CORPOREALITY AS A TOOL TO PROMOTE INCLUSION IN KINDERGARTEN

LA CORPOREITÀ COME STRUMENTO DI PROMOZIONE DELL'INCLUSIONE NELLA SCUOLA DELL'INFANZIA

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Abstract

Psycho-pedagogical studies and neuroscience have, over time, produced a paradigmatic change coming to place cognition, action, perception and emotions in a circular relationship, in which the body is an instrument for promoting the integral development of the personality. Starting from the idea that thought is also built according to motor, perceptual and emotional experiences lived, acted and observed, the goal of this contribution is to underline how, from childhood, it is important to trigger processes of assimilation of inclusive action patterns that have been observed, experienced, lived to facilitate, in repetition, the incarnation. In reflecting in a longitudinal perspective, the objective of this contribution is to highlight the preventive and inclusive role pre-eminently played by kindergarten which, more than other orders, has the opportunity to decline the inclusive paradigm through a systemic, integral and real approach. It is necessary to promote the understanding of the inclusive dynamics underlying conscious and unconscious motor actions, emphasizing how, especially in kindergarten, we have the opportunity to promote inclusion not as a utopian goal to be pursued, but as the substratum of all possible relationships.

Gli studi psicopedagogici e le neuroscienze hanno, nel tempo, prodotto un cambiamento paradigmatico giungendo a porre cognizione, azione, percezione e emozioni in una relazione circolare, in cui il corpo è strumento di promozione dello sviluppo integrale della personalità.

A partire dall'idea per la quale il pensiero si costruisce anche in funzione di esperienze motorie, percettive ed emozionali vissute, agite e osservate, l'obiettivo di questo contributo è sottolineare quanto, sin dall'infanzia, sia importante innescare processi di assimilazione di schemi d'azioni inclusivi che siano stati osservati, esperiti, vissuti per facilitarne, nella reiterazione, l'incarnazione. Nel riflettere in prospettiva longitudinale, l'obiettivo del presente contributo è quello di evidenziare il ruolo preventivo e inclusivo preminentemente svolto dalla scuola dell'infanzia che, più degli altri ordini ha l'occasione di declinare il paradigma inclusivo attraverso un approccio sistemico, integrale e reale. È necessario

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favorire la comprensione delle dinamiche inclusive sottese ad azioni motorie consapevoli e inconsapevoli, sottolineando quanto, specie alla scuola dell'infanzia, si abbia l'occasione di promuovere l'inclusione non come un obiettivo utopico da perseguire, bensì come il substrato di tutte le relazioni possibili.

Keywords

Body; Inclusion; Kindergarten; Embodied Cognitive Science; Embodiment.

Corpo; Inclusione; Scuola dell'Infanzia; Embodied Cognitive Science; Embodiment.

Introduction

Considering the relationships and interactions that are triggered in the educational context, in light of the most recent discussions around the theme of learning, we have progressively seen an important paradigmatic change that had as a result *corporeality*, in its dual function of action and perception, placed in a circular dialogue, with knowledge and, last but not least, with the emotional tissue subtended to the actions. These considerations, which acquire their own epistemological value starting from the psycho-pedagogical studies developed in the last fifty years and which are also supported by the most recent studies in the neuroscientific field, find their real, concrete and irrefutable application within school practices, in especially in those of the kindergarten. In this primary school order, the process of growth and integral development of the child is triggered, in a context of peers and with adult figures of reference, who, differently from the informal family context, present persistent trials to the adaptive abilities of the child, placed in relation with the special needs of each and every one. It is in the kindergarten that the child establishes a dense network of contacts, with space, with objects and with people and it is in the reciprocal transformation of the involved subjects and in the relationships that are established that continuously co-evolve and redefine the coordinates of growth.

The body constitutes, in this network of relationships, the central element, the *conditio sine qua non* for the starting of the processes of knowledge, development and learning, as well as relationship: it represents a «medium of knowledge and communication with oneself, with others and with the environment» (Sibilio, 2002, p. 23).

The body, therefore, is not a performer, but an integral part of the process of knowledge, a means through which the child knows and conquers the external world and the way through which he manifests his own needs, his own inner world. All the educational structures agree in organizing the educational and didactic action, on the foundational criterion of the centrality of the body (Nicolodi, 2020).

Starting from these considerations, the scientific literature and the most recent achievements in neuroscience have guided and oriented the writing of national programmatic documents and the current regulation on *special educational needs*, confirming the centrality of the body in supporting and amplifying the outcomes of the processes of learning, spread also and above all through the active participation.

