

# Inclusive Distance Education of Children with Disabilities of Different Types

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## Abstract

The focus of the paper is the potential of inclusive education in solving problems of artistic and aesthetic development of individuals with disabilities. The pivotal role in this process belongs to modern distance learning information technologies. The major concern of the authors is an attempt to describe the emerging tendencies in social and cultural adaptation of disabled people to society. A key aspect of the paper is the role of the educational strategies to create comfortable autonomous life environment for individuals with disabilities. This environment emerges from a variety of artistic and aesthetic activities. Central to the entire discipline is the strategy to resolve the basic problems of individuals with disabilities by means of art education in conditions when the information services are remote and insufficient. Of much importance is the analysis of students' problems with different types of disabilities. A key issue is the classification of disabilities and corresponding opportunities in solving educational problems with the help of inclusive art education based on computer technologies. Evidence suggests that there is an approach to give preference to the artistic and aesthetic development of disabled people cultivating their indirect routes of mastering skills, abilities and knowledge which stem from compensatory mechanisms of healthy psychic and physiological zones unexposed to defect. We outline further perspectives of using computer technologies in solving the problems.

**Keywords:** instruction, inclusion, technology, education science, adaptation, physical disability.

## INTRODUCTION

Recent developments in the field of education have led to a renewed interest in the theory of inclusive education in Russia. The modern concept of inclusive education presumes its interpretation as an educational process aimed at overcoming any limitations in mastering knowledge that is significant for a full-fledged adaptation in modern society. Evidence suggests that inclusive education treats students as self-sufficing personalities regardless of the scope of their achievements and abilities. Another fundamental principle is that with this type of education it is necessary to focus more on what students are getting rather than try to overcome what causes their initial difficulties. At the same time, educational experts put the emphasis on any kind of deviation from the generally accepted social standards in obtaining knowledge describing those students who need inclusive education [1; 2].

Alternatively, in the foreign practice of inclusive education, the "medical model" has been a controversial and much disputed subject. Recent developments have led to a concept stressing the normalization of students' development, the essence of which is the idea to equip students who have health restrictions with generally accepted cultural norms of interaction with social environment. Consequently, this means the inclusion of such students in the existing educational environment which should be as close as possible to the learning environment of students who do not have limited health abilities [3].

Ultimately, inclusive education should not only contribute to the adaptation to social environment, but also it should target the full integration of children and adults into the community. In this case, regardless of the degree of disability or its scope, inclusive education deals with special educational needs, the satisfaction of which involves searching for non-standard ways and forms of educational activity and the availability of appropriate information and technical education where distance education plays an important role. This paper highlights the importance of distance education in the sphere of art education, it also describes the factors which determine its successful implementation.

## METHODS

To allow a deeper insight into the problem of inclusive distance art education it is necessary to create a vital living home space for disabled individuals. The environment should include various forms of mastering artistic culture, i.e., art, music,

literature, etc. with the help of educational information and computer technologies. Undoubtedly, modern computer technologies enable the strategy of self-development training, capable of satisfying the vital needs of the disabled person which are as follows: the need in self-assertion (self-improvement, self-instruction, self-regulation, the freedom of choice); the need in self-expression (communication, creativity and self-artwork, a creative quest, the identification of one's abilities and strengths); the need in protection (self-determination, vocational guidance, self-regulation, collective activity); the need in self-actualization (achieving personal and social goals, preparing oneself for adaptation in society, social tests) [4; 5; 6; 7].

Ultimately, mastering the achievements of artistic culture should contribute to the self-improvement of the personality of disabled individuals who are able to independently form their own psychologically comfortable life environment that compensates for the lack of creative contacts with the surrounding society. The general educational orientation of this technology is to develop the creative potential of the individual and humanize the living environment of the disabled people in their daily existence. As a result, self-governing mechanisms of personality emerge. The mechanisms concentrate on socially and culturally significant self-realization of disabled people.

