

## ALTERNATIVE COMMUNICATION IN WORK WITH CHILDREN WITH SPECIAL NEEDS IN UKRAINE

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**Abstract:** The article discusses the problem of teaching schoolchildren with disabilities; talks about the possibilities of alternative communication as a modern technology in working with this category of children. As part of an empirical study, the level of use of alternative and additional communication (ACC) tools in working with children with special needs by pedagogical workers was analyzed, based on a survey of 20 respondents-pedagogical professionals. The theoretical and practical significance of the study lies in the fact that it contributes to the solution of a scientific problem of important socio-cultural significance, opens the direction of scientific research related to the theoretical and methodological provision of pedagogical support for children with special educational needs in the education system based on the use of adaptive communication technologies.

**Keywords:** children with special needs; alternative communication; methodological support; communicative activity, social work.

### 1 Introduction

Currently, the number of children with special needs is increasing in Ukraine, determining the necessity of implementing a social support model in the practice of social and pedagogical work for their families. The role of pedagogical and social workers in this process is crucial.

Society shows a growing interest in improving the conditions of education and upbringing for these children, particularly in the communicative sphere. Legislative acts have been adopted at the state level in Ukraine to create an inclusive education system, addressing issues in the inclusive education sphere comprehensively. Additionally, a specific system for training specialists in the inclusive field is being developed.

Speaking and communication are fundamental elements of social interaction. For most people, learning to communicate is not a challenging task. However, there is a significant number of individuals who have limitations in using speaking for full-fledged communication. Some of them may not be able to use verbal means at all. In other cases, the level of speaking development may not allow performing all necessary communicative functions. In such situations, there is a need to use alternative means of communication, which can complement or substitute verbal speaking, such as Alternative and Augmentative Communication (AAC) systems.

Scientific research and practical experience of researchers confirm that the use of alternative communication in children does not hinder language development - on the contrary, it can contribute to its development. Several scholars, including N. Bazyma, Yu. Boychuk, L. Zalanovska, Yu. Rybak, T. Skrypnyk, M. Sheremet, D. Shulzhenko, and others, have dedicated their research to this topic and have made a significant contribution to addressing various aspects of the problem socialization of children with special needs. Research on the communicative sphere of children with special needs aimed to study various aspects. Researchers explored the genesis and factors that could complicate communicative activities (N. Babych, H. Bilavych, Yu. Boychuk, and others). The studies also covered the impact of communication on the psychological development of personality at different stages of age development and its correlation with the process of personality formation (L. Zalanovska, S. Kobchenko, Ye. Kozir, and others).

According to the results of analysis of theoretical studies, the number of individuals with difficulties in communication activities is steadily increasing each year. Such an increase in

communication skill impairments can be caused by various factors, including genetic, medical, social, psychological, and pedagogical factors. It is important to note that in modern society, the rise in the percentage of individuals with speaking development disorders coincides with the improvement in the quality of medical, psychological, and socio-pedagogical diagnostics. Accordingly, the current challenges in implementing an early intervention system for AAC include the following:

1. There is no defined need for the use of alternative and augmentative communication (AAC) tools among the population of Ukraine.
2. Service providers who could potentially implement an AAC system in their work have not been identified.
3. There is no strategy in place to ensure that users have access to technical AAC resources.
4. There is a lack of a systematic informational campaign regarding the AAC system in Ukraine.
5. Only sporadic initiatives exist for the training and methodological support of professionals in education, social services, healthcare, and other fields on the topic of AAC.

The aim of the article is to theoretically analyze and practically investigate the level of utilization of alternative and augmentative communication (AAC) tools in working with children with special needs by educational professionals.

### 2 Method

The methodological basis of the study included the following: humanistic approach; a personality-oriented approach, the essence of which is to reveal the nature and conditions for the implementation of individual developmental functions of the educational process; activity approach, which considers communicative interaction as a means and condition for personal development; an integrated approach, which is based on the unity and coordination of the structured components of education, connections, and relationships, as well as the interdependence and mutual influence of relationships within the system.

### 3 Results and Discussion

Communicative activity in children is closely related to the process of learning, which includes perception, thinking, memory, and other aspects. This process can only be facilitated in the context of specially organized education, particularly through developmental communicative teaching. Specially structured learning of forms and methods of communicative interaction between children and adults, as well as peer interactions during their joint activities and interpersonal interactions, aims to develop new communicative skills and structures in the child's personality. Such an approach not only anticipates potential negative phenomena but also contributes to addressing existing issues in the child's communicative and personal development [1].

Modern researcher M. Sheremet notes that communicative activity has its structure, consisting of certain indicators. According to M. Sheremet, these indicators ensure the level of development of communicative skills in children with special needs. Firstly, an important component is communicative qualities, including the ability to establish contact and address the interlocutor, the ability to listen and understand the thoughts of others, the ability to navigate in a communication situation, and the ability to select and present material in language. Secondly, this includes communicative actions, covering intonation, emotional and expressive design of speaking, as well as the ability to sense the mood of the interlocutor. Thirdly, these are speaking skills related to the presence of vocabulary, mastering lexical and grammatical means, as well as correct pronunciation of sounds and syllables. It is important to note that

the development of communicative skills in any activity involves four interrelated directions: teacher-student communication, interaction with other students, communication in small groups, and communication in the classroom [10; 11].