As never before, the health emergency has rekindled the debate around the theme of denied corporeality, which required not a few abilities to adapt and to reconsider educational and teaching strategies at a distance: so that, in kindergarten, there was a reflection on how much, in this specific type of school called to promote the integral education of the child even before providing them with the opportunity to achieve disciplinary and formal learning, it is essential to talk about *Distance Educational Link* (LEaD), calling in due to the role of the body as an element of signification (Ibidem) in the relationship that, in the distance, had to replace (Sibilio,

2012) the *gap* determined by the inhibition of *intersubjective* proximity (Gallese, 2007), of postural adaptation, of *imitation* and *simulation* (Gallese, 2003).

In fact, it is essential to draw a change in the current educational model, in which to offer more space to the dimension of the body through movement, in order to simplify remote communication, because «the bodily element plays a primary role in the pedagogical action and can be, where proposed in an adequate perspective, a motor for the achievement of results that contribute to complete perceptive development and therefore to a total formation» (Benvenuto et al., 2018, p. 102).

The teachers of the kindergarten can and must promote, with their own pupils, a toned and emotional relationship, through continuous motor and play proposals, such as to constitute a social setting in order to support the development of the child's dynamic interactional intelligence (Siegel, 2001).

Understanding how beliefs and recommendations about the body at school have evolved, it is necessary to direct the decisions, as always happens in educational research, to understand which approaches can ensure that bodily experiences are considered in their primary potentiality to leave traces of their effectiveness, giving back to the child the perception of his own possibilities for autonomous action and problem solving, as well as the opportunity to experience his own body as seen, recognized and accepted, in a word, included. The objective of this consideration on the theme of the body corresponds not so much with the will to reiterate once again its centrality in promoting learning processes and integral growth of the personality, in cognitive, emotional and social terms, as the will to ignite the debate around to new reflections, on which it is advantageous that research and political decision-makers continue to invest, and also to favor the understanding of the inclusive dynamics behind the conscious and unconscious motor actions, underlining how the kindergarten plays a fundamental role in laying the foundations of inclusive processes acted out, lived and *embodied*, first of all by the teacher and, as in an osmotic process, by the children themselves.

1. The body and inclusion in the regulatory documents of the kindergarten

Together with the achievements in the scientific field, in the national programmatic documents the body has gradually acquired dignity within the teaching-learning processes.

The need to build an educational institution capable of promoting educational processes in the period from 3 to 6 years of the child's life, has seen a long and progressive legislative process and, in this perspective, the recognition of the role of the body in the processes of personality formation and social relations has been gradual and tardive. In the light of scientific achievements, we understand how vitally important is, in particular in kindergarten, to offer the child the chance to test new sensory channels for a clear and strong centrality of playful-motor practices, in order to simplify the discovery, the development of such a complex dynamic biological system.

The National Indications, during the reviews that have taken place over the years, have always confirmed the role of corporeality in supporting cognitive and maturation processes. The space attributed by the legislation to the body and to the movement let us understand the existence of a psycho-physical unity, which feeds on the experience of the body in relation to the natural and social context, searching within its own verbal and non-verbal sensory and communication channels the possibility of developing various ways of communication, relationship and knowledge. In reference to inclusion, the National Indications of 2007 already reflected on how much «the integration of pupils with disabilities in ordinary schools» even though they had been «for some time a culturally and normatively acquired fact and a consolidated experience in practice» (MIUR, 2007, p. 45), required more attention and renewed planning.

Therefore, attention is focused on a re-evaluation of epistemological practices, laying the theoretical foundations for a full awareness of the child's body and its inclusive potentiality, starting also from the importance of offering multidimensional stimuli to meet the different cognitive styles and different needs of each one and to intensify the motivation to participate. Speaking about the inclusion, the *National Indications* continue to base «their educational action in coherence with the principles of inclusion of people [...], considering the acceptance of diversity as an indispensable value» (MIUR, 2012, p. 14), even if they recognize the need for a global rethinking of the way of doing school. This rethinking, still in progress, cannot ignore neuroscientific studies which, applied to teaching, can only generate important regulatory and real repercussions. Great importance is also given to the learning environment. It's immediate the reference to the context in an *ICF* (*International Classification of Functioning*) key, which needs to be constituted as a welcoming context, characterized by the repetition of daily gestures, action routines designed to promote identity and personal development, capable of encouraging the inclusion.

Legislative Decree 65/2017 identified *the integrated education and training system from birth to six years*, recognizing in this age group a horizon of common sense aimed at promoting for the child, effective processes of growth and development within experiences of meaningful relationships.

