

BETWEEN ATTACHMENT, BODY AND NEUROSCIENCE: THE ORIGIN OF THE RELATIONSHIP OF THE SELF IN THE CORPOREALITY

TRA ATTACCAMENTO, CORPO E NEUROSCIENZE: L'ORIGINE DELLA RELAZIONE DEL SÉ NELLA CORPOREITÀ

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ABSTRACT

The surprising potential of emotions lies in being a union of knowledge and behaviors linked to the ability to respond to different events in the environment in which the human being is present (Natalini, 2022). What said makes clear the link that exists between the cognitive, emotional and ethical axis, especially when it comes to talk about the primary relationships as the Attachment relationships. In this regard, it is possible to investigate the link that exists between relationality, corporeality and learning, and the consequences that it generates in the educational field (Mastrogioseppe, 2023). development.

Il sorprendente potenziale delle emozioni risiede nell'essere un'unione di conoscenze e comportamenti legati alla capacità di risposta a diversi eventi nell'ambiente in cui l'essere umano è presente (Natalini, 2022). Quanto detto rende evidente il legame che esiste tra l'asse cognitivo, emotivo ed etico, soprattutto quando si tratta di parlare di relazioni primarie come le relazioni di Attaccamento. A questo proposito è possibile indagare il legame che esiste tra relazionalità, corporeità e apprendimento, e le conseguenze che esso genera in ambito educativo (Mastrogioseppe, 2023).

KEYWORDS

Development of relationality, Educational agency, School, Social-relational skills, Emotional intelligence

Sviluppo della relazionalità, Agenzia educativa, Scuola, Competenze socio-relazionali, Intelligenza emotiva

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1. Introduction

Following the principle of long life learning and life wide learning, the cultural changes present in postmodern society require innovation from the point of view of educational processes (Perla, Martini, 2019), which involves a modification of the typology of learning and the space-time dimension that certainly have to be diversified. In this regard, education entrusts its scientific nature to both psychological and methodological knowledge of planning and control. By doing so, the student concerned improves his/her skills in an innate and unconscious way. Finally, the "contemporary" teacher needs a training about the relational dimension which is believed to be a fundamental aspect of relational skills involved in the teaching-learning process (Scalcione, 2022). The school itself has to be understood as a learning community, capable of offering a product based on objectives and efficient and effective strategies. In doing so, attention is focused above all on skills that can be used in daily life and therefore in the world of work and in society (Imants, Van der Wal, 2020). In this context, the internal and external communication and relational systems are necessary for the valorization of the human factor in terms of quality, understood not from the point of view of the final product, but of the service offered to the person and consequently to the community (Sang, 2020).

Three fundamental points emerge:

1. The centrality of the person in training and organization: understood as the need to place the learner with his necessities and potential at the center of the teaching-learning process.
2. The relationship of the school institution with the outside: that is, the need to create a profitable and long-lasting bond between the school and the local area.
3. The value of the search for quality: that is, the constant and profitable generation of high-level product processes and educational contexts in order to generate quality learning.

These three points highlight the concept of a school that works based on skills and continually aims to seek innovative solutions to new and old problems (Galanti, Giaconi, Zappaterra, 2021). By doing so, they create the right conditions to put forward continuous learning to reach a form of learning organization.

Along the lines of these principles, a key concept is proposed here that the teaching function should orient itself towards in order to be innovative: relationality.

In this regard, Senge identifies 5 fundamental factors for learners:

1. Systemic thinking

2. Personal mastery
3. Mental models
4. The shared vision
5. Group learning

These factors mean that we can speak of school-community, understood as that relational context somewhat similar to that of the family, therefore characterized by conditions of recognition of subjectivity and welcoming of the person in order to give rise to the concept of collectivity and not singularity (Monauni, 2021).

At this point, different questions arise: what are skills and how is relational competence developed, why is teacher training necessary and on which basis can it take place?

2. Relationship and learning between individual and environment

The individual-environment relationship is of great importance for understanding cognitive-perceptive, affective and emotional aspects (Formisano, 2019).