It is important to remember that the communication process itself has components, including:

- Expressive-mimic component (eye contact, body language, which includes facial expressions, gestures, pantomime, paralinguistics, and extralinguistics);
- Object-action component (which includes proxemics, paralinguistics, extralinguistics, and pantomime). These are representational means that arise during joint activities of the child with the adult, through which children demonstrate their readiness for interaction with adults and indicate the type of interaction they invite to;
- Speech component, manifested in expressions, questions, answers, dialogues, etc.

It should be noted that communicative activity is considered as a set of speaking acts, and a speaking act is a specific case within the communicative activity process. Therefore, it should comply with all characteristic regularities of this process.

Researchers of communicative activity, such as H. Kostyuk and O. Zaporozhets, propose examining the structure of communicative activity through its main components: the subject of communication, communicative needs and motives, types and forms of communication, means and results of communication. It can be stated that the characterization of an individual's communicative activity at any age is impossible without considering its structural organization, content, and the completeness of communicative skills implementation, the degree of mastery of both verbal and non-verbal means of communication, as well as the content and stability of communicative motivation. Therefore, let us analyze some features of communicative activity of children with special needs.

Modern researchers of communicative issues in children with special needs have identified several characteristics of their communicative sphere, including (H. Bilavich [1], M. Kopchuk-Kashetska [1], M. Sheremet [10], and others):

1. Communicative activity of children with special educational needs can be diverse and varied depending on the type and degree of their educational needs. Typically, this activity includes the use of various forms of interaction and means of communication. Some children may use verbal communication, while others may employ non-verbal methods such as sign language, facial expressions, symbolic communication tools, or alternative communication systems. The communicative activity of children with special educational needs contributes to facilitating their adaptation to new conditions and interactions, fosters the formation of relationships, and promotes the development of social skills [9].
2. Additionally, it is important to consider the communicative activity of children with special educational needs in the context of their social environment, where they interact with peers, teachers, families, and other community members. Communication plays a crucial role in the development of language, social skills, adaptation, and mutual understanding.
3. In the communicative activity of children with special educational needs, it is essential to take into account that, on the one hand, they show a desire to interact with their surroundings, and on the other hand, they may not always exhibit sufficient initiative for this purpose.
4. The communicative behavior of children with special needs is characterized by difficulties, especially in the process of acquiring educational material. They may have limited motivation for communication, and due to a restricted vocabulary (impairing their ability to express their thoughts precisely and diversely) and pronunciation

peculiarities, the structure of their speech may be disrupted (pronunciation problems can affect the clarity of the child's speech and ability to interact in verbal expressions). These factors significantly impact the communicative-cognitive abilities of children with special educational needs and can affect their readiness for school learning [1].

5. By organizing appropriate psycho-pedagogical conditions in the communicative sphere of children with special educational needs, a certain dynamic can be achieved. Individualized methods and means can be applied to improve the communicative activity of children with special educational needs, such as working with specialists (speech therapists, psychologists), using communication-supporting technologies, and considering the specific needs of each child. The overall goal is to create a supportive environment for the development of communicative skills that takes into account the individual characteristics of each child and promotes their full inclusion in educational and social processes.
6. In their communicative activity, children with special needs face difficulties in formulating and expressing their own thoughts and ideas.
7. Children with special needs have limited speech mobility. Some children may use restricted means of communication, such as gestures, mimics, or alternative and augmentative communication (AAC) methods.
8. The mentioned characteristics may require individualized strategies and approaches to support effective communication and the development of communication skills in children with various speech and language disorders (incorrect pronunciation, substitution and distortion of sounds, omission of sounds, imperfect differentiation of sounds, presence of involuntary pauses, limited vocabulary, grammatical imperfections, reading and writing difficulties). All these features influence the learning of ways to form and use sounds to create syllables and words (phonetics), the assimilation of combinations of the smallest units of language (morphemes), and the formation of words (morphology), the construction of sentences, coherent texts, etc. (syntax), the meaningful determination of word and sentence meanings (semantics), resulting in the development of impaired communication - both oral and written - based on linguistic skills [5; 8].

For instance, children with sensory impairments, such as hearing disorders, are characterized with the following: hearing impairments in children cause difficulties in the communicative sphere (segmentation of sounds and words in speech flow; delay in receptive language; delay in expressive language; cognitive delays). Children may experience challenges in memorizing and understanding auditory information; delays in the development of expressive oral language are possible; there is an impact on syntax and semantics, as well as impact on the development of vocabulary [8; 6].

Children with visual impairments will exhibit signs in the communicative sphere, such as performing repetitive stereotypical movements (rocking or rubbing their eyes), dependency on others, not perceiving nonverbal communication, and not using it. They require special tools, such as Braille font, special computer programs, mobile applications, etc. [8].

Children with musculoskeletal disorders will require specialized equipment: communication boards, complex electronic communication devices, software, and mobile applications. They may have speech disorders, not pronounce certain sounds or distort them; involuntary movements in the speech apparatus are observed; often, these children have difficulty recognizing sounds by ear, and limited vocabulary.

