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THE INFLUENCE OF MOVEMENT GAMES ON THE LEVEL OF PSYCHOMOTRICAL DEVELOPMENT AND SOCIAL INTEGRATION OF PRIMARY SCHOOL STUDENTS WITH SEN

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CONCEPTUAL MILESTONES OF THE RESEARCH

The actuality and importance of the topic addressed. The subject of this thesis concerns the influence that movement games have on the level of psychomotor development and social integration of students with CES in the primary cycle. The research approach of the chosen topic was based on my own experience - as a physical education and sports teacher at an urban school unit (from Iasi), which I was able to observe during physical education lessons and among primary school students - more precisely, of those in the 2nd grade, the presence of deviant behaviors, which disturbed the lessons. The personal confrontation with such behaviors motivated me to further observe, study and deepen them in the doctoral thesis, with the aim of improving the process of teaching physical education lessons to primary school students. Thus, from the current school curriculum it follows that, among the main working tools of a physical education lessons, shows that they are necessary means for students in this school cycle, an aspect that led me to analyze in this paper the influence that such games have presents it on the level of psychomotor development of a small schoolchild, but also on the degree to which they contribute to the social integration of these students.

Moreover, in the lessons held in the classes of primary school students, with an emphasis on the second grade (given the fact that the students from this class constituted the sample on which we carried out the entire didactic experiment), I noticed that the lesson of physical education was disrupted both by students who required special educational requirements and by other students who were not diagnosed with SEN, both categories of students disrupting physical education classes by exhibiting deviant behaviors. Going further, it could be observed among students with SEN in the 2nd grade, that the diagnoses with which they appeared in the supporting documents issued by the local authorities (CJRAE) are mainly those of autism spectrum disorder (ASD) with slight elements of attention deficit hyperactivity disorder (ADHD); such disorders cause the most diverse behaviors among students with SEN, which can affect their psychomotor development and their ability to integrate into the class group.

Considering the factual situation that I observed in my own physical education lessons, being a situation as current as possible, I intended to analyze (through the eight research methods used) what are the deviant behaviors of students in 2nd grade that affects physical education lessons, which of these behaviors are frequently manifested and in which students, as well as to identify the best movement games, according to the contents of the school curriculum in force, but which I then adapt , in order to increase the level of psychomotor development and social integration of those students from the targeted primary cycle.

Taking into account the fact that in the current primary classes, among the students of the 2nd grade, there were students with CES, and within the latter, students with ASD, this finding oriented our research approach, predominantly, towards the sphere of special educational requirements, of students who require such requirements, given the current concern of many institutions for the best possible

integration of children with CES in mainstream education, in all school cycles and in all curricular subjects, as much as possible. So, taking into account the specifics of the activity of teaching physical education to primary school students, we approached the movement games performed in class in such a way that they are adapted to the students of this cycle, who display deviant behaviors, even if these behaviors are externalized on the background of the pre-existence of a disorder (be it from the specter of ASD and/or ADHD), games that lead, following their clear and constant application, to progress in terms of psychomotor skills and social integration, developing students with SEN from the point of view of motor, physiological, psychological and social view. All these findings underline the importance of the topic addressed, beyond the fact that it is a very topical one, proving to be absolutely necessary to find a solution to the problems encountered by the physical education teacher during the lessons and which are caused by the students with SEN in the primary cycle, which exhibits deviant behaviors that make it difficult for classes to take place.

Although the topic regarding the integration of children with SEN is topical, however, after consulting the specialized literature and legislation, it was found that there is no particular reference to the discipline of physical education and the situations created by students with SEN during lessons, so nor to a concrete solution to them.

The aim of the paper is to optimize the physical education teaching process by using movement games adapted according to the school curriculum, in order to establish their influence on the level of psychomotor development and social integration of students with SEN in the primary cycle (2nd grade).

The objectives of the research are: the study of the theme in the specialized literature and the selection of specific means to achieve the pursued objectives; the application of the questionnaires to physical education and sports teachers in Iaşi, to primary education teachers in the school unit where the experimental phase took place, as well as the use of the observation sheet, the application of psychomotor tests and the sociometric test; establishing the stages of organization and conduct of the research; the development of the experimental program with adapted movement games, as a means of action for the psychomotor development and integration of students with SEN in the primary cycle; the elaboration of the results obtained by the experimental class with those obtained by the control class, as a result of the application of the adapted movement games.

Research hypothesis. It is assumed that using certain movement games adapted in the physical education lesson, according to the legislation and school program in force, will determine an optimal influence on the level of psychomotor development and the degree of social integration of students with SEN in the primary cycle.

Research methods. The following methods were used in the work: bibliographic documentation, observation (observation sheet), survey (physical education teacher questionnaire, primary education teacher questionnaire), experimental, statistical-mathematical, graphic and tabular, sociometric and evaluation techniques (psychomotor tests, sociometric test - sociometric matrix, sociogram).

The novelty and scientific originality consists in the analysis of the impact of adapted movement games on the level of psychomotor development and social integration of students with CES in the primary cycle, especially those diagnosed with ASD, by making observation sheets, applying the sociometric method, performing psychomotor tests and developing an experimental program with adapted movement games, using brightly colored materials, according to the current school curriculum.

The obtained results that contribute to the solution of the important scientific problem consist in the theoretical and experimental substantiation of the movement games adapted to students with SEN in the 2nd grade, and the implementation of the games led to the social integration in the class group, in that it succeeded the reduction, respectively the elimination of certain deviant behaviors, which made the perception of colleagues with SEN to be much closer to their real qualities and to make friends with each other, at the same time observing their progress from a psychomotor point of view, recording favorable results in applied tests.

The theoretical significance aims at the theoretical argumentation of the inclusion in the school program and physical education classes in the primary cycle of movement games adapted to students with SEN, especially those diagnosed with ASD.

The applicative value consists in the fact that the results of the conducted research can be used in physical education lessons in primary education (2nd grade), by physical education teachers, but also by teachers who carry out play and movement lessons, on students with SEN (diagnosed with ASD), in order to improve or eliminate deviant behaviors, their psychomotor development; at the same time, they can also be used in the secondary school, as well as as material for training future physical education teachers in working with students with SEN in the primary school.

The implementation of the scientific results was carried out within the physical education lessons held with primary school students (2nd grade) of the "Nicolae Iorga" Secondary School in Iasi, of the Liteni Secondary School, Iasi and of the Rădeni Secondary School, Iasi.

The volume and structure of the thesis. The work includes annotations in Romanian, Russian and English, list of abbreviations, introduction, three chapters, general conclusions and recommendations, bibliography (221 sources), 21 appendices, 167 pages of basic text, 56 figures, 10 tables. The obtained research results were published in 10 articles.

Key words: primary school students, adapted movement games, influence, social integration, psychomotor development, students with special educational needs (SEN).

THESIS CONTENT

The **Introduction** indicates the topicality and importance of the topic addressed, as well as the framing of the topic in the international, national, zonal concerns of the research team and in an inter- and transdisciplinary context, the results of previous research; the purpose of the paper, the research objectives, the research hypothesis, the research methodology, with the indication of the chosen research methods and the summary of the thesis chapters are also specified.

In Chapter I of the thesis "Theoretical and methodological foundation regarding movement games and the social integration of primary school students" the importance of the development of psychomotricity of primary school students, the legislative aspects regarding the integration of students with SEN in school, the motor, physiological, psychological and sociological of primary school students, as well as the educational values of the game as a pedagogical method in the primary school, at the end of the chapter its synthesis is presented. The analysis of all these aspects was necessary to know the theoretical basis of psychomotricity, the current legislative framework regarding the integration of students with SEN in mainstream education, the particularities of primary school students (especially those with ASD) and the educational role of play, so as to create the foundation for the design and practical application of movement games for students with SEN from the 2nd grade (adapting them according to the recorded peculiarities, in order to establish their influence on the level of psychomotor development and social integration).

A view on psychomotricity, as it is found in the specialized literature, starts from its definition [1; 2; 17; 24; 29; 10; 21; 11], successively treating the general characteristics and its components, the objectives of psychomotor education, aspects from which it follows that psychomotority represents a multilateral dimension that combines motor and psychic elements, which will change a person's behavior. At the same time, the basic principles of the growth and development processes and the laws of growth were listed, the way in which the psychomotor skills of primary school students develop, respectively of junior high school students, where it was observed by specialists that motor function, intellectual and affective development are interdependent and requires motor skills education.