In 1948, with the Universal Declaration of Human Rights, article 26, education was recognized as a right aimed at the complete development of the individual's personality (Weil, 2019). In this recognition, value is also given to the concept of education, in the sense of ability to involve all interested parties in a free society through understanding. It is from this perspective that Jacques Delors in 1999 defines education as a constituent element (Delors, 1999).

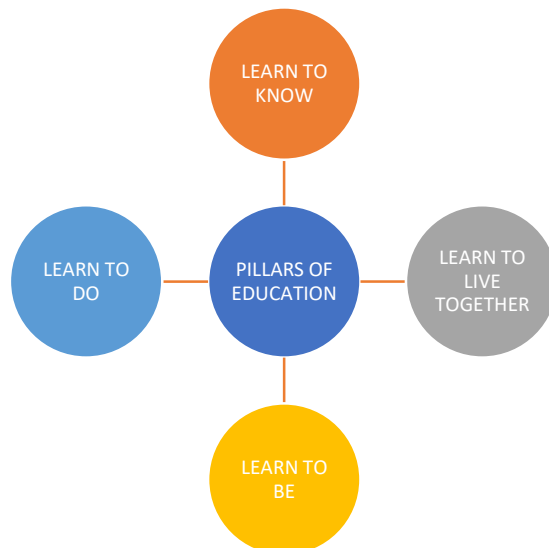


Figure 1: Pillars of Education

Figure 1, in addition to the four pillars of education, highlights the presence of a link which we believe to be relationality. Through the latter, as also highlighted by Delors, it is possible to satisfy the need that students have to respond to the three dimensions of education:

1. cultural ethical;
2. social economic;
3. scientific technological.

All this happens through practical and concrete actions which therefore manage to satisfy the four pillars of education. Furthermore, in consideration of social, cultural and anthropological diversity, education has the task of enhancing and promoting the diversity of each student as suggested by the objectives of the 2030 Agenda. As regards with relationality, it can be considered as a skill to be developed and also as a pre-condition for the sustainable development goals introduced in the context of the teaching function (Giacconi, 2023). It should be remembered that the objectives of sustainable development implicitly lead back to the principles of educational psychology, which seek to eliminate educational poverty understood as a complex and polysemic dimension that generates consequences from the learning point of view (Botezat, 2016).

Taking into consideration the link between relationality and learning the following question arises: where does the student's low academic performance come from? When talking about academic performance it is necessary to take into consideration the social, emotional and relational skills which inevitably intervene in the learning-teaching process (Baroncelli, Facci, Carpenzano, Ciucci, 2023). Furthermore, low academic performance produces negative effects both in the immediate future, understood as a lack of student skills, and in the future, understood as the educational and socio-economic condition of the citizen in society (Cegolon, 2023).

To evaluate educational poverty, Istat has indicated the educational poverty index as a parameter which is established through four dimensions:

1. Participation;
2. Resilience;
3. The ability to establish new relationships;
4. The standard of living.

Focusing on the ability to establish new relationships, it is possible to state that it is characterized by the ability of problem solving, communication, prosocial attitudes, whose task is to act as promoters in intra- and interpersonal relationships. Therefore, the importance of the school institution is revealed, understood as that

body capable of providing adequate care and attention to relationality, both in the sense of learnability and teachability (Damiano, 2021). The function of the education system, therefore, appears to be of fundamental importance for the promotion and development of basic skills, and consequently, for the correct functioning of the student and the future citizen in society (Rosa, 2015). In this regard, the teacher's task is to continually ask herself/himself the question previously described in order to try to remove the obstacles that can affect the four sub-dimensions depicted.

The importance of continually investing in culture and education is evident, which in other words is equivalent to being able to build a winning future from the point of view of social living skills and other people's recognition (Bilégué, 2019). We therefore recognize the individuality and specialty of each one and an interrelated and interconnected system in which each represents an element we can interact with and therefore create an evolution in progress. In this context, the role