Children with emotional and behavioral disorders constitute a category of children whose behavior goes beyond acceptable norms and differs significantly from what is considered typical for their age. These disorders include persistent and long-lasting behavior problems, socially and culturally unacceptable behavior, behavior negatively impacting academic achievements,

and behavior that cannot be explained by health issues, sensory or social violations [8].

Certainly, it is not possible to analyze the fundamental communicative characteristics of children with special needs comprehensively within the scope of one research. However, we would like to emphasize that these characteristics should be taken into account by educational professionals and social sphere specialists when implementing various alternative and augmentative communication tools.

As previously noted, communication is recognized as a key factor in the development of individuals with special needs, as through interaction with their environment, a child gains experience and acquires new knowledge. While all children feel the need for communication, not all of them can implement it. Serious impairments in motor and speech activities, a reduced level of intellect, and disorders within the autism spectrum can make the use of verbal communication challenging or impossible for such children. Their language, often incomprehensible even to close relatives, may be limited to isolated vocal reactions at best. The absence of verbal language complicates social adaptation and the establishment of interpersonal relationships for these children. However, these difficulties are not insurmountable. The use of special technologies, successfully applied in Western and Northern Europe countries for over 30 years and more recently in Ukraine, can help teach children to express their desires and feelings, as well as build relationships with both family members and others. One of such technologies is the Alternative and Augmentative Communication (AAC) system, which is based on the use of non-verbal means of communication.

Communication can take various forms, including speaking, gaze, text, facial expressions, touch, body movements, gestures, sign language, symbols, drawings, as well as the use of speaking-generating devices and more. Alternative and augmentative communication (AAC) tools are among the most well-known and frequently used instruments for the language development in children with special needs. These tools encompass various methods and forms of non-verbal communication and utilize diverse types of instruments widely employed by professionals, educators, and caregivers (parents).

Alternative and Augmentative Communication (AAC) is a field at the intersection of speech therapy, psychology, education, and medical practice that addresses the communicative and cognitive needs of individuals with significant and complex disorders of communication and speech development. Such disorders involve disruptions, including impairments in both expressive verbal speaking and comprehension of speaking, encompassing oral and written communication methods [7].

Alternative and Augmentative Communication (AAC) is a mode of interaction used during communication for functional support or as an alternative to speaking for individuals with significant speaking difficulties [4].

AAC serves as a tool that enables individuals who cannot use verbal speaking to communicate. Additional communication refers to auxiliary or supportive means of communication. The term "additional" emphasizes that interventions in alternative forms of communication have a dual purpose: supporting existing speaking and providing an alternative means of communication in the absence of the ability to speak. All communicative systems that do not use oral speaking as the primary means of information transmission are called "additional" and "alternative".

Today, in the research of scientists, alternative communication includes the use of gestures, facial expressions, pictures, photographs, and technical means to enhance a child's interaction with both peers and adults. The chosen communication system is of significant importance as it facilitates the adaptation of a child with special educational needs to society and stimulates the development of cognitive processes and language. The concept of AAC emerged in the late

1970s and early 1980s as part of a large international project addressing severe speaking disorders, implemented by England, Canada, the United States, and Sweden. This project laid the foundation for the establishment of the international organization called the "International Society for Augmentative and Alternative Communication".

According to M. Chaika, H. Usatenko, and O. Kryvonohova, AAC is a set of tools and strategies that a person can use daily to perform tasks in the process of communication. It includes various means of communication, special techniques, and communication systems [4].

Information from scientific literature considers alternative communication as a means to teach and, if possible, compensate for permanent or temporary limitations in the life and social interaction of individuals with various developmental disorders. Many children with special needs have impairments in the perception and reproduction of language and speaking, both oral and written, and alternative communication serves as an effective means for them to communicate [3].

The use of AAC is possible for both children and adults and can be temporary, limited to a specific period, or used throughout one's entire life. Each individual has the opportunity to choose communication tools that meet his needs and can combine different means and forms of communication, such as facial expressions, gestures, pictograms, and words.

Alternative communication, by its purpose, replaces speaking that is absent or inadequately developed in a child or adult. At the same time, augmentative communication merely supplements existing speaking. In scientific literature, one may also come across the concept of "total communication" – any means and strategies that can be used to enhance the communication of a child or adult. In other words, it is an approach that characterizes the communication process as a spectrum of verbal and non-verbal means of communication [4].

