

# STUDY ON THE ROLE OF PHYSICAL EDUCATION IN EDUCATING PSYCHO MOTILITY FOR CHILDREN WITH SPECIAL NEEDS

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**Abstract:** *Educating children with special needs has a scientific content of training and disposes of an adequate educational technology. Within this context, we have proposed to investigate the psycho motility in children with special needs from the perspective of the psycho motility components on which one can intervene in the lessons of physical education. The paper wants to make a study regarding the influence of the physical education hours on the psycho motility of children with mental deficiencies its objective being the improvement of the psycho motility values through physical education lessons and activities that imply psycho motility. The objective of the research was improving the psycho motile intervention methodology within the physical education hours and the recovery-compensation program of the child with intellectual disability. In reaching the objective one has started form the existent correlations between the somatic and functional development and the psycho motility components, for verifying certain possible ways of intervention that can indirectly sustain the process of psycho motile development. The research done has proven that the psycho motile indicators from the paper can be improved in time, through the common efforts of children and the ones doing the education.*

**Key words:** *physical education, psycho motile education, children with special needs.*

## 1. Introduction

Within culture history, the notion of physical education has been always used in correlation with the notion of humanism. Admitting that physical education is an aid given to youngsters so that they can manifest themselves toward themselves, so that they can be able to use the indispensable tools for knowledge and so that they can orient and adapt in the society

they belong to, the conclusion can only be based on education. In the learning process, physical education is being introduced together with other objectives, one recognizing it the important role in the multilateral forming of personality [1]. The instructive and educative process given to people with special needs must bear in mind to a greater extent not only the differences between the children of same age, but also the differences between

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normality and abnormality. This process fits in the general system of education, having as objectives, the maximum capitalization of the biological and professional integration [2]. To the extent to which one accomplishes the therapeutic and correctional influences to the mental and psycho motile levels one can also reach the instructive and educative tasks of increasing the degree of receptivity and social competence. The effort of recovery of a man in the global sense has polarized the interest on psycho motility both in psychology, pedagogy, neuropsychology and psychoanalysis [7].

Knowing the characteristics of mental deficiencies is related to the necessity of elaborating systems of action as well as necessary means of instruction and education for integrating these children professionally and socially. The difficulty lays firstly in the fact that the diagnosis, especially for certain mild mental deficiencies can only be done by specialized personnel, personnel that doesn't have the possibility of examining all cases. In the area of children with special needs are the children with mental, sensorial, locomotive, behavioral deficiencies and the institutionalized children with HIV, the ones abandoned, abused, etc. when we talk about psycho motility, the motile control represents the way through which the brain controls the specific voluntary muscular activities (conscious) and the adjustments in the postural dynamics [4]. Through movement one triggers the proprioception to the medullar segments and then to the supra segmental centers making a continuous inter relation input-output which in time leads to the increase of performance in doing the same movement to the most adequate parameters [6]. The motile control develops on 4 domains: stability, mobility, controlled mobility and ability. Each entity has been described by

psychological possibilities of mentally challenged children, the stimulation and correction of the intellectual and physical development, the preparation for social Horghidan, [4]. The controlled mobility comprises: doing the movement within a certain posture or the trunk and head rotations around the longitudinal axis from a certain posture and including the static and dynamic balance all together. For we cannot take into account stability or mobility, without mentioning the mechanisms of postural and balance regulation, we have preferred to describe these aspects together. Balance, either being discussed as a separate entity or either associated to stability or controlled mobility, can be found in the chapters that describe the formation of motile patterns, stability and posture, primary and permanent reflexes (reactions of staying straight or in balance). Coordination is the resulted process of activating certain schemes of muscular contractions with simultaneous inhibitions of other muscles with the purpose of achieving the wanted movement. Coordination is done in the presence and under visual control and depends on the participation of proprioceptive and tactile stimuli [1].

The connection between the written language and psycho motility presumes a complex analysis done on several aspects. Verza, E., [10] writes in its paper that the general motile development determines the organization of coordinating and sustaining the specific movements that make it possible to effectuate and differentiate the graphic signs. In the same time, psycho motility is connected to the evolution of the nervous system and reflects the general psychic maturation which is also reflected in the entire language system and especially in writing [8]. The main directions of the therapeutic and compensatory orientation within the didactic process with this category of

children are represented by the balance of the rapport between the practical and motile activity and the verbal one [7].