It was observed that the level of adaptation of a child in the 1st grade of the primary cycle depends on the degree of acquisition and development of psychomotor acquisitions corresponding to his age. A solution to develop the psychomotricity and personality of students with SEN in the primary cycle is represented by adapted movement games, provided that the teacher is trained in the field of psychomotricity education, in order to achieve the desired result, while also making the student aware, optimizing them physical and mental balance, increasing his relationships with things and interaction with another person and thus preparing him for future professional tasks.

The topic of social and school integration of children with special educational requirements was addressed at the international level (through declarations, conventions), which allowed the states to regulate, in turn, appropriate legislation in this field. Thus, in Romania there is a legislative framework in which the terminology related to deficiencies, special educational requirements, social integration, inclusion, education and inclusive school etc. is defined, guidelines are established in the sphere of school integration of children with SEN, institutions have been created with a series of specialized skills in providing assistance to this category of children, focusing on conferring a normative framework to affirm the right of children with SEN to a non-discriminatory education (regardless of the disability they have) in mainstream education and to an optimal school integration, which leads to a better social integration [3;

2. 3; 4; 25; 27; 28; 31] – a vision shared both by specialists from the Republic of Moldova and those from Russia.

Following the consultation of the specialized literature, it appears that the physical education school programs in the primary cycle were developed according to the particularities of age, the objectives and the intermediate goals of the two curricular cycles, establishing lessons that complete the school cycle, taking into account the fact that during the early school age there is an accelerated pace of development in the mental plane and a slow pace in the somatic and functional plane. Improving the process of healthy development of the body requires a good knowledge of the motor, physiological, psychological and sociological characteristics of primary school students.

With regard to the motor characteristics in the early school age, it was highlighted that the motor skills and motor learning capacity are at a very high level, on the other hand, the ability to fix the movements is reduced, which is why the activities must be carried out by repeating them methodically, so that the child to assimilate, fix and perfect the new component [13].

Regarding the physiological (somatic and functional) peculiarities, it was noted that the growth process of children in the primary cycle is, as a rule, uniform and slower compared to that of the previous period, harmonizing the different parts of the body; specialists in the field indicate that, in recent research, it has been revealed that, despite the slowdown, the growth process among today's generations is superior to that of previous generations [5; 30].

The study of mental characteristics shows that the mental development of the primary school child is strongly influenced by the school environment, interacting with family members, teachers and colleagues; at the same time, the structured accumulation of knowledge from various fields helps to develop thinking and the mental horizon, as well as to change the character of all psychic processes. So, the functional and mental attributes generate a temporary state of incompetence, which is easier to optimize by customizing the instructional-educational process.

In the sphere of sociological particularities, the emphasis was placed on socialization, the specialists showing that through this process the individual becomes aware of himself, integrates into the environment in which he was born, adapts his personality to the social environment, builds his ego and social identity, through which he comes to resemble and to differentiate themselves from the members of a collective, an aspect that attracts changes and advances in the social and personal abilities and possibilities of man. It was observed in the doctrine that the school environment facilitates the socialization process among children through games, which involves clear rules, good organization, thus helping children to understand values such as honesty, competition, correctness, justice, honor.

Numerous specialists have shown that by performing sports activities, the physical and mental health, personality and future professional side of the student are improved, especially among people with deficiencies, disabilities, giving them the chance to complete their personality, integrate into a group, form friendly relations. In general, the child develops when he is active and socializes in a conscious way and, in particular, by practicing sports and physical education (as a social activity), which is a tool that

favorably influences his physical and mental health, personality and future professional side of the student [12; 33; 18; 22; 35].

Since the thesis experiment included students with SEN (diagnosed with ASD and with manifestations related to those with ADHD), starting, as IT support in Romania (but also in the Republic of Moldova), from DSM-5, it was noted that in the sphere of neurodevelopmental disorders the two disorders (TSA and ADHD) are also found; In essence, autism spectrum disorder affects the entire developmental process, verbal or non-verbal communication, imagination, conduct, play, adaptability, social interaction, and ADHD symptoms manifest with attention deficit, disobeying rules, misunderstanding the prohibition, ability to achieve and keeping social connections for a limited time, impulsivity. It has been recommended by subject matter specialists that students with SEN should be treated with respect, paying attention to personal qualities and individualizing tasks according to their learning abilities, having to be educated together with students with typical development, following a curriculum similar to that of the latter, so that the former are integrated, feel helped in their adaptation process among children with SEN and giving them a real chance to integrate into the school and the community [15; 16; 26].

Specialists highlighted that the game favors the child to learn how to work in a team, to be diligent, bold, to feel the satisfaction of success, develops positive and negative character traits, learning to accept them sometimes and master them, the child learns to lose with worthiness and develops the capacity for sacrifice, which means that the game learned correctly on the sports field exerts an influence throughout life. At the same time, children learn the sense of distance with greater accuracy, to immediately estimate the phase in which they are, to decide promptly and effectively, to have an integral and dynamic behavior in a group, it increases independence and the habit of overcoming impasses, it forms them the sense of friendship and seriousness regarding compliance with the norms of behavior [9;14].

In essence, taking into account the entire theoretical and methodological foundation described above, we applied movement games in the physical education lessons during the experiment, using the directive teaching style (and not only), adapting the games to the needs of the students of the 2nd grade- a - among them the students with SEN (who had ASD level 1 and related ADHD manifestations) stand out, for the purpose of their social integration and the development of psychomotor skills.

In Chapter II of the thesis, "The contribution of the methodology of adapted movement games in the development of psychomotor capacities and the integration of students with SEN in the primary cycle", the following aspects are dealt with: the methods and organization of the research, the behavior of students with SEN during education lessons physics, the opinions of specialists regarding the impact of students with SEN in physical education lessons and other types of lessons, the assessment of the initial level of motor skills of students with SEN in the primary cycle, the development of the experimental program with adapted movement games, the chapter ending with a synthesis of the ideas outlined within it. All these investigations led to the real and accurate learning of the behavior of students with SEN in physical education classes (and not only), the situations faced by other teachers (physical education and teachers) during the lessons and the solutions used by them, aspects that allowed us to create an experimental program with movement games adapted to the needs of students with SEN in the targeted class.

In this work, the following research methods were used: bibliographic documentation, observation, investigation, experimental, statistical-mathematical, graphic and tabular, sociometric and evaluation techniques: psychomotor tests - which were analyzed in the first section of this chapter.

The research was carried out within the "Nicolae Iorga" Secondary School in Iasi, both in the gym and on the sports field of this unit and included two groups of subjects, students in the 2nd grade, aged between 8 and 9 years, as follows: an experimental group consisting of 34 students and a control group also consisting of 34 students. The effective study groups included 4 students in the experimental group and 4 students in the control group, who presented the same special educational requirements (disorders from the autistic spectrum, with the specification that some of the subjects present associated disorders) - context that oriented the research in particular on the study of the phenomenon of integration of students with SEN in a class/group and on the optimization of influencing the level of psychomotor development, using adapted movement games.

Students with SEN in the primary cycle (and not only) were given a set of six tests, through which their initial level of motor skills was assessed. We specify the fact that the testing was carried out on two groups: one experimental and one control, each of them having the same number of students (34 each). In each of the two groups involved there are four students with special educational requirements. The level of motor skills of these students was assessed by performing the following psychomotor tests: mobility, long jump, trunk lifts, balance, touching the boards and running at a speed of 25m with a standing start.

The actual experiment was carried out during the 2019-2020 school year, during which the classes were held twice a week, for 50 minutes an hour, according to the school program for the 2nd grade, according to a didactic project adapted of each lesson (Appendix 12), working with brightly colored materials. In the first semester (with a duration of 14 effective weeks) the following activities were carried out: the presentation and signing of the labor protection and the implementation of physical education and sports classes according to the 28-hour experimental program, and in the second semester (with a duration of 19 effective weeks) were performed 38 hours according to the experimental program with adapted movement games. In order to carry out the research activities, there was a cooperative relationship between the physical education and sports teacher, the primary education teachers, the itinerant/support teacher and the parents.