We can also note that alternative communication provides the opportunity to:

- Understand directed speaking (the ability to perceive and understand the expressions of the child, who may have speaking impairments or peculiarities). This involves careful consideration and interpretation not only of the verbal part of speaking but also of non-verbal signals, gestures, facial expressions, or other forms of expression).
- Respond, communicate about oneself, and express own thoughts.
- Support motivation for communication by creating a stimulating and positive environment where the child feels that his communication attempts are valuable and important. This includes natural interaction, interesting topics, using the child's interests, positive reinforcement, and game situations where communication becomes part of the play.
- Build an effective communication system for the individual and his surroundings (creation of an interactive and mutually beneficial verbal and non-verbal platform that enables interaction and information exchange between the personality and environment of the child. This may include: communication tools, individualized learning, the development of a teaching and support program for the child with special needs; providing opportunities for the child to interact with his surroundings; promoting active participation and inclusion in communicative processes; technical support; ethics and confidentiality; social adaptation. The ultimate goal is to create a system that facilitates quality and effective communication, eases the expression of thoughts and desires, supports social interaction, and contributes to the child's inclusion in society as a whole.
- Achieve social integration, avoid isolation (enable full participation and interaction of children with special needs in the social environment). This may include providing opportunities for children with special needs to participate in various social activities and events, such as education,

sports, arts, games, and other forms of interaction; preventing feelings of separation or exclusion of children with special needs, ensuring their participation in shared activities with other children; creating an environment that considers the individual needs and abilities of each child, providing adapted approaches and resources; developing programs and methodologies aimed at including children with special needs in educational institutions and ensuring their education in an inclusive environment; involving parents, educators, classmates, and other community members in supporting the social integration of children with special needs; initiatives to raise awareness in society about the needs and opportunities of children with special needs, as well as improving mutual understanding; providing children with special needs access to necessary psychological and social support to improve their well-being and social welfare.

- Implement the right to education, access to information [4]; 19].

We share the opinion of L. Frost that the main goals of using alternative communication include creating an effective system of interaction, developing skills for independent and clear communication of new information to others, and fostering the child's ability to express thoughts using symbols.

The use of AAC tools in the development and education of children with speech disorders significantly expands the possibilities of using symbols, signs, and pictograms in correctional and developmental work. According to modern researchers such as M. Chaika, H. Usatenko, O. Kryvonohova, D. Shulzhenko, and others, after the emergence of the first verbalizations and their association with images or real objects or phenomena, there is a significant reduction in the need for using AAC tools in communication. It is important to note that the use of AAC tools does not limit the development of verbal communication; on the contrary, it contributes to stimulating one's own verbalizations. In cases of severe speaking delay in a child, the priority is always to support the development of communication and speaking, starting as early as possible. That is, during pedagogical communication at any age, especially in educational institutions, the acquisition of alternative means of communication takes place. Each person can choose the means of communication they find convenient and combine different forms of communication, such as facial expressions, gestures, pictograms, and words.

As a result of collaboration between the Ministry of Education and Science of Ukraine, various educational institutions in Ukraine, and public organizations and foundations, methodological recommendations have been developed for the use of alternative and augmentative communication (AAC) methods in educational institutions. Based on individual developmental communication system characteristics, groups of AAC users were identified in educational institutions. These groups include the following.

The first group of AAC users consists of individuals who use augmentative communication as an expressive means. These individuals understand speaking well but cannot verbally express their needs. Typically, this includes people with cerebral palsy, various disorders of the nervous system, impairments of the speech organs, speech deviations resulting from injuries or infections of the brain, and so on [7; 9].

The second group consists of individuals who face difficulties in mastering speaking. They may learn to speak, but their speaking development is delayed (for example, children with intellectual disabilities, motor aphasia). This group also includes individuals whose speaking is understood only when special additional means are used (for example, in the case of autism). Among such means, there may be everyday gestures, facial expressions, voice modulations, etc. [7; 9].

The third group of AAC users includes individuals for whom oral speech poses challenges (e.g., in cases of serious complex disorders, hearing impairments, autism) and who constantly or

for an extended period require alternative means of communication. Users in this group must be trained both in understanding speech and in the ability to communicate. The main goal is to create conditions for understanding another communication system and learning its use without relying on oral speech. In this case, supportive communication is a full alternative to absent oral speech [7; 9].

Educational professionals play a key role in interacting with children with special needs. The use of AAC tools can significantly facilitate their work and improve communication with this category of children.

In our empirical study, 20 educational professionals (social pedagogues, teacher assistants) and social workers in the city of Nizhyn (Ukraine) participated. Through a survey (which contained 15 questions revealing the features of professionals' activities regarding the use of alternative and augmentative communication) and observation of their professional activities, we revealed the level of professionals' awareness regarding the understanding of basic concepts, types of AAC, methods of its implementation, ways of interaction with other professionals in the specified field, and obstacles to the application and implementation of AAC in their professional activities. We also explored the impact of AAC on the communication outcomes of children with special needs – whether it led to improvement or resulted in no changes.

According to the results of the survey and observation of the professional activities of educational professionals (social pedagogues, teacher assistants), and social workers, we obtained the following results. The first question of the survey, "What level of education do you have in the field of social work or a related field?" (see Table 1), allowed us to find out that not all participants in the survey have a direct professional education, but they work as educational professionals and in the social sphere, possessing significant work experience. From their responses during communication, we understood that acquiring professional education for more effective professional activities is part of their plans. Out of the 20 surveyed participants, 16 (80%) have a direct education, while only 4 (20%) have pedagogical education and have undergone many professional development courses.

Table 1: Responses to Question No.1 "What level of education do you have in the field of social work or a related field?"

No.	Professional Education Level	Number of respondents	%
1	Professional Education	16	80%
2	Non-Professional Education	4	20%

The responses to the next question of the survey, question 2 – "Do you have experience working with children with special needs?" – were distributed as follows (see Table 2):

Table 2: Responses to question No 2 "Do you have experience working with children with special needs?"