Our research has shown that the system of self-development training includes three interconnected, interpenetrating subsystems, i.e., mastering the theoretical foundations of self-improvement, a practice period which includes the formation of necessary experience of self-improvement, and the acquisition of the method leading to the forms of self-development training.

The essence of the proposed teaching technology of distance education of individuals with disabilities emerges from the achievements of computer information technologies. It also stems from the idea to create electronic content of educational subjects that form aesthetic queries, skills, and abilities in one or another form of creative activities. This approach significantly broadens the aesthetic horizon and promotes spiritual development during leisure activities.

At this stage of our research we proceed to comparing the traditional distant forms of arts and humanities education of disabled individuals with modernized forms of educational process. It is evident that in modern education the main emphasis is on the self-development and self-improvement of disabled students in the process of their everyday life routines at their place

of residence. This self-regulation ranges from practical mastering art by means of decorating home interior to artistic enlightenment and appreciation of arts in distant mode.

The current study has found that with the help of computer technologies the progressive technologies of inclusive art education in distant mode can develop within the areas which are as follows:

- the artistic enlightenment, which includes the formation of aesthetic tastes, broadening the horizons in the field of literature and art; viewing and listening to concert programs, theatrical productions, museum expositions in distant mode; webinars and lectures on history and theory of art, etc.;
- the organization of home leisure activities for disabled individuals with the help of computer technologies resulting in mastering the abilities and skills of decorating a home interior. These leisure activities may include the development of hobby in the field of arts and crafts, teaching the basics of home music making, forming reader interests, artistic collecting, etc.;
- the corrective artistic and aesthetic programs using the possibilities of art therapy, drama management, reading treatment, music therapy and other therapeutic techniques and practices based on remote computer training;
- the spiritual and moral development of students aimed at acquiring vital meanings and values and worldview attitudes of a humanistic orientation on the works of literature and art;
- the development of the creative abilities of students necessary for performing activities and creating their own works of literature and art through appropriate interactive distance learning technologies in the form of master classes, demonstration performances, rehearsals, webinars using necessary computer technologies in remote access;
- the acquisition of art education for this or that profession in the field of culture and art. It is necessary for self-realization at the labor market and obtaining a profession in demand by modern society (musicians, artists, fine arts experts, art historians, educators, designers, etc.);
- the development of the emotional world of the individual, the implementation of “emotional training” and appropriate psycho-correctional programs that develop responsiveness, compassion, empathy and the desire for mutual assistance and cooperation based on literature and art.

## RESULTS

The results of this study indicate that the outline of modern educational informational technologies has made it possible to form the teaching concept of a distance inclusive art education that fosters the creation of an autonomous life environment. The environment compensates for the limitations of the disabled individuals in using the opportunities of real society for a variety of artistic and aesthetic pursuits.

The proposed educational technology emerges from the ideas which are as follows:

- a systematic approach to art education and aesthetic education of persons with disabilities;
- a differentiated approach to education, considering the type of disability and age characteristics of students;
- ensuring the unity of knowledge, abilities, and skills (KAS) in the educational process;

- a search for organic synthesis of verbal, visual and auditory information in the educational process in distance education, which varies depending on the type of disability.

Accordingly, the goals of the teaching technology are as follows:

- ensuring accessibility of education for all persons with disabilities, considering the type of disability, cultural and educational level, and age-specific features;
- the achievement of the necessary minimum of knowledge, abilities, and skills in the artistic and aesthetic sphere, which allows disabled individuals to independently improve their own living environment in accordance with moral and aesthetic requirements;
- the prevalence of interactive teaching methods (subject-subject technologies) that promote active participation of students in the educational process.

In accordance with these targets, we plan to fulfill the set of teaching principles which are as follows:

- mastering knowledge, skills, and habits from simple to complex, involving actual psychological, and functional capabilities of disabled people;
- the inclusion of a variety of gaming technologies and practical tasks that allow people with disabilities to master the necessary minimum knowledge, abilities and skills in various artistic and aesthetic practices and occupations.