The observation sheet was used at the beginning and at the end of the experiment, in order to determine the evolution of the behavior; applying the sociometric test to both groups included in the research, both in the initial stage and in the final stage; creating sociometric matrices based on the

subjects' answers to the sociometric test and the sociograms that were created based on the sociometric matrices; carrying out the actual experiment to achieve the necessary improvements by applying the experimental program with adapted movement games, specifying that in the control group the physical education classes were conducted according to the classic program.

During the physical education lessons carried out in the 2019-2020 school year, the following behavioral difficulties of students with special educational needs - and not only theirs - emerged (all of which were recorded in the observation sheet made in order to be able to analyze and find the optimal solutions in order to improve their behavior): verbally aggressive behavior towards students (they have difficult relationships with colleagues), disturb other students (they are rude), physically aggressive behavior towards students, they are agitated, cannot sit still, delayed reaction to requests (low ability of understanding the requirements and a cumbersome coordination of movements), attention deficit (they are distracted), concentration disorders and lack self-confidence (they cry over nothing, do not finish what they have started and are difficult to understand). The social integration of children with CES can be carried out in an optimal way through physical education classes, knowing that the physical activity carried out in the school environment provides the direct beneficiaries with physical and mental health, self-esteem and a pleasant environment in which to socialize [136; 139]. In essence, the social integration of children with CES can be achieved in an improved way through physical education lessons, considering that the physical activity carried out in school provides children with physical and mental health, self-esteem and a pleasant atmosphere in which they to relate.

Thus, in order to fulfill the objectives of the research, two questionnaires related to the present theme were designed and applied, respectively a questionnaire addressed to teachers for primary education and another questionnaire for physical education and sports teachers from Iaşi, who teach in the primary cycle, through the answers given to the questionnaires, teachers and physical education teachers confirmed the fact that they too, in their turn, often encountered many situations in which students with CES integrated in the classes where they teach (and not only them) have a variety of deviant manifestations and that a viable solution for the management of these behaviors would be the adapted movement games, according to the school curriculum, necessary for school integration and the development of psychomotor skills. That's why, in the thesis, we focused on developing an experimental program to support physical education teachers and to make a necessary contribution to conducting physical education classes in the most attractive and efficient way, both for teachers and for the entire group of students and, in particular, to easily achieve the social integration of students with SEN in the primary cycle and to influence the level of their psychomotor development.

In Chapter III of the thesis, "Evaluation and analysis of the integration of children with CES in the group of students", the evaluation of the implementation of the experimental program and its impact on the level of psychomotor development, the analysis of the level of integration of students with SEN within the group of students, is addressed and the analysis of the impact of the experimental program on the students' behavior, the synthesis of all these findings being presented at the end of the

chapter. From all these evaluations it emerged that the purpose and objectives of the research were achieved.

The level of psychomotor development of students with SEN in the primary cycle was described by the following variables/tests: mobility, standing long jump, trunk lifts, maintaining balance, touching boards, 25m speed run [34; 20]. The statistical analysis of the data in the previously mentioned samples was carried out using the IBM SPSS Statistics program [19; 32]. The T-Student test for paired groups was applied in the case of the experimental group and the control group and the T-Student test for independent groups was applied for the inter-group comparison. The same tests were applied to all students of the classes from which the experimental and control groups come. The data were centralized, in table 3.1. and table 3.2. [7].

No.	Variables/	Group I		Initial indices	Final indexes	T-St	T- Student paired gro		
Crt.	Indicators								
				$X \pm m$	$X \pm m$	R	df	t	р
1.			E	-5.79±0.44	-4.17±0.45	0.97	33	-17.1	<0,05
	Mobility		Μ	-6.61±0.39	-5.67±0.39	0.99	33	-22.9	<0,05
	(cm)	T-Student	t	1.39	2.51				
		independent	df	66	66				
		groups	р	>0,05	<0,05				
2.			E	126.3±1.44	131.1±1.5	0.99	33	-27.7	<0,05
	Long jump		Μ	125.9±1.83	129.3±1.85	0.95	33	-6.27	<0,05
	(cm)	T-Student	t	0.17	0.74				
		independent	df	66	66				
		groups	р	>0,05	>0,05				
3.			E	11 ± 0.41	13.7±0.41	0.82	33	-11.3	<0,05
	Trunk lifts		Μ	10.7 ± 0.35	11.6±0.34	0.98	33	-12.5	<0,05
	(withdrawals	T-Student	t	0.59	4.11				
	in 30 sec.)	independent	df	66	66				
		groups	р	>0,05	<0,05				
4.			E	22.1±0.84	24.6±0.8	0.97	33	-12.7	<0,05
	Maintaining		Μ	21.3±0.75	22.5±0.75	0.99	33	-13.4	<0,05
	balance	T-Student	t	0.7	1.86				
	(sec.)	independent	df	66	66				
		groups	р	>0,05	<0,05				
5.			E	7.06±0.1	6.74±0.1	0.97	33	16.37	<0,05
	Touch plates		Μ	7.45 ± 0.1	7.32±0.1	0.99	33	8.6	<0,05
	(sec.)	T-Student	t	-2.83	-4.43				
		independent	df	66	66				
		groups	р	<0,05	<0,05				
6.	Speed run		E	5.71±0.1	5.52±0.1	0.97	33	17.94	<0,05
	25m		Μ	5.9±0.1	5.79±0.1	0.99	33	18.6	<0,05
	(sec.)	T-Student	t	-2.86	-4.36				
		independent	df	66	66				
		groups	р	<0,05	<0,05				

 Table 3.1. Centralizer of statistical quantities – Psychomotor tests in the classes of origin of the experimental and control groups of students with SEN

Legend: E – experimental group, M – control group, t – t-student figure, df – degrees of freedom, p – statistical significance coefficient, r – correlation coefficient, X – arithmetic mean, m – mean error.

For the mobility variable, the experimental group initially obtained an average value of - 5.79 ± 0.44 cm, and at the end an improvement is observed up to an average value of -4.17 ± 0.45 cm. Student's T-test for paired groups shows that there is a statistically significant difference between the two values of the experimental group, significance coefficient p<0.05, resulting in an improvement of 1.62 cm. The control group initially obtained a mean value of -6.61±0.39 cm, and the final mean value increased to -5.67 ± 0.39 cm. The Student's T-test for paired groups shows that there is a statistically significant difference between the two mean values of the control group, significance coefficient p<0.05, with an improvement of 0.94 cm. If initially between the average values of the experimental group and the control group there is no significant difference between them p>0.05 - the groups being equivalent in terms of initial mobility - at the end, there is a significant difference between the average values of the two groups statistical p < 0.05, a fact highlighted by the T-Student test for independent groups. The increase in mobility of 1.62 cm in the experimental group is significantly better than the increase in mobility in the control group of 0.94 cm. The results obtained by the experimental group were facilitated by the adapted movement games Treadmill, Who can perform the exercise like me?, Stretching in the mirror, All at once, while those in the control group completed the lessons according to the typical school program. In the **long jump** from place to place variable, the experimental group initially obtained an average value of 126.3 ± 1.44 cm, and at the end an increase to the average value of 131.1 ± 1.5 cm is observed. Student's T-test for paired groups shows that there is a statistically significant difference between the two means of the experimental group, significance coefficient p<0.05, resulting in an improvement of 4.8 cm. The control group initially obtained a mean value of 125.9 ± 1.83 cm, and the final mean value increased to 129.3 ± 1.85 cm. Student's T-test for paired groups shows that there is a statistically significant difference between the two values of the control group, significance coefficient p<0.05, with an improvement of 3.4 cm. Between the initial mean values of the experimental and control groups compared with the T-Student test for independent groups there is no significant difference between the mean values p>0.05. Also, there is no significant difference between the final average values of the two groups. However, compared to the control group, the experimental group keeps the initial advance. The results obtained by the experimental group were facilitated by the introduction in the experimental program of adapted movement games: Frog race, Relay in one leg, Who jumps further. For the variable **trunk lifts**, the Student's t-test for paired groups in the experimental group indicated a significant difference p<0.05 between the initial mean values and the final mean values. The initial mean value obtained was 11±0.41 lifts in 30 sec. lower by 2.7 compared to the final average value which was 13.7 \pm 0.41 lifts in 30 sec. In the control group, the initial average value was 10.7 \pm 0.35 lifts in 30 sec, and the final average value was 11.6±0.34 lifts in 30 sec. The T-Student test for paired groups applied to the control group is statistically significant p<0.05. From the point of view of the trunk lifting variable, the two groups are equivalent – the Student's t-test for independent groups indicates that there are no significant differences between the initial means of the experimental and control groups, p>0.05. The T-Student test for independent groups showed that there are significant differences between the final values