No.	Professional Education Level	Number of respondents	%
1	Yes	20	100%
2	No	0	0%

Therefore, we can note that in their professional activities, both social pedagogues, teacher assistants in educational institutions, and social workers in social institutions had practical experience in interacting with individuals with special needs.

Next, answers to question 3 "What categories of children with special needs do you work with?" (select all that apply)" were distributed as follows (see Table 3):

Table 3: Answers to question No. 3. "What categories of children with special needs do you work with? (select all that apply)"

No.	Professional Education Level	Number of respondents	%
1	- Children with hearing	5	25%

	impairments		
2	- Children with speaking disorders	9	45%
3	- Children with autism spectrum disorders	13	65%
4	- Children with autism spectrum disorders	11	55%
5	- Others (specify): _____		

From the survey results, we understand that the majority of respondents encountered children with special needs with various pathologies in their professional activities. Specifically, 5 (25%) professionals had experience working with children with hearing impairments, 9 (45%) worked with children with speaking disorders, 13 (65%) worked with children with autism spectrum disorders, and 11 (55%) had experience working with children with musculoskeletal disorders. Therefore, we can say that almost all respondents had professional experience with different categories of children with special needs.

The next question 4 “Have you had special training/courses on the use of alternative and augmentative communication (AAC)? If yes, please specify them” yielded the following responses from the surveyed professionals (see Table 4):

Table 4: Responses to question No. 4. “Have you had special training/courses on the use of alternative and augmentative communication (AAC)? If yes, please specify them”

No.	Did you have special trainings/courses in AAC	Number of respondents	%
1	Yes	9	45%
2	No	11	55%

From the obtained responses and discussions with the professionals, we concluded that 9 (45%) of the experts participated in various training sessions, courses, and other professional development activities dedicated to AAC. These professionals received training in using sign language with children who have hearing impairments. They also mentioned using simple AAC tools such as objects, social gestures, photographs, symbols, and other images. On the other hand, 11 (55%) respondents did not undergo such training and did not plan to, stating that children with various conditions were only marginally present in their professional activities.

Question 5 “What types of alternative and augmentative communication are you familiar with?” Name or mark them” was aimed at finding out the awareness of specialists about the means of alternative and additional communication and their varieties. The answers to this question were distributed as follows (see Table 5):

Table 5: Answers to question No. 5. “What types of alternative and additional communication are you familiar with?” Name or mark them”

No.	Types of alternative and augmentative communication	Number of respondents	%
1	Sign language	9	45%
2	Symbols, pictograms, images	7	35%
3	Combined means of communication	2	10%
4	Simple electronic means	5	25%

According to the survey results, we found that 9 (45%) respondents were familiar with sign language, 7 (35%) professionals had the opportunity to use symbols, pictograms, and images in their activities for communication with children with special needs, 2 (10%) were aware of combined AAC tools, and 5 (25%) respondents were familiar with simple electronic AAC devices (computers and tablets with eye-tracking function, photo albums, touch screen communicators, talking toys).

The results of answering question No.6-“What specific means of alternative and additional communication do you use in your work? (Check all that apply)” – are presented in Table 6.

Table 6: Answers to question No. 6. “What specific means of alternative and additional communication do you use in your work?”

No.	Types of alternative and augmentative communication	Number of respondents	%
1	Pictograms	2	10%
2	Speech synthesizers	1	5%
3	Graphic symbols	8	40%
4	Gestures	9	45%
5	Others (specify): _____		

From the results, it is clear that 9 (45%) respondents use gestures and sign language in their work, 8 (40%) are familiar with graphic symbols and had to use them in their professional activities, 1 (5%) specialist encountered in his work speech synthesizer; 2 (10%) of the interviewed specialists noted that they had such an opportunity to work with icons in working with children with special needs.

The seventh question of the questionnaire “How often do you use the means of alternative and augmentative communication in your work” showed us the actual work of specialists with AAC means, in particular, we obtained the following results (see Table 7):

Table 7: Answers to question No. 7. “What specific means of alternative and additional communication do you use in your work?”

No.	Use of AAC tools	Number of respondents	%
1	Often	2	10%
2	Occasionally / periodically	7	35%
3	Never	11	55%

From the answers of specialists, we understood that only 2 (10%) often use means of alternative and augmentative communication in their professional work, in particular, sign language, symbols, icons; 7 (35%) of the interviewees occasionally work with such AAC tools, since the objects of their attention are another category of recipients of social services; the other 11 (55%) interviewed specialists do not use AAC tools in their work. Therefore, we can state with confidence that exactly 9 (45%) specialists implement alternative and augmentative means of communication in one way or another in their professional activity.

The results obtained in eighth question of the questionnaire “What difficulties do you encounter when implementing alternative and additional means of communication?” are given in Table 8.

Table 8: Answers to question No. 8. “What difficulties do you encounter when implementing alternative and additional means of communication?”

