

A psychokinetic approach regarding the relationship between physical education and psychomotor education of children

O abordare psihocinetică privind relația dintre educația fizică și educația psihomotrică a copiilor

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Abstract

Background. Educability of motor skills and psychomotor education of normal children or those with mental or motor disabilities has a significant role in early educational intervention. The content and special methodology of motor and psychomotor development is generally associated with inherited motor skills or, as appropriate, the disorders produced by various dysfunctions.

Aims. The growing and developing process of the child, either normal or dysfunctional, which could be affected and can influence psychomotor behavior, is more pronounced as the degree of the expression level of motor skills (i.e. gifted children) or conversely, if the deficiency is more profound. We can talk about the configuration of special educational objectives, for all categories of children: normal, gifted, or conversely, for those with impaired motor skills.

Methods. The novelty of our research consists of a psychokinetic approach to the relationship between motor skills education and psychomotor education in the context of motor and physical education of children up to age of 12. We can even talk about psychokinetic complementary methods, associated and adapted to the usually psycho-pedagogical tools.

Results. In this manner, the movement in all its forms related to global or fine motor ability of the children should and could become a very important prophylactic and therapeutic educational means, both of a prophylactic and therapeutic nature at early schooling.

Conclusions. Psychomotor learning exceeds the physical education context, as a discipline, being encountered in various instrumental learning activities extended to other curriculum areas as a contributing factor and precursor of the development of the child's operating intelligence.

Key words: psychokinetic approach, motor genotype, motor phenotype, psychomotor education, instrumental learning.

Rezumat

Premize. Formarea deprinderilor motrice și educația psihomotrică a copiilor normali sau la cei cu dizabilități au un rol important în intervenția educațională timpurie. Conținutul și metodologia specifică a dezvoltării motrice și psihomotrice a copiilor este, în general, adecvată nivelului și portofoliului individual de deprinderi motrice, susținute de un fond aptitudinal moștenit sau după caz, afectată de tulburările produse de diverse disfuncții.

Obiective. Procesul de creștere și dezvoltare al copilului normal sau disfuncțional, poate fi afectat și poate influența, la rândul său, comportamentul psihomotor al acestuia, într-un grad mai mare sau mai redus, ca expresie a nivelului deprinderilor motrice pe care le deține. Putem vorbi despre structurarea unor obiective educaționale în contextul temei studiului, stabilite pentru toate categoriile de copii: normali, cu aptitudini înalte.

Metode. Noutatea problematicii cercetării noastre constă într-o abordare din perspectivă psihocinetică a relației dintre deprinderile motrice și educația psihomotrică în contextul educației motrice și fizice a copiilor până la vârsta de 12 ani. Putem vorbi de conceperea unor metode psihocinetice complementare, asociate și adaptate instrumentarului psihopedagogic utilizat în mod curent în astfel de situații.

Rezultate. În acest fel, mișcarea, sub toate formele sale de manifestare, referitoare la motricitatea globală sau fină a copiilor, ar putea și ar trebui să devină un foarte important mijloc educațional de natură profilactică și terapeutică la vârsta școlarității timpurii.

Concluzii. Educația psihomotrică excede contextului educației fizice, ca disciplină de învățământ, putând fi aplicată sub forma unor diverse activități de învățare instrumentală extinse în mai multe arii curriculare, ca un factor contribuitor și ca un precursor al dezvoltării inteligenței operante a copilului.

Cuvinte cheie: psihocinetică, genotip motric, fenotip motric, educație psihomotrică, învățare instrumentală.

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Introduction

The present study starts from the assumption that the development of a child's motor skills, during its ontogenetic development, is an extremely complex process having numerous and unexpected connections with their mental development, approached from an intellectual, affective-emotional and volitional perspective.

The motor skills of an individual are represented by the "genetically motor skills, such as motor genotype skills" that are in a complementary relationship with the ones "acquired through learning, repetition, instruction, training, such as abilities and motor skills - the latter representing the individual's motor phenotype" (Neagu, 2012, p.18).

This relationship is reflected in a series of studies that try to answer an already known question: *nature versus nurture?* It means nature versus supply (meaning an external influence). The first one who asked this question was Sir Francis Galton (1822-1911), one of the most important founders of differential psychology.