of the experimental group and the control group p<0.05, in the sense that the improvements produced in the experimental group are better than those in the control group (average of the experimental group is much higher than the control group), using the strength workshops from the experimental program. For the **balance maintenance** variable, the experimental group initially obtained an average value of 22.1 ± 0.84 sec., and at the end an increase is observed up to the average value of 24.6 ± 0.8 sec. The Student's T-test for paired groups shows that there is a statistically significant difference between the two values of the experimental group, the coefficient of significance is p<0.05, obtaining an improvement of 2.5 sec. The control group initially obtained a mean value of 21.3 ± 0.75 sec, and the final mean value increased by 1.2 sec. up to the value of 22.5±0.75 sec. Student's T-test for paired groups shows that there is a statistically significant difference between the two mean values of the control group, significance coefficient p < 0.05. The Student's T-test for independent groups applied to the experimental and control initial mean values shows that there is no significant difference between them, p>0.05, so the groups are equivalent from the point of view of the balance maintenance variable. The comparison between the final mean values made with the T-Student test for independent groups shows that there are significant differences between them, p<0.05, the increase in the balance maintenance variable in the experimental group being superior. In order to benefit from a dynamic level of activities, as well as an impact on raising the level of balance maintenance, the movement games adapted from the experimental program were realized in the form of relays and utilitarian-applicative paths. For the **plate touch** variable, the experimental group obtained an initial average value of 7.06±0.1 sec, and at the end the average value recorded was 6.74 ± 0.1 sec. An improvement of 0.32 sec is observed. Student's t-test for paired groups shows that there is a significant difference between the initial and final mean values, p<0.05. The control group recorded an initial mean value of 7.45±0.1 sec, and at the end the mean value was 7.32±0.1 sec. The improvement is 0.13 sec. Student's t-test for paired groups shows that there is a significant difference between the initial and final mean values, p<0.05. The T-Student test for independent groups applied to the experimental and control groups indicates a significant difference between their initial mean values, p<0.05 - the experimental group being positioned better. The comparison made with the same test between the final mean values indicates a significant difference between them, p<0.05. It should be noted that the experimental group had an increase almost 3 times higher than the control group. All the adapted games used in the experimental program led to the improvement of the values obtained by the experimental group. In the variable **speed run**, the experimental group initially recorded an average value of 5.71±0.1 sec, finally obtaining an increase of 0.19 sec, reaching the value of 5.52±0.1 sec. Between these mean values the T-Student test for paired groups shows that there are significant differences, p < 0.05. The control group obtained an initial average value of 5.9 ± 0.1 sec, and at the end an average value of 5.79 ± 0.1 sec, the increase being 0.11 sec. Student's T-test for paired groups shows that the difference between the two values is statistically significant, p < 0.05. The comparison between the experimental and control groups for the initial mean values made with the T-Student test for independent groups shows that there are significant differences between them p<0.05. The significant difference was

also preserved for the final mean values where p<0.05 by Student's T-test for independent groups. The experimental group continues to keep the lead it had initially and at the end compared to the control group. Race by numbers, Long road by colors, Năvodul are movement games from the experimental curriculum that most influenced variable speed running.

Since the students included in the experiment performed the physical education classes according to the experimental program with movement games adapted according to the students' requirements, we obtained improvements in all the tests included in the experiment, both in the tests involving segmental dynamic force - legs and abdomen, as well as in the tests of joint mobility, skill and balance [7].

Table 3.2. Centralizer of statistical quantities – Psychomotor tests in the experimental and control

No.	Variables/	Crown		Initial indices	Final indexes	T- Stu	ident	t paired	groups
Crt.	Indicators	Group		$X \pm m$	$X \pm m$	R	df	Т	р
1.			E	-9,25±0,47	-7,5±0,64	0,94	3	7,0	<0,05
	Mobility		Μ	-10,0±0,408	-9,0±0,40	0,85	3	5,0	<0,05
	(cm)	T-Student	t	1,192	1,964				
		independent	df	6	6				
		groups	р	>0,05	>0,05				
2.	. .		Е	115,0±0,707	119.25±0,75	0,94	3	17,0	<0,05
	Long jump		м	111.5+0.500	11271222	0.00	2	0	.0.07
	(cm)	TT 0 1 1	M	$111,5\pm 2,533$	$113, /\pm 2, 32$	0,99	3	9,0	<0,05
		I-Student	t	1.33	2,253				
		independent	df	6	6				
-		groups	<u>р</u>	>0,05	>0,05				
3.	T 1.110		E	8,25±0,478	11,0±0,707	0,74	3	5,74	<0,05
	Trunk lifts		Μ	7,75±0,478	8,75±0,47	0,85	3	5,0	<0,05
	(lifts in 30	T– Student	t	0,739	2,63				
	sec.)	independent	df	6	6				
		groups	р	>0,05	<0,05				
4.			E	15,56±0,718	18,27±0,713	0,94	3	11.4 1	<0,05
	Maintaining		Μ	13,82±0,627	15,1±0,197	0.95	3	2,87	>0,05
	balance	T-Student	t	1,822	4,28				
	(sec.)	independent	df	6	6				
		groups	р	>0.05	<0,05				
5.			E	7,55±0,37	7,27±0,36	0,99	3	11,0	<0,05
	Touch		Μ	8,8±0,07	8,52±0,11	0,63	3	3,22	<0,05
	plates (sec.)	T-Student	t	3,25	3,30				
		independent	df	6	3,56				
		groups	р	<0,05	<0,05				
6.			E	6,07±0,075	5,82±0,047	0,98	3	8,66	<0,05
	Speed run		Μ	6,37±0,075	6,20±0,91	0,97	3	7,00	<0,05
	25m (sec.)	T-Student	t	2,82	3,63				
		independent	df	6	6				
		groups	р	<0,05	<0,05				

group of students with SEN

Legend: E – experimental group, M – control group, t – t-student figure, df – degrees of freedom, p – statistical significance coefficient, r – correlation coefficient, X – arithmetic mean, m – mean error.

For the **mobility** variable, the experimental group initially obtained an average value of - 9.25 ± 0.47 cm, and at the end an improvement is observed up to the average value of -7.5 ± 0.64 cm. Student's T-test for paired groups shows that there is a statistically significant difference between the two values of the experimental group, significance coefficient p<0.05, resulting in an improvement of 1.75 cm. The control group initially obtained a mean value of -10 ± 0.4 cm, and the final mean value increased to -9±0.4 cm. Student's T-test for paired groups shows that there is a statistically significant difference between the two mean values of the control group, significance coefficient p<0.05, with an improvement of 1 cm. The 1.75 cm increase in mobility in the experimental group is significantly better than the 1 cm increase in mobility in the control group. The organization of the activity in the form of a game stimulated the involvement of the students from the experimental group, by performing the games Treadmill, Stretching in the mirror, etc. In the standing long jump variable, the experimental group initially obtained an average value of 115±0.7 cm, and at the end an increase to the average value of 119.2±0.7 cm is observed. Student's T-test for paired groups shows that there is a statistically significant difference between the two means of the experimental group, significance coefficient p<0.05, resulting in an improvement of 4 cm. The control group initially obtained a mean value of 111.5±2.5 cm, and the final mean value increased to 113.7±2.3 cm. Student's T-test for paired groups shows that there is a statistically significant difference between the two values of the control group, significance coefficient p<0.05, with an improvement of 2 cm. Between the initial mean values of the experimental and control groups compared with the T-Student test for independent groups there is no significant difference between the mean values p>0.05. There is no significant difference between the final mean values of the two groups either. However, the experimental group increases its lead over the control group initially by using the adapted movement games. For the variable trunk lifts, the Student's t-test for paired groups in the experimental group indicated a significant difference p<0.05 between the initial mean values and the final mean values. The initial average value obtained was 8.25±0.47 lifts in 30 sec lower by 2.75 compared to the final average value which was 11±0.7 lifts in 30 sec. In the control group, the initial average value was 7.75 ± 0.47 lifts in 30 sec, and the final average value was 8.75 ± 0.47 lifts in 30 sec. The T-Student test for paired groups applied to the control group is statistically significant p<0.05. From the point of view of the trunk lifting variable, the two groups are equivalent - the T-Student test for independent groups indicates that there are no significant differences between the initial means of the experimental and control groups, p>0.05. The T-Student test for independent groups showed that there are significant differences between the final values of the experimental group and the control group p<0.05, in the sense that the improvements produced in the experimental group are better than those in the control group (average of the experimental group is much larger). For the **balance maintenance** variable, the experimental group initially obtained an average value of 15.56±0.7 sec, and at the end an increase is observed up to the average value of 18.27±0.7 sec. The Student's T-test for paired groups shows that there is a statistically significant difference between the two values of the experimental group, the coefficient of significance is p<0.05, obtaining an improvement of 2.7 sec. The control group initially obtained a mean value of 13.82 ± 0.6 sec, and the final mean value increased by 1.28 sec to a value of 15.1 ± 0.2 sec. The