No.	List of difficulties in the implementation of the AAC	Number of respondents	%
1	Lack of education and training	7	35%
2	Difficulty in understanding needs	5	25%
3	Cost and affordability	11	55%
4	Social acceptance	9	45%
5	High workload	6	35%
6	Interaction with other professionals	4	20%
7	Technical difficulties in implementation	8	40%
8	Uncertainty in use	4	20%

After processing the results of the answers to this question, we singled out a number of difficulties that specialists face in practice. Thus, the questionnaire stated the following:

- Lack of education and training of 7 (35%) respondents. Implementation of alternative and augmentative

communication tools may require additional skills and knowledge that are not always presented in general training programs for social workers at universities. Therefore, the experts interviewed emphasized this as an obstacle in the implementation of AAC in their activities

- b) Difficulties in understanding the needs were specified by 5 (25%) specialists. Some service recipients may have unique communication needs and it can be difficult to determine how to use alternative means of communication to meet these needs in the best way
- c) Cost and affordability: 11 (55%) of the interviewed specialists noted that some means of alternative and augmentative communication can be expensive and specialists in practice may face challenges related to ensuring the availability of these means for everyone, regardless of the financial status of the recipients or the institution
- d) Social acceptance 9 (45%). The use of alternative and augmentative means of communication can put the recipient of services in a situation of social isolation or facing stereotypes and misunderstandings of society
- e) High workload is observed in 6 (30%). Using alternative methods may require more time and resources, as some methods may be less effective or take more time to learn. The interviewees emphasized that AAC in general is painstaking, large-scale, intensive, and work with children with special needs always requires a lot of time, setting and performing many tasks, a high level of activity and a lot of busyness. Unfortunately, in practice, specialists do not have much time for this, since they have many categories of recipients of social services in practice
- f) Interaction with other professionals 4 (20%). Collaboration with other professionals, such as teachers, doctors, therapists, speech therapists, may require solving questions about sharing and understanding alternative methods. In practice, such interaction is impossible due to the lack of specialists, lack of time, or reluctance of specialists to cooperate with others specialists
- g) Technical difficulties in implementation 8 (40%). The use of some means of alternative and augmentative communication requires a specialist to have not only basic theoretical knowledge, but also technical readiness to implement and use them in work with recipients of social services
- h) Uncertainty in use 4 (20%). This difficulty is mostly related to the personal qualities of the specialist, who, perhaps due to difficulties or lack of motivation in work, is not confident in his own abilities to apply AAC in professional activity.

Understanding these challenges can help social workers and social educators develop strategies and approaches to overcome these challenges and ensure quality support for their service recipients.

To the next question was question 9 - "How do you evaluate the effectiveness of using alternative and additional means of communication in your work?" The interviewed experts distributed their answers as follows (see Table 9):

Table 9: Answers to question No. 9. "How do you evaluate the effectiveness of using alternative and additional means of communication in your work?"

No.	Use of AAC tools	Number of respondents	%
1	Effective	5	25%
2	Moderately effective	4	20%
3	Not effective at all	11	55%

So, we can state that the acquired knowledge, abilities, and skills of working with the means of alternative and augmentative communication are effectively implemented and applied in practice by 5 (25%) of the surveyed specialists, while 4 (20%) are moderately confident in the effectiveness of such work and 11 (55%) believe that such work is ineffective because it should be done exclusively by specialists in the relevant field.

The next question of questionnaire 10 is "Does your organization need more support and resources to implement

effective means of alternative and augmentative communication?". The responses of specialists were distributed as follows (see Table 10):

Table 10: Answers to question No. 10 "Does your organization need more support and resources to implement effective means of alternative and additional communication?"

No.	Need for support and resources	Number of respondents	%
1	YES, it is needed	15	75%
2	NO, not needed	5	25%

It is clear from the answers that the majority of the interviewed specialists are aware of the importance and necessity of using and implementing alternative and augmentative communication tools in the practice of their institutions, in particular, 15 (75%) marked "YES" it is necessary and 5 (25%) indicated that this issue is not a priority in their work, so it is not relevant.

The results of answers to Question 11 "Does the administration support you in the use and implementation of AAC tools in your work?" are presented in Table 11:

Table 11: Answers to question No. 11. "Does the administration support you regarding the use and implementation of AAC tools in your work?"

No.	Does the administration support?	Number of respondents	%
1	YES, it does	7	35%
2	NO, it does not	9	45%
3	Partly supports	4	20%

Thus, in practice, from the answers of the specialists, we can understand that not all administrations of institutions and organizations where specialists work see the need for the application and implementation of AAC. Specifically, 7 (35%) mentioned that their administration does not support this, while 9 (45%) and 4 (20%) answered that the administration partially supports them in such practices.

Regarding questionnaire question 12 "Do you believe that the use of alternative means of communication facilitates interaction and understanding between professionals and children with special needs?", we received the following answers (Table 12):

Table 12: Answers to question 12 "Do you believe that the use of alternative means of communication facilitates interaction and understanding between professionals and children with special needs?"