The inclusive cultural model promoted by the *ICF* describes disability as «[...] the consequence or result of a complex relationship between an individual's health condition, personal factors and environmental factors that represent the circumstances in which the individual lives» (OMS, 2001, p. 21).

However, it's essential to favor the structuring of an inclusive enhancing context which, starting from kindergarten, has the opportunity to promote inclusion not as an utopian goal that has to be pursued, but as the substratum of all possible relationships. A final regulatory document on *Special Educational Needs*, *identification and prevention* (MIUR, 2019) deserves to be considered, especially in relation to what is scientifically supported in the literature, on the role of the body as a tool for acquiring preparatory skill in order to introduce subsequent formal learnings. The Note invites us to avoid precociousness, recognizing absolute methodological effectiveness to a playful approach for the acquisition of executive functions, preparatory to the formal learning of subsequent degrees of education, also attributing a preventive role towards the onset of special needs. Therefore, it is clear how much, from a perspective of continuity, starting from the actions of *care*, *relationship* and *play* typical of the kindergarten, the body occupies a position of centrality in the expressive, relational and cognitive processes.

2. The body as a promoter of inclusive processes: the contribution of neuroscience

Over the years, the *body* and, more generally, *corporeality* have assumed, not without effort, increasing importance within the studies that have dealt with examing the teaching and learning processes.

The scientific and neuroscientific literature, in the pedagogical field has come to consider the body as an integral part of the learning moment. Over time, the brain has taken on an intrinsically relational, dynamic, corporeal and located in the environment behaviour (Caruana & Borghi, 2016).

Thanks also to the use of modern neuroimaging techniques, the studies are helping to confirm what was anticipated in an era of pedagogical activism. The model focused on the active participation of the child, through educational practices that focus on the integral development of the personality, starting from the active role of the body, within the relationship with others

and with the environment, had already established an indissoluble bond between cognition, perception and action, a construct currently central to *embodied considerations* (Gomez Paloma & Damiani, 2015) concerning the themes of teaching and learning.

Over the years, the body has assumed more and more emotional connotations, becoming a body capable of alternative, *complementary* or *vicariant meanings* (Sibilio, 2012) able to express, through verbal and non-verbal channels, attitudes and intentions, which, at a conscious and sometimes unconscious level, have an important influence within the teaching-learning processes and more generally in the affective, relational and inclusive processes.

«The scientific and cultural evolution of the body and movement has experienced a fertile growth of interest in the academic, scholastic and professional fields in recent decades» (Gomez Paloma, 2019, p. 62).

Neuroscience has significantly contributed to support the thesis of the centrality of the body, in the development and learning processes of each individual, underlining the role played by experience in the construction of brain anatomy, demonstrating that there is a circularity between environmental stimuli and adaptation of the brain (Siegel, 2001).

These considerations place the role of social experiences (Muratori, 2003), in a new perspective, especially if reconsidered in the reflections around inclusive processes. Sensory experience amplifies knowledge, allowing a more effective system storage of information, as well as of recovery and of use of cognitive and relational skills, as it is in the construct that Siegel (2001) defines as *dependent experience*.

Studies on *mirror neurons* (Gallese et al.,1996; Rizzolatti et al. 1996; Gallese, 2007) determine new awareness about the intersubjective, pre-reflective and preverbal ability to transfer meanings from one person to another using the body as a vehicle for this transfer, both from the point of view of the expression of meaning, than from that of the ability to decode as spectators. Reflection about the fact that inclusive experiences, observed, lived and acted upon starting from kindergarten can generate an osmotic contagion between children and between them and the reference adults, which have the purpose of determining the structuring of a highly facilitating inclusive context, is immediate.

The studies on *mirror neurons* applied to social relations, trying to understand the scientific explanations of human behavior, studying the theme of the relationship between emotion and cognition, demonstrated how much continuity exists between the two dimensions even at the cortical level for where brain areas historically considered emotional, actually, support cognitive processes just as cognitive areas support emotional processes (Caruana & Borghi, 2016). The scientific literature continues the debate on the inseparability of body-mind and emotions, acquiring with the *Embodied Cognition Science*, a multi-perspective vision, which recognizes the centrality of the body in cognitive and relational processes, placing it in the circular simultaneity underlying the cognitive processes between corporeality, as the result of *action and perception, cognition,* and *emotion* (Glenberg, 2008; Barsalou, 2010; Paas & Sweller, 2012; Gomez Paloma & Damiani, 2021).