Student's T-test for paired groups shows that there is no statistically significant difference between the two mean values of the control group, significance coefficient p>0.05. The Student's T-test for independent groups applied to the experimental and control initial mean values shows that there is no significant difference between them, p>0.05, so the groups are equivalent from the point of view of the balance maintenance variable. The comparison between the final average values made with the T-Student test for independent groups shows that there are significant differences between them, p<0.05, the increase in the variable maintaining balance in the experimental group being superior, realizing the movement games adapted from the experimental program under form of relays and utilitarian-applicative routes. For the plate touch variable, the experimental group obtained an initial average value of 7.55 ± 0.37 sec, and at the end the average value recorded was 7.27 ± 0.36 sec. An improvement of 0.28 sec is observed. Student's t-test for paired groups shows that there is a significant difference between the initial and final mean values, p<0.05. The control group recorded an initial mean value of 8.8±0.1 sec, and at the end the mean value was 8.52 ± 0.1 sec. The improvement is 0.28 sec. Student's t-test for paired groups shows that there is a significant difference between the initial and final mean values, p<0.05. The T-Student test for independent groups applied to the experimental and control groups indicates a significant difference between their initial mean values, p < 0.05 - the experimental group being positioned better. The comparison made with the same test between the final mean values indicates a significant difference between them, p < 0.05. In the variable **speed run**, the experimental group initially recorded an average value of 6.07 ± 0.1 sec, finally obtaining an increase of 0.25 sec, reaching the value of 5.82 ± 0.1 sec. Between these mean values the T-Student test for paired groups shows that there are significant differences, p<0.05. The control group obtained an initial average value of 6.37 ± 0.1 sec, and at the end an average value of 6.20±0.9 sec, the increase being 0.17 sec. Student's T-test for paired groups shows that the difference between the two values is statistically significant, p<0.05. The comparison between the experimental and control groups for the initial mean values made with the T-Student test for independent groups shows that there are significant differences between them p < 0.05. The significant difference was also preserved for the final mean values where p < 0.05 in the T-Student's test for independent groups, using the movement games Race by numbers, Rush, etc. In order to carry out the analysis of the level of integration of the students with SEN from the primary cycle included in the present research, the stages of the implementation of the sociometric method during the 2019-2020 school year were respected, both in the initial stage and in the final stage of the research and consisted of : developing and distributing the sociometric test to students; data centralization; drawing up sociometric matrices; making sociograms; calculation of sociometric indices. The same sociometric test was distributed to both groups (experimental and control), and for the accuracy of the results regarding the sociometric test, the students were trained according to the requirements of the test, the questionnaire being anonymous to have honest answers to the questions. After collecting the data from the applied questionnaires, we proceeded to create the sociometric matrices. The sociogram includes seven levels (circles). The students located in the center of the circle received the most appreciations, while the students on the last circle received the least appreciations, and the students located outside the circles did not receive any appreciations. The students

from the experimental group observed during the research are highlighted in orange, and the students in the control group are highlighted in green. Relationships of mutual attraction were represented with green arrows; One-sided attraction relationships were represented with blue arrows. The sociograms are presented illustrating by comparison the assessments obtained in the initial sociometric test and the final sociometric test, for each question in the test, in order to comparatively highlight the results obtained in the final phase, compared to the initial one of the test. Below is shown as an example a single question for the experimental group as well as for the control group (comparison initial test and final test), the other illustrations of the questions being fully reproduced in the thesis.



SOCIOGRAMĂ TESTARE INIȚIALĂ GRUPA EXPERIMENT - CINE CREZI CĂ ESTE CEL MAI TALENTAT LA ORELE DE EDUCAȚIE FIZICĂ?

SOCIOGRAMĂ TESTARE FINALĂ GRUPA EXPERIMENT - CINE CREZI CĂ ESTE CEL MAI TALENTAT LA ORELE DE EDUCAȚIE FIZICĂ?



Fig. 3.1. Sociogram of the initial testing and sociogram of the final testing of the experimental group to the question Who do you think is the most talented in physical education classes?

To the question Who do you think is the most talented in physical education classes?, in Fig. 3.1. it can be seen how the targeted students from the experimental group in the initial phase are located on the outside of the circle, which indicates that they received few appreciations from their peers, being considered clumsy by them, compared to the sociogram in the final phase, where for the same question, the same subjects received appreciations that positioned them in an area that signifies the fact that relations with colleagues have intensified.





SOCIOGRAMĂ TESTARE FINALĂ GRUPA EXPERIMENT – CINE CREZI CĂ ESTE CEL MAI NETALENTAT LA ORELE DE EDUCAȚIE FIZICĂ?



Fig. 3.2. The sociogram of the initial testing and the sociogram of the final testing of the experimental group on the question Who do you think is the most untalented in physical education classes?

To the question Who do you think is the most untalented in physical education classes?, in Fig. 3.2. we can see that the subjects observed in the initial phase in the experimental group are positioned centrally, which means that they were indicated by the majority of peers, compared to the final phase, where three of them are positioned in an external area compared to the initial phase, which means that they were perceived positively, and the fourth student is in the same position because, even if he received a smaller number of votes (than in the initial phase), they were still enough to keep him in the same area, from the cause of a major personal problem that affected him and stagnated his evolution.



SOCIOGRAMĂ TESTARE INIȚIALĂ GRUPA MARTOR - CINE CREZI CĂ ESTE CEL MAI TALENTAT LA ORELE DE EDUCAȚIE FIZICĂ?

SOCIOGRAMĂ TESTARE FINALĂ GRUPA MARTOR - CINE CREZI CĂ ESTE CEL MAI TALENTAT LA ORELE DE EDUCAȚIE FIZICĂ?



Fig. 3.7. Sociogram of the initial testing and sociogram of the final testing of the control group to the question Who do you think is the most talented in physical education classes?

To the question Who do you think is the most talented in physical education classes?, in Fig. 3.7. in the initial phase of the control group it is observed that three students included in the study are on the outer circle and one is ignored, compared to the final phase, where two students are located on the outer circle and the other two were ignored by their peers, although initially they each received an appreciation.



\$0000GRAMĂ TESTARE INIȚIALĂ GRUPA MARTOR - CINE CREZI CĂ ESTE CEL MAI NETALENTAT LA ORELE DE EDUCAȚIE FIZICĂ?

Fig. 3.8. Sociogram of the initial testing and sociogram of the final testing of the control group to the question Who do you think is the most untalented in physical education classes?

To the question Who do you think is the most untalented in physical education classes?, in Fig. 3.8., both in the initial and in the final phase it can be observed that the students in the control group occupy central positions, with no improvements, which means that, in the absence of movement games

adapted to their needs, it is harder for them to develop psychomotorically and integrate into the collective, from where we deduce the importance and usefulness of movement games adapted for the development of children with SEN.

Following the processing of the sociograms, both for the experimental group and for the control group, in the initial and final phases, where we highlighted the number of mutual attractions and unilateral attractions between the students, as well as the sociometric matrices, sociometric indices presented in the tables were calculated 3.3. and 3.4.