No.	Use of AAC tools	Number of respondents	%
1	YES, makes it easier	15	75%
2	NO, makes it difficult	5	25%

From the experts' answers to this question, we can state that 15 (75%) believe that indeed the use of ACC tools will significantly facilitate interaction and understanding between specialists and children with special needs. This enables an individual approach in working with children with special needs, promotes better mutual understanding of speaking and non-verbal signals, especially in cases where standard speech communication is limited in children; it makes it possible to interact more successfully even at the first meetings with children and creates an accessible speaking environment. The use of AAC by specialists will increase their level of empathy and they will better understand and take into account the needs of their service recipients. At the same time, 5 (25%) of the surveyed specialists noted that the implementation and application will only complicate the work because it has many difficulties in implementation.

The next, question 13 "Do you notice an improvement in communication and mutual understanding with children with special needs due to the use of alternative and augmentative communications? If so, which ones?", gave us the opportunity to understand from the words of experts how effective and necessary the introduction and use of AAC tools in their work is:

Table 13: Answers to question 13. "Do you notice an improvement in communication and mutual understanding with children with special needs due to the use of alternative and additional communications? If so, which ones?"

No.	Is there an improvement when using AAC means	Number of respondents	%
1	YES, there is an improvement	9	45%
2	NO, significant changes are not noticeable	11	65%

From the experts' answers, we can note that 9 (45%) of the interviewees emphasized that they see improvements in the use of alternative and augmentative means of communication in interaction with children with special needs, and this leads to numerous changes in communication and mutual understanding. For example, it is increasing the activity of children to constant interaction, which allows them to express their thoughts, feelings, and needs. This allowed children with special needs to participate in joint activities and conversations with adults; it is felt that children have expanded their vocabulary and the ability to express their feelings through alternative means of communication. The use of AAC tools made it easier for children to communicate with their peers, turning it into an element of their play, contributing to the formation of friendship and mutual understanding. Children began to work more actively in group forms of work, developed the skills to independently organize their interaction and communication using alternative means, etc. And only 11 (65%) of the interviewed experts do not see significant changes.

Question 14 was formulated as follows: "How do you interact with other specialists (doctors, psychologists, speech therapists, etc.) for optimal use of alternative and augmentative means of communication for children with special needs?" (see Table 14):

Table 14: Answers to question No. 14. "How do you interact with other specialists (doctors, psychologists, speech therapists, etc.) for optimal use of alternative and additional means of communication for children with special needs?"

No.	How does interaction occur?	Number of respondents	%
1	Information about interaction and communication	11	65%
2	Joint planning and problem solving	9	45%
3	Conducting educational trainings and sharing practical skills	9	45%
4	Development of individual programs for the development of inclusive education	12	60%
5	Support for the family	7	35%

Cooperation of interviewed social educators, teacher assistants and social workers with other specialists, such as doctors, psychologists, speech therapists and others, is key to optimal use of alternative and augmentative means of communication for children with special needs. From the experts' answers, we tried to highlight the following:

1. Close cooperation of specialists should be based on constant exchange of information about interaction and communication, needs, successes, difficulties of children with special needs, etc. This was emphasized by 11 (65%) interviewed specialists.
2. Joint planning and solving tasks as a multidisciplinary team. Professionals should work together to plan and develop individualized plans for children with special needs, taking into account their communication needs. Joint discussion and problem solving helps to create a comprehensive approach to the development and support of children with special needs. 9 (45%) experts supported the above.
3. Conducting educational trainings and sharing practical skills. Specialists can offer training and education by other specialists on the use of alternative means of communication. It is important that all team members have the basic skills and understanding to use these tools effectively. 9 (45%) emphasized the need for such

interaction in the form of training and exchange of practical experience.

4. Development of individual programs for the development of inclusive education. Together with specialists, interviewees can jointly develop individual trajectories of communication development for each child with special needs. 12 (60%) specialists noted the need for cooperation in the development and implementation of individual development programs for children with special needs.
5. Support for the family. Interviewed specialists can help in the exchange of information and involvement of the child's family in the process of using alternative and augmentative means of communication. 7 (35%) respondents indicated the need for such interaction and communication for the family of a child with special needs.

Cooperation and coordination between different specialists is a key element of successful work with children with special needs and the use of adequate means of communication.

The last question of our questionnaire – question No. 15 – required experts to answer "What additional resources or support would you like to have to improve the use of AAC?" (see Table 15):

Table 15: Answers to question No. 15 "What additional resources or support would you like to have to improve the use of AAC?"

№	Additional resources	Number of respondents	%
1	Additional training, professional development	9	45%
2	Access to new technical means	5	25%
3	Possibility of consultations with experts	6	30%

So, the answers to this question were distributed in such a way that 9 (45%) of the interviewed professionals need additional training. Of course, these are the specialists who use and implement AAC tools in their professional activities, accordingly realize their importance and understand the need for professional growth and improvement. 5 (25%) of the interviewees noted that it is better to first ensure the technical process of AAC application by means, as these are significant costs. 6 (39%) respondents emphasized that it is better to consult specialists and use their experience and knowledge in this field for the professional implementation of AAC tools (see Figure 1 below).

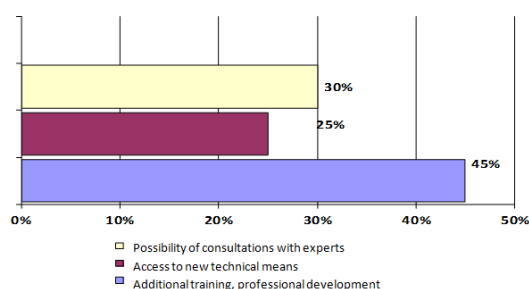


Figure 1 - Survey results for question No. 15 "What additional resources or support would you like to have to improve the use of AAC?"

