

## THE EFFICACY OF THE PROJECT MOTORFIT: EDUCATIONAL ACTIONS THROUGH PHYSICAL ACTIVITY IN SCHOOLS

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Review paper

### Abstract

The implementation of the project aims to improve mental and physical Motorfit students and aims to assess the degree of motor pupils attending compulsory education. This research project coordinated by Professor Luke Eid comes at the IRRE Lombardia (Regional Institute for Educational Research) and was made operational in the first instance in the Lombardy region, involving many hundreds of schools at all educational levels. In the school year in progress this project has been screened in the Campania region where, unfortunately, statistical surveys show that this region has the highest number in percentage of children overweight or obese, the figure is very alarming, so much so that estimated that 1 in 4 children are overweight because the percentage is 21% on average nazionale. Un framework that shows how good it is appropriate to intervene where the rate of obesity and overweight have reached significant levels, a fact essential if we consider the risk to which the obese person is exposed, a step away from cardiovascular disease, diabetes. The bad lifestyles and excess nutrition, it also has a strong economic impact on public health costs - more than 30 billion € are burned for cardiovascular disease and diabetes. And without action incisive, in ten years we will have almost 280.000 new adults obese, an increase of public health spending countless more. Just to fill this gap and driving through the action of Prof. Anna Rose was discovered and published a manual for the evaluation of the mobility of disabled people already in force at the Physical Education Academy "Jozef Pilsudski" in Warsaw "Eurofit Special: test of physical fitness for people with mental retardation". In order to develop and spread in our country this protocol, the National Agency for the Development of Education - Core Spatial Lombardy, in collaboration with other public and private institutions, has promoted the project through the trial actions aimed at education and research institutions within its jurisdiction. From this situation, the team composed of Profs. Perrotta, Corona and Cozzarelli has led this experimental project involving primary school children and equal in the province of Naples and Benevento, Italy.

**Key words:** psychomotor education, hypokinesia, coordination, integration, motor skills

### Introduction

The implementation of the project aims to improve mental and physical Motorfit students and aims to assess the degree of motor pupils attending compulsory education. The project MOTORFIT Lombardy, whose Memorandum of Understanding was established from 2005-2006, has already been presented in various international fora. Among the latest are: 13-14 July 2006 in Budapest (Hungary) at the Institute of Coaching and Sport Education of Semmelweis University, on 21-22 October 2006 in London (England) at St. Mary's University College, 29 -31 August 2007 in Bratislava (Slovakia) at the Faculty of Physical Education and Sport, Comenius University, 16-18 November 2007 in Oradea (Romania) at Facultatea de Fizica you Educatio Sport din Oradea, on 10-11 December 2007 Belgrade (Serbia) at the Faculty of Sport and Physical Education of the University of Belgrade. Currently our agency is working with Scholastic many European partners who are conducting the same experience in your country: Austria, Estonia, Finland, Poland, Romania, Slovakia, Spain, Hungary. This research project coordinated by Professor Luca Eid comes at the IRRE Lombardia (Regional Institute for Educational Research) and was made operational in the first instance in the

Lombardy region, involving many hundreds of schools at all educational levels, and also 'useful the teacher of physical education as an educational tool-integrated methodology for the formative evaluation of students. In the school year in progress this project has been screened in the Campania region where, unfortunately, statistical surveys show that this region has the highest number in percentage of children overweight or obese, the figure is very alarming, so much so that estimated that 1 in 4 children are overweight because the percentage is 21% of the national average (Parizková J.1998). A picture that shows how good it is appropriate to intervene where the rate of obesity and overweight have reached significant levels, a fact unavoidable if we consider the risk to which it exposes the obese person, one step from cardiovascular disease, diabetes. The assessment of pupils' motor and its analysis is an important reference point for future educational activities. Studying the motor efficiency can be assessed indirectly the health and lifestyle of a person. Physical control of emotional subjects in evolutionary fact, aims to outline a series of benchmarks that can support both the evolution of mobility is to identify the needs in the development of the movement. This applies both to non-disabled students than for students with disabilities.

