

Proceeding

Supplementary Issue: Summer Conferences of Sports Science. Costa Blanca Sports Science Events, 20-21 September 2019. Alicante, Spain.

Support children's training through experimental pedagogical proposals of motor and sports education

ANTONIO ASCIONE, GIUSEPPE MADONNA, DAVIDE DI PALMA 

Parthenope University, Naples, Italy

ABSTRACT

Motor and sports education supports a fundamental element in the educational growth of each child, and guarantees the acquisition of motor and pedagogical-relational skills, essential for an effective social integration of children in the surrounding environment. Therefore, school should be the main place where these skills are learned, especially at primary level; in this regard, this research contribution aims at evaluating the progresses of a sample class, which is given an experimental motor and sports design in order to obtain a pedagogical progress. The pursued outcomes are proposed both as a starting point for future scientific research in the educational field, and as a valid support for requesting pedagogical proposals from the decision makers of the education and training system. **Keywords:** Children's formation; Motor and sports education; Experimental pedagogy; School.

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 **Corresponding author.** Parthenope University, Naples, Italy.

E-mail: davide.dipalma@uniparthenope.it

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INTRODUCTION

In today's world motor education is fundamental, and it is necessary to act from a very early age in order to educate to active movement; at the same time, it needs to prevent bodily non-education, which is conditioned by situations of sedentary lifestyle. Motor activity makes us concentrated, poised, happy and organized in our life, and is particularly important for it improves children's physical fitness, makes them disciplined and active, helps them learn teamwork and also tests their decision-making skills. Motor education is key during childhood, it is the moment in which the correct development and growth is most influenced. It makes it easier for us to approach all the necessary knowledge about our body, including its biochemical, physiological and musculoskeletal features; learning about our body allows us living with greater awareness of ourselves. Sport and motor activity in general help understand the values of life, and support children in developing a comprehensive training, both from a psycho-physical and a socio-pedagogical point of view (Ascione, Di Palma & Napolitano, 2018; Callea et al, 2008; Di Palma, Ascione & Napolitano, 2018). They also improve children's interpersonal skills through the development of those crucial ones for working and relating with others. The importance of motor education is reiterated and recognized also at ministerial level, in the 2012 National Guidelines, which see this subject as a "linking" discipline between different fields, like the scientific (knowledge of one's own body and its functioning, physics of movement, correct lifestyles, etc.), educational, communicative and expressive ones, and those related to relationships and citizenship. In particular, it is reiterated that:

“Motor and sports activities provide students with opportunities to reflect on the changes in their bodies, to accept them and live them peacefully as an expression of one's own growth and maturation process; they also grant opportunities to reflect on the values that self-image takes on when confronted with peer groups. Therefore, motor education is an opportunity to promote cognitive, social, cultural and affective experiences. Through movement, with which a very wide range of gestures is performed, ranging from facial expressions to dance and the most varied sports performances, students will be able to get to know their own bodies, explore space, communicate and relate with others in an appropriate and effective way. Achieving motor skills and having the opportunity to experience the success of one's own actions are a source of gratification, which encouraging student's self-esteem and the progressive widening of his experience and enriching it with ever new stimuli. (...) Sports activity promotes the value of respecting agreed and shared rules, and the ethical values that underpin civil coexistence. Teachers are committed to conveying and making children live the principles of a sports culture that carries respect for themselves and their opponents, in addition to loyalty, sense of belonging and responsibility, aggression control and denial of any form of violence.

Particularly in pre-school, the body has expressive and communicative potentialities, realized in a language characterized by its own structure and by rules that the child learns to acquire by means of specific learning paths: motor experiences allow integrating different languages, alternating words and gestures, producing and enjoying music, accompanying narrations, favouring the construction of one's own self-image and the elaboration of one's own body scheme. Informal, routine and daily life activities, outdoor life and games are just as important as the use of small tools and instruments, free or guided movement in dedicated spaces and psychomotor games and can provide an opportunity for health education by raising awareness of proper nutrition and personal hygiene. Pre-school aims at gradually developing the child's ability to read and interpret messages coming from his own body and those of others, respecting and taking care of them.

The aim is also to develop the ability to express oneself and communicate through one's own body, in order to refine one's own perceptive and objects knowledge skills, the ability to orient oneself in space, move and communicate according to one's own imagination and creativity. As enshrined in the European Sports Charter

and Code of Sports Ethics, motor education should be a preferential channel through which the individual can succeed, enhance his/her value; in addition, it should allow those with special needs succeeding through more sensitive, attentive and methodologically rich didactics. The realization of inclusion and integration in motor education is achieved by seeking the "point of contact" (Allport, 1954; Sherrill, 1986) in the didactic practice: by defining the potentialities of the disabled subject through the systematic observation tools (check-list, qualitative tests, self-evaluation), in order to identify motor, cognitive, relational and affective-emotional skills; by setting out precise programming and planning of the classroom activities with specific references to contents, times, places, tools, methods, strategies, and success levels from the simplest to the most complex one. Being able to identify the correct adaptation will allow realizing motor education activities that are truly inclusive, i.e. characterized by the participation of the whole class in the same space and at the same time; it will therefore be possible to obtain quality learning for all, taking into account that diversity can become a factor of cohesion and enrichment. Motor and sports education, in this way, rather encourages the enhancement of abilities and does not care too much about limitations; it pays attention to the improvement process rather than to the outcome, and considers the importance of interrelationship as an inclusive and growth factor (Morgan & Hansen, 2008; Napolitano, Ascione & Di Palma, 2018).