Consequently, students take a partnership position towards teachers, increase their own self-esteem, acquire faith in their own constructive and creative opportunities.

It is interesting to note that the main content of the educational process involves such areas as: teaching the basics of home design, which includes the art of home interior, clothing design, making jewelry, etc.; webinars on the history and modern achievements of foreign and domestic art; works of fiction; training in the basics of various types and genres of performing arts, etc.

It can thus be suggested that since instruction and education are predominantly distant, of much importance is the visibility, saturation, variability of learning, and the presence of “feedback” from students to educators who carry out the educational process [8; 9; 10].

Respectively, there is much evidence that the wide use of various computer diagnostics indicates the main problems, psychological features, age, social and cultural factors essential for the educational process.

Undoubtedly, based on the diagnosis, individual planning of the learning process is possible. This individual approach should be as close as possible to the capabilities and interests of one or another student. One important finding is that a flexible curriculum is also possible, considering the abilities of students related to the type of disability, way of life, nature of diseases, etc. [11; 12].

Hence, it could conceivably be hypothesized that the management map of the educational technology in this case would include four main stages which are as follows:

1. preliminary, indicative stage, i.e., the study of the situation, artistic and aesthetic material;
2. the choice of a topic for the mastering by a disabled student himself or the designation of a topic by a specialist, emotional inclusion in the process of artistic and aesthetic activity;
3. the search for adequate forms of expression, active experimentation;
4. the development of educational forms in the direction of increasingly complete self-expression, their concretization, the resolution of the conflict traumatic situation in a symbolic form.

As far as the criteria for assessing the effectiveness of the proposed technology are concerned, it is important to assess the involvement of the students to the participation in practical classes; the emergence of students' interest in the results of their own creativity, an increase in the time for independent studies of students after practical classes; the disclosure of creativity through the development of acquired knowledge, abilities, and skills.

These findings provide further support for the hypothesis that the innovative approach in distant education of individuals with disabilities provides an opportunity to optimize the parameters of the educational process with students with hearing, vision, musculoskeletal disorders, as well as to obtain educational results.

### DISCUSSION

The most relevant finding of the study is that, it is possible to identify psychological problems of persons with different types of disabilities and the corresponding desirable educational strategies of inclusive distance art education. Our study provides a useful account of individuals with hearing, vision, musculoskeletal disorders, and the educational technologies for working with them. Now we proceed to the description of each type of students.

*Actual problems of people with hearing impairment.* There is a growing body of literature which describes the groups of disabled people with hearing impairments according to the paradigm which is as follows: deaf (deaf), including early deaf, born deaf or deaf to the stage of mastering speech; late loss of hearing, i.e., lost hearing after mastering speech; hard of hearing (hearing loss), i.e., having a partial hearing loss. Regardless of the degree of disability in the field of auditory perception, all persons with disabilities of this group have a problem of fully mastering speech, which hinders the development of other mental functions. Accordingly, there is a predominance of visual-figurative perception and thinking in comparison with verbal-conceptual thinking. Of much importance is the fact that written speech is preferable than oral speech [13].

Regarding the tasks of distant inclusive art education, this means the need to search for technologies for the optimal synthesis of verbal and extraverbal components of educational information, taking into account this feature of this type of disability, based on visual information. Respectively, it is necessary to think out the equivalents of the acoustic impact in the form of visual information, which provides minimal loss of educational content for the students with hearing impairment. The current study has found that at the same time, it is desirable to realize the possibilities of such information for the development of both involuntary and voluntary attention to the proposed curriculum.

Another important finding is a predominance of the analytic over synthetic type of thinking among the students with hearing impairments. According to these data, we can infer that this feature can be considered as a prerequisite for the intensification of educational activities that develop creative thinking and intellectual-cognitive activity in the perception of artistic information [14].