In special school, the psycho motile education follows accomplishing certain objectives related to correcting certain psycho motile deficiencies, social ones and deficiencies related to the professional integration. Both categories are done through activities with the whole class and individually, depending on the pupils' psychological and physical characteristics, through specific methods with or without the material support [5].

For mentally challenged children, the process of training must be differentiated, elastic and adaptive. The measures of improving the physical deficiency characteristics must be done unitary and on several aspects [3].

The hygiene conditions as well as the lifestyle conditions together with a careful medical surveillance, the daily diet, alimentation, a balanced food rate, the medicine intake combined with the psycho motile reeducation can lead to a recovery and to the improvement of the psychical deficiencies with motile debilities, physical debilities, inabilities, retard in maturation, disharmonies of certain functions, cases which manifest themselves through emotions, instability, inhibitions with attention disorders and corporal schemes [9].

*Hypothesis:* one has presumed that the lessons of physical education with specific themes related to educating the psycho motile capacity can improve the mental and physical balance in children with special needs.

*Sample research:* a number of 12 subjects with ages between 10 – 12 (7 boys and 5 girls), all with a mild mental deficiency. The experiment has been done during a whole school year. One must highlight that from the deficiency point of view the subjects are included in the

“light-mild” category. The pupils came from underprivileged and disorganized families with a rather low social and educative level, things which have determined the lack of involvement and the impossibility of the parents to support their children's education.

Through the practical research we wanted to delimit the methodic principles that must be taken into account in the physical education activities in mentally challenged children and that is the input of the physical exercise which contributes to improving the social and affective behavior.

## **2. Methods of the research**

For obtaining the data of the research, the fundamental method used along with the famous ones has been based on the physical exercise adapted to specific activities done individually or frontally, activities done depending on the objectives of the paper. For ensuring the conditions of studying the level of psycho motility development, the children were offered a motivation. Within certain physical education activities and other educational activities, done collectively or individually, one has explained that there are certain actions, tests as games or tryouts in order to see how the children react to movement. The instructive and educative program conceived to be applied within the physical education activities comprised systems of action for developing the knowledge necessary for the corporal scheme and the forming of space orientation, games, applicative routes and circuits all having the purpose of improving the coordination of hand dynamics, general dynamics, ensuring a harmonious physical development and a correct corporal posture as well as improving control and regulating the respiratory cycle.

## 2.1. Presenting the tests

In order to know the level of development to what the psycho motility of the researched subjects is concerned the following tests have been used:

1. *Dynamic coordination of hands*: grabbing a rounder single-handed and then throwing it 3 m. The subject must hold the arms near the body until he/she receives the command “catch”; after 30 seconds the other hand is tried; unsuccessfully; the subject cannot catch the ball 3 out of 5 times; tryouts with the right hand then with the left; the number of tries: 5 for every hand.
2. *General dynamic coordination*: jumping with the ball throwing the heels at the back and touching with heels with the hands; unsuccessfully; the distress of touching the heels simultaneously with both hands.
3. *Testing the balance*: eyes closed, standing on the right leg, the left leg bent at the back, the arms near the body after 30 seconds of repose; the same exercise with the changing of the leg; unsuccessfully; bringing down the leg more than 3 times; touching the soil with the leg that must have been bent; losing balance with moving; jumping duration: 10 seconds; number of tries: 2 for each leg.
4. *Testing rapidity*: one takes a piece of paper on which one draws 10 squares with a side of 1 cm: 10 squares in width

and 25 in length; the subjects must draw in each square a horizontal or vertical line; the duration: 1 minute; the trial is done switching the hands, for 1 minute too.

5. *Piaget Head Test*: examining the capacity of space orientation. The test consists of executing at command a series of 8 motile actions that comprise: turning around while standing, moving the body in space and *segment movement*.
6. *The test for evaluating motility*. On a running court in a straight line one places 4 gymnastics circles at a distance of 3 m between them. After the 4<sup>th</sup> circle at a distance of 2 m one places a reversed gymnastics bench and at the end of the bench on the soil one places a circle at a distance of 3 m, the length of the route being 19 m and 40 cm. Effectuating the route: at a given signal, the subject starts, having a rounder in hand, and puts the ball in the first circle, then he/she comes rapidly after the second ball and puts it in the second circle. The same action is repeated for balls 3 and 4. He/she comes back to the initial place and with the 5<sup>th</sup> ball makes the route while walking in balance over the bench, placing the ball in the 5<sup>th</sup> circle and coming back to the start position. The subject shall be timed from start to finish.

