

L'azione educativa della corporeità in gioco

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Riassunto: Il gioco, in ambito scolastico, rappresentato dall'educazione motoria, con il progredire del tempo dimostra di essere un valido “mezzo didattico” nel processo educativo, in quanto capace di avere un forte impatto sullo sviluppo degli alunni (Colella, Ladogana, Monacis, 2024). Grazie al carattere interdisciplinare, ed alla capacità di essere elemento nello sviluppo del bambino, l'educazione motoria è una materia che attira l'attenzione di numerose discipline come la pedagogia, la psicologia, l'antropologia, ecc.

I risultati di questa ricerca empirica mettono in evidenza quanto l'educazione motoria, attraverso il gioco e l'interdisciplinarietà, influisce sullo sviluppo della motricità, della cooperazione, del rispetto degli altri, sul controllo delle emozioni e sulla capacità di esprimerle in modo socialmente accettabile.

Parole chiave: Gioco; Educazione Motoria; Interdisciplinarietà; Psicomotricità; Corpo.

Abstract: Play, in the school environment, represented by motor education, over time proves to be a valid "teaching tool" in the educational process, as it is capable of having a strong impact on the development of pupils (Colella, Ladogana, Monacis, 2024). Thanks to its interdisciplinary character, and the ability to be an element in the development of the child, physical education is a subject that attracts the attention of numerous disciplines such as pedagogy, psychology, anthropology, etc.

The results of this empirical research highlight how much motor education, through play and interdisciplinarity, affects the development of motor skills, cooperation, respect for others, control of emotions and the ability to express them in a socially acceptable way.

Keywords: Game; Physical Education; Interdisciplinarity; Psychomotor skills; Body

1. Game in the bodily and motor dimension (sensory-motor)

The importance of the quality (understood as playful, rewarding and motivating) of play in the development of the subject in developmental age plays a fundamental role (Colella, Ladogana, Monacis, 2024). Play is essential for the physical, cognitive, emotional and social development of children because it is able to concentrate the three main spheres of personality in a single unit: cognitive, emotional and social (Belli, 2024). Therefore, play becomes a powerful vehicle for exploring the world, developing fundamental motor skills and building the foundations for a balanced life (Berti, 2023). Through play, both structured and unstructured, children acquire skills, i.e. skills that can be used in any context and following any request, as they develop

cognitive skills and good learning practices such as problem solving (Ceciliani, 2020). The game, therefore, can be defined as the essential educational container through which the principle of learning by doing can be applied (Zhou, Xu, Zhu, Wang, 2018).

The use of play as an educational - training activity has benefits from a social and emotional point of view, since thanks to the playful activity children are allowed to interact with their peers and develop relational skills (La Rocca, 2022.). Wanting to dwell on the potential of teamwork, it is clear how children quickly learn to collaborate and resolve any conflicts and understand social dynamics (Stacey, 2009) in order to satisfy a single goal (the victory of the game). In this regard, play allows the expression of emotions by developing essential emotional skills (Brazzelli, Grazzani, 2018), so that impulses come out sublimating them with reason to face challenges and successes even in everyday life.

<i>Stages of Motor Development</i>		
Childhood	0 – 5 years	Uncontrolled movements, translocation and reactions to sensations; Connection between motor and cognitive development
Childhood	5 – 7 years	Period of proceritas, less favorable to learning; Considerable social self-centeredness
Second Childhood	8 – 11 years	"Golden" period of motor skills, good balance between weight and height. Improved motor skills
Puberty	11 – 14 years	New period of proceritas, structural growth; Challenges in adapting skills to body change
Adolescence	14 – 18 years	Recovery of balances and old skills; A period conducive to new learning

Table 1: Stages of motor development

Sensory-motor play is an essential component in human development (Tortella, Durigon, Cappellari, Fumagalli, 2011), capable of influencing motor, cognitive and relational skills from birth. All this is possible because when you think of the body you don't have to have an idea of a single entity but of something very complex that arises from the mind-body binomial and the consequent sensation, perception and processing of stimuli. Therefore, sensory-motor

play plays a crucial role in shaping one's perception of the surrounding world (Mazzara, 2024), consequently also influencing interaction with it. Play, therefore, involves both the sensory and motor systems, creating an essential link between sensory perception and the consequent motor responses, essential aspects to allow the child to move and respond to stimuli.

