedagogical specialists from across the country, working with children with SEN in various institutions - special, general education, private. Of these, 93.7% are women and 6.3% are men.



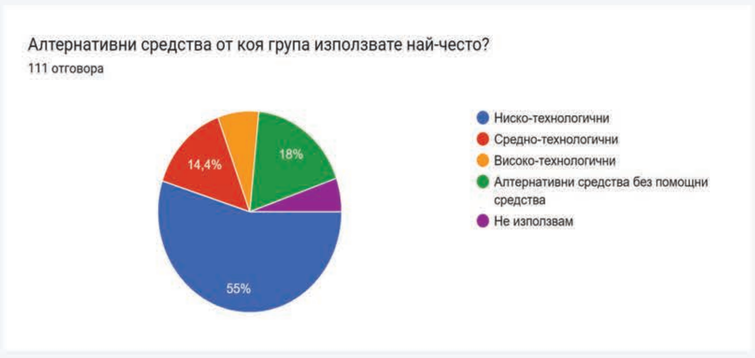
RESULTS

The data from the study show that specialists work with different groups of children with SEN, with the most common clinical cases as a typology of disorders being children with autism spectrum disorder (77.5%), followed by children with communication disorders (65.8%).
More than half of the study participants indicated that they were familiar with the DAK tools, slightly less than a third of the total number were partially familiar and 6.3% were not familiar with these tools. The latter percentage raises some concern, since it is expected that in modern conditions every specialist working with children with SEN would have at least a general idea of the most popular tools included in the AAC group. It is possible that the study participants were familiar with individual tools, even if they applied them in their work, without associating them with the generalized name AAC. Data on the use of AAC, without aids, show that the highest percentage is obtained from natural gestures, which do not require specific skills for use, nor are they related to a specific technique and method of application. They are an indispensable part of communication between partners of all age groups, with and without pronounced problems in development and communication, and definitely have their place in rehabilitation, training and communication with children with special educational needs, but they rather complement the effect of more specific means than play the role of the main stimulus in practical work. Next in line is Bulgarian sign language, which is further evidence of the leading role of sign means among specialists. The dactyl alphabet also shows high growth, with a lower percentage being registered for means such as the Tadoma method, which is completely logical, due to the more limited contingent of children to whom it is applied. Makaton also falls into this group, due to the lack of an official version adapted for Bulgarian conditions.
The results of the survey show that 61 (55%) of the respondents use low-tech tools. As for the application of low-tech tools for AAC, the participants in the study give priority to the use of tools that do not require prior preparation and skills for their application: real objects and images with real objects. This is followed by didactic materials with the alphabet, written speech, boards and albums for communication, visual schemes, i.e. these are all traditional and familiar from the distant past means that undoubtedly have their place in practice. It becomes clear that the popular PECS (Picture- Communication System), frames with symbols are not often used in educational practice. The analysis of the survey data shows that 16 (14.4%) of the respondents indicate that they apply medium-tech tools, the most popular of which are talking buttons, boards and portable communicators, and the least used is visual software. The trend towards the application of more advantageous financial offers is maintained, which is completely understandable.
The analysis of the obtained quantitative data on the high-tech tools used by the specialists gives reason to note that 8 (7.2%) of the respondents use high-tech tools and software such as “Communicator 5”, “S-board” and Speech Synthesizer in their work. The percentage of pedagogical specialists who apply “Visual Plan” or “Control with a Look” is not large. It is assumed that a larger percentage of the respondents (53.2%) who indicated that they do not use high-tech tools in their work do not know how to apply these tools or do not have access to them. It is also striking that none of the participants in the survey indicated “Control with head and mouth” as a possible answer.

CONCLUSION

The results of the study show that despite the growing interest in AAC, there are still challenges related to the lack of resources, trained specialists and sufficiently integrated methods for supporting communication in children with SEN.
The conclusion that can be made is that low-tech tools are more accessible to specialists and easier to apply, compared to high-tech ones, which require special training and more serious financial resources.
The reasons for the limited application of high-tech tools are clear - the need to provide solid financial resources for purchasing and acquiring specific skills for operating them.
Sign language, communication boards, pictograms and technology-based tools are proven to be effective tools in facilitating the interaction between children, parents and specialists in the learning process. In order for AAC to be more effectively implemented, policies are needed that encourage the use of AAC tools more actively in educational institutions.
Here are some recommendations for educational practice that were proposed by the participants in the survey:
- low and medium-tech tools for AAC should be provided by institutions for all those in need, and high-tech tools for AAC should be more financially accessible. Despite the benefits of high-tech tools, they remain inapplicable due to their price;
- adaptation and unification of a Bulgarian version of Makaton, which will allow for the implementation of uniform training of specialists and uniform application of the system in practice;
- introduction of a requirement in each educational institution to have a team of specialists (including teachers) in AAC;
- introduction of sign language and PECS as systems applicable at the national level.
- adaptation and unification of a Bulgarian version of Makaton, which will allow for the implementation of uniform training of specialists and uniform application of the system in practice;
- greater prevalence of AAC training in university preparation, which is associated with changes in the curricula of higher education institutions, with a focus on preparing future specialists to work with AAC tools, conducting training courses as a form of continuing education - to upgrade the basic knowledge and skills of specialists.

This study emphasizes the importance of a multidisciplinary approach in the implementation of AAC, as well as the need for broader institutional support. By applying AAC tools in combination with conventional means of correctional and therapeutic impact, in modern educational practice in Bulgaria, conditions can be provided for active support of personal development, academic achievements and well-being of children with SEN. In order to achieve optimal results from the application of DAK tools, it is important for specialists to be able to make a competent selection, according to the individual characteristics and needs of the children they work with.



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