The potential of intellectual and cognitive activity of students with hearing impairment also allows to provide effective training in motor skills and skills of artistic and aesthetic orientation, corresponding to relevant art forms: choreographic, theatrical, pantomime, etc. It is important to demonstrate the skills as visual samples in remote mode with using appropriate information computer technologies. Interestingly, the students with this type of disability can absorb the most diverse algorithms of motor activity in an artistically visual form [15].

The current study has found that the students with hearing impairments are particularly susceptible to the subtlest

nuances of written artistic speech. Consequently, the selection of artistic texts for such students must be maximally saturated with artistic expressive means coming from the best examples of Russian and foreign literature, and the works of fine arts.

One interesting finding is that the need in speech activity for such students should result in the organization of speech dialogue with teachers and demonstrators of artistic and visual information in a remote mode with the help of appropriate computer information technologies.

The development of creative thinking of students with hearing problems, according to experts, can contribute to the task of developing skills in artistic design, as well as restructuring of one or another artistic visual information. This also develops the artistic imagination of students. Artistic design is especially effective, as it develops the creative potential and skills of artistic and visual activity in a variety of forms and with a variety of materials.

Another important finding is that in the interactive mode, using computer technology, it is also promising to involve students in role-playing games that develop the ability to model different life situations based on certain works of literature and art. In this regard, in the educational respect, of much importance is the creation of problematic situations with the help of any artistic content requiring the activation of heuristic and logical thinking [6; 16].

Studies of students with hearing problems show that for this category of disabled people, difficulties arise from the sphere that requires emotional empathy, compassion and involvement. Therefore, an important educational task is to provide these students with the grasp of literary works, theatrical productions, films and works of fine art that form the corresponding emotional culture of an individual.

Central to the entire educational concept is the idea that students with hearing impairment should also master the examples of art works with representations of socially significant qualities of an individual; the ability to identify these qualities in surrounding people; an ability for adequate self-esteem.

For students with hearing impairment, of much importance are the skills of visual creativity, including the decoration of home interior, the manufacture of handcrafted items, paintings, sculpture, work with various materials. It is also possible to study the history and current state of foreign and domestic fine arts; the introduction of the texts of literary works, comments to them, dramatizations, and adaptations of literary works with sign language [17].

*Students with visual impairments.* Experts distinguish two groups of people with visual disabilities: blind and visually impaired, partially sighted. Depending on the time of acquisition of this defect, medicine distinguishes between born blind people and blinded students. According to research data, 92% of the visually impaired and 85% of the blind have this defect as congenital. This fact is important for distant inclusive art education, which must initially satisfy the need to fully compensate for the lack of visual perception of these students without appealing to the experience of perceiving visual information [18].

To adapt students with visual impairments to the requirements of computer information technologies for distant inclusive education, they need to develop their computer skills and techniques, as well as the ability to concentrate on the learning process despite possible natural auditory stimuli of the environment.

This category of students is particularly sensitive to their own inability to perceive a whole artistic image in a holistic manner because of the lack of opportunities for perceiving visual information. Consequently, the requirements for educational artistic auditory information for these students are increasing in

terms of maximum expressiveness, artistic imagery, intonational diversity, etc. [19].

A primary educational concern for the students with pronounced visual defects are the limited knowledge and understanding of the surrounding world, marked with the predominance of general, non-specific knowledge. Alternatively, the students with a sufficient formal vocabulary (verbalism) suffer from an insufficient subject correlation of words. Visual defects often inhibit the development of motor skills and abilities and determine the small motor activity of the learner, the general slowness. Against this background, students often have motor stereotype-like movements in the form of shaking hands in front of the eyes, patting, etc.

