
THE EDUCATIONAL ENVIRONMENT – A REQUIREMENT FOR THE IMPLEMENTATION OF ASSISTIVE MEANS AND TECHNOLOGIES IN THE TRAINING OF CHILDREN AND STUDENTS WITH SPECIAL EDUCATIONAL NEEDS

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Abstract: The focus of the present study is the problem of assistance and technologies in the education of children and pupils with special educational needs.

The educational environment is the key factor in the introduction and the implementation of aids and technologies in pre-school and school education. The environment is an important determinant in the concept of inclusive education it requires changes in order to properly accommodate the pupil with special educational needs who as a result of that will then become an active participant in the educational process.

Assistive Technology and Assistive Technology are good helpers in teaching children and students with special educational needs writing skills, reading skills, mathematical skills, visual, and communication and computer skills. They enable children and pupils with special educational needs to be fully involved in the educational process, and also leads to the formation of autonomy in the implementation of the assigned tasks both in kindergarten and school, and at home.

The current problem of the research is being sought in the increasingly clear tendency of supporting children and pupils with special educational needs in the educational process catered to their individual needs. It is related to "how aids and technologies facilitate the education of children and pupils with special educational needs in the pre-school and the school". As aids and technologies are a component to the additional support for the personal development of children and pupils with special educational needs. They enable children and pupils to learn easily the proposed curriculum content of the given subject, which improves the quality of their education. In this respect, the following definition of assistive devices and technologies can be mentioned: "any means or equipment that allows individuals to perform tasks that they could not otherwise perform on their own or facilitating the way and securing their performance of the activity."

The potential range of tools and technologies in the training process is extremely wide. They can be low-tech, and hi-tech and can be used both in the classroom and for the particular child or pupil (individual).

Keywords: Auxiliary / assistive tools/aids and technologies, education, children and pupils with special educational needs

INTRODUCTION

Our educational policy over the last three years has outlined the new vision of teaching children and pupils with special educational needs providing the support of personal development. The philosophy of the educational system and its organization has changed. The child - as a core value - is placed at the center of the educational process. It is through inclusive education that equal opportunity and opportunity for each child and student is provided so that they can realize their capacity as much as possible, to develop according to their individual needs. In this aspect, it can be said that inclusion means changing the philosophy of the process of learning and functioning of the educational institution itself. In order for children and pupils with special needs to develop the environment is a major factor contributing to the support in the educational process. Such support provides an adequate physical, psychological and social environment for the development of their skills and abilities and for their inclusion and active participation in the community of kindergarten and school.

When talking about children and pupils with special educational needs, we mean children and students with sensory disabilities, physical disabilities, multiple disabilities, intellectual disabilities, language disorders, specific learning abilities, autistic spectrum disorders, emotional and behavioral disorders. Keeping in mind a wide range of educational barriers to their inclusion in the educational environment, implementing an inclusive education then brings social responsibility standards to the kindergarten both in the school where children and pupils with special educational needs are trained.(<https://www.mon.bg/?go=page&pageId=7&subpageId=57>)

In this respect, it can be said that the role of kindergarten and school is to provide an environment that meets the needs of all children and students, including children and pupils with special educational needs. Because the process of personality development can be seen as a process of interaction with both the educational and the social environment, each element of this interaction has its place and priority in the educational process.

According to Baeva (2012), the educational environment can be defined as a "psychological-pedagogical reality, containing specifically created conditions for personality formation and also development opportunities included in social and spatial-subject environments, the psychological essence of which is a set of active - communicative acts and relationships of the participants in the educational process. The existence of the given reality is possible through a system of relations of the subjects involved" (I. Baeva, 2012)

In this context, the definition of the educational environment in the Preschool and School Education Act can be mentioned as: a set of conditions, factors and elements guaranteeing an effective educational process and active interaction of all stakeholders to achieve sustainability in the functioning of the system of pre-school and school education (<https://www.mon.bg/?go=page&pageId=7&subpageId=57>)

These definitions in practical and applied aspect could function if the nature of the conditions and the possibilities that ensure the personal development of the children and pupils with special educational needs included in the educational process are supplemented and specified.

The learning environment is an important factor in introducing and using aids and technologies in the learning process. In order to participate actively in the process of educating children and pupils with special educational needs, they need tools and technologies that enable them to be fully involved in the educational process. This also leads to the formation of independence in fulfilling the assigned tasks both in the kindergarten and the school, as well as at home.