Motor activities proposed at school can represent great opportunities for children's growth, rich in potentialities and with strongly involving nature. For example, just think about the possibility of acquiring a wide and diversified range of motor skills, about the aspects related to well-being and health promotion and the relational opportunities, the intense communicative exchange, and the playful dimension; even more, just think about the experiential aspect, and the great possibility of multi and interdisciplinary connections (Di Palma, Rosa & Ascione, 2019; Herrmann, Gerlach & Seelig, 2015; McKenzie et al 2010).

In this regard, in the field of motor and sports sciences at pre-school level, an experimental pedagogical design was proposed to evaluate children's educational progress.

THE CONTEXT OF THE EXPERIMENTAL DESIGN

Organization and composition of the class

The class involved in the project was a pre-school section. It was made up of 18 children, all aged 5/6 years, 10 of which were boys and 8 girls, among whom there was a disabled child with slight autism spectrum disorder. The children were well integrated, would play peacefully and listen to the instructions of their 3 teachers, and seemed well prepared for the new activities proposed because of their strong curiosity. We chose this section particularly because we were impressed by the variety of approaches and behaviours manifested by the different children, useful to highlight the way motor activity can bring cognitive and motor improvements to the whole class group. From our observation, carried out during and prior to the development of the project, it emerged that the child with autism spectrum disorder showed social interaction impairment and verbal and non-verbal communication deficits, causing poor interests and repetitive behaviours, being it a highly variable disorder of the neurological development. It initially springs during childhood and generally follows a constant path without complete remission. He never developed a strong social motivation never finds pleasure in sharing positive emotions or getting praise from others but has an extraordinary musical sensitivity and an exceptional audio-visual memory. This child, having a slight form of autism, would express anxiety especially through symptoms, such as the ability to pay attention, hyperactivity and remarkable responsiveness even to small frustrations. In these forms, when the child wanted to make friends with his peers, anxiety and inner excitement would seriously affect his relational skills; so in the relationship with peers, the child would not have the serenity needed to listen to the other, by accepting his/her needs and desires, thus being often rejected and despised. When the child wanted to deal with

particular situations, objects and tactile, visual or auditory stimuli, or when he had to face the slightest changes in the world around him, some fears would occur dramatically, with screams and messy attitudes. We also noticed that, in order to reduce sadness, he sometimes made use of nervous laughter, since, by laughing, sadness and anxiety decrease; at the same time, not only this gesture was not offensive and did no harm to anyone, but it was frequently accepted by others, since it was mistaken for a manifestation of joy. Another way to reduce anxiety and inner discomfort was to implement repetitive behaviours, such as stereotypes. We managed to get in touch with him by contrasting and decreasing the impact that negative emotions would have on his soul, by improving his inner world and alleviating the discomfort that would upset him. Before we started, we thought about setting up an inclusive and favourable environment for the serene involvement of the entire class group; in particular, it was important that their everyday environment was as serene, joyful, warm and welcoming as possible. For these reasons we replaced the often noisy and restless classroom environment, for a certain period, with another very quiet and peaceful one, but full of toys and various materials, until these children acquired full inner serenity and good confidence in others. We also chose, in the course of the process, the intermediate objectives to be achieved, and therefore the interventions to be implemented in a diachronic perspective; the coordination of the various interventions identified for the achievement of the objectives in a synchronic perspective, at each development stage; the assessment of the strategies implemented during each intervention.

EXPERIMENTAL MOTOR ACTIVITIES PROGRAM

The project we carried out involved the children for a total of 20 hours, distributed over 13 lessons of 1 or 2 consecutive hours each, in which we tried to allow for the development and inclusion of the entire class group. To implement all this it was necessary to consider the autistic child not as someone to be educated, but as someone to free from the many confused emotions that would upset his soul; it was important not to focus attention on the symptoms, since these are only instruments of defence which the child forgets once found the necessary calmness and good inner balance. It was also essential to listen to his soul, in order for our behaviour to be in tune with the child's most real and profound needs, and not with our contingent desires. We gave start to the habit of playing in an organized and protected space, and we invested time and effort to build a new alliance between us adults and the child, by paying particular attention to him through play. All this because, by using these energies correctly, the stress for the child would decrease and, over time, the social relationship with the child would improve, also because the games, the materials and the ways of proposing and putting them into practice were precisely aimed at teaching the first skills of social interaction. Before starting the activities, it was necessary to carefully observe the behaviour of the class group, and in particular the child's behaviour in spontaneous situations with his parents, and in structured situations with an experienced operator. So we started by introducing the games to the student, paying attention to his behaviour when he was communicated it, by verifying if the presented material would stimulate his interest and if he would have been able to carry out the necessary actions to perform the activities; on this basis, we were able to start our activities which, in support of the specialists, were aimed at trying to:

- Increase language learning level;
- Make the most of the time available for learning children's language;
- Minimize secondary behavioural consequences of inadequate communication skills;
- Anticipate potential subsequent difficulties by acquiring written language.