## 3. The results of the research

### 3.1. Dynamic coordination of hands

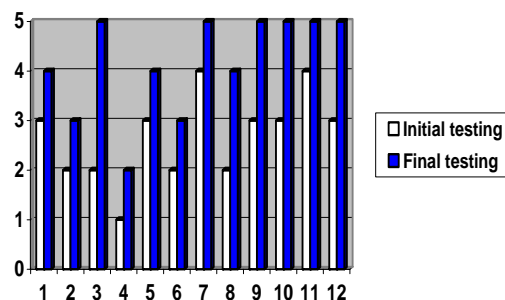


Fig. 1. The result graphic of the dynamic coordination test (right hand)

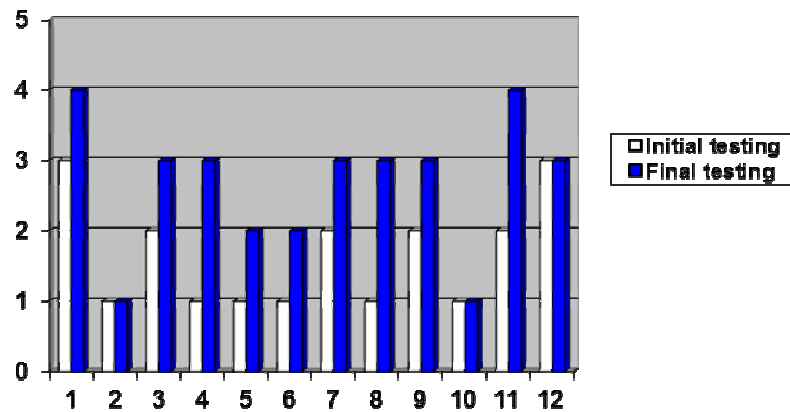


Fig. 2. The result graphic of the dynamic coordination test (left hand)

### Interpreting the results

In doing this test one has followed the coordination and ability of hands. Comparing the initial and final values of the dynamic coordination of hands, the data show that only 6 subjects accomplished the task in full. This item did not raise problems, argument sustained by the graphic representation 1 and 2. If in the

beginning, the attention and concentration of the subjects were poorly evaluated from the final evaluation one concludes that all subjects have improved their results. To the final values the factor of attention and the capacity of concentration have had a great role.

### 3.2. General dynamic coordination

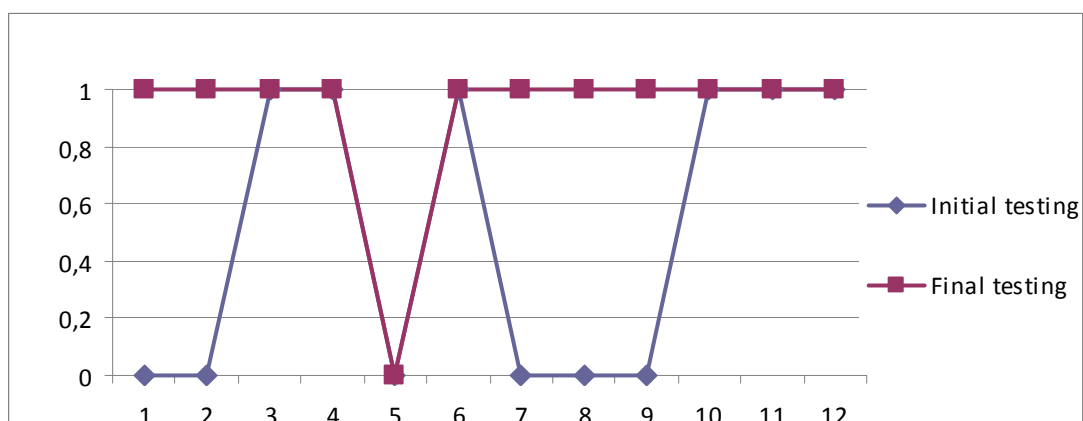


Fig. 3. The result graphic of the general dynamic coordination

### Interpreting the results

As shown in figure 3, the results display the fact that a single subject did not manage to accomplish the task not even at the final testing, while 6 subjects have

managed to accomplish it both at the initial and final testing obtaining positive values. One also remarks that no subject was in regress, 5 subjects recording improvements in comparison to the initial testing.

