The body in action: mediate, understand, learn.

[redacted]

Never move the soul without the body,
nor the body without the soul, so that by defending each other,
these two parts maintain their balance and their health.
(Platone)

Abstract: The body is a mediator of knowledge and plays this role through movement and all its senses. The individual discovers in the body the possibility of acting, of knowing and of encountering himself and the other. The body is the essential place of man's existence. The body can be a teaching mediator and learning mediator, in other words it becomes an effective didactic mediator. The role of the body is analyzed, passing from embodied cognition to enation theory to conclude by arguing about the body's flow also in learning processes.

Keyword: body, meaningful learning, movement, didactic mediators, embodied cognition, flow..

Premise

The life experiences that all of us are living due to the pandemic that is forcing the populations of the various world nations to stringent rules and limitations lead to the need to look at familiar contexts with new eyes, new formative and educational perspectives. The various training agencies find it difficult to carry out their daily tasks and it is precisely in this very delicate moment that the emergence of logic and didactic proposals have to look at the holistic well-being of individuals. Speaking of well-being, one cannot fail to refer immediately to the body, to the experiences of the body, to the role of the body. In our every day we are undergoing limitations in body contacts, our perception of our body and body is skewed by the fear and risk of contact but we do not have to sort out training and educational activities from the crucial role of the body as a learning tool, learning facilitator and didactic mediator. In school books we will read of this time as the period in which the educational relationship between teachers and students was experienced online, through new technologies or in presence with the filter of masks, visors, plexiglass dividers. The same can be said for non-formal training contexts, afternoon educational activities have been suspended and so our young people, our children find themselves not carrying out physical, motor and laboratory activities if not also mediated by a screen. This premise aims to insist on the importance of the role of the body in learning processes and to induce to think of different educational methodologies that aim to protect against the many possible risks of neglecting the role of the body in educational, didactic, social and relational experiences. The starting thesis is the conviction that the body in motion, the body in action carries out activities whose characteristics linked to motor skills are not as important as the marks of personal identity and social identity that they detect.

Thus, the need for a careful examination of literature and good practices is evident, as well as the need for training that includes a systemic vision of the individual. Different disciplines

such as the philosophy of the body, pedagogy of the body, didactics and neuroscience are helpful to our discourse.

1. Towards meaningful learning, mediate through the body.

In a period like the one we are living in, in which the distance between bodies becomes a rule and limitation and the experiences, playful, motor, sporting, lived through teaching the body are suspended, it is essential to turn our gaze towards new, well-designed teaching-learning dynamics. and plan. it is necessary to conceive the body as a didactic mediator and as a learning facilitator in every context of life, educational, training, didactic, social, relational. To recognize and justify the centrality of the bodily function of the didactic phenomenon, the need to have a plural heuristic vision emerges strongly.

The processes of knowledge of the world and of ourselves are based on the body and action are at the base and the body comes into contact with the world around it through movement and action. Meanings are experienced by the body and acquired through action. In other words, it is a learning process of reality, based on the body, action and emotions and it is the basic knowledge on which all subsequent knowledge will be based.

To be able to argue about the concept of the body as a didactic mediator, it is appropriate to briefly mention mediating, mediation and didactic mediators.

With the term mediate we indicate an active intervention on the learning process of the learner. The contents of the teaching are mediated and the subject's ability to make predictions develops (Rivoltella,2014). It is possible to say that the didactic mediator is a cognitive facilitator.

The processes of understanding, such as imagination, experience, rationality, constitute a set of resources belonging to the corporeal dimension. At the didactic level, the processes of understanding can be promoted starting from the cognitive potential of corporeality. In fact, their anchor point lies in the body's ability to feel the experience, in other words in the ability to use internal resources to build representations of the external world. The cognitive potential of the soma can be recognized in the analogous potential of the bodily resources. (Piccinno, 2019).

Thus the body is recognized as a didactic mediator suitable for supporting learning processes, also taking into account the fact that in all learning situations, the mediations implemented by the body are suitable for combining the representation of what the learning object is. in itself and the importance it assumes for the Self. Each mediator relates to a specific dimension of sensoriality and expresses a peculiar way of knowing the world according to a specific form of intelligence (Gardner, 1996).

It is well understood that the body represents the main mediator between the subject and the world and that it is not possible for something to reach the intellect if it does not first pass through the senses (Comenio, 1969). The body media knowledge as it has the ability to analogue the cognitive contents, is considered as the generative substrate of every form of under standing (Piccinno, 2019).