In particular, we were interested in trying to make the child with this critical issue achieve the following objectives:

- Alternating one's own gaze between the thing one is looking at and the other person;
- Following the other person's instructions with one's own gaze;

- checking where the other one is looking at, and looking in the same direction;
- pointing one's own finger to show and ask what something is;
- taking something to the other person in order to show it to him/her.

The field activities were carried out by taking into account certain rules, drawn up thanks to the observation made when choosing the games and their introduction, like: "I'm not sure if I'll be able to do that":

- Introducing materials already known to the child and objects for which he had already showed interest;
- Creating occasions in which the child could discover this material by himself, and experiment with its characteristics in his own way;
- Alternating new proposals between activities or materials in the repertoire of things he had recognized and loved;
- Trying to introduce new objects that hold stimulations similar to the elements he had accepted, such as the same colour, noise, movement, and vibe.

Our activities also set out the following objectives with respect to the motor-practical area, involving the activities to develop and consolidate the basic motor schemes and to enhance the complex motor skills, in order to make the students become aware of their own bodies and spatial relationships:

- Orienting oneself in space through spatial concepts;
- Performing complex movements within paths;
- Imitating body movements to acquire greater awareness of one 'sown body';
- Carrying out individual sports activities;
- Performing team sports activities.

In particular, throughout our permanence, we were animated and driven by the conviction that sports and games could create a fantastic rainbow, which acts as a bridge between the individual's isolation and social sharing.

LESSON N.1.

TIMES	1 h
PLACES	classroom
SPACES	Room delimited by the circle we created
INSTRUMENTS	Soap bubbles
COGNITIVE ACTIVITY WITH SOAP BUBBLES	At first, we introduced ourselves and then, in order to make the children more familiar with us, we developed a practical exercise that could include and involve everyone. The practical exercise was structured in this way: It needed to be in front of the children, ask them to look at the bubbles, at our faces while making the bubbles, at the bubbles going up and then to the ground, until they exploded. It needed to wait for the children to observe us before making them again. The children were involved by asking them to touch the bubbles with the hands or with a foot. Subsequently they had to describe the characteristics of the bubbles: beautiful, large, small, of all colours. Everything had to be repeated for different consecutive minutes. Then it was possible to try to make the children blow, including the one affected by autism spectrum disorder.

OBJECTIVES	Bringing emotions up in the face of an amazing show; looking at something alone, looking at something together, exchanging looks, smiles, vocals. Allowing for getting to know each other, being in harmony with someone, acquiring confidence in us, being distant figures to them
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LESSON N. 2.

TIMES	1 h
PLACES	Classroom
SPACES	Room delimited by the circle we created
INSTRUMENTS	Balloons
COGNITIVE ACTIVITY WITH BALLOONS	The practical exercise was structured in this way: children were asked to look at a balloon while being inflated, and then let it go, looking at its trajectory while deflating and pointing it out with their finger. On completion of the game, they were asked to search for it and bring it back, and then, in turn, they had to repeat the actions we had carried out.
OBJECTIVES	Catching the child's attention: the sound of the balloon inflating, the sight of the balloon increasing in volume, covering the face of the person inflating it, the shape it took, the bright colour of the balloon, the noise and sudden movement of the balloon flying in the room while deflating, the ability to catch it easily. The fun could be shared by creating a joint emotion. Enabling knowledge and involvement prior to subsequent activities. Allowing for the inclusion of the whole class group thanks to activities within everyone's reach, which also took into account the differences in the class group.

LESSON N. 3.

TIMES	1 h
PLACES	School gym
SPACES	Gym delimited by circles
INSTRUMENTS	Circles
ACTIVITY: GAMES WITH CIRCLES	The practical exercise was structured in this way: Sitting next to the children with a series of coloured circles available, asking them to look at the circle that would be held in their hands and would be rolled on the floor. It was necessary to ask them to look together at the circle that was rolling, and where it would have stopped. The exercise was performed with all the available circles, for which it was necessary to describe their colour, their trajectory and the place where they would have stopped, urging the children to retrieve and give them back. The game was repeated by introducing the turn, and gradually, it got played by all the children who threw the circles at the same time. Finally, we left the circles on the ground and, at our start and in turn, they ran up to the randomly placed circles, in which they had to jump by inventing their own path.
OBJECTIVES	Attracting children's attention, exchanging turns and inducing imitation. Developing sensory-motor and coordination skills Enabling the inclusion and participation of all without any discrimination. Developing creativity Developing gross-motor skills Developing attention, activation or inhibition of movement in relation to stimuli.