As time progresses, children begin to explore the environment through movements that take place with greater awareness, so they are more coordinated (Fogliata, Mazzella, 2024). Sensory-motor movement is closely linked to the formation of basic motor patterns, although it should be noted that movement is not limited only to motor development but evolves into complex cognitive skills (Fogliata, 2024). Think, for example, of a didactic proposal calibrated on the puzzle game, which develops both fine motor skills and cognitive skills in recognizing patterns and spatial relationships. Therefore, the importance of play in the promotion of sensory-motor movement arises following some principles:

- Free and structured game: able to offer unique opportunities for motor and cognitive development;
- Open game: able to offer opportunities to explore movement in multiple contexts, developing spatial awareness, coordination and physical strength;
- Sensory-motor system: which continuously analyzes feedback, in order to correct and regulate motor action;
- Information collection, processing, storage and transmission of information: this information forms the basis of the sensory-motor system.

2. The physical education's role from an interdisciplinary point of view

By interdisciplinarity we mean the current relationship between contents belonging to different disciplinary fields, therefore the focus of educational planning shifts from a linear model of knowledge development to a structural vision in which some possible intersections between different sectors are highlighted (Lenoir, Hasni, 2016).

The term interdisciplinarity refers to the ability, in the school environment, to involve multiple spheres of learning: movement, linguistics, logical-mathematics, etc. These aspects are interconnected with movement, so that physical education takes on a greater interdisciplinary role than the others that seem to be more focused on the specific contents and objectives

related to specific knowledge (Ceciliani, 2018). This assumes that the student must not have a single and "isolated" vision of the subject, but must be able to think about the various disciplines in a connected way, so as to be able to combine concepts, methods and approaches deriving from different areas of study, all this in order to enrich the learning experience.

Before talking about the interdisciplinarity of physical education, it is necessary to observe the evolution that physical education has had over the years, as it has its roots in different movements and educational approaches that have developed over time (Nicolosi, Sgrò, Lipoma, 2016):

- Progressive PE movement:

1. In the twentieth century, the progressive physical education movement has highlighted the importance of a broader and more holistic approach to physical education;
2. Educators such as J. Dewey promoted the idea that learning should be based on experience and involve the integration of different disciplines.

- Psychomotor skills theory:

1. The psychomotor approach, developed in the 60's and 70's, highlighted the importance of integrating motor, cognitive and emotional aspects into motor learning. This vision has helped to orient the educational current towards a more holistic approach involving elements deriving from psychology, physiology and pedagogy.

- Global health approach:

1. With the increase in focus on global health and well-being, physical education has begun to incorporate concepts from disciplines such as nutrition, health psychology and health promotion. This approach aims to train people who are able to understand health in a broad way and, consequently, capable of adopting healthy lifestyles.

- Interdisciplinary health research:

1. Developments in scientific research have demonstrated the importance of understanding health and physical activity from a multidisciplinary perspective. Therefore, having this type of awareness means for physical education in the school environment, being able to

know disciplines such as psychology, biology, etc.

This "historical evolution" of physical education highlights how in the educational sector there is a need to build a teaching model oriented towards transversal skills.

TRANSDISCIPLINARY TEACHING MODEL	
Analysis	Knowing how to create connections between different disciplines (most requested skill)
Reworking	
Creating Connections	
Model building	
Synthesis	
Observation	
Interpretation	

Table 2: Transdisciplinary teaching model

Working from an interdisciplinary perspective means being able to transfer learning according to the needs (way and time) of the students (Weyland, Falanga, 2023), which means being able to combine knowledge (theory) and know-how (practice). In this way, students will be more motivated to learn and, consequently, they will be able to get involved creatively and independently. In this way, skills will be created that will not only concern the physical-motor sphere, but also the cognitive, relational, social and emotional ones (Palumbo, et al. 2024).

3. Psycho-motor education in the school environment

Psycho-motor education in the school environment to highlight the ability to educate through the body (Monacis, Graziano, Colella, 2022).

The idea of the body understood as the envelope in which the mind resides is now outdated in favor of the body as the means through which thought expresses and manifests itself. This two-way relationship implies that bodily experiences influence thinking and vice versa (Perseo, 2023). Therefore, movement must be used as a form of expression of thought, and at the same time the latter must be able to influence the way in which the body is used.