The body is an active, iconic and analogical didactic mediator. Where the active mediators are understood as those threshold mediators that imply a direct contact between the learner and the content to be learned and in which importance is given to experience, unlike the iconic mediator, that is the objects of knowledge through systems of signs that mainly address the sense of sight, while analogue mediators represent objects of knowledge through "doing as if" (Damiano, 1995). By affirming that the body is a didactic mediator, we intend to indicate with this term a device that transforms scientific concepts into content accessible to learning

(Damiano, 1999) or even as a learning facilitator that allows the learner to develop critical knowledge and metacognition skills (Cornoldi, 1995). In other words, it is necessary to value the constitutive knowledge of the body and to orient education on the dimensions of awareness of the body state. In practice, the construction of meaning for the enhancement of corporeality and motility must be aimed at the logical and infralogical structuring of reality; it must be possible to achieve through the continuous interweaving of relational and expressive functions with the global and kinesthetic approach to communication between one's own body and that of others (Lowen, 1994). If, as it is, learning means knowing something, or knowing its meaning and knowing how to represent it in some way in the mind (Fiz Perez, Caserta, 2010), it is also true that a learning will have a better chance of being fixed if it is significant, becoming permanent (Ausubel, 1978). Learning can only be meaningful learning. There is significant learning if this process relies on the activation of vital processes in the subject, sometimes going so far as to modify the personality. the student is required to make a commitment both on a cognitive and on an affective and emotional level. The student is active and participates in the processes through global involvement (De Canale, 2017, [redacted] We have experience of reality only through the body and the external environment impresses us because it invests our body and touches our senses. We act on the environment precisely in reaction to this stimulus. Especially in this historical period it should be emphasized that numerous researches have shown that when the interaction between body and environment is very small, the perception of reality is lost (Lowen, 1987).

If knowledge is always knowledge of something (Husserl, 2019) and it is the act by which subjectivity scrouds or reconstructs the objects of the world within it, then to know means to have an internal representation of existing reality and it will be emerging to orient the learning of the direction of under standing (Piccinno,2019), also passing from learning and therefore understanding with the body.

The body in its circular relationship with the mind it is the experience of being itself, irreducible to a mere instrument of thought, in the Cartesian way, and understandable only in its being lived, in incessant and essential relationship with other bodies and in its being intertwined with the cognitive and sensory data (Gomez Paloma et al., 2016).

Let’s talk about a body that lives in a universe of experience, in an environment neutral with respect to substantial distinctions between the organism, thought and extension; in a direct trade with beings, things and the his own body (Merleau-Ponty, 1942, p.305). It is a body that can generate knowledge since directly involved in the action of subject who experiences the world I enter a biological and cultural context (Maturana, Varela, 1980).

2. Embodied cognition, enation and movement.

We are not our brains, it is from this statement that we can start from that understanding the role of the body according to a constructivist logic, useful in the educational and didactic sphere. The body, in fact, respecting the two key elements of Embodied Cognition, perception and action, acts as a biological and cultural mediator for the learning process, overcoming its scientific framework that considers it a mere object of evaluation, to acquire the dignity of a subject of cognition. In particular, knowledge requires the participation of the brain, body and environment (Gomez Paloma, Ascione, Tafuri, 2016).

It was said that the body is a mediator of knowledge and that this role is performed through movement and all its senses. This is because movement is the basis for the development of mental activities. The body scheme of the individual is based on the link between the visual body and the kinesthetic body, so much so that reality is investigated and interrogated through the body. The medium through which the mind comes into contact with the rest of the world is the body which becomes a cognitive and affective filter. Knowing the way the body knows

itself, and is the referent of the time and space of every individual experience (Pinto Minerva,2004, Galimberti, 1987).

Taking into account that the body is always the body of a personality and the personality has emotions, feelings, tendencies, movements and thoughts, it is understood that the body is important and movement is as essential as the lived experience and emotional reactions. In summary, learning can only be experiential. Even the body scheme is constituted not only on the basis of kinesthetic and tactile sensations and so on, but above all through the integration of these sensations with the existential and emotional experiences of the individual subject (Schilder, 1973, p.348).

According to the embodiment theory, body factors are an essential part of all cognitive processes; this theory highlights that bodily and sensorimotor processes influence cognitive and mental processes in a more or less radical way. Given the above, the fundamental role of corporeality is highlighted (Merleau-Ponty, 1945) in the origin of mental states and language (Lakoff & Johnson, 1999). This leads us to affirm that all learning finds its constitutive moment in the body and movement. There is no learning, even on the level of conceptualization more abstract, which does not find its own space for critical elaboration in the body (Bellantonio, 2017).

The speech expands and the reflection requires a careful examination of the relationship between movements and our brain. Over time, different positions have followed one another, for which the brain knows the movements and not the muscles, to move on to the conception for which the brain knows the actions and finally the last vision for which the brain knows the most that actions. According to a constructivist view, knowledge is not an exact reproduction of reality, but finds its basis in biological and physiological elements inherent in each individual. Cognition therefore arises from the lived experience between the subjective experience of the body in the environment and our ideological roots (Meraviglia, 2012).