	Assimilating various methods for implementing basic motor patterns and designing a path.
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LESSON N. 4.

TIMES	1 h
PLACES	Gym
SPACES	Gym delimited by our bodies
INSTRUMENTS	Balls and one's own body use
ACTIVITY: BALL GAMES	The practical exercise was structured in this way: It needed different balls of different sizes, colours and materials. While seated on the floor in front of the children, with their legs outstretched and spread out, it needed to take a ball with brightly coloured drawings after making it spin on itself, and ask the children look at it alone, to look at it together, point to it and then stop it with a finger. Then they had to perform the actions they were asked for. Finally, they had to arrange themselves in pairs and one of the two had to stand up with legs spread and arms arranged in the shape of a basket, so that the other child of the couple could throw the ball by trying to shoot in the arms of his mate.
OBJECTIVES	Developing coordination, motor and visual skills Developing gross motor skills Enabling participation Approaching voluntary movements Developing collaboration and working in pairs Attracting children's attention, introducing a turn exchange, and encouraging imitation and emotional sharing.

LESSON N. 5.

TIMES	1h
PLACES	Gym
SPACES	Sandbox in the gym
INSTRUMENTS	Sandbox, marbles
ACTIVITY: GAMES WITH MARBLES	The practical exercise was structured in this way: it needed to sit on a carpet in front of the children, with their legs spread to create an enclosed space, so that the marbles could not be spread all over the room. From time to time, it needed to take the coloured marbles out of a bag (made of different sizes and materials) and show them to the children by throwing them one of them and making it roll. The game ended when there were no more marbles in the bag. Then we moved to the sandbox, where we created a special path with the sand to let the marbles slide; the children threw them in pairs, at the same time, to see which of the two "had got the win".
OBJECTIVES	The aim was: Look at something alone, looking at something together, making smiles, gestures, vocals, saying words and respecting turns. Developing healthy competition Developing pair work and collaboration Enabling Inclusion Developing simple motor skills and abilities, such as throwing something

LESSON N. 6.

TIMES	1 h
PLACES	Gym
SPACES	Gym delimited by the instruments used
INSTRUMENTS	Chest, soft mat
ACTIVITY: MOVEMENT GAMES	It needed to get the child onto a chest, a table, a bed, etc., by placing a soft mat on the floor. Then it needed to encourage him to jump, by calling him by his name and waiting for him with open arms if he had showed stability problems when touching the ground. If he had showed difficulty in jumping up and down, it needed to sit down and offer him support to cope with the boost. Then he stood up first supported by our hands, then completely alone. All the children, in turn, repeated the game
OBJECTIVES	Developing inclusion Educating to respect one's own turn Developing sense-motor sense and gross-motor skills Developing coordination The aim was the activation and emotional harmonization, the joint emotion, the synchronization of tactile and auditory/visual sensations.

LESSON N. 7.

TIMES	2 h
PLACES	Gym
SPACES	Gym delimited by the path of boxes
INSTRUMENTS	Boxes
ACTIVITY: MOVEMENT GAMES	It needed to place bottomless boxes in a row, in order to build a tunnel, and go in and out of them on the opposite side. Children were asked to do the same, waiting for them at the end of the tunnel. If they would enter willingly, they could chase and play hide and seek; if they showed problems, we had to be satisfied that they had tried to look into the tunnel.
OBJECTIVES	Educating to respect the turn Developing the curiosity to walk unknown paths Developing coordination Developing gross-motor skills by crawling inside the boxes The aim was the activation and emotional harmonization, the joint emotion, the synchronization of tactile, auditory and visual sensations. Experiencing one's own skills by carrying out basic motor schemes. Promoting knowledge of oneself and one's own potentialities, in relation to environment, others and objects. Getting to know and making the most of one's own motor identity. Understanding one's own abilities and developing confidence in acting, thus moving to the next level of difficulty. Learning to exercise one's own skills by applying new implementation procedures.

LESSON N. 8.

TIMES	2 h
PLACES	Gym
SPACES	Gym delimited by the path
INSTRUMENTS	Use of one's own body, chairs
ACTIVITY: MOVEMENT GAMES Playing hopscotch	Psychomotor paths had to be carried out by the child suffering from autism, who was part of a small group. By placing chairs at the beginning for as many participants as possible, everyone was invited to sit down. In turn, and in a well-established order, the children were called one at a time to undertake the path, while all the others remained seated. The path was made of coloured and different materials such as pins, ropes, plastic circles and adhesive tapes. To facilitate the autistic child, it needed to verbally highlight the actions to be performed, and, where possible, show it with images, like in the hopscotch game. Squares were drawn on the ground; inside them there were drawings of footprints (or of the single foot or both) depending on whether the jump had to be performed with the feet held together or with flamingo-like feet, alternating the left and right one.
OBJECTIVES	<p>Developing balance skills</p> <p>Developing gross-motor skills</p> <p>Respecting the turn</p> <p>Developing body awareness - for improving posture and control</p> <p>Developing lateral movement - awareness of the left and right sides of the body</p> <p>Developing muscle coordination</p> <p>Developing spatial orientation - awareness of the position of one's own body in space and in relation to other objects or people</p> <p>Allowing for the inclusion and participation of the class group</p>

LESSON N. 9.