Currently, this binary relationship continues to elicit interest, assigning the most important role to one or the other of the two components, the so-called factorial primordial influence on the development of an individual (mental or physical). The most eloquent answer to the previous question regarding which factors, native or acquired, prevail in influencing personality development was given by Canadian psychologist Donald Hebb (1904-1985), who replied with another question: "Which of the dimensions contribute the most to determine the area of a rectangle: the length or the width?" (Meaney, 2004). Obviously, in the case of human individuals, the strict analogy with the differential of the two sets of influencing factors from the examples above may be restrictive, but such analytical elements could be significant in the context of the characteristics range of an investigated human community (population, sample etc.) (Rich-Harris, 2006).

In our view, "Human motor skills heritability should not be treated as an opposable element to motor skills acquired through learning. Complementarity and inter-relationship with mutual enhancement effect (Fig.1), defines most appropriately the relationships with factorial influences on general motor behavior of an individual" (Neagu, 2010). "The covariance of the two influence factors categories expresses most appropriately the relationship between them and their joint action on the motor skills fund of an individual. To acknowledge a theory that emphasizes the invariance of the relationship between genotypic and phenotypic human factors is, in our view, limited or even inaccurate" (Neagu, 2012).

The effect of the enhancement phenomenon between these two components of area I and III as influencing factors of motor skills performance will be the induction of an inferential process between the genotypic component (native motor skills) and the phenotypic one (acquired motor skills).

Kaighobadi & Shackelford (2008), in the study "Investigating the Mystery of Individuality", dedicated to Rich Harris's researches (2006), mention a double influence on the overall development of an individual, being exposed "to effects of genes, as well as to effects of context" such as external influences.

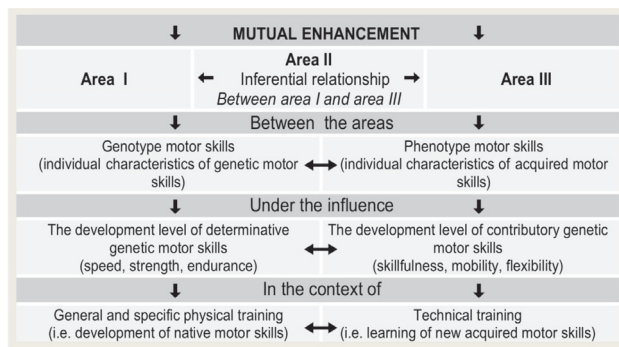


Fig. 1 – Customizing the process of mutual enhancement in the context of the relationship between genotype and phenotype motor skills (Neagu, 2012).

Theoretical background

A primary assumption is the one set by us three years ago, that "The wide domain of didactics enters increasingly and in a more elaborate manner, in most spheres of the educational field" (Neagu, 2010), including school physical education. Two of the pursued aims are to ensure the harmonious somatic development of children, and also the development of their personality on the whole.

The argumentation of our study consists of an approach from a different perspective of what is widely known about the development of a child's motor skills. It is about physical education, as part of the so-called "early educational architecture of children" (Neagu, 2012). Therefore, we want to discuss in a disjunctive manner a series of concepts, which apparently would achieve the same educational goals. These concepts, only apparently somehow similar in terms of means, methodologies and specific educational objectives are: physical education, motor skills education and psychomotor education.

The limits that we found in the categorization of *physical education* as an educational discipline may be summarized as follows:

- Physical education is considered a *minor school discipline*;
- Physical education is not yet detached from the *body-mind dualism*, being considered that it would only address the body;
- Unfortunately, physical education is not yet imposed as a *fundamental means of education*;
- A significant part of the means used in teaching physical education is *specific to the sports field*;
- Currently, in Romania, there is no clear delineation of the concept of *educational sport* as a component of physical education, a concept that we support as being highly important and that should be clarified as soon as possible (Fig. 2).

For the reasons outlined above, we can say that during the child's development, ranging from birth to approx. 10-12 years of age, physical education must be constructed as an *educational composite* consisting of physical education, motor and psychomotor education, where "psychomotor education should form one of the major educational and curricular priorities" (Neagu, 2012).

One of the disjunctive elements is that *psychomotor education* is mainly targeted towards developing the fine

motor skills of the child, their knowledge about their corporeality (body schema), their awareness and development of body laterality, their spatial and temporal orientation, static and dynamic balance, their somesthetic and kinesthetic sense and finally, their mental representation capacity of motor ideograms. These components are particularly important in this period of ontogenetic development of children.