The *embodiment* hypothesis highlights how having a body simultaneously limits with addresses the cognitive processes that can be activated in relation to it; the fact that the body is embodied will influence the way in which it will perform its actions in the surrounding environment and the sensorimotor experiences connected to them will be the basis for the construction of *concepts* and *categories* through which events and situations can be understood (Palumbo, 2018).

«Conceptual knowledge is embodied, that is, it is mapped in our sensorimotor system [...] this not only provides the structure to the conceptual content, but also characterizes the semantic content of the concepts in accordance with the way we function in the world with our body» (Gallese & Lakoff, 2005, p. 456).

About the constructs of *intersubjectivity*, *embodied simulation*, *empathy*, *emotional sharing* (Gallese, 2005; 2007), there is a clear need to enhance the emotional-bodily dimensions underlying the processes of interaction between peers and with the adult in order to outline the constitutive elements of the body inclusive of the teacher and, by imitation, understanding and embodiment, of the child. The idea of the body as an embodied mediator of inclusive processes continues in subsequent studies highlighting the identification of a *us-centric space*, intended as a «shared space [...] result of this embodied simulation activity, defined [...] by activity of mirror neurons that allow to map on the same nervous substrate actions performed and observed, perceptions and emotions personally experienced and observed in others» (Gison et al., 2012, p. 10). Neuroscience has validated the reflections on the attunement that is established in mutual observation processes, not necessarily generated by sophisticated didactic strategies aimed at triggering complex cognitive processes, but conveyed by daily actions, by synchronicities of action, by the acquisition of automatisms and adaptive skills that are grafted into continuous and changing meaningful relationships.

Studies have shown that «[...] the muscolar activity of our cheeks (mainly involved in smiling) increases when we observe a happy face [...]. It is a mechanism that expresses the human capacity to empathize with the other » (Ibidem, p. 72). This last, apparently simple reflection helps to make people understand how much, in daily actions, the child, especially in kindergarten, has the opportunity to daily experience effective mirroring situations, routines of actions and interactions, both perceived and acted upon by the child himself, who in this circular sequence of internalization and expression of prosocial skills has the opportunity to acquire automatisms and patterns of action relating to various areas of development, such as those of interpersonal interactions and relationships, of communication, of the main areas of life, as well as in the construction of autonomies (OMS, 2001). This process of repetition of actions, therefore, favors the development of learning both in relation to cognitive tasks, but also to prosocial skills: the acquisition of automatisms and action schemes which are then, in the changing context, continuously generalized in new situations, permeating the child's corporeality with empathic skills and gestures of educational care, supported by the gaze of a conscious and responsible adult mediator. An integral approach to development, conceived in this way, makes it possible to pursue, right from the start, the development of identity, autonomy, competence and citizenship, all purposes of the kindergarten that refer to the constitutive dimensions of values of the child's being and which are transformed longitudinally into the normative documents for subsequent educational degrees.

3. Inclusion 'in' and 'with' the body

In the light of what has been said about the centrality achieved with difficulty by the body in the learning processes, it would be more correct, at this point, to say within the inclusive didactic educational interventions, it is necessary that the school foresees the declination of these awareness, in educational projects oriented to favor the integral development of the personality of each and every one.

It's not intended as to guide the action of teachers, already skilled in extricating themselves from the obstacles of today's complexity, nor to reiterate how much studies in the field of corporeality and cognition have come to demonstrate, even with the contribution of neuroscience. On this occasion, it is intended to direct the researcher's gaze towards sometimes overlooked awareness; we intend to reflect on how much teacher training must extend to implicit areas and, probably for this reason, poorly considered but capable of significantly affecting processes not yet and not only of cognition, but on intersubjective dialogue, on processes of intentional consonance, on building social interactions and effective and inclusive

communications between peers and between children and adults of reference (Damiani et al., 2021).

In particular, we intend to extend this reflection to a school order which, although it is not included within the grades of compulsory schooling, is called upon to entirely shape the child to prepare him for subsequent formal learning.

«The nursery and kindergarten, in fact, must be considered privileged moments and spaces to build the foundations of the educational and affective relationship, and the experiences of accepting and integrating all diversities through the organization of flexible and inclusive educational-didactic contexts, able to promote participation» (Chiappetta Cajola & Rizzo, 2014, p. 28; UNESCO, 2005). The primary inclusive potential of kindergarten plays a central role in the promotion of *inclusion* and in the prevention of *dis-inclusion* phenomena, starting precisely from the awareness developed and already known in the psycho-pedagogical and scientific field about the role of body.

In light of the considerations on the role of the body in promoting effective interactions and communications, as a mediator of relationships and as a *mirror* (Aucouturier, 2005) of the effectiveness of the actions of others, it is necessary to shape an inclusive, aware community right from the start.