TIMES	2 h
PLACES	Gym
SPACES	Gym delimited by our body
INSTRUMENTS	Our body
ACTIVITY: IMITATING ANIMALS	Children were asked to talk about and indicate, in turn, their favourite animal, and to imitate all together its movement, e.g. a snake slithering. Then we divided the children into pairs and asked them to choose an animal of which they had to imitate the verse. We covered their eyes and placed them all around the gym, so that they had to find themselves by imitating the sound of the animal previously chosen.
OBJECTIVES	<p>Being prepared to listen to others</p> <p>Refining lateral movement, spatial coordination and body awareness.</p> <p>Educating to the use of body language as a communicative-expressive modality</p> <p>Expressing and educating through the body</p> <p>Moving in space with confidence</p> <p>Coordinating the movement of the body in space</p> <p>Enabling Inclusion</p> <p>Becoming self-aware in movement</p>

LESSON N. 10.

TIMES	2 h
PLACES	Gym
SPACES	Gym delimited by our body
INSTRUMENTS	Stereo for the music
ATTIVITY: GAME WITH MUSIC	<ul style="list-style-type: none"> - The game started when the music started: all players could dance freely - When the music would stop, players had to stand still, like statues. Anyone who would move was out of the match. - The game ended when only a small part of the initial players remained on the field.
OBJECTIVES	Promoting learning and brain development Developing sensory and motor skills Developing musical intelligence Developing gross-motor skills Improving control and awareness of one's own body Being ready to listen to others and develop attention Developing socialization Enabling inclusion Controlling emotions by reducing anxiety Developing creativity Establishing relationships based on empathy and emotional communication

LESSON N. 11.

TIMES	2 h
PLACES	Gym
SPACES	Gym delimited by our body
INSTRUMENTS	Newspaper sheets, stereos for the music
ACTIVITY	<ul style="list-style-type: none"> - Before starting, couples of dancers were formed; each couple was given a sheet of paper. - The game started when the music began: each couple of dancers had to dance freely, holding the newspaper sheet in their hands. - When the music would stop, all the couples had to put the sheet of paper on the floor, fold it in half and keep their feet on it. - When the music would start back, the dancers had to pick up the folded newspaper and return to the dance floor. - Whenever the music would stop, the newspaper had to be folded in half, becoming smaller and smaller - If a couple of dancers would lose balance and fall from the newspaper (or would place a foot out of it), whenever the music would stop, it was out of the game
OBJECTIVES	Promoting learning and brain development Developing sensory and motor skills Developing musical intelligence Developing gross-motor skills Developing control and awareness of one's own body Being prepared to listen to others and developing attention

	Developing socialization Enabling Inclusion Controlling emotions by reducing anxiety Developing creativity Establishing relationships based on empathy and emotional communication Developing sense of balance and coordination
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LESSON N. 12.

TIMES	2 h
PLACES	Gym
SPACES	Gym delimited by our body
INSTRUMENTS	Our body
ACTIVITY	<ul style="list-style-type: none"> • - Before starting, it needed to choose a child who played the role of the inspector; he had to leave the room or the group, so as not to see his mates and hear what they were told. • - The animator let the other children sit down in a circle, and then chose one of them who played the role of the orchestra director, making sure that everyone would see him. • - At his start, the conductor began to make a sound with his body (by clapping his hands, stepping on his feet, snapping his fingers or tongue, clapping his hands on his thighs); all the other children, when seeing him, had to repeat the same movement and sound. • - After a few repetitions, the conductor had to change the sound; the other children had to imitate the conductor once again. • - The inspector had to be able to find out who the conductor was, among all the children sitting in a circle
OBJECTIVES	Promoting learning and brain development Developing musical intelligence Developing gross-motor skills Developing control and awareness of one's own body Being prepared to listen to others and developing attention Developing socialization Enabling inclusion Controlling emotions by reducing anxiety Developing creativity Establishing relationships based on empathy and emotional communication

LESSON N. 13.

TIMES	2 h
PLACES	gym
SPACES	Gym delimited by our body
INSTRUMENTS	Voice
ACTIVITY: TIC-TAC-TOE and FINAL GREETING	To carry out this activity, we first had to explain to the children that the words TIC TAC and TOE corresponded to specific movements that they had to perform as soon as they would have heard the spoken word. For example, Tic corresponded to the

	clapping of their hands, Toc to the clapping of their feet, and Toe to the clapping of their hands on their chest. At the end of this activity we greeted us by performing a relaxation activity, such as breathing in time.
OBJECTIVES	Respecting the rules Developing memory Educating to listen to others and pay attention Educating to body percussion Developing musical intelligence Developing the sense of rhythm Performing a task Enabling participation and inclusion Becoming aware of one's own body and being able to control it.