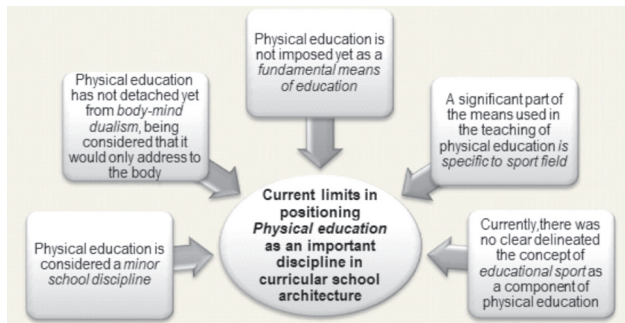


Fig. 2 – The current limits in positioning physical education as an important discipline in curricular school architecture (Neagu, 2012).

The complexity and the vastness of the psychomotor domain of a child - i.e. his psychomotor education, results from its dimension, approached from a dual perspective: *longitudinal and transversal* (Albu et al., 2006).

The *longitudinal approach* refers to the fact that psychomotor education "is diachronically conducted on a study field, temporally extended, that starts with the first interventions on infants, in the sense of its early sensory stimulation" (Neagu, 2012) and which will be expanded to the interventions such as maintenance and care "of the elderly psychomotor faculties" (Ballouard, 2008).

The *transversal approach* consists of at least two defining elements. The first one is related to scientific substantiation, extremely complex, such as quintessential extract, i.e. composite type, from a multitude of sciences: biological, psychological and sociological - all this related to human motor skills.

On the other hand, *motor education* as a result of physical and sport education has as main targets: the *development of global motor skills*, of the child's general motor capacity, of large body movements, both in terms of the area of native motor skills (skills development) as well as the development of general acquired motor abilities and skills (locomotor and non-locomotor) - through the motor learning process (Fig. 3).

Both components are important in the configuration, the development and improvement of the motor capacity of the child in his growing and developing process, but often "psychomotor education is overlooked or even ignored in the complex educational act, exactly in maximum educational plasticity period, specific of age within the range of 4-12 years" (Neagu, 2012).

Gravel & Tremblay (2004), referring to the importance of early age psychomotor education, remind us of Bernard Aucouturier's research (Bernard is the founder of preventive and therapeutic educational psychomotor practice). Inspired by the studies of Klein, Winnicot and Wallon (in psychoanalysis) and those of Piaget, Aucouturier laid the

foundations for the practice of psychomotor education, which in his view, focuses on "the motor expressivity of the child, as a way of expressing his affective and imaginary life". He insists on "motor expressivity development as a maturing mental itinerary, using the game as a fundamental axis of the practice" (Gravel & Tremblay, 2004).

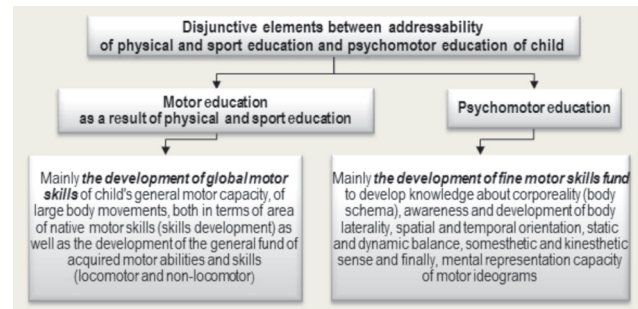


Fig. 3 – Disjunctive elements between addressability of physical education and psychomotor education of the child (Neagu, 2012).

However, at this stage some delays can be identified, as well as gaps or different disorders and obviously we can intervene preventively by differentiated means and methods specific to a small group, or even individualized.

Among the general goals of psychomotor education in this age range, we mention (Fig. 4):

- Acquiring new "procedural knowledge" (Famose, 1996; Famose, 2002; Famose, 2006), defined by us as "eupraxis knowledge" (Neagu 2010), more differentiated as a support of the child's body integration in his environment;
- Generally, obtaining significant support in the school learning process and specifically in school instrumental learning;
- Voluntary control of the body (as a system) and various body parts and segments;
- Improving mental concentration capacity, memory and relaxation;
- Accommodation and progressive adaptation of the organism to physical and mental requests, specific to carefully directed effort;
- Developing the independence level and approaching of the general corporeal motor autonomy;
- Developing an appropriate self-image, followed by self-awareness and finally, balanced self-esteem;
- Creating the possibility of constantly having new body experiences that will facilitate learning and motor, sensory-motor and perceptual-motor control, with positive effects on the child's development;