In this regard, it is important to introduce the concept of psychomotor skills, with which we

want to define all those manifestations through which a person is able to express and interact with the surrounding world using his or her body. Therefore the body becomes a "medium", and as such cannot be understood as a simple user of physical movement, but of a series of complex actions that reflect self-awareness, intentionality and emotions (Simonetti, 2023).

Psychomotor manifestations are not exclusively internal experiences, but are perceived and interpreted by others, so social interaction is created. The external recognition of psychomotor actions contributes to the construction of individual identity and mutual understanding within interpersonal relationships ((Russo, 1990), therefore a real "exchange" of content elements, but above all, of all the others that pertain to the sphere of body communication, is created.

The main characteristic of psychomotor action is dynamism. It is through action that the person comes into contact with the external environment, expresses himself and communicates with others. Therefore, it is not simply an isolated physical movement, but a dynamic process linked to personal motivations. It is in this way (the person acts on a series of internal and external factors that guide behavior) that a complex network of interactions between mind and body is created.

Educating through the body means always keeping in mind multiple perspectives.

Education perspectives through the body	
Executive perspective	Development of basic motor skills, which are closely linked to physical growth and maturation of the nervous system
Organizational perspective	It involves balance, posture and emotional communication, important aspects for the structuring of motor activity and the relationship with the surrounding environment
Programming perspective	Plan and execute actions through consciousness and will, using the input-output system as a guiding mechanism
Expressive-communicative perspective	Movement is a natural and cultural language, used to communicate and relate to the surrounding world

Cognitive-intellectual perspective	Movement contributes to cognitive development and learning, facilitating the understanding of abstract concepts by stimulating the mind
Emotional-affective perspective	The body is the vehicle for emotional expression and the construction of interpersonal relationships, influencing the way we relate to others

Table 3: Perspectives of education through the body

As far as psychomotor aspects are concerned, they interconnect and influence each other, contributing to individual development and fulfilment. Neuromotor growth can influence emotional communication, highlighting the complexity of psychomotor relationships and their impact on behavior.

Psychomotor education can therefore be defined as a pedagogical and psychological approach that makes use of physical education tools to influence, in a positive way, the behavior and development of the child (Cera, 2009). This method aims to normalize and improve the child's behavior through the education of their motor and psychic skills.

Psychomotor education general objectives	
1	Stabilize the child's behavior, promoting social adjustment and reducing any dysfunctional behaviors
2	Facilitate the process of learning the skills necessary to successfully face future learning
3	Be preparatory to the acquisition of skills necessary to face future learning
4	Promote the harmonious development of all dimensions of the child's personality, recognizing the fundamental importance of movement.

Table 4: General objectives of psychomotor education

If we want to distinguish the objectives of psychomotor education in the different periods of life, we observe:

Objectives of psychomotor education in the different stages of development	
Early childhood	A crucial period as psychomotor education represents the fundamental backbone of educational action
	The educational action focuses on direct interaction with movement and exploration of the surrounding world through the body
	Games, exercises and sensory activities are the means through which children learn the basics of spatial orientation, motor coordination and balance, thus developing an awareness of their body and its potential
Second childhood	Psychomotor education represents the essential basis of educational action, even if it begins to differentiate itself in a variety of specific activities
	Teachers and educators begin to design targeted programs that take into account the needs of pupils, incorporating elements of playfulness, structured exercises and sensory stimuli to continue to promote psychomotor and cognitive development
Third childhood	The differentiation of activities becomes very evident
	Psychomotor education integrates with other areas of learning (linguistic, artistic, scientific) providing pupils with the opportunity to apply their motor and psychomotor skills in broader and more diversified contexts
	Teachers work to ensure that psychomotor education continues to be inclusive and tailored to the needs of each pupil, supporting their overall development and preparing them for future challenges both inside and outside the school environment

Table 5: Objectives of psychomotor education at different stages of development

Psychomotor education takes a holistic approach, considering the student as a whole. This means that it does not just focus on physical development, but also includes psychological, cognitive and emotional aspects. Through movement, the learner explores the surrounding environment, learns through new experiences and develops fundamental motor skills.