EVALUATION: CRITERIA AND OUTCOMES

Mark → Measurement (In Relation to Cognitive Objectives)

10→ Extensive and exhaustive knowledge. Full mastery of the skills and instruments in the various disciplines.

9→ Remarkable ability to rework and reflect personally.

8→ Detailed knowledge, clarity, and full ability to rework and organize links between different types of knowledge.

7→ In-depth knowledge, appropriate use of various languages, confident speaking skills.

6→ Essential knowledge of the basic elements of each discipline, partial mastery of basic skills and instruments, simple speaking skills.

5→ Poor knowledge and improper speaking, poor ability to recognize and solve essential problems

For evaluating a child's "behaviour", the indicators established were:

- Interest, motivation and participation in the educational dialogue;
- Collaboration with peers and adults (teachers and other figures involved);
- Respect for people, school environment and rules.

JUDGMENT	CRITERIA FOR ASSESSING BEHAVIOUR
EXCELLENT	The student showed: respect for the rules in all situations, with a sense of responsibility and awareness; punctual and serious school tasks delivery; interest and proactive participation in school lessons and activities; proactive role within the class and excellent socialization.
VERY GOOD	The student showed: generally, respect for the rules, being always willing to change his behaviour in a positive way; constant school tasks delivery; interest and proactive participation in school activities; positive and collaborative role within the class group.
GOOD	The student showed: Respect for the rules in many situations, even if he sometimes needed reprimands;

	Good awareness of his duty, adequate interest, regular delivery of assigned tasks, active participation, correctness in interpersonal relationships.
SUFFICIENT	The student showed: that he needed solicitations and reprimands to respect the rules in the various situations; enough awareness of his duty; selective interest occasional performance of assigned tasks; discontinuous participation in the didactic activity sufficiently cooperative relationships with others.

Evaluation indicators:

- Motor objectives;
- Pedagogical objectives;
- Behaviour.

MOTOR OBJECTIVES	SKILLS	MARK
Educating to body percussion	Producing sounds with different timber and tone qualities by using body, like: clapping hands; clapping feet; snapping fingers; rubbing hands together or on thighs; clapping hands on chest, legs or different parts of the body; snapping tongue on palate; hitting cheeks while keeping mouth open	M1-M4-F11-F13-F15-F17: 10 M2-M3-M5-M6-F12: 9 M7-M8: 8 M9-M10: 7 F14-F16: 6 F18: 5
Becoming aware of one's own body and being able to control it	Exercising <i>concentration</i> , in the sense of 'going straight to the heart of a situation'; it is linked to <i>interest</i> , which means 'being in a situation', and to <i>attention</i> , intended as 'increasing tension towards an object'.	F14-F16-F18: 9 M7,M8,F12,M1,M5: 8 M2, M3, F11, F13,M4,M6,M9,M10: 7 F15,F17: 6
Developing gross-motor skills	Using the great muscles of the body limbs, including walking, running, and dancing	M1,M2,M3,M4,M5,M6,M7, M8,M9,M10,F11,F12,F13, F14,F15,F16,F17,F18: 9
Developing sense of balance and coordination	Maintaining a certain body or limb position, both when the body is still, i.e. motionless, when it is moving (walking, running, etc.) and when it is not resting on the ground or on a tool.	F14,F12,M1,M3,M8: 10 M2,M4,M5,M10,F11: 9 M6,F17,M9: 8 F13,F15,F16,M7,F18: 7
Educating to the use of body language as a communicative-expressive modality	The body, through gestures, becomes a powerful means of communication, a type of non-verbal communication that uses gestures,	F11,F12,F15,F18,M1: 9 F13,F14,F16,M2,M3: 8 F17,M4,M5,M6,M7: 7 M8,M9,M10: 6

	expressions and movements of various kinds.	
Coordinating body movement in space	Ability of being aware of our relationship with the environment in the space around us (exteroceptive processes) and with ourselves (interoceptive processes). Allowing understanding the disposition of our environment, our relationship with it, and spatial perception; allowing understanding the relationship of objects when there is a change of position in space.	M1,F18,M3,F15,F17:8 M2,M4,F11,F12:7 M5,M6,M7,M8,F13:6 M9,M10,F14,F16:5
Developing lateral movement	Gaining awareness of the left and right sides of the body	F11,,F13,F15,F17,M1,M4,M6:7 F12,F14,F16,M2,M3,M7:6 F18,M5,M8,M9,M10:5
Approaching voluntary movements	Knowing how to decide to move an arm; for example: thinking of making a movement, programming it, conceiving it, and then making it.	M1,M2,F15:7 M3,M4,M5,M6,M7,F11,F12,F13, F14:6 M8,M9,M10,F16,F17,F18:5