If the former, over the years, in Italy have been numerous studies conducted through batteries of tests to assess their engines useful physical fitness for the disabled was not possible at present to do likewise. The bad lifestyles and excess nutrition, it also has a strong economic impact on public health costs - more than 30 billion € are burned for cardiovascular disease and diabetes. And without action incisive, in ten years we will have almost 280 000 new adults obese, an increase of public health spending countless more. Just to fill this gap and driving through the action of Prof. Anna Rose was discovered and published a manual for the evaluation of the mobility of disabled people already in force at the Physical Education Academy "Jozef Pilsudski" in Warsaw "Eurofit Special: test of physical fitness for people with mental retardation". In order to develop and spread in our country this protocol, the National Agency for the Development of Education - Core Spatial Lombardy, in collaboration with other public and private institutions, has promoted the project through the trial actions aimed at education and research within its remit istituzionale. The information will be collected in the trial dell'a.s. 2010/2011 analysis by using computerized statistical software (Stata ®, SPSS ® and SAS ®) and spreadsheets (Excel ®). From this situation, the team composed of Profs. Perrotta, Corona and Cozzarelli has led this experimental project involving primary school children and equal in the province of Naples and Benevento. The process followed after the receipt of data until the production of reports, can be summarized in the following five phases: the first stage of cleaning is defined is the identification of those values that have appeared as faults in order to identify those errors or omissions that may be, the second phase has required hard work of structuring in order to identify the relevant benchmark on an application, the third phase consisted in the comparison of averages with the data that existed previously, these data were reference to research carried out in similar or different, in the fourth stage we have focused on the analysis of the ICM (BMI), and using the linear regression model, was searching for a possible approximation of this index to a combination linear results of tests conducted, while the fifth and final phase involved the further structuring of all the comments by reiterating the analysis with respect to the individual.

### Objectives and Functions

A key component of most educational programs in kindergarten and primary is the development of motor skills. During this period the child's motor skills continue to evolve. An important aspect of monitoring engine is the early identification of children with challenges in physical activities and sports. They are so well constructed and standardized testing is required, which include basic motor skills. For the project, were selected Motorfit TGM test (Ulrick, 2002): Test for the kindergarten gross motor and primary school and secondary school Eurofit of first and second grade.

The first objective in the construction of TGM was to create a battery of tests that included the contents that are frequently taught to children ages 3 to 10 years. While testing Eurofit there is a tendency towards aspects that characterize the age between 11 and 18 years. The overall aim was to develop tests that could be used by a large number of professionals with a minimum amount of trying to build expertise capable of providing test results and regulatory criteriali. The key objective focused on the fact of giving priority to the qualitative assessment of the harmonic sequence of the development of gross motor skills rather than just the quantitative result of motor performance. The mastery of major gross motor skills requires that the child develops a mature pattern of movement and what is more important than the quantitative results expressed in terms of space and time. The gross motor development test is a test administration that quantifies the individual motor coordination, which assesses gross motor function of children aged between 3 and 10 years and compared the abilities of locomotion ability to control objects the basis for the further development not only motoric and Prestatie but also social and relational. The test measures in its original protocol 12 gross motor skills which are frequently the subject of teaching with preschoolers and early primary school classes. In the case of Motorfit, and following the notes we have received from teachers and from the statistics, we have reduced the evidence 6. The first three items are related to coordination and segmental ritmizzazione, but the other three items refer to the segmental and eye-hand coordination to the space-time.



Figure 1. Movement sample



Figure 2. Movement sample



Figure 3. Movement sample



Figure 4. Movement sample



Figure 5. Movement sample



Figure 6. Movement sample

According to the Guidelines for kindergarten and primary school, the sample was made up of pupils aged 3-10 years, attending the private schools in the region Campania. The factors taken into consideration for the research were: the geographical location of the school, sex, age, the state Motor Pool (Test), weight, height, shoe size, BMI or BMI (Body Mass Index).