### 3.3. Testing balance

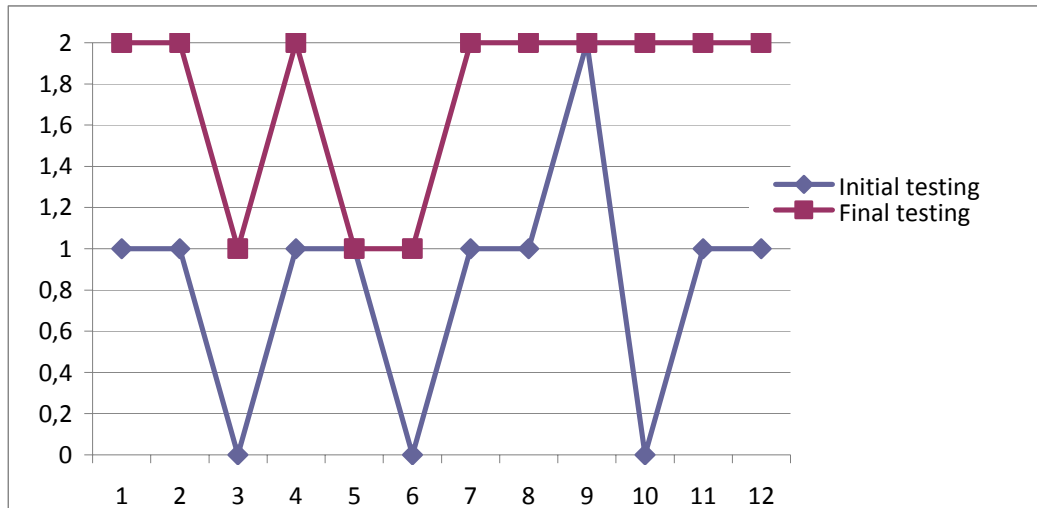


Fig. 4. The result graphic of testing the balance (right leg)

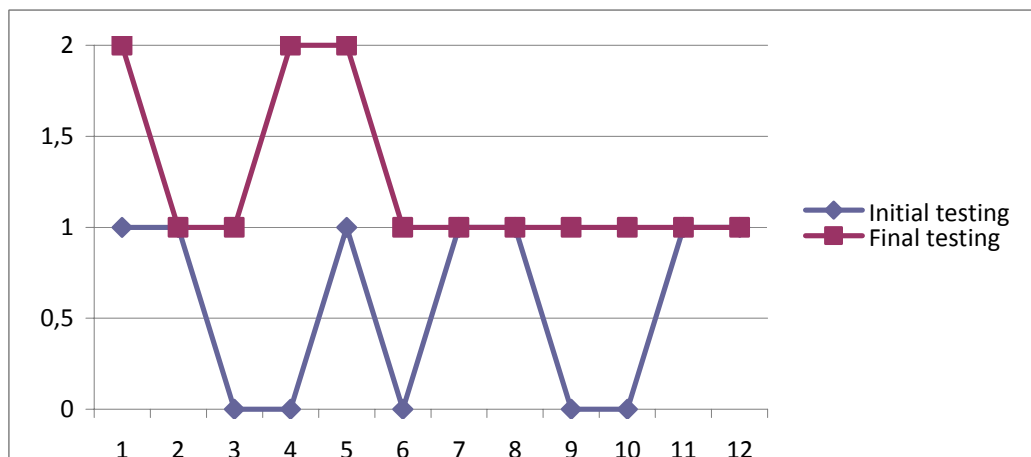


Fig. 5. The result graphic of testing balance (left leg)

#### *Interpreting the results*

As shown above, no subject is in regress. In graphic 5, at the final testing, from the 12 subjects, only 3 have improved their results at the final testing managing to fulfill the task with no mistakes and obtaining the maximum score. 5 subjects have maintained the

initial results at the final testing too. One also remarks that no subject is in regress which comes to show that the subjects manage to accomplish the task much better with the right leg than with the left one. The failures are due to poor correlation with the proposed aspects.