The educational process of students with visual impairment concentrates on the development of auditory perception, the formation of objective concepts, the orientation in space and the development of mobility. Educational experts pay much attention to sensory education of such students, their development of tactile-motor and auditory perception which serves as a compensatory basis for training. The development of object-oriented and practical actions takes place in the form of stage-by-stage activities, the operational implementation of tasks (i.e., manual labor, construction, modeling, applique, etc.).

There is much evidence that the correction and educational work has complex character and targets the expanding of knowledge and the understanding of the surrounding world, the development of cognitive activity based on polysensory perception, i.e., visual, auditory, tactile. During the work with the students who have pronounced visual defects, it is important to use residual vision in the cognition of the surrounding world, to teach the learner to use it in everyday activities. The development of visual perception is carried out in conjunction with the development of all cognitive mental processes.

The learning process targets imaging, plastic modeling, and decorative-applied activities. Aesthetic education plays an important role in the development of the creative activity of blind and visually impaired students. Of much importance is teaching music, as well as developing artistic creativity, where a special role can belong to literary creation with the use of various audiovisual tools, acquaintance with audiobooks, webinars, in which the voiced texts with the participation of various specialists prevail.

One of our major findings is the idea that in special psychology, verbal, musical and noise perception are fast becoming significant for students with visual problems. This fact allows us to make appropriate requirements for the auditory information used in inclusive art distance education. It is necessary to saturate the auditory world of these students with a variety of artistic speech, musical repertoire, aesthetically organized noise environment (for example, the arranged noises of nature).

Experts believe that along with the compensatory possibilities of the sound environment in art education, equally important are various tactile practices demonstrated at master classes in distant mode. They usually introduce various works of decorative and applied art.

There is a growing body of literature which shows that students with visual impairments possess larger volume of memory span than other students. Therefore, it becomes possible to offer this category of students the vast repertoire of artworks by computer technology.

At the same time, such students experience significant difficulties in the development of motor skills. These skills correlate with manual dexterity which evolves in making various works of decorative and applied art.

Evidence suggests that it is also necessary to intensify the verbal interaction of such students with teachers and other

students through various interactive teaching forms based on artistic information, i.e., discussions, debates, and webinars actualized in the process of distance art education.

*Students with disorders of the musculoskeletal system.* Depending on the severity of disorders, experts identify three main types of students related to this category. The groups are as follows:

- students with severe disabilities of the musculoskeletal system. Among them, there are many people who are not capable of uprightness and walking, full grasping reflexes and retention of subjects, and the skills of self-service. There are also students who can still move with orthopedic appliances;
- students with an average degree of musculoskeletal disorders represent the largest group among students with these disorders; often, they can travel long distances without assistance; they are capable of self-service, but they need additional technical devices;
- students with minor disabilities of the musculoskeletal system; they can move independently in space without any special adaptations, but they may experience problems with certain types of movements.

A fundamental property of inclusive distant artistic educational programs is the idea that each level of musculoskeletal disorders is of much importance and requires creative educational tasks manageable for each level of students.

This study sets out that this group of students is involved organically in the processes of distance education. The students can master the most diverse achievements of artistic culture and performing arts. The main emphasis emerges from the development of psychomotor manual skills, involving the mastery of a wide range of arts and crafts, including fine art, artistic performance in various types of arts, and the development of artistic and cognitive interests [20].

Our study has determined that correction work should include the areas which are as follows:

- the normalization of muscle tone and motor function;
- the development of sensory processes (visual concentration and smooth tracking, motor-kinesthetic sensations, and finger touch);
- the formation of hand movements and actions with objects;
- the formation of objective activity (the use of objects for their functional purpose), the ability to be arbitrarily included in the activity, the formation of visual-efficient thinking, arbitrary, sustained attention, switching in activity;
- the development of elementary ideas about the environment;
- the stimulation of sensory activity (visual, auditory kinesthetic perception);
- the formation of the functionality of the hands and fingers;
- the development of visual-motor coordination (through the formation of passive and active actions);
- the development of game activity;
- the development of verbal communication with others;
- the expansion of the stock of knowledge and ideas about the environment;
- the development of sensory functions;
- the formation of spatial representations, the correction of one's disorders, the development of kinesthetic perception;
- the development of attention, memory, thinking (visual-figurative thinking and the elements of abstract-logical thinking);
- the development of hands and fingers' functions.