The skills required are mainly based on the examiner's ability to observe and detect the presence of appropriate performance criteria for each skill assessed. For best results, those administering the test should initially be formed a mental picture of the optimal execution of a person with good motor skills, as depicted by the specific performance criteria listed for that date skills. It 'was in fact recommended to observe well the illustrations for each test (item) and practice with the specific components before conducting a formal evaluation. The examiner should familiarize yourself with the verbal instructions specific to each test and scoring procedures. To carry out the tests properly took account of certain standard conditions: the parties should carry out the test wearing sports clothes and shoes to perform the tests for locomotion, it is very important that the floor of the gym is not very slippery, the series of engine tests is organized in a specified way. You can, if necessary, change the order of administration, the subject is not allowed to run a warm-up exercise or test. This is because children could improve their performance. It is usually possible to stimulate and encourage the subject during the test by filling in an appropriate manner the appropriate registration form of the pupil and by preceding the test to assess an accurate demonstration of the item / test by a person skilled and a clear verbal request. It is also appropriate to provide further demonstrations when the student appears not to have understood the task by giving the item / evidence that will be assessed for the marking. The supporting material for this design also includes a paper ballot record of the pupil (or PC with excel file included), a colored tape or chalk, cones or cinesine No 4 sponge balls (the size of those courts), n. 4 sponge balls for volleyball, and a tennis racket (even plastic). Each item has provided the performance criteria (what to observe). Typically, these criteria represented a mature pattern of running ability. Compared to the times of administration assessment of a student took on average about 15 minutes. The time clearly can have significant variations depending on the age of the student, his level of competence and organization of the examiner. By the time they have undergone all the testing engines in one session they were administered according to the following order, leaving an appropriate time to recall the subject. In the first instance the survey anthropometric data for all orders of school in relation to height (STA) and weight (PES). Second Test Childhood and Primary School which is a first Test Saltelli forward on one foot (SAP1) in the second Test Gallop lateral (GL), in third Test Saltelli alternating forward on one foot (SAP2 ), fourth in Test Launch a ball with one hand (LP), a fifth test receive a thrown ball with his hands (RP) and a final test. Hitting a ball with a tennis racket (CP). Test Secondary School provides for the bending of the torso forward (FLE), the standing long jump (LUN), the elevation of the torso from supine (ADD), the suspension arms flexed (BRA), the shuttle sprint 10x5 m. (VEL), running 12 minutes of resistance (RES).

For each test set is shown below the necessary material, the objective of the test, directions for the teacher and the student, and the type of table but not limited to the evaluation of the test.

### Material and methods

Piaget (1896-1980) was among the first scholars of child psychology to highlight how large-motor development is a key factor in the general psychic development of the child. Williams (1983) defines large-motor development as "the use progressively more skillful of the entire body in an activity that involves large muscle groups and requires the coordination of spatial and temporal simultaneous movement of various body segments." The development is mainly large-motor skills that are used to move the body from place to place (locomotion) and to move and take items. Many scholars agree that the gross motor skills are developed sequentially (Gallahue, 1982, and Martinek Zaichkowsky, 1980). It is generally accepted that people progress through the various stages engines with a different rhythm, which depends on both biological and environmental factors (Haubenstricker and Seefeldt, 1982). Haubenstricker and Seefeldt (1982) noted fact that when you have not yet mastered the appropriate levels performance with respect to gross motor skills and basic patterns, people encounter obstacles that can reduce their potential for learning in many other more advanced skills in areas other than motor or sports.

The mastery of movement has a positive effect not only on cognitive skills, for more opportunities to steal information from the environment and to experience, but also a deeper psychological level, beginning with the construction of body image to self-esteem and security of person. Psychomotor intervention is an important approach is to encourage the growth is normal in rehabilitation. It is essential to the possibility of reaching an objective situation of motor skills that this test allows you to perform with remarkable precision (Gallahue D. L, Ozmun JC 1997). It 'should at this point to dwell mainly on the description of the test set for kindergarten and primary school which is a primo Test: Saltelli forward on one foot (SAP1). The test involves the tracking of two lines (start and finish) at a distance of 10 meters apart and perpendicular joining the start and finish with colored tape, chalk or use existing lines. The goal will be the action that takes place in the act of hopping on one foot forward along a line in the following four ways. The indications for the teacher are: a. Look closely at the four executions, b. ask the pupil to the side when you look at the first 3 items; c arise behind the pupil when looking at the fourth. The instructions for the student instead are: a. to go from standing before the starting line up in support (one or two feet), b. the journey of trying to go straight. The items are 4 and consist of the 'first use. a foot freely chosen by the student, 2. use the other foot, 3. freely chosen to use his foot earlier, 4. use the other foot.