An important determinant of the learning process for children and pupils with special educational needs is the tools and technologies. They facilitate graphic writing skills; reading skills; mathematical skills (geometry, arithmetic skills), cutting skills, imaging skills, communicative and computer skills (peripherals and software) as well as classroom aids and technologies. They enable them to get the most out of the learning process. The resources provide effective solutions for teachers, resource teachers and parents who train and support students with special educational needs .(Zh. Yankova, 2016)

MAIN PART

The research is based on the theoretical and applied aspects of aids and technologies used in the education process of children and pupils with special educational needs. They are a key component in further supporting the personal development of children and pupils with special educational needs by providing them the opportunity to learn more easily the content of the given subject, which leads to an increase in the quality of their education.

In this respect, the following definitions of aids and technologies can be identified:

- the World Health Organization considers "any means or facility that enables individuals to perform tasks that can not solve independently and facilitate the way and the security of the activity" (Dictionary of terminology for communal health care and services for elderly, 2004).

- the Disability Education Act (IDEA) - US aids and technologies are defined as: "any item, part of an instrument or product system purchased commercially, modified or adapted, used for promotion, maintenance or improving the functional capabilities of a disabled child " (IDEA, 2004).

The conceptual overview of the scientific literature on aids and technologies also points to:

- assessment of the specific need of the child or pupil with special educational needs of an aid and technology from the team in the kindergarten and the school;

- provision and use of aid and technology in the education of the child or pupil with special educational needs;

- training or technical assistance to professionals (teachers, rehabilitators) or other persons who will provide services to the child / pupil with special educational needs using the aids and technologies (Authority 20 USC 1401)

The key to the education of children and pupils with special educational needs is the use of tools and technologies with the understanding of three key aspects:

- the needs, abilities and goals of a student or pupil with special educational needs;
- technology itself and its capabilities for use in the learning process;
- application in the educational process

In this context, the potential range of tools and technologies in the learning process is extremely wide. They can be low-tech, low-tech and hi-tech and can be used both in the classroom and the particular child or pupil (individually). (Bryand,D,P.,& Bryani,B,R,2003)

The theoretical and practical significance of the problem focuses on the purpose of the study.

The aim of the study is to establish whether there are evaluations and proper recommendations for implementation of assistive tools and technologies for children and pupils with special educational needs in the educational process.

The formulated goal determines the choice of the relevant *methods*: theoretical analysis, observation, discussion, inquiries.

On the basis of theoretical sources, observations, discussions and questionnaires, the current status of the problem of the assistive technologies in the education of children and pupils with special educational needs in the kindergartens and schools is analyzed.

The theoretical concept of introducing and implementation of assistive aids and technologies for children and pupils with special educational needs directs our activities to the planning, preparation and conduct of the research.

In essence, the research problem looks at: Is the personal development of children and students with special educational needs being evaluated by personal development teams when it comes to the appropriate use of aids and technologies; how to use the tools and technologies in the education of children and pupils with special educational needs of kindergarten teachers and schools and resource teachers supporting the training process.

From the conducted and analyzed questionnaire survey with the pedagogical college it was found that:

- teachers as members of the personal development team in kindergartens and schools teaching children and pupils with special educational needs point out (87,4%) that they do not evaluate the aids and technologies in their training;

- researchers surveyed as members of the personal development team in kindergartens and schools supporting children and pupils with special educational needs (84.7%) indicate that almost no children and pupils are being evaluated by the personal development team in kindergartens and schools when it comes to assistive tools and technologies and in the individual needs assessment card the percentage of recommended helpers to be used in the educational process is small

On the basis of the analyzed results of the survey and the discussions with the Pedagogical College, the following aspects were outlined:

- personal development support teams in kindergartens and schools in assessing their individual needs for children and pupils should evaluate and recommend to children and pupils with special educational needs specific aids to their individual needs and their functional difficulties to facilitate their participation in the training process;
- when the regional team discusses the support of the personal development of children and pupils with special educational needs with the personal development support team which completed the assessment of the individual needs of the child or the student should recommend that children and pupils be assessed on assistive devices and technologies are used in the education process;
- the assessment, introduction and use of aids and technologies in the educational process requires a legal framework and a methodology for their evaluation;
- educational institutions should provide the tools and technologies for the education of children and pupils with special educational needs;
- the need for further qualification of the teachers for implementation of the aids and technologies and their application in the learning process;

Based on our findings on the assessment, implementation and use of aids and technologies in the educational process, we will provide adapted writing, reading and cutting aids for children and pupils with special educational needs. This presentation in the pedagogical college is believed to contribute to their familiarization as well as to the introduction and use of tools and technologies as an element of the additional support for the personal development of children and pupils with special educational needs.