Furthermore, it should not be forgotten that sensory integration is simplified through movement, contributing to the formation of neuronal connections essential for cognitive development (Ceccarelli, Scuotto, Aruta,2022). Therefore, psychomotor education is not limited to the teaching of specific motor skills, but also focuses on the importance of spontaneous play and free exploration. In this way, the student's autonomy in the learning process is fostered, encouraging him to explore and discover the world through movement, also favoring the development of social relationships and empathy.

4. Research Job Description

This empirical research work involved 230 children, including 140 girls and 90 boys aged 6 to 10. The research was conducted in the 2023/2024 and 2024/2025 school years, so the duration is two years but is still ongoing as it will end in June 2025.

The general aim is to verify whether physical education, the necessary presence of the playful character, affects the social, emotional and motor development of the pupils.

The specific objectives are:

To verify whether physical education, through play and interdisciplinarity, affects the development of motor skills, cooperation, respect for others, control of emotions and the ability to express them in a socially acceptable way.

To evaluate these objectives, the methods and tools used are in the first case direct observation, while the observation grids of socio-emotional development and motor development were used as a recording tool. Furthermore, it should be noted that in order to simplify the work and avoid a consistent dispersion of information that could prove useful, the entire research action was documented with photographs and video footage, which was subsequently followed by a careful analysis of the data obtained.

Practical proposal of settings for physical education	
<i>Objective</i>	To create a stimulating and inclusive educational environment that fosters the psychomotor and cognitive development of the student, promoting autonomy, creativity

	and emotional well-being
Settingsdescription	
<i>Large and safe space</i>	A well-equipped classroom or outdoor area with educational materials, structured games, and open spaces for free movement
<i>Various materials</i>	Sensory games, various equipment that encourage movement
<i>Flexible furnishings</i>	Furniture and equipment easily adaptable to allow a variety of activities and configurations according to the needs of the moment
Methodological approach	
<i>Free and spontaneous game</i>	Ability to offer learning opportunities in a free and creative way
<i>Structured activities</i>	Ability to offer learning opportunities in a free, creative but controlled way
<i>Inclusive and respectful environment</i>	Ability to provide learning and participation opportunities for all pupils, regardless of their abilities and interests
Evaluation and monitoring	
<i>Continuous observation of the student during the activities</i>	Evaluate progress and tailor activities to your needs and interests
<i>Recording of observations and results</i>	Monitoring of the learning process and the possibility of providing meaningful feedback to teachers and the learner himself

Table 6: Practical proposal of settings for physical education

As far as research planning is concerned, it is divided into several phases:

The first (initial) phase involves planning the educational action to be used, as well as an adequate preparation of the observation grids.

It should be noted that the pupils were randomly selected and that they were divided into two groups: experimental (number of pupils = 115) and control (number of pupils = 115). In the first group, motor education was mainly used during the didactic proposals and consequently its playful and interdisciplinary character. In the second group, little importance was given to physical education to didactic proposals.

The second phase provides that after the initial observation of the motor and social-emotional skills recorded thanks to the observation grids, the learners are offered the planned educational action.

The third phase involves an accurate analysis of the data obtained and consequent final evaluations.

Analyzing in detail what has been set, from the data obtained, it can be observed that physical education has a strong playful imprint in this age group, and it is precisely this ability to make learning while having fun that makes physical education almost an essential element of the educational process.