With regard to the criteria of performance do not need to flex his leg jumping (please record your favorite foot), whether it can hop with the other foot, if you can jump to any slender arms bounce, and finally if you are able to hop while maintaining the straight direction. The survey form should mark a "1" in the column on the registration form, when the student performs the item correctly. Mark "0" otherwise. Clearly the observation criteria must not be communicated to the pupil before the test. The second Test: Gallop lateral (GL) plans to draw two lines (start and finish) at a distance of 10 meters apart and perpendicular joining the start and finish with colored tape, or use chalk lines already exist. The specific objective is to be able to gallop. With regard to the information for the teacher is expected to: a. Look closely at the four executions, b. ask the pupil to the side, perpendicular to the direction of travel, when you look at the first three items, asking the pupil to the side when you look at the fourth. The student is taught the following instructions: a. Starting from standing before the starting line, facing the teacher, b. travel the distance trying to go straight. The items are always four: 1. freely chosen to follow the direction (left or right), 2. go to the other direction, 3. go back to the direction previously chosen freely, 4. go to the other direction. The performance criteria are related to the degree of capacity in the gallop in a brief moment when both feet not touching the ground (flight phase). It also takes into account the ability to gallop toward the other direction, so in the gallop in the direction of freely chosen by throwing her arms with each bounce and gallop in a straight direction. Third Test: Saltelli alternating forward on one foot (SAP2) It grows in tracing two lines at a distance of 10 meters from each other with colored tape, plaster or other objects in the sand. The objective is to assess the capacity in hopping on alternating foot top, on down to the finish line. The indications for the teacher in this juncture are: a. stance in front of the pupil, and perpendicular to the direction of travel, when you look at the first 3 items, ask yourself behind the pupil when looking at the fourth, b. pupil recalled the sequence of hops (two to three times over six feet, two to three times on the right foot). The instructions to give the student are: a. Starting from standing before the starting line up in support (one or two feet), b. travel the distance trying to go straight and the foot switch as explained hops on which to do. The four items are: 1. must bounce twice on one foot and then twice on the other, 2. three times on one foot and then three times on the other, 3. twice on one foot and then twice on the other, 4. three times on one foot and then three times on the other. The performance criteria are established: Perform the required sequence of two alternating jumps, perform the required sequence of three jumps Or, run the required sequence of alternating jumps and keep a straight direction, performs the required sequence of alternating hopping height and amplitude of the regular hops. The board must score a "1" in the registration form, when the student performs the item correctly and mark "0" otherwise.

The fourth test: Throwing a ball with one hand (LP) provides materials such as a tennis ball and a wall. Consequently is to draw a line 10 meters away from the wall with colored tape, plaster or other objects in the sand. The goal is to throw the ball against the wall. The indications for the teacher have to stand next to a pupil for the records and to give the signal to every launch. The instructions to give the student are: a. Starting from standing before the scored line, one foot forward and one back, b. the signal strength of the teacher to throw with the ball against the wall. The board must score a "1" in the column on the registration form, when the student performs the item correctly and mark "0" otherwise. The four items are: 1 run the ball against parete.2. to re-run the ball against parete.3. throw the ball once again against the wall, 4. launch a last time the ball against the wall. The performance criteria are focused on being able to hit the wall, take the correct initial position: opposite foot to throwing hand held out. During the launch of the hand is above shoulder height and gives a trajectory to the ball. The five Test: Receive a pitched ball with his hands (RP). The material used consists of a plastic ball. Two lines are 5 meters from each other with colored tape or other material cut-off. The priority is related to taking the ball on the fly.

The indications for the teacher are as follows: a. The student is at a line and who, throws the ball, gets behind the other line, b.si pupil throws the ball from the bottom, making them describe a slight bow, c.si only takes account of the launches arriving in the area between the shoulders and hips. Instructions to be given to the student to meet the need of a. remain behind the line marked in the upright position, ready to receive the ball, b. to try to catch the ball without letting it fall to the ground. The board will mark a '1 'in the column on the registration form, when the student performs the item correctly and is marked "0" otherwise. There are four items that take 4 times the ball on the fly. The performance criteria consist of assuming a position of waiting: the views that are not passive but is ready to receive (note if it receives the ball). The arms stretch forward to catch the ball (note if it gets the ball ). The ball is taken only with the use of hands (note if he receives the ball). And they have been received 4 out of 4 balls without dropping them. The Sixth Test: Hitting the ball with a tennis racket (CP). The material used consists of a sponge ball and a tennis racket. You draw two lines to 5 meters from each other with colored tape or other material cut-off.'S goal is to hit the ball.