From the *low technology aids* we will present the most commonly used adapted writing tools in the process of teaching children and pupils with special educational needs. They are designed to reduce the writing tension and the pen or pencil gripping problems encountered by using standard writing tools by students with difficulties in the advanced motor skills. They are suitable for writing with left and right hand.

During the evaluation of children and pupils the personal development team in kindergarten and school, should include the various adapted writing models to find out which model is best suited for the particular child or pupil and to recommend in the assessment map of their individual needs and then implement its use in the training process.

Tripod Training „Tripod“. The pencil-type training simulator makes it easy for children to learn how to grip the pencil or the pen when they prepare for writing and painting.



The trainer helps the child to put his fingers in the correct way without much effort. The trainer is suitable for children and students with difficulty in fine motoring, as a result of child cerebral palsy, mental retardation, autistic spectrum, motor dyspraxia or learning traps

The adapted "Ring-pen" chemical. The pen gripped by the student by placing his finger or middle finger in the ring and pinning it with his/her thumb.



This reduces the three-finger holding fatigue typical of writing with the standard pen. The ergonomic shape improves control, and the grip of the pen is durable and comfortable for children with tough fine motoring. It is suitable for writing with left and right hand.

Adapted weight-writing tools. They are an aid with an added weight to the pen or the holder. The added weight stabilizes and improves the writing control.



They help children and students with hypersensitivity for whom standard writing tools are not a sufficient solution. Models with a fixed weight, as well as those where the weight can be controlled according to the individual needs of the child or student, are available.

Adapted weight-writing tools are suitable for children and students with difficulty in fine motoring and tremor, as well as children of autistic spectrum that have hypersensitivity

Low-tech aids for reading technology. "Reading window". It helps students track the order of the text on the entire page..It is intended to limit a line of text. The line moves down the page during the reading process. This technical solution is useful for students who have difficulty reading because of difficulties with visual tracking - dyslexia



Low Tech Assistants for concentration - "Sand watch".

This assistive tool helps children with special needs concentrate and deal with the perception of limited time. It is suitable for children with Autistic Disorders, Hyperactivity and Attention Deficit, Down Syndrome, Mental Disability, and Learning Disabilities



Low-tech cutting tools. "Adjusted scissors" make it easier for children and pupils with special educational needs, when they encounter difficulty cutting with standard scissors. These difficulties are related to fine motoring, balance and positioning, visual perceptions and coordination. In this sense it is extremely important to determine the abilities and the difficulties in fine motoring that each child or student has. In order to keep the scissors properly and to control the opening and closing of the blades, the tool has to isolate the thumb, forefinger and middle finger of the hand used for cutting, and also has to allow the independent movement of the fingers from each other. *The "easy"* scissors for children are easy to grasp because it requires only half of the effort needed in the use of standard scissors - they are useful for pre-school children in developing of cutting skills as well as for children and students with limited grip or reduced wrist force due to physical and multiple injuries affecting fine motoring.

"Tweezers Training Scissors". These scissors are specifically designed to make it easier for children and students to learn how to use scissors. The scissors have two pairs of gripping holes so that the child and the trainer can hold and cut at the same time. The child uses the grip that is further away from the blade. This scissors model gives children and pupils the opportunity to cut things with the help of the teacher or assistant. They are available in a right-hand and left-hand version. They are suitable for the training of children with poor motor skills, as well as for children with impaired vision. (Zh.Yankova, A. Yanina, 2010) The adapted scissors are intended primarily for children and pupils with special educational needs but can also be used by children and students who have difficulty using standard scissors.



CONCLUSION

The presented material aims to provide more information about the diversity and application of aids and technologies in the process of teaching children and pupils with special educational needs. In this respect, it can reasonably be said that children and pupils with special educational needs need to be evaluated by the development teams in kindergartens and schools in order to be fully involved in the educational process and that they should be encouraged to use assistive technologies that support reading techniques, develop graphic writing skills, math skills, cutting skills, communicative and computer skills,

making them self-sufficient both in kindergarten and school, and at home.

On the basis of the presented information above, we should also focus on the cooperation between the kindergarten and the school and the family in the introduction and use of the aids and technologies of children and pupils with special educational needs in the educational process. This cooperation leads to a change in the educational environment because it is an important factor for the development of the learner's personality of children and pupils with special educational needs.

Considering the present and the future, it can be said that in the 21st century technologies can complement and support education, giving voice to the voiceless, the sound of the non-hearing, the light of the blind, the movement of the immovable and the independence of the dependent.

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