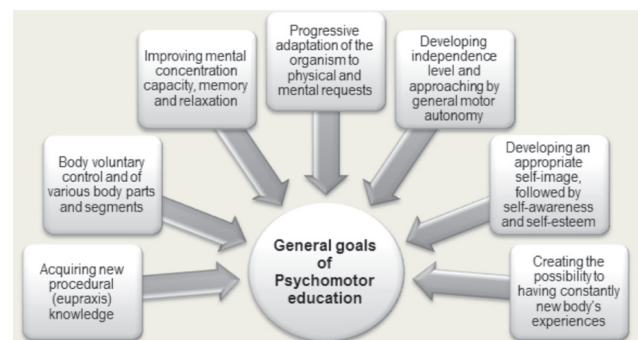


Fig. 4 – General goals of psychomotor education (Neagu, 2012).

Rigal (2004); Rigal (2007) describes three main axes of intervention in the psychomotor education of the child, as follows:

- Psychomotor education – the development of intelligence through motor action;
- Psychomotor rehabilitation – self-control restoration of movements;
- Psychomotor therapy - awareness and relationship with one’s own corporeality, the relationship with others and the relationship with the surrounding environment (Fig. 5).

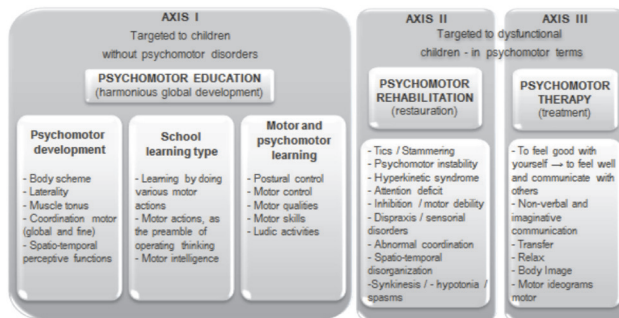


Fig. 5 – Educational psychomotor spectrum in children - Axes of intervention. Adapted from Rigal (2004) și Rigal (2007).

Defining psychomotor education elements from a psychokinetic perspective

The French doctor in medicine (specialized in functional rehabilitation and psychomotor field), Jean Le Boulch, licensed in psychology - as well as athletics and basketball coach - is the first one who introduced the concept of *psychokinetics* in 1966. This new approach has revolutionized the approach to physical education, *psychokinetics* being originally defined as a *science of human movement* - much too fastidious, (op-ed), and later redefined as a *general theory of human movement*, to be finally crystallized as the *psychomotor education of children*, aged under 12, specific to the pre-school and primary school levels (Le Boulch, 1971). The disjunctive element in relation to the actual term of *physical education*, *psychomotor education* is to use movement as a generating educational factor in very different forms of movement. Introducing this concept, Le Boulch wanted to permanently eliminate *body & spirit* dualism, as the so-called traditional connotation of *physical education* completely disappeared in addressing the new concept, *psychomotor education* (Le Boulch, 1984 Le Boulch 1995).

Thus, Le Boulch expanded the educational field beyond corporeality movement, by taking it to what we define as *education for movement by movement*, as an important precursor of the child’s *operating thinking* by operating with abstract concepts: generalization, induction, deduction, analysis, synthesis etc.

We witness an approach of a new concept, that of the child’s personality global, unitary, systemic development where even the *psycho-motor* binary script becomes a unique word - *psychomotor*. In this context is explained Le Boulch’s desire to extrapolate the term *physical education* (the term itself sends us to physicality, corporeality) to *psychomotor education*, an integrative and unitary vision between body-movement and psyche (Le Boulch, 1984, Le

Boulch 1995). We are fully subscribing to this conception, this being one of the reasons for developing our study.

Possible developing directions of the psychomotor education concept in the curricular architecture

The main underlying principle of *psychomotor education*, namely that of educational action through multiple forms of movement (which exceed the sports field, as a feature of the means used in current physical education) has as an operating form the centering of this action on the development of the child’s psychomotor behavior development. Consequently, *psychomotor education* should be better represented in nursery and primary curriculum cycles.

By approaching a global conception of education, indispensable to any child, it becomes applicable in all educational areas where movement is present in various instrumental-operating forms, such as:

- Writing, graphics, technical drawing, artistic drawing, painting, sculpture, molding activities.
- Construction, traditional crafts, electronics, mechanics, robotics.
- Choreography, performing arts, dance, ballet etc.