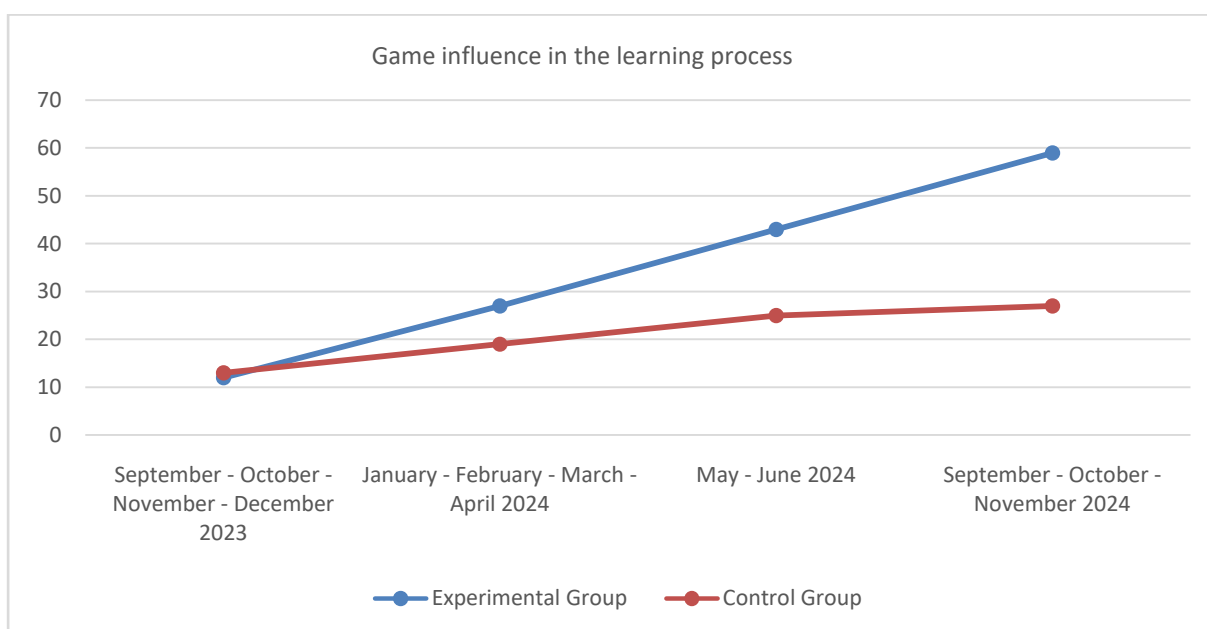


Figure 1: Game influence on the learning process

The graph shows how the playful moment is not an end in itself but has positive repercussions on the learning process, as it "lightens" and makes pleasant a moment that for the student is

nothing more than demotivating and useless because it does not produce a positive repercussion in a short time. If at the beginning of the school year (2023/2024) there is substantial equality in learning and little influence of motor education and play in it (experimental group: 12% pupils – control group: 13% pupils) at the end of the school year (2023/2024) it can be seen how motor education, thanks to the presence of play, is able to have a greater influence on the learning process by motivating pupils and making lessons more interesting and fun (experimental group: 43% pupils – control group: 25% pupils). This favourable trend towards motor education and its playful component is confirmed at the beginning of the following year as in the first four months there is a further improvement in the experimental group (59% of pupils).

As far as the interdisciplinary nature of physical education is concerned, the previous data show that it is necessary for this subject to become the backbone of the learning process, as it is capable of involving and motivating more than half of the pupils in the experimental group involved in a single school year. Conversely, it is highlighted that the use of a traditional teaching proposal, based on the singularity of each discipline, is not able to involve half of the control group even in November 2024 (according to the academic year of the research work).