After analyzing the experts' answers, we tried to determine the overall level based on the developed indicators and criteria. For each positive answer to the questionnaire, one point was assigned, while for an inaccurate or negative answer to the survey, the specialist received 0 points. Thus, we can state the following results (see Table 16):

Table 16: Levels of use of alternative and augmentative communication tools by social workers / social pedagogues in their professional activities

No.	The level of implementation of AAC	Number of respondents	%
1	Low (minimum) level (1-5 points)	11	55%
2	Intermediate level (6-12 points)	6	30%
3	High level (13-15 points)	3	15%

A low (minimum) level (1-5 points) of using AAC tools in their work was demonstrated by 11 (55%) specialists who have somewhat limited or no knowledge of AAC tools. They do not use any of the AAC tools in their work. This group of specialists emphasizes that AAC tools are not important for their work and do not support or ignore such initiatives, believing that special education is needed for this. They have no desire to cooperate with AAC specialists and are not engaged in self-education or increasing their level of knowledge in this field.

The intermediate level (6-12 points) of using AAC tools in their work was demonstrated by 6 (30%) specialists who have knowledge of at least one of the AAC types, but may need additional training. They spontaneously use alternative means of communication. These specialists understand the importance of AAC, but perhaps do not always include it in their work and situationally invite AAC specialists to work.

A high level (13-15 points) of using AAC tools in their work was demonstrated by 3 (15%) specialists who use and implement alternative and augmentative means of communication in their work with children with special needs. These are the specialists who understand the types of AACs and their characteristics. They emphasized that alternative and augmentative communication is necessary and effective in working with children with special needs; these are the specialists who successfully cooperate and adopt the experience of others regarding the use of various types of AAC in their work, improve their qualifications in this direction.

Based on our research, we proposed a number of practical recommendations for pedagogical workers (social pedagogues, teacher assistants) and social workers regarding the use of alternative and augmentative means of communication, in particular:

1. When assessing the individual communication needs of a child with special needs, specialists must possess various means of alternative and augmentative communication for more effective work in this direction. At the same time, it is necessary to consider the need for cooperation with speech therapists and other specialists to obtain more detailed information about individual speaking needs of a child and his previous experience in communicative activities.
2. Specialists should engage in the learning process of various alternative communication methods for their own awareness, as well as involve parents and educators in educational institutions. It is necessary to constantly update knowledge about different alternative communication methods and their techniques.
3. Collaboration with parents and professionals is necessary to create individual development plans for each child, taking into account his needs and abilities in alternative communication.
4. One should consider the specific features of the space and create favorable conditions for the use of alternative communication (e.g., quiet communication zones). What is needed is the search and ensuring the availability of special tools and technical means for communication.
5. It is expedient to provide support to parents through recommendations and training on the use of alternative communication at home. Moreover, one should create opportunities for experience exchange among parents, where they can discuss and share successful methods and techniques.

6. It seems rational to establish a monitoring and evaluation system to assess the effectiveness of alternative communication use, aiming to evaluate progress and make necessary adjustments to individual programs in collaboration with other professionals.
7. Collaboration should be organized with other professionals (speech therapists, psychologists, medical workers) for a comprehensive approach to children's development.
8. Peers should be involved in supporting children with special needs. It is necessary to create support and training programs for peers that help them better understand and interact with children using alternative communication. It is highly expedient to organize group activities and games aimed at supporting communication and understanding among peers.
9. The development of independent use of alternative communication skills by children with special needs should be promoted, and children should be involved in planning their own communication methods and determining what is effective for them.
10. It is needed to engage non-governmental organizations and community initiatives to support children with special needs, organize events and campaigns to raise public awareness about the importance of alternative and augmentative communication.
11. One should carry out professional self-improvement (participate in conferences, seminars, webinars, and training programs for continuous improvement of knowledge and skills in the field of alternative communication), practice exchange of experiences and best practices with other professionals.
12. It is necessary to utilize creative approaches, including the use of various arts such as music, graphics, to promote alternative communication, etc., stimulate the use of multimedia tools and gaming technologies to enhance communication. For example, if a child with special needs does not speak orally or has significant speech impairments, he can express gratitude or compliments in writing. This can include writing a compliment together with an assistant on a board or a piece of paper. A specialist could create "life hacks" from personal practical experience, involve and use other modern information resources in working with children with special needs (modern mobile applications, latest developments, support websites, etc.).

Thus, the outlined recommendations will help educational professionals create an effective and supportive environment for children with special needs, enabling them to develop, interact successfully, and communicate effectively. Alternative means of communication (AAC) can be utilized in various aspects of the lives of children with special needs, encompassing social, spiritual, political, and economic spheres. The use of alternative communication in educational institutions will allow children and students with various impairments to actively and fully participate in the learning process and engage with their surroundings.

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**Primary Paper Section: A**

**Secondary Paper Section: AM**