#### 3.4. Testing rapidity

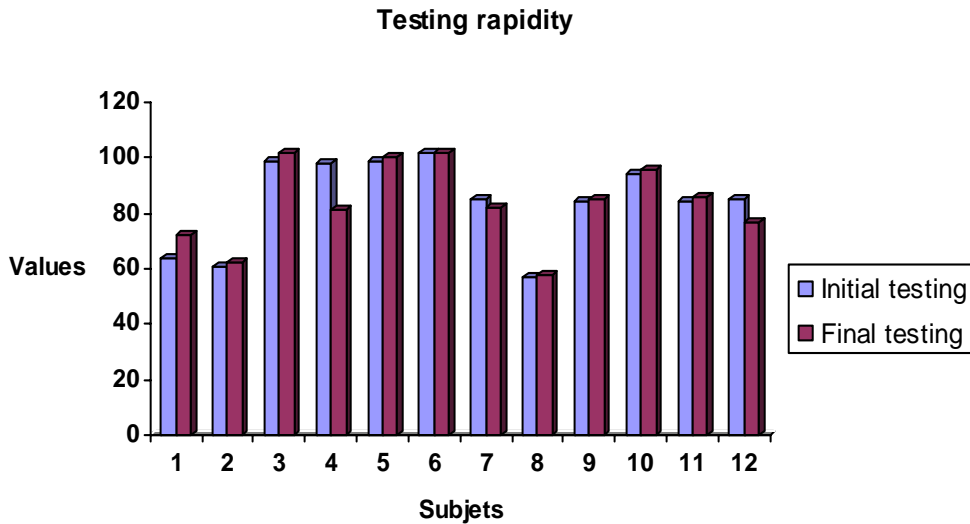


Fig. 6. *The result graphic of space orientation*

**Interpreting the results**

To the rapidity test, one can notice, from figure 6, that a sole subject maintains the same values in the two testings while 3 subjects record a regress at the final testing. The final value, smaller than the initial one, is due to the fact that the subjects have hardly focused, most of the time participating superficially. One can also notice that after the final evaluation of the 12, 8 have been in progress fulfilling the task. Comparing the initial and final values the data show that 3 subjects could

not make this item without difficulties. To the final values the factor of attention and concentration has been important as well. There has also been a correlation between discipline and the desire to fulfill the task in the great majority of children. For the same 3 subjects one has noticed disorganization in tracing the lines, drawing them haotically on the piece of paper.

**3.5. Piaget Head Test**

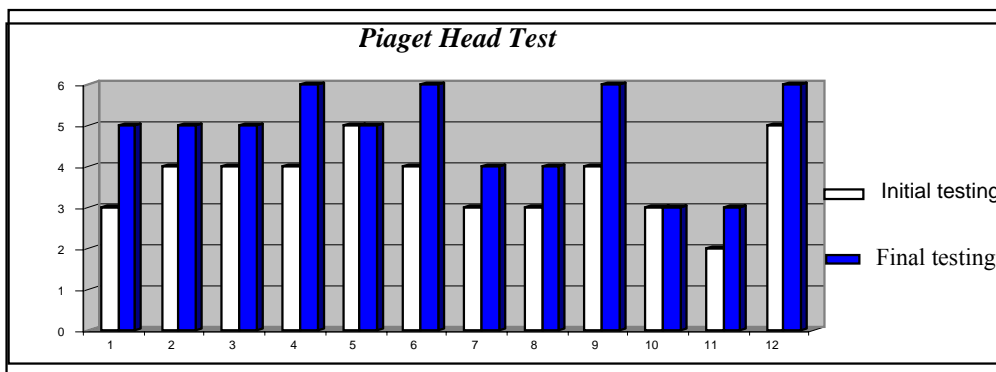


Fig. 7. *The result graphic of space orientation*

### *Interpreting the results*

To the space orientation trial, the effect of the stimulation program (perceptive and motile) has been better to what subject participation is concerned; each subject improving his/her results to the final evaluation. We believe that such a consequence of the improvement program has included the psycho motility

components which are dependent on the degree of deficiency (perception, representation and memory). The graphic representation of the final evaluation (figure 7) is as follows: 11 subjects making a progress, only 1 subject maintaining the same value parameter.