It is now well established from a variety of studies that researchers note the prevalence of infantilism among the students with musculoskeletal system disorders. The emotional turbulence primarily occurs in the emotional-volitional sphere, which means

the presence of vulnerability, child sensitivity, waiting for help from others even when there is no need for it. The position of the “offended child” makes it difficult for these students to form adequate self-esteem and mobilize their own psycho-physiological resources for adaptation in the modern society.

The results of this study indicate that to solve this problem in a distant mode, it is preferable to demonstrate performing motor activity presenters. Such presentations develop self-confidence. The prime example are the performers of choreographic exercises, actors, pantomime participants, etc.

This study has found that generally the negative consequences of this type of disability are inertia, retardation in mental activity, inability to generalize, motor retardation, the lack of self-criticism. Being aware of verbal disturbances in many students with musculoskeletal disorders, it is crucial to understand that one of the preferred educational strategies here is the involvement of this group of students in the theatrical culture. This involvement may range from the demonstration of theater performances to students through computer technology, to giving various master classes and actor’s skills’ trainings in a distant mode.

The results of the study indicate that the students with musculoskeletal disorders have the greatest potential for inclusion in various distance art-aesthetic activities in comparison with the students with a different type of disabilities, since other disorders (visual, hearing, mental disorders) are more critical for inclusion in this activity. One of the unexpected outcomes is that, doing artistic inclusive education, foreign students with musculoskeletal disorders show that they are in no way inferior even to healthy students in a variety of occupations of artistic and aesthetic fields [21; 22]. Spectacular results are achieved in music therapy, during which students master the skills of musical composition, playing musical instruments, singing, performing in musical and theatrical performances. Evidence suggests that the involvement of these students in painting, sculpture, and dancing is very effective, e.g., it has become commonplace in the United States to show groups of dancing wheelchair users.

### CONCLUSION

The aim of the present research was to discuss the potential of inclusive distance art education relying on modern computer technologies. This study has identified further prospects of using the Internet space for various developmental and educational programs to introduce works of literature and art to students with physical disabilities. The perspectives are as follows:

- the formation of electronic libraries, reference books, dictionaries, encyclopedias, databases, information sites, etc. Having learned the skills of working with information retrieval systems, people with disabilities can independently use the sources of information interesting to them in accordance with the programs of art education;
- along with the information presented in verbal form, disabled individuals, depending on the type of their impairment, can use electronic databases of music, visual, photographic materials under the guidance of teachers engaged in inclusive distance art education;
- organized access to computer technologies opens great prospects for improving the way of life and leisure of disabled people by means of artistic and aesthetic activity in the conditions of home spare activities;
- computer game technologies possess great potential in inclusive distance art education, which can develop the most diverse functional skills and abilities of disabled people, significant for their aesthetic development.

In this regard, it is necessary to create computer classes in educational institutions of all levels, which implies the

availability of appropriate technical capabilities and software necessary for remote inclusive art education.

This study has identified that the students with disabilities need a screen magnification system. The system provides the possibility of an organic combination of sound and visual information. Another important finding is that for the students with hearing impairment, it is critical to receive visual information sufficiently informative to compensate for the verbal deficiency. In many cases, this information needs printed verbal explanations. For students with visual impairment, auditory information should be as descriptive and imaginative as possible.

The main goal of the current study was to show that it is necessary to expand the inventory of technical means of translating visual information into auditory information and vice versa. Currently, these funds are mainly available in specialized rehabilitation centers. It is actual to introduce these modern computer technologies into the mass artistic and educational practice.

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