PEDAGOGICAL OBJECTIVES	SKILLS	MARK
Respecting the rules	The student proved capable of respecting both the rules of common living, being part of a society, and those imposed by the game chose	M1-M3-M4-M8-F11-F12-F13-F16:10 M2-M5-M7-M10-F14-F15:9 M9-F17-F18:8 M6:5
Developing memory	The student proved capable of remembering passages and simple commands	M2-M5-M7-M10-F14-F15:10 M6-M9-F17-F18-M1-M3:8 M4-M8-F11-F12:7 F13-F16: 6
Educating to listen to others and pay attention	The student proved predisposed to accept other people's thoughts, and to concentrate on them for a long time.	M1-M3-M4-M8-F11-F12-F13-F16:10 M2-M5-M7-M10-F14-F15:9 M9-F17-F18:8 M6:5
Developing musical intelligence	The student proved he knew how to recognize different musical genres, rhythms and tones	M1-M4-F11-F13-F15-F17: 10 M2-M3-M5-M6-F12: 9 M7-M8: 8 M9-M10: 7 F14-F16: 6 F18:5
Performing a task	The student was able to understand and carry out what he was asked for	M1,F18,M3,F15,F17:9 M2,M4,F11,F12:8 M5,M6,M7,M8,F13:7

		M9,M10,F14,F16:6
Enabling participation and inclusion	The student proved active during the activities, and well predisposed to collaboration and inclusion	M2-M3-M5-F12-F1-F15-F16-F17-F18: 10 M1-M4-M7-M8-M9-F14:9 M6-M10-F11-F12-F13:8
Establishing relationships based on empathy and emotional communication	The student proved well predisposed to establish a relationship of support and closeness with his peers	M2-M3-M5-F12-F1-F15-F16-F17-F18: 10 M1-M4-M7-M8-M9-F14:9 M6-M10-F11-F12-F13:8
Promoting learning and brain development	The student proved he had acquired new skills that could be used in both everyday and school life	M2-M3-M5-F12-F1-F15:9 F16-F17-F18- M1-M4-M7:8 M8-M9-F14:7 M6 M10-F11-F12-F13:6
Controlling emotions by reducing anxiety	The student paid attention to his emotions, focused on and tried to manage them	F11,F12,F15,F18,M1:9 F13,F14,F16,M2,M3:8 F17,M4,M5,M6,M7:7 M8,M9,M10:6
Developing creativity	The student managed to sweep with fantasy coherently with what he was communicated	F14-F16-F18: 9 M7,M8,F12,M1,M5: 8 M2, M3, F11, F13,M4,M6,M9,M10:7 F15,F17: 6
Respecting the turn	The student respected and recognized the other, by respecting his turn both to speak and to play	M1-M3-M4-M8-F11-F12-F13-F16:10 M2-M5-M7-M10-F14-F15:9 M9-F17-F18:8 M6:5
Developing the curiosity to walk unknown paths	The student proved well prepared to face new situations and asks questions about them, showing great interest	F14-F16-F18: 9 M7,M8,F12,M1,M5: 8 M2, M3, F11, F13,M4,M6,M9,M10:7 F15,F17: 6

BEHAVIOR

EXCELLENT	VERY GOOD	GOOD	SUFFICIENT	INSUFFICIENT
M1-M4-M7-M9-M10-F12-F15-F17-F18	M3-M5-M8-F11-F13	M2-F16	F14	M6

DISCUSSIONS: BETWEEN CRITICAL ISSUES AND BENEFITS

Our motor education project allowed us to confirm some of the hypotheses from which we had started, but also to deny other ones; during the implementation of the activities we found difficulties that we had not previously foreseen, due in particular to the behaviour of the student M6 who needed continuous solicitations to draw his attention to the activity. The student showed occasional interest and discontinuous participation, so this inevitably slowed down all our work and the continuation of the class group, although the student

showed excellent motor skills as can be seen from their evaluation. We were very satisfied by the fact that all students had reached the goal of achieving gross-motor skills, because we could observe that all of them had well performed the activities involving the large body muscles, such as dancing, running and walking. Another positive point was the fact that almost all of them had sufficiently achieved the motor objectives we had set, even if some gaps were found in the voluntary movements, particularly where 6 students did not show a well-clear idea of the fact of thinking, programming and performing a movement. 4 students did not have a well-clear relationship between their own body and the environment surrounding them, in coordination and lateral movement. 5 students had not yet acquired awareness of the right and left sides of the body. As far as the motor objectives are concerned, we could be satisfied above all with the autistic child, who managed to be included, to open up to others because he felt in a protected environment, free of dangers, and this allowed him fully expressing himself; there he was helped by the excellent cooperation offered by his classmates, thus achieving sufficiency on all the proposed objectives. This was our greatest achievement, because we were able to break down those boundaries that the child had placed around him, allowing him to become aware of his abilities and his active role within the class group. The benefit we were able to experience for ourselves was the decrease in most of the child's aggressive behaviour towards his classmates, and also his consequent decreased state of anxiety. During the activities, the student showed an excellent predisposition for music, for the rhythm he performed during the body percussion. His talent could be instructive for other children too, and, of course, this helped increase and acquire self-confidence that led to greater inclusion within the class group. The difficulties we encountered, such as that of managing the class group, of appeasing small discussions and disputes, and of making respect the rules, were largely overcome by the benefits we brought: children achieved significant improvements both from the motor point of view, being them able to do things and perform movements that they thought they were not able to, and from the educational one, in terms of attention, listening, and respect for the turns; all fundamental aspects that could be used both in everyday life and in the preparation for teaching and learning any other discipline.