Name	Initial Iss	Iss final	Initial Isp	Final Isp	Cohesio	on index
			_		Initial	Final
Who do you th	ink is the most ta	lented/untalented	d in PE class?			
E1	0.0606 0.0909 -0.0909 0.0303		0.0303	1.21	1.46	
E2	0.0303	0.0606	-0.3939	-0.2424		
E3	0.0303	0.0909	-0.1212	0.0303		
E4	0.0303	0.1212	-0.1818	0.0303		
Media	0.0378	0.0909	-0.1969	-0.0378		
Who would yo	u rather be/not be	e with in the hand	lball/football tea	m?		
E1	0	0.0606	-0.2727	0	1.71	2.28
E2	0.0606	0.0909	-0.2424	-0.1515		
E3	0	0.0909	-0.2121	0.0303		
E4	0.0303	0.1212	-0.2121	0.0606		
Media	0.0227	0.0909	-0.2348	-0.0151		
Which colleagu	ue does not have	needs help in phy	ysical education	classes?		
E1	0	0.0909	-0.2424	0.0303	0.42	0.79
E2	0	0.1818	-0.4242	0.0303		
E3	0	0.1212	-0.2121	0.0606		
E4	0	0.1515	-0.2121	0.0909		
Media	0	0.1363	0.2727	0.0530		

Table 3.3. Sociometric indices - experimental group

Iss - Sociometric status index; Isp - Preferential status index; E1, E2, E3, E4 - subjects from the experimental group

Name	Initial Iss	Iss final	Initial Isp	Final Isp	Cohesio	on index
					Initial	Final
Who do you thi	ink is the most ta					
M1	0.0606	0.0606	-0.0909	-0.1818	0.42	1.07
M2	0	0.0303	-0.3333	-0.0909		
M3	0.0606	0	-0.3030	-0.2121		
M4	0.0303	0	-0.5454	-0.5757		
Media	0.0378	0.0227	-0.3181	-0.2651		
Who would you	u rather be/not be	e with in the hand	lball/football tear	m?		
M1	0.0606	0.0606	-0.0303	0	1.89	2.08
M2	0	0.0303	-0.2727	-0.1515		
M3	0.0303	0	-0.0606	-0.2424		
M4	0	0	-0.3636	-0.4545		
Media	0.0227	0.0227	-0.1818	-0.2121		
Which colleagu	e does not have/	needs help in phy	vsical education	classes?		
M1	0.0606	0.0303	-0.0606	-0.1818	0.66	1.21
M2	0	0.0303	-0.1212	-0.1818		
M3	0.0303	0.0303	-0.1818	-0.2727		
M4	0	0.0606	-0.5151	-0.3333		
Media	0.0227	0.0378	-0.2196	-0.2424		

Table 3.4. Sociometric indices - control group

Iss - Sociometric status index; Isp - Preferential status index; M1, M2, M3, M4 - subjects from the control group

It can be seen in Fig. 3.13. that, in the experimental group, the physical education classes carried out according to the experimental curriculum with movement games adapted to the group of students produced increases in the sociometric status index, while in the control group, illustrated in Fig. 3.14., we find that the implementation of physical education classes according to the classical school program did not produce consistent changes. In the experimental group Iss has a mean value of 0.0378 lower than the final mean value of 0.0909. In the control group, Iss has an average value of 0.0378 and the final average value 0.0227. The final average value of Iss in the experimental group is clearly above the final average value of the control group. From the point of view of the degree of cohesion of the groups, analyzing in parallel the sociograms and the cohesion index, we find that both the experimental group and the control group achieved increases in the cohesion index. The difference between the two groups included in the experiment consists in the fact that in the control group cohesion increased mainly due to the interaction with the leader, while in the experimental group cohesion increased due to the intensification of relations between members. The experimental group appears to be organized into several subgroups, which denotes the fact that there are more opportunities for interaction at the group level, the group appears to be more tolerable. The environment in the experimental group is more conducive to the integration of different subjects. The statistical analysis of the sociometric indices involved the application of the Student's T-test for paired groups for each of the two groups and the Student's T-test for independent groups. The obtained values are presented in table 3.5.

No.	Variables/	Experimental/control group		Initial	Final	T- Student paired		
Crt.	Indicators		indices	indexes		grou	ps	
				$X \pm m$	$X \pm m$	df	t	р
1.1.	Sociometric	Who do you think is the	Е	0,037±0,07	0,09±0,012	3	3,65	<0,05
	status index	most talented/untalented in	Μ	0,037±0,14	0,022±0,014	3	0,77	>0,05
		physical education classes?						
		T–Student t		0.00	3,57			
		independent groups	df	6	6			
			р	>0,05	<0,05			
1.2.	Preferential	Who do you think is the	E	$-0,16\pm0,082$	$-0,037 \pm 0,061$	3	3,73	<0,05
	status index	most talented/untalented in	Μ	-0,31±0,09	$-0,26\pm0,106$	3	1,26	<0,05
		physical education classes?						
		T– Student	t	1,195	1,79			
		independent groups	df	6	6			
			р	>0,05	>0,05			
2.1.	Sociometric	Who would you rather	Е	0.022±0,014	0,09±0,012	3	4.70	<0,05
	status index	be/not be with in the	Μ	0,022±0,014	0,022±0,014	3	0.0	>0,05
		handball/soccer team?						
		T– Student	t	0	3,57			
		independent groups	df	6	6			
			р	>0,05	<0,05			
2.2.	Preferential	Who would you rather	Е	$-0,23\pm0,014$	$-0,015\pm0,04$	3	5.048	<0,05
	status index	be/not be with in the	Μ	-0,18±0,08	-0,212±0,09	3	0,465	>0,05
		handball/soccer team?						

Table 3.5. Data centralization of sociometric indices and preferential status indices -

sociometric test

		T– Student	t	0,64	1,85			
		independent groups	df	6	6			
			р	>0,05	>0,05			
3.1.	Sociometric	Which classmate	E	0,00	0,13±0,019	3	6,97	<0,05
	status index	doesn't/doesn't need help in	Μ	0,022±0,014	0.037 ± 0.007	3	0.77	>0,05
		physical education class?						
		T– Student	t	1,56	4,69			
		independent groups	df	6	6			
			р	>0,05	<0,05			
3.2.	Preferential	Which classmate	Е	$-0,27\pm0,05$	0,053±0,014	3	7,48	<0,05
	status index	doesn't/doesn't need help in	Μ	-0,219±0,1	$-0,24\pm0,037$	3	0,32	>0,05
		physical education class?						
		T– Student	t	0.467	7,415			
		independent groups	df	6	3,89			
			р	>0,05	<0,05			

Legend: E – experimental group, M – control group, t – t-student figure, df – degrees of freedom, p – coefficient of statistical significance, X – arithmetic mean, m – mean error.

It is observed that for each of the analyzed items from the sociometric test for the experimental group, significant differences were obtained between the initial and final values, both for sociometric status indices and for preferential status indices. The experimental program with movement games adapted for students with CES in the primary cycle produced superior results to the classical program at the level of children's integration, the level of psychomotor development and the autonomy of these children in the school environment. This experimental program brought benefits to the entire group of students, which was observed in the increase in the ability to perform work tasks and their pace.

 Table 3.6. Centralization of the statistical data obtained using the initial and final observation sheet

 of the experimental group

No.		Initial indices	Final indexes	T-	Student]	paired
Crt.	Variables/Indicators				group	s
		$X \pm m$	$X \pm m$	df	Т	р
1.	Verbally aggressive behavior (no. of incidents)	2,25±0,25	0,00	3	9,0	<0,05
2.	He disturbs the other students (no. of incidents)	4±0,707	1,5±0,5	3	8,66	<0,05
3.	Physically aggressive behavior (no. of incidents)	2,25±0,25	0,00	3	9,0	<0,05
4.	Agitation (no. of incidents)	4±0,707	1,75±0,47	3	9,0	<0,05
5.	Delayed response to requests (no. of incidents)	5,5±0,289	2,25±0,25	3	13,0	<0,05
6.	Attention deficit (no. of incidents)	5,5±0,289	2,25±0,25	3	13,0	<0,05
7.	Concentration disorders (no. of incidents)	5,25±0,25	2,25±0,25	3	7,34	<0,05
8.	Self-doubt (no. of incidents)	5,25±0,25	2,25±0,25	3	7,34	<0,05

Legend: t – t-student figure, df – degrees of freedom, p – coefficient of statistical significance, X

- arithmetic mean, m - mean error.