Maturana and Varela have developed a theory that they themselves define as an experiential approach to cognition. This is the theory of enation: the subject possesses the initiative of his behavior and perception and lamotricity are inseparable under the primacy of the action that arouses them. The same authors define it as autopoiesis, that is production, creation of oneself through oneself, which defines the ability of a system to define itself, self-produce and maintain itself (Maturana, Varela, 1980). Varela (1991) defines enation as the point of view from which cognition is the conjunction of a world and a mind starting from the history of the different actions that make up being in the world.

In knowledge there is a close relationship between body and mind. The senses are considered as a kind of mysterious conduit through which information is guided from the external world to the mind (Dewey, 1949, p.190). The body, in action, is present and has two functions. It participates in the process of knowledge in an active way and in the meantime the knowledge takes shape. This is what we call embodiment (Rossi, 2007).

In the pedagogical and didactic field, the recent contributions of neuroscience are of help. We begin to consider the body as an integral part of the learning moment. It has been stressed in several areas that cognition is movement and action and not mere information processing. In this sense, cognition is not only embodied, but is also situated, variable and contextually determined. Our first element of determination is our body which is also our first context.

There are, today, different versions of the concept of embodied cognition. Embodied cognition considers cognitive processes deeply rooted in the body's interaction with the world. Among the different versions, six can be listed: cognition is situated; cognition is subject to time; we reduce the cognitive workload through the environment; the environment is part of the cognitive system; cognition is for action; autonomous cognition is based on the body. Here we are interested in paying more attention to the last statement, as although it has

received less attention in the literature on cognition, it may be the most powerful of the others (Gomez Paloma, 2009, pp. 23-27).

To conclude we can say that the body communicates with the environment and immerses itself in the situation, it manages to live the context and participate in its existential flow. This participation allows a first knowledge of the system. On the contrary, the mind implements a distancing and starts from the separation. It is precisely these dichotomies between mind and body, distancing and immersion that allow the synergies necessary for action in context. This is why the enactive approach focuses on the structural coupling between subject and object and on the role of embodiment and intentional action. This approach rejects the dualism between self and world, between body and mind, between object and subject (Rossi, 2007).

It is important to take stock of the situation, the body is the essential place of human existence, it is a knot of living meanings (Merleau-Ponty, 1945). Ultimately the body in motion becomes an educational act if and when the movement has the objective of developing and realizing the personality, that is, when there is a precise educational intentionality. the person is built through purposeful movement. One does not presume from motor skills if one promotes an education understood as the progressive realization of all the vital and social potential (Quarta, 1984, pp. 18-19).

Following the indications of pedagogical activism, the individual and particularly the child is considered as a whole: mind, body and will (Naccari, 2003, p.181).

3. Corporeality, environment and educational relationship.

During the didactic action, cognitive, affective and relational networks are built. It is possible to state that each actor changes as it changes its surroundings and the action transforms the system in the process. As the system transforms it learns. It knows why it transforms but it also transforms because it knows (Rossi, 2007, p.25). For the purposes of our discourse it is useful to borrow Damasio's (1995, p. 335) statement "the mind must not only move from a non-physical cogito to the realm of biological tissues, but must also be correlated with an entire organism", possessing an integrated brain and body and in full interaction with a physical and social environment.

Each experience is a driving force, this is the vision of the educational approach that implements a continuous interaction between the individual and the environment. here the individual is seen in his totality (Dewey, 1967, p.21). Education must therefore involve body and soul and derives from an active and vital participation through all the organs of the body and with the means and materials suitable for giving rise to a first-hand experience (Dewey, 1961, p.83). In the teaching-learning process, the body can be considered, in different situations, an object or a subject. Here it is of our interest to underline that the body, being subject, is the receptacle of the individual sense of self, of one's own feelings and more personal aspirations. It is also the entity to which others respond in a special way due to their uniquely human qualities. The Self, thus formed, will be continually modified (Gardner, 2016).

We have come to a conception of a man who no longer sees a body and a soul, rather he describes a continuum between these two elements in continuous fusion with the multiple intelligences that also allow the opening towards the other. If this were not the case, if it were not a unitary body, the dissociation of thoughts would be visible if the body does not participate in their formation.

One experiences presence in the world through the body (Giugni, 1982).

The activity of exchange, processing and storage of information comes to life in the body and it is in this process that the corporeality has an access function for the construction of knowledge.

If we were to refer to the didactic field it would be possible to deduce that the body can be used in the educational field at any age and that in front of a didactic assignment the student experiences emotions through the body that see him fully involved. All the senses will therefore be involved in teaching and it is this multisensory nature of the teaching-learning process that offers signals of rapprochement between biology and understanding in the study of the student's interaction with the environment (Gomez Paloma, 2009).