The indications for the teacher are: a. throw the ball to the pupil from the bottom up, making him bounce in front, b. take account only of the launches come in the space between the knees and shoulders. The instructions to give the student are: a. remain behind the line marked in the upright position, ready to receive the ball, b. hit the ball with the racket that you run the master after it has bounced back to earth. On the board represents a '1 'in the column on the registration form, when the student performs the item correctly and mark "0" otherwise. The items are held four and running for 4 times the action of hitting the ball with the racket. The performance criteria are conditioned to the fact of taking a position of waiting: it is not passive but is ready to blow. When you hit the ball is held on the foot opposite the hand holding the racket.

### Results

The study seeks to advance the practice of daily physical activity as a subject. In fact the data show that the importance of correct psychomotor development in preschool and school age is a sound basis for learning of cognitive and behavioral strategies (Le Boulch J.2009). Only the child who has a sound understanding of the bodily self, emotions, as well as information from outside, have the necessary means to experience an authentic learning. The perceptual abilities, motor coordination and control of their emotions are part of what is classically defined process and psychomotor development are essential prerequisites for psychosocial development. Today the practice of "psychomotor" aims at a harmonious and full of personality.

### Conclusions

This project is oriented to the achievement of certain objectives that complement those with perceptual motor skills, as most of actions that we perform daily needs this kind of feedback (M.1995 Deutsch). It is also based on a good capacity for coordination of multiple movements, taken simultaneously from different parts of the body, according to the criteria to evaluate the accuracy of timing, the right timeline.The dynamic pattern of movement, and coordination of the various parts of the body is made particularly urge the body expressions through the acquisition of an appropriate facial expression and posture experiencing the pleasure of playing at various levels of complexity and at the same time putting into relational dynamics of the game.

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## EFIKASNOST PROJEKTA MOTORFIT: EDUKACIJSKE AKCIJE KROZ TJELESNU AKTIVNOST U ŠKOLI

### Sažetak

Implementacija projekta cilja na poboljšanje mentalnih i psihičkih dimenzija Motorfit polaznika i cilja na procjenu stupnja mototike učenika koji pohađaju obaveznu nastavu. Ovo istraživanje koordinirano od prof. Luke provedeno je u IRRE u Lombardiji (Regionalni institute za edukacijska istraživanja) i operacionalizirano je prije svega u Lombardiji, uključujući više stotina škola na svim razinama edukacije. U tekućoj školskoj godini projekt je praćen u regiji Campania gdje, nažalost, statistička anketa pokazuje da ta regija ima u postotku najveći broj pretilih i gojaznih, što je alarmantno jer se procjenjuje da je 1 od 4 djece prekomjerne težine dok je nacionalni prosjek 21 %. To je okvir koji pokazuje koliko je dobro i adekvatno intervenirati tamo gdje prekomjerna težina prelazi značajne razine, a činjenica je da je esencijalno ako se uzme u obzir rizik kojemu su ove osobe izložene, tj. nalaze se svega na korak od kardiovaskularnih bolesti, dijabetesa. Loš stil života i neuredna ishrana također imaju snažan ekonomski utjecaj na troškove javnog zdravlja – više od 30 milijardi € (eura) se potroši na posljedice ovih bolesti. Dakle, bez prodorne akcije, u slijedećih 10 godina bit će oko 280.000 novih gojaznih odraslih, slabljenje javnog zdravlja uz brojne dodatne troškove. Samo da se riješi i premosti ovaj jaz, prof. Rose objavila je i publicirala uputstvo za evaluaciju kretanja onemogućenih osoba koje su još pokretne na Akademiji za Tjelesni Odgoj "Jozef Pilsudski" u Waršawi: "Eurofit Special: test of physical fitness for people with mental retardation". S ciljem razvoja i zamaha ovog protokola u našoj zemlji, Nacionalna Agencija za Razvoj Edukacije – na prostoru jezgre Lombardije, uz suradnju s ostalim javnim i privatnim institucijama, promovirala je projekt kroz probne akcije ciljane na edukaciju istraživačke institucije u okviru svoje jurisdikcije. Od tada, ekipa sastavljena od profesora Perrotta, Corona i Cozzarelli vode ovaj eksperimentalni projekt uključujući djecu osnovne škola u pokrajini Napoli i Benvenuto u Italiji.

**Ključne riječi:** psihomotorna edukacija, hipokinezija, koordinacija, integracija, motoričke vještine

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