Especially in the inclusive field, a particularly fitting parallelism arises, starting from these reflections: just as it is important and predictive of the success of inclusive-enabling project, that is, to be able to intervene on a difficulty early, in order to reduce the becoming chronic of difficulty and to favor the functioning of the individual, equally crucial is, in our opinion, in line with the inclusive principles in an ICF key, to intervene in an early and preventive manner on the environmental and social context, in order to forge practices, favor their *embodiment* through experiences, behaviors, attitudes and beliefs experienced and acted upon with regard to disability which, in the light of the scientific literature in this regard (Van Reusen et al., 2001; Wilson & Golonka, 2013; Donnelly & Watkins, 2011; Aiello et al., 2018), assume a predictive value of the very success of inclusion processes.

It is not already necessary to heal, a posteriori, a hindering context, removing barriers with educational and regulatory interventions aimed at *reducing or limiting the damage* (MPI, 2021) but it is necessary to prepare a facilitating social context, that is inclusive and that enhances the differences since its first formal constitution: in kindergarten, where the child discovers and develops his own intrapersonal dimension starting from intersubjective relationships, and defines his own place in the world in relation to himself and to others.

To do this, it is not enough to put reparative remedies that are mostly ineffective, it is necessary to intervene on those *value dimensions*, of teachers and children, which can really affect the perception of disability, as well as on beliefs and attitudes towards inclusion (Aiello et al., 2018). Value dimension be delegated only to civic education handed down in oral form, but it is necessary to shape the bodies, the postures, structure and embody the practices, direct the gaze towards horizons of concrete meaning in which *another support is really possible* (Canevaro & Ianes, 2019).

Similarly, in the perspective of the teacher and of the need to rethink teacher training in the light of neuroscientific and Embodied awareness, knowing the neuroanatomical basis of the convergence between social interactions and emotional processes, recognizing their very existence can and must help to understand how our mind creates and in turn is shaped within interactions with other minds (Siegel, 2001).

This education in inclusive conscious corporeality must be entrusted and its indispensability must be recognized in kindergarten which, temporally, is placed in a particularly *fertile moment* of cognitive development also in terms of neuroplasticity: a fundamental period to leave

positive traces capable of *somatically marking* (Damasio, 2000) experiences and guiding daily and future *decision-making* processes.

Conclusions

Inclusion cries out a *think about me, adult* (Canevaro & Ianes, 2019) which starts and is based on what was seeded in kindergarten, an *individual life project* (D. Lsg. 66/2017) that develops longitudinally throughout the life span, but which starts in the age group 0-6 years, in which the child, even before knowing himself, in his intrasubjective dialogue, learns the constructs of intersubjectivity, hetero directed (Spitz, 2009) from which, and only thanks to which, he is then able to perceive, know, learn and understand the needs and the limits of his own body, his own borders, through a constant and continuous dialogue with the environment and with others which, especially in the first years of life, assumes tonic and bodily connotations.

The presence of diversity in educational and school institutions imposes the obligation to reconsider the tools of human relationships, and also to entrust greater spaces to those affective and emotional components, encouraging, supporting and managing them in the best possible way (Chiappetta Cajola, 2012).

The elements of a *life project* oriented towards *Quality of Life* (Shalock & Verdugo Alonso, 2006; Giaconi, 2016), educational success, the achievement of *bio-psycho-social well-being* (OMS, 2001) self-determination take on the characteristics of a longitudinal project whose foundations have solid roots in the kindergarten, in which *hic et nunc* the inclusive postures of the *planetary citizens* (Gomez Paloma & Damiani, 2015) of tomorrow are determined. It is a training context that in the years of kindergarten has the opportunity to be daily experienced, with the body, away from rigid disciplinary training objectives, having the opportunity to be automated, understood and embodied, so as to be *generalized*, in later degrees of education and in society.

The formative experience of kindergarten is too precious, in which meaningful relationships with classmates really represent a *resource* (Zambotti, 2015) in the development of adaptive functions, and in determining new postures and new inclusive attitudes, not to be duly considered and put into light, in scientific research and in the drafting of regulatory documents. It is necessary to recline the axis of inclusion, again, looking not only at the *horizon of meaning*, it is necessary to understand the importance of the *roots of inclusive processes*: it is necessary to recognize the pre-eminent role played by the body in kindergarten, in delineating the boundaries of an inclusive corporeality to point again the gaze in depth on what are the needs and which are the strategies to promote a real and conscious inclusion, implemented and transmitted by the teacher and by the children of the kindergarten.

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