Finally, we emphasize the *mutual enhancement relationship* between native motor skills and sports motor skills. Thus, we penetrate the *inference area* (complementary, positive effects) and not the *interference relationship* (disharmony, negative effects) between *psychomotor education* and *sports education*, earlier defined by us as *educational sports*.

Other benefits complete the picture of the positive influence of psychomotor education:

- Language development of the child (verbal, non-verbal and paraverbal) that will be associated with his own actions and spatial-temporal perceptions, having a symbolic role in the patterning of the child’s body scheme and of the spatial-temporal environmental dimension (all types of motions – his own and other individuals’ or objects’ movements).
- Buildup of new and basic acquisitions (5-8 years) on the body schema which is better focused; also laterality, still relatively stabilized at this age.
- Perception (the quick look) of the movement forms, their storage, ideomotor representation and ultimately, their reproduction such as form, structure, succession and other characteristics (rhythm, tempo, cadence, coordination, synchronization, correctness, precision, accuracy), moving on music (dance, choreography, movement games) or rhythm and frequency of movements imposed by various associated sounds (percussion, whistle signal, given commands etc.).
- Global adaptation and movement execution regulator feedback - from the cognitive level to the postural (somesthetic) level, by body and limb axes and finally, to the dynamic (kinesthetic), motor-operated level.
- Refined adaptation of fine motor skills.

Expected goals/purposes

By providing the motor behavior fundamentals outlined above, it will become a predisposing factor, a feed forward type, that will facilitate the entry into the next stage of psychomotor education-deepening (9-12 years). This will

be accomplished by:

- Achieving the child's motor autonomy through adaptation and overall appropriateness - cognitive and motor-perceptive.

- Optimizing the orientation and spatial-temporal structure.

- Correct mental representation, in form, structure and movement succession.

- Adequate and timely problem solving situations with a high degree of difficulty or complexity;

- Outlining the important role of psychomotor education in instrumental school learning.

- Demonstration and validation through future studies of the inter- and transdisciplinary vocation of psychomotor education (as a point of convergence of educational efforts in the motor and intellectual fields).

- Reaffirming psychomotor and physical education as important school disciplines.

- They should not be manifest forms of the child's effort and biological performance but must represent fundamental components (basic) in the school learning process, as a whole.

- Development of intelligence, along a cognitive acquisitions route (as important precursors of personality) toward intellectual and socio-behavioral gains.

- Strengthening intellectual processes starting from effective handling (practice) and reaching concept handling (thinking) having as precedence personal motor experience (many concepts being disconnected at a time by the effective action that has generated them).

- Discovery and awareness of new forms of „physicality”, such as:

- "Energetic body" - effort perception and evaluation as a result of various movements.

- "Operative body" and "Attitudinal body" related to personal movements or other environmental movements: gearing, engagement, activation etc.

- Discovery and awareness of the collective dimension of movement as a precursor, to create:

- Group relating capacity (class, team, competition, regulations, self-control).

- Ability to devolve through partners (teammates, opponents, officials).

Conclusions

1. The child's body and movement are everywhere, in all school disciplines and in all activities carried out, even if some minimize or even deny its importance in the child's daily school program. One of the solutions that would be *resizing the role of movement* in the sense developed by us in this study is *the convergence of educational objectives between theoretical and practical disciplines*. It outlines a new concept that we propose: *an expanded educational field assigned to movement as an important factor in the overall development of the child, to help him relate with his own physical and environment in enjoyable, dynamic, adaptive and involved ways*.

2. All factors involved in the educational field must become inducers of a new mentality and general attitudes towards the role of movement in the overall development of the child, including sanogenic components, less approached in this study, such as *prevention and therapy*

of vicious body attitudes, of some metabolic diseases and nutritional disorders; combating childhood obesity and sedentary lifestyle, namely education for movement ecology, with various positive effects etc.

3. It must be transferred towards the collective consciousness that *motor and psychomotor education is not only performed during traditional physical education classes*, which are totally insufficient in terms of curricular allocation, duration and educational resources.

4. *Psychomotor education must become a complex and comprehensive educational instrument in curricular activities*, but also in various other extracurricular activities, currently totally insufficient.

5. *Psychomotor education must contribute to the formation of individual psychosocial values and behavior*, such as increased confidence in oneself and others, formation of the sense of self-esteem, of the sense of belonging to a team, collectivity and community.

6. *Psychomotor education must contribute, in addition to physical education, to the acknowledgment of skills in some exceptional native qualities* (particularly in sports prowess), where certain motor skills are involved at a high-level.

Conflicts of interests

Nothing to declare.

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