### **3.6. The test for evaluating motility**

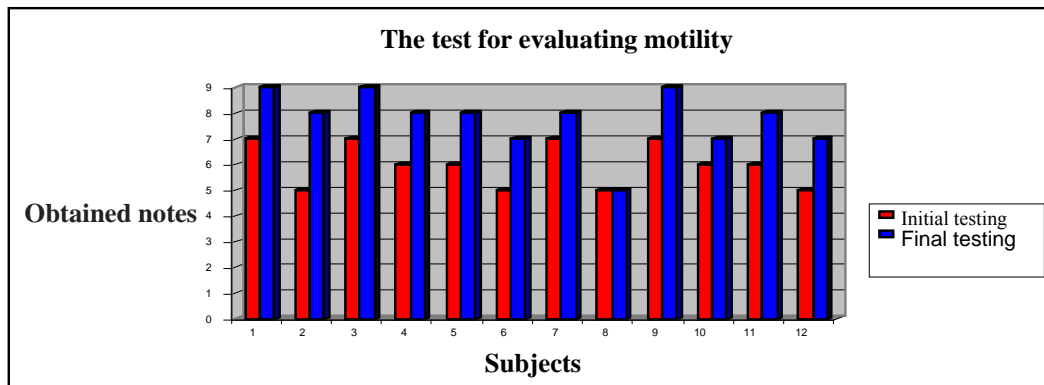


Fig. 8. *The result graphic for the test evaluating motility*

### *Interpreting the results*

One can notice from figure 8 a fair evolution than the initial testing which proves a very important involvement of all the subjects in accomplishing the tasks. To what motile coordination is concerned, attention and speed, the pupils did well to the final testing improving their results. To the motility trial, the subjects obtained rather good results which prove that a good availability for movement also means a better coordination and a better stability of gestures and movements.

### **4. Conclusions**

The experimental data that can be identified as a result, on a problem related

to the psycho motility of children with special needs; do not allow generalizing the conclusions. The data obtained have been the basis of effectuating certain individual characteristics for the children and formulating some recommendations regarding the way of approach of each and every one of them so that they can easily adapt to the social environment. The data have allowed us to utter the following ideas: analyzing the physical development we notice that we have an unequal rhythm of growing at this age and also that the waist line has increased with 3% while the body weight with 7%. These things must be known by the teachers in order to choose the most efficient means to approach the lesson and to dose the effort. The next important aspect is the correct



evolution of the children's organism. These testing have helped the children to know better the main somatic indicators and also the rhythm of development of these indicators during a school year. The subjects of the research record difficulties to the dynamic coordination of the hands (especially to the left hand) and to the general dynamic coordination. The investigated parameters represent a further argument for the need of approach of each individual, in the sense of knowing his/her psycho motile characteristics; to balance examination trial one notices that no subject has been in regress; one also notices that to the rapidity trial no subject is in regress which proves that they have managed to accomplish the task much better with the right leg than with the left one. One puts the unsuccessful attempts on the poor correlation of the investigated aspects; to the space orientation trial the effect of the stimulation program (perceptive and motile) has been better to what subject participation is concerned; 2 subjects have maintained their value parameter while the rest of the subjects have improved their results to the final testing; to the test evaluating the motility, they have obtained generally good results which proves for a good availability for movement. The subjects of the research through the involvement in the activities and the results shown prove the possibility of implementing these types of program under adequate conditions, with the note that there must be a system of relations between the class and the teacher; pupil – class; pupil – pupil, relations that can favor the integration of each pupil in society and can create the necessary conditions for personality development annihilating the effects of the deficiency. Knowing that the basic deficiency comes with other deficiencies, one must act on the secondary

deficiencies. If one can improve the latter one can also improve the basic deficiency. If one strengthens health and improves the indicators of physical and psycho motile capacities one can also act favorably and with beneficial effects in perspective on the mental deficiency thus contributing to a great extent to the adequate fixing of its behavioral pattern.

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