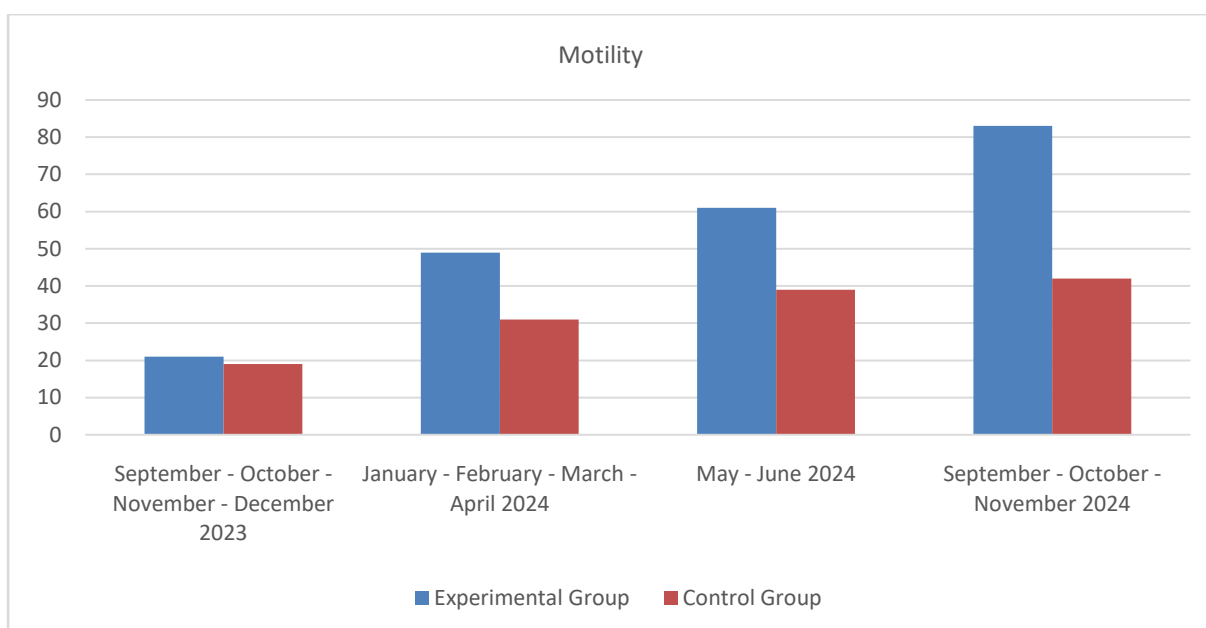


Figure 2: Motor education influence in the motor skills development

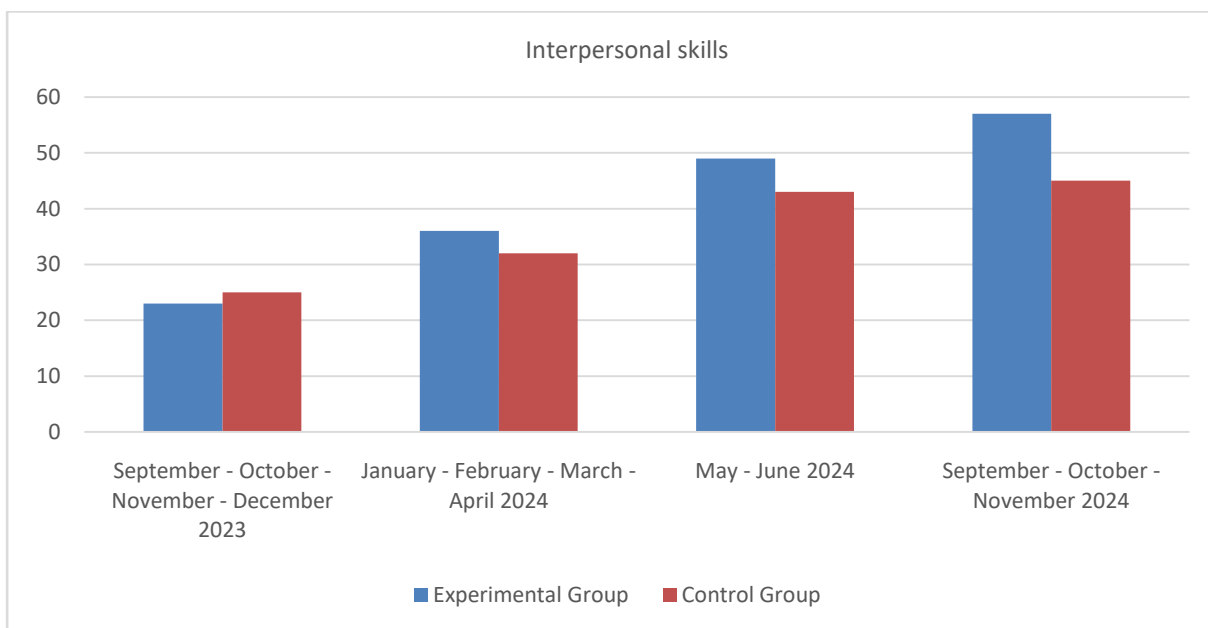


Figure 3: Motor education influence in the interpersonal skills development

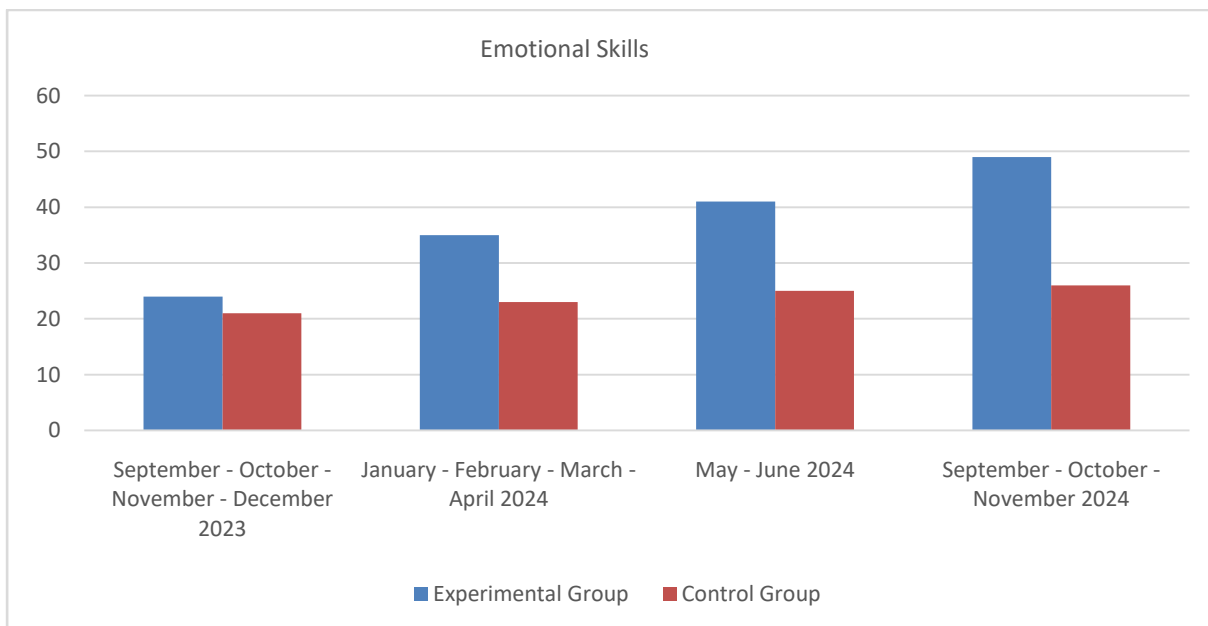


Figure 4: Motor education influence in the emotional skills development

The data that have been obtained so far show that motor education, thanks to its playful character and interdisciplinary work, is able to positively influence both the motor axis and the relational and emotional axis. In particular, with regard to the first aspect, the data show that in the experimental group there is a greater growth from the point of view of motor skills, which

in November 2024 involves twice as many experimental pupils as the control ones. This figure appears almost obvious since the experimental group benefited from more hours of motor education than the control group.

Analyzing the second parameter (relational skills) it can be observed that there has never been a very large disparity between the two groups (beginning of the 2023/2024 academic year = experimental group: 23% students – control group: 25% students; November 2024 = experimental group: 57% students – control group: 45% students), which means that relational skills depend largely on the type of teaching proposal that the teacher puts into practice, therefore, even if the latter uses a "traditional" form (understood as not excessive presence of motor education) it is possible to encourage collaboration and growth of the collective.

Finally, analyzing emotional skills, it can be seen that there is a strong prevalence of manifestation, awareness and use of the same in the experimental group (beginning of the 2023/2024 academic year = experimental group: 24% students – control group: 21% students; November 2024 = experimental group: 49% students – control group: 26% students). This difference emphasizes, once again, the ability of motor education and play to simplify the