The statistical analysis of the variables described in the initial and final observation sheet of the experimental group - the T-student test for paired groups revealed that for all variables, statistically significant differences were found between the initial and final values, the coefficient of significance being p<0.005. So, we can conclude that, following the implementation of the experimental program with adapted movement games, it was proven that it has a major impact on the behaviors studied in the observation sheet, leading to the reduction or elimination of certain behaviors, which made the perception of colleagues with difficulties to be much closer to their real qualities; thus, the experimental curriculum with adapted movement games facilitated the integration of students with SEN, children who, although, initially, were marginalized, however, in the end, they became partners.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

The issues addressed and the results obtained during the research allow the formulation of the following conclusions, which are closely related to the objectives of the research and confirm its hypothesis, having achieved the aim of the work:

1. After applying the questionnaire, 90% of primary education teachers confirmed that they had and still have students with CES integrated in the classes they teach, and the difficulties they frequently encounter are: lack of attention, delayed reaction to their requirements , agitation during classes, disturbing other students and concentration disorders; and in a percentage of 92% of the physical education teachers answered that they had and have students with CES integrated in the classes they teach, whether in the urban or rural environment and the difficulties most frequently encountered by them are: restlessness during classes, the deficit of attention, concentration disorders, self-doubt, disturbing other students, reacting late to their requests. At the same time, the latter, in a percentage of 97%, answered that it would be useful for them to select some movement games adapted according to the school curriculum, for students with SEN, to make the lesson more efficient.

Applying the observation sheet during the physical education classes held during the 2019-2020 school year, with second grade students from the experimental group, the following behavioral deviations of children with CES were highlighted: verbally aggressive behavior towards students; disturbs the other students; physically aggressive behavior towards students; they are agitated, they cannot sit still; delayed response to requests; attention deficit; concentration disorders; they don't trust themselves.

2. Taking into account the answers provided by the teachers to the two applied questionnaires, the observation sheet and the sociometric test, the experimental program with adapted movement games was created and applied. The program includes adapted movement games, which influenced the level of psychomotor development and social integration of primary school students with SEN during physical education classes. Also, the methodical indications for each individual game, their dosage, the necessary materials and the place where they can take place were specified. The treatment of the experimental program focused on the use of intensely colored materials (cones, cones, flags, cards, balls, colored T-

shirts, hoops, sticks, ladder, fixed ladder and gym mats), which captured and kept the attention and concentration of the students from the experimental group throughout the physical education classes.

3. Primary school students were given a set of six tests, through which their initial level of motor skills was assessed: mobility, long jump, trunk lifts, balance, touching the boards and speed running for 25m starting from legs. When evaluating the students' initial level of motor skills, the grading scale from S.N.Ş.E. was used as a reference system. for some samples, some of these samples being taken from the Biomotric Program initiated by the National Sports Research Institute.

Following the applied tests, it was found that the initial level of motor skills of students with CES in the primary cycle was low, but, after the application of the experimental program with movement games adapted to the group of students, increases in the index of sociometric status, while in the control group we found that physical education lessons according to the classic school program did not produce consistent changes. In the experimental group, the initial sociometric status index (Iss) had a mean value of 0.0378 lower than the final mean value of 0.0909. In the control group, the initial sociometric status index (Iss) had an average value of 0.0378, and the final average value 0.0227. The final average value of the sociometric status index (Iss) in the experimental group was clearly above the final average value of the control group.

So, we can conclude that following the implementation of the experimental program with adapted movement games, it was proven that it has a major impact on the behaviors studied in the observation sheet, leading to the reduction or elimination of certain behaviors, which made the perception of colleagues with difficulties to be much closer to their real qualities; thus, the experimental program with adapted movement games facilitated the integration of students with CES in the primary cycle (children who were initially marginalized, in the end they became partners), at the same time observing their progress from a psychomotor point of view, noting there are improvements in all the tests included in the experiment, both in the tests involving segmental dynamic force - legs and abdomen, as well as in the tests of joint mobility, skill and balance.

4. From our point of view, the experimental curriculum with adapted movement games used in our research program can be used by physical education teachers who encounter the same situations during the lessons, both from students with CES and from other students, adapting their program according to needs, always being stable in applying the indications and creating a routine.

5. An important point in the successful application of the experimental program is the realization of the sociometric test by the physical education teachers, as well as by the teachers for primary education, in order to know the group of students and implicitly to identify appropriate means to achieve an improvement where this is necessary.

Thus, we conclude that the purpose and objectives of the research have been achieved, the hypothesis of the thesis being validated and the importance and topicality of the topic treated in this work confirmed.

After analyzing the above, but also the examples of good practice from the selected case studies, we can extract a first set of general **recommendations** aimed at major changes regarding public policies aimed at access to inclusive education for students with SEN in Romania:

1. Clear definition and delimitation in the legislation of what inclusive and/or integrated education means, as well as clear measures aimed at inclusive education and the type of additional help given to children with CES when they are included in mainstream schools;

2. Eliminating the medical definition of what special needs or disability means, using the Danish model, where special needs are defined according to the number of hours of additional help needed in the educational process.

3. Decentralization of the education system, but with attention paid to the way of financing. Considering the major discrepancies between the development regions in Romania, we believe that this decentralization process should consider measures to equalize the funds received or even to supplement the funds in the areas and educational institutions where it is needed.

4. Making the education system and curriculum more flexible. For a better adaptation to the educational needs of children with CES, greater flexibility of the curriculum is needed, by offering additional years of study, the possibility to drop certain courses if the child encounters major difficulties and the choice of courses that it is based on the development of skills and not necessarily on the accumulation of knowledge.

5. Teacher training. In this sense, we believe that it is useful to supplement the practice hours provided in the curricula of the pedagogical module or even make it mandatory that part of these practice hours be carried out in classes where there are children with CES.

6. Early assessment of special needs and inclusion of children with CES in preschool educational institutions. Beyond these general and long-term recommendations, we find a set of immediate, less resource-intensive recommendations useful.

7. The study through movement games on groups of students with attention deficit and hyperactivity (ADD, ADHD).

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ADNOTARE

Constantin Iuliana Luminița

Influența jocurilor de mișcare asupra nivelului dezvoltării psihomotrice și integrării sociale a elevilor cu CES din ciclul primar: teză de doctor în științe ale educației Chișinău, 2022

Structura tezei: Lucrarea cuprinde adnotări în limbile română, rusă și engleză, lista abrevierilor, introducere, trei capitole, concluzii generale și recomandări, bibliografie (221 surse), 21 anexe, 167 pagini text de bază, 56 figuri, 10 tabele. Rezultatele cercetării obținute au fost publicate în 10 articole.

Cuvinte-cheie: elevi din ciclul primar, jocuri de mișcare adaptate, influențare, integrare socială, dezvoltare psihomotrică, elevi cu cerințe educaționale speciale.

Scopul lucrării îl constituie optimizarea procesului de predare a educației fizice prin folosirea jocurilor de mișcare adaptate conform programei școlare, în vederea stabilirii influenței lor asupra nivelului dezvoltării psihomotrice și integrării sociale a elevilor cu CES din ciclul primar (clasa a II-a).

Obiectivele cercetării sunt: studierea temei în literatura de specialitate și selectarea mijloacelor specifice realizării obiectivelor urmărite; aplicarea chestionarelor profesorilor de educație fizică și sport din Iași, profesorilor pentru învățământ primar din unitatea școlară unde s-a desfășurat faza experimentală, precum și utilizarea fișei de observație, aplicarea testelor psihomotrice și a testului sociometric; stabilirea etapelor de organizare și desfășurare a cercetării; elaborarea programei experimentale cu jocuri de mișcare adaptate, ca mijloc de acționare pentru dezvoltarea psihomotrică și integrarea elevilor cu CES din ciclul primar; elaborarea criteriilor de evaluare, testarea inițială și finală a eșantionului, înregistrarea și compararea rezultatelor obținute de clasa experiment cu cele obținute de clasa martor, ca urmare a aplicării jocurilor de mișcare adaptate.

Noutatea și originalitatea științifică constă în analiza impactului jocurilor de mișcare adaptate asupra nivelului dezvoltării psihomotrice și integrării sociale a elevilor cu CES din ciclul primar, îndeosebi a celor diagnosticați cu TSA, prin realizarea unor fișe de observație, aplicarea metodei sociometrice, efectuarea testelor psihomotrice și elaborarea unei programe experimentale cu jocuri de mișcare adaptate, folosind materiale viu colorate, conform programei școlare actuale.