CONCLUSIONS

The implementation of this project was highly formative, since it allowed us observing first-hand how much the game realized through motor education can represent a growth for the person in general, and how this can also affect the regular course of human relationships, inclusion and socialization (Ascione, Di Palma & Rosa, 2019; Ericsson & Karlsson, 2014; Rosa, Ascione & Di Palma, 2019). Our path offered students the opportunity to follow a path for discovering and acquiring more specific knowledge about their own body and was structured into moments characterized by experiences of movement and re-elaboration that made them experiment and consolidate new and previously acquired knowledge. This represented a significant contribution for each of them, contributing to the construction and correct evolution of their self-image. The project was carried out during school hours, where particular importance was given to socialization, the ability to expose oneself to confrontation, collaboration and inclusion. Sports game was the means to educate children to legality, through the respect for the rules and others, and allowed for the right channelling of aggression. In particular, this project showed how to break down those barriers and make burst the bubble in which the autistic subject was enclosed, in order to reach out to him through game and sport and bring him closer to social activities. Through this path we could see how sport and game create a fantastic rainbow, acting as a bridge between the isolation of the individual and social sharing.

This work is proposed as a basis for future empirical evaluations on the improvement of the motor and socio-pedagogical skills analysed, in order to structure high-performance educational strategies to make the training of children more effective and efficient, such an important age as important as that of the sample analysed in this research.

AUTHORS' CONTRIBUTIONS

The manuscript is the result of a collective work of the authors, the specific contribution of which is to be referred to as follows: the Introduction is to be attributed to Giuseppe Madonna, Paragraphs: “Experimental Motor Activities Program” – “Conclusion” are to be attributed to Antonio Ascione, Paragraphs: “The Context of the Experimental Design” – “Evaluation: Criteria and Outcomes” – “Discussions: between critical issues and benefits” are to be attributed to Davide Di Palma.

REFERENCES

- Ascione, A., Di Palma, D., & Napolitano, S. Social Inclusion and Education Through Sport and Technology. *Sport Science* 11 (2018) 1: 52-56.
- Ascione, A., Di Palma, D., & Rosa, R. (2019). Innovative educational methodologies and corporeity factor. *Journal of Human Sport and Exercise*, 14(2proc), S159-S168. <https://doi.org/10.14198/jhse.2019.14.proc2.02>
- Callea, M. B., Spittle, M., O'Meara, J., & Casey, M. (2008). Primary school teacher perceived self-efficacy to teach fundamental motor skills. *Research in Education*, 79(1), 67-75. <https://doi.org/10.7227/rie.79.6>
- Di Palma, D., Ascione, A., & Napolitano, S. (2018). Education to school inclusion through sport. *Sport Science* 11 (2018) Suppl 1: 42-46.
- Di Palma, D., Rosa, R., & Ascione, A. (2019). Experimental pedagogy: New technologies. *Journal of Human Sport and Exercise*, 14(2proc), S149-S158. <https://doi.org/10.14198/jhse.2019.14.proc2.01>
- Ericsson, I., & Karlsson, M. K. (2014). Motor skills and school performance in children with daily physical education in school—a 9-year intervention study. *Scandinavian journal of medicine & science in sports*, 24(2), 273-278. <https://doi.org/10.1111/j.1600-0838.2012.01458.x>
- Herrmann, C., Gerlach, E., & Seelig, H. (2015). Development and validation of a test instrument for the assessment of basic motor competencies in primary school. *Measurement in Physical Education and Exercise Science*, 19(2), 80-90. <https://doi.org/10.1080/1091367x.2014.998821>
- McKenzie, T. L., Sallis, J. F., Prochaska, J. J., Conway, T. L., Marshall, S. J., & Rosengard, P. (2010). Evaluation of a two-year middle-school physical education intervention: M-SPAN. *People*, 25(8), 2-6. <https://doi.org/10.1249/01.mss.0000135792.20358.4d>
- Morgan, P. J., & Hansen, V. (2008). Physical education in primary schools: Classroom teachers' perceptions of benefits and outcomes. *Health Education Journal*, 67(3), 196-207. <https://doi.org/10.1177/0017896908094637>
- Napolitano, S., Ascione, A., & Di Palma, D. (2018). Pilot study in youth volleyball: Video analysis as a didactic tool. *Sport Science* 1, pp. 47-51.
- Rosa, R., Ascione, A., & Di Palma, D. (2019). Biodanza laboratory and experimental pedagogy. *Journal of Human Sport and Exercise*, 14(2proc), S169-S177. <https://doi.org/10.14198/jhse.2019.14.proc2.03>