It is necessary to understand, given the connection between emotional intelligence and body-kinesthetic intelligence in which contexts actions with the body and through movement are applicable. In my opinion, the cognitive processing deriving from the emotional and bodily whole opens the way to new and peculiar training and didactic models and methods.

The reference to the neologism Didactic Corporeity is immediate. This construct has as its founding principle the formative and educational value of the body. As we said in the first paragraph of this article, the body is intended as a mediator capable of giving meaning to the teaching experience, assuming its own form in a co-evolutionary dynamic. The didactic corporeities describe the dynamics of the teacher-learner-environment interaction (Sibilio, 2011).

In other words, we look at the teaching-learning process and in particular at how the potential of the body in action, be it cognitive or evolutionary, can find its implications and applications.

The body in action is a learning facilitator and a didactic mediator aiming at achieving meaningful learning. This objective must take into account the variables of the educational relationship between teacher and learner. For those who, like who scirve, have been dealing for years with the didactic and educational aspects of motor activity, sport pedagogy and training pedagogy, it is easy to validate the vision that sees the body in action at the center of the learning-teaching process, the body in motion, the bodies in motion. The bodies, in the plural, as the focus is not exclusively on the body of the student, the learner, the athlete, but also the teacher, the educator, the coach and classmates, course, team. It is possible to hypothesize that in any formative context, formal or non-formal, the indications, not only of psychic but also of sociomotricity, are followed.

In addition to the educational relationship between teacher and learner, it is essential to analyze the environment in which this relationship between learning bodies comes to life. The environment has two closely related connotations. The first describes the environment as an architectural system, as a space in which the bodies in teaching act. The second indicates the environment as a learning environment, where learning is then translated into productive activities. For example schools and gyms (Maggi, 2017).

In a generative environment of meaningful learning, there is a tendency to activate knowledge construction processes.

The term “significant” refers to the concept of “significante”. This concept is subjective. The student experiences this learning in an educational setting that allows him ample space for imagination and critical-conceptual initiative. In this learning process, so closely connected to motivational and personal elements, structural changes have been noted at the biochemical level. it is a learning that passes through the affective, emotional, bodily channel in which knowledge materializes also on a biological level (Gomez Paloma, 2009).

Unfortunately, the almost unlimited potential for enjoyment that the body offers often remains unexplored. Its credit does not come from the chemical ingredients or the nerve wiring that

makes information processing possible. What gives it its incalculable value is the fact that without it we would have no experience and, therefore, no trace of life as we know it. Most people ignore the body's ability to make every activity enjoyable. Such people leave his ability to provide flow unexplored, instead using their physique as little as possible. (Csikszentmihalyi, 2011, p. 149).

Having said that, it is useful to mention the importance of looking at the body in the learning process also as a body in a state of flux and as a narrow body connected to an autotelic personality.

It is not easy to transform ordinary experience into flow. The autotelic experience, or flow, elevates the course of life to another level. Alienation gives way to involvement, fun replaces boredom, helplessness gives way to a feeling of control, and psychic energy works to strengthen the personality rather than get lost in the service of extrinsic goals. (Csikszentmihalyi, 2011).

[…] *The human body is capable of performing hundreds of different functions, seeing, hearing, touching, running, swimming, pulling, grasping, climbing mountains and descending into caves, just to name a few. And each of these activities has experiences of flow. Pleasant activities have been invented in all cultures to increase the body's potential. When a normal physical function, like running, performs according to a social design, a goal setting and rules that offer challenges and require skills, it becomes a flow activity* […] (Csikszentmihalyi, 2011, p.150).

It can be said that flow is a learning style. It is the state of being in which the subject finds himself immersed in what he does. Attention is paid to physical activity rather than abstract thinking and it is the body that immerses itself. Flow is an altered state of consciousness. The faculty to perceive, understand, evaluate the facts that occur in the sphere of individual experience or that lie ahead in the more or less near future. The more what the individual, the student does, he approaches to fully exploit all his abilities because the task requires it the more he keeps himself in that channel of flow that is given by the balance between the task and the skills (Csikszentmihalyi, 1998).

We have seen how the role of the body is fundamental in educational processes and we have deduced that these educational relationships are also based on contact with the environment in which one is immersed, but this is not enough, for years the studies on these themes have tried to demonstrate or to corroborate theories that are not so new but which to date have not been able to transform into didactic practice, into educational planning of environments in which the body learns even on the move, into planning disciplinary interventions that follow a global vision teaching.

I like to conclude with a sentence that is auspicious: Your body is nothing but your thought, a form of your thought, visible, concrete. Break the chains that imprison thought, and your body will also be free (Bach, 1983).

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