Rezultatele obținute care contribuie la soluționarea unor probleme științifice importante constau în fundamentarea teoretică și experimentală a jocurilor de mișcare adaptate elevilor cu CES din clasa a II-a, iar punerea în practică a jocurilor a condus la integrarea socială în colectivul clasei, prin aceea că s-a reușit diminuarea, respectiv eliminarea anumitor comportamente deviante, ceea ce a făcut ca percepția colegilor cu CES să fie mult mai aproape de calitățile lor reale și să se lege prietenii între ei, observându-se totodată și un progres al lor din punct de vedere psihomotric, înregistrând rezultate favorabile la testele aplicate.

Semnificația teoretică vizează argumentarea teoretică a includerii în cadrul programei școlare și a orelor de educație fizică din ciclul primar a jocurilor de mișcare adaptate elevilor cu CES, în special a celor diagnosticați cu TSA.

Valoarea aplicativă constă în faptul că rezultatele cercetărilor efectuate pot fi folosite în cadrul lecțiilor de educație fizică din învățământul primar (clasa a II-a), de către profesorii de educație fizică, dar și de către învățătorii care desfășoară ora de joc și mișcare, asupra elevilor cu CES (diagnosticați cu TSA), în vederea ameliorării sau eliminării comportamentelor deviante, a dezvoltării lor psihomotrice; totodată, acestea pot fi utilizate și în ciclul gimnazial, precum și ca material pentru instruirea viitorilor profesori de educație fizică în lucrul cu elevii cu CES din ciclul primar.

Implementarea rezultatelor științifice s-a realizat în cadrul lecțiilor de educație fizică desfășurate cu elevii din ciclul primar (clasa a II-a) ai Școlii Gimnaziale "Nicolae Iorga" din Iași, ai Școlii Gimnaziale Liteni, Iași și ai Școlii Gimnaziale Rădeni, Iași.

АННОТАЦИЯ

Константин Юлиана Луминица

Влияние подвижных игр на уровень психомоторного развития и социальную интеграцию учащихся с КЭС в начальном цикле: докторская диссертация по педагогическим наукам Кишинев, 2022

Структура диссертации: Работа включает аннотации, список сокращений, введение, три главы, общие выводы и рекомендации, библиографию (221 источник), 21 приложение, 167 страниц основного текста, 56 рисунков, 10 таблиц. Полученные результаты исследования опубликованы в 10 статьях.

Ключевые слова: младшие школьники, адаптированные двигательные игры, влияние, социальная интеграция, психомоторное развитие, учащиеся с особыми образовательными потребностями.

Цель работы оптимизация учебного процесса по физическому воспитанию путем использования подвижных игр, адаптированных согласно школьной программе, с целью установления их влияния на уровень психомоторного развития и социальной интеграции учащихся с КЭС в начальном цикле (2-й класс).

Задачами исследования являются: изучение темы в специальной литературе и выбор конкретных средств для достижения преследуемых целей; применение вопросников к учителям физкультуры и спорта в Яссах, к учителям начальных классов в школьном подразделении, где проходил экспериментальный этап, а также использование листа наблюдения, применение психомоторных тестов и социометрического теста; установление этапов организации и проведения исследования; разработка экспериментальной программы с адаптированными двигательными играми, как средства воздействия на психомоторное развитие и интеграцию учащихся с КЭС в начальный цикл; выработку критериев оценки, начальное и итоговое тестирование выборки, регистрацию и сравнение результатов, полученных экспериментальными классом, с результатами, полученными контрольным классом, в результате применения адаптированных двигательных игр.

Новизна и научная оригинальность заключается в анализе влияния адаптированных двигательных игр на уровень психомоторного развития и социальной интеграции учащихся с КЭС в начальном цикле, особенно с диагнозом РАС, путем составления наблюдательных листов, применения социометрического метода, выполнение психомоторных тестов и разработка экспериментальной программы с адаптированными подвижными играми с использованием ярких материалов в соответствии с действующей школьной программой.

Полученные результаты, способствующие решению важных научных задач, заключаются в теоретическом и экспериментальном обосновании двигательных игр, адаптированных для учащихся с ООП во 2-м классе, а реализация игр привела к социальной интеграции в коллективе класса, в том, что ему удавалось уменьшить или устранить некоторые девиантные формы поведения, что значительно приблизило восприятие коллег с ХЭС к их реальным качествам и подружило их, в то же время наблюдая за их прогрессом с психомоторной точки зрения, регистрируя благоприятные результаты в применяемые тесты.

Теоретическая значимость заключается в теоретической аргументации включения в школьную программу занятий физической культурой и в начальный цикл подвижных игр, адаптированных для учащихся с ХЭС, особенно с диагнозом РАС.

Прикладное значение состоит в том, что результаты проведенного исследования могут быть использованы на уроках физической культуры в начальных классах (2-й класс), учителями физической культуры, а также учителями, проводящими игровые и двигательные занятия, на учащихся с ХЭС. (с диагнозом РАС), с целью улучшения или устранения девиантного поведения, их психомоторного развития; в то же время они могут быть использованы и в общеобразовательной школе, а также как материал для подготовки будущих учителей физической культуры к работе с учащимися с ООП в начальной школе.

Внедрение научных результатов осуществлялось в рамках уроков физического воспитания, проведенных с учащимися начальных классов (2-й класс) средней школы им. Николае Йорга в Яссах, Литеньской средней школы, Яссы и Рэденьской средней школы, Яссы.

ANNOTATION

Constantin Iuliana Luminița

The influence of movement games on the level of psychomotor development and social integration of students with SEN in the primary cycle: doctoral thesis in educational sciences Chisinau, 2022

Thesis structure includes annotations, list of abbreviations, introduction, three chapters, general conclusions and recommendations, bibliography (221 sources), 21 appendices, 167 pages of basic text, 56 figures, 10 tables. The obtained research results were published in 10 articles.

Keywords: primary school students, adapted movement games, influence, social integration, psychomotor development, students with special educational needs.

The aim of the paper is to optimize the physical education teaching process by using movement games adapted according to the school curriculum, in order to establish their influence on the level of psychomotor development and social integration of students with SEN in the primary cycle (2nd grade).

Research objectives: the study of the theme in the specialized literature and the selection of specific means to achieve the pursued objectives; the application of the questionnaires to physical education and sports teachers in Iaşi, to primary education teachers in the school unit where the experimental phase took place, as well as the use of the observation sheet, the application of psychomotor tests and the sociometric test; establishing the stages of organization and conduct of the research; the development of the experimental program with adapted movement games, as a means of action for the psychomotor development and integration of students with SEN in the primary cycle; the elaboration of the results obtained by the experimental class with those obtained by the control class, as a result of the application of the adapted movement games.

Scientific novelty and originality consists in analyzing the impact of adapted movement games on the level of psychomotor development and social integration of students with SEN in the primary cycle, especially those diagnosed with ASD, by making observation sheets, applying the sociometric method, performing psychomotor tests and developing an experimental program with adapted movement games, using brightly colored materials, according to the current school curriculum.

The results obtained that contribute to the solution of an important scientific problem consist in the theoretical and experimental substantiation of the movement games adapted to students with SEN in the 2nd grade, and the implementation of the games led to social integration in the class group, in that it was possible to reduce or eliminate certain deviant behaviors, which which made the perception of colleagues with SEN to be much closer to their real qualities and to make friends with each other, at the same time observing their progress from a psychomotor point of view, recording favorable results in the applied tests.

Theoretical significance aims at the theoretical argumentation of the inclusion in the school program and physical education classes in the primary cycle of movement games adapted to students with SEN, especially those diagnosed with ASD.

Applicability consists in the fact that the results of the conducted research can be used in physical education lessons in primary education (2nd grade), by physical education teachers, but also by teachers who carry out play and exercise classes, on students with SEN (diagnosed with ASD), in order to improve or eliminate deviant behaviors, their psychomotor development; at the same time, they can also be used in the secondary school, as well as as material for training future physical education teachers in working with SEN in the primary school.

Implementation of scientific results was carried out within the physical education lessons held with primary school students (2nd grade) of the "Nicolae Iorga" Secondary School in Iași, of the Liteni Secondary School, Iași and of the Radeni Secondary School, Iași.

CONSTANTIN IULIANA LUMINIŢA

THE INFLUENCE OF MOVEMENT GAMES ON THE LEVEL OF PSYCHOMOTRICAL DEVELOPMENT AND SOCIAL INTEGRATION OF PRIMARY SCHOOL STUDENTS WITH SEN

Specialty: 533.04. Physical education, sport, physiotherapy and recreation

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