process of expressing one's feelings to others. Furthermore, it was observed that in the experimental group the manifestation of one's emotions took place gradually and spontaneously without any forcing either by the peer group or by adults, which favored the birth of greater awareness in the externalization of one's feelings.

5. Conclusions

The aim of this research is to verify whether motor education, through play and interdisciplinarity, affects the development of motor skills, cooperation, respect for others, control of emotions and the ability to express them in a socially acceptable way.

Following these guidelines, it has been observed that physical education has a strong interdisciplinary and playful will, so much so that it is able to motivate learners in the educational learning process, generating improvements not only from the point of view of motor skills, but also emotional and, in part, relational. It also shows how through interdisciplinarity it is possible to create a personalized path for the student, characterized by the presence of play. What has been said is necessary in order to be able to offer the student an

educational path that is meaningful, able to make him aware of learning and an active part of this process.

The results of this work, although still in progress, highlight how much the students involved in the experimental group, thanks to the playful component, were more motivated and built a better ability to recognize and use emotions and relational skills, as well as cognitive and motircicity.

Involving pupils and motivating their participation is a necessary approach to implementing an educational action oriented towards the well-being of students. This is the direction that the school must take; it is necessary to use suitable methodologies to meet the needs and requirements of young people, so as to be able to put them in the best possible conditions so that they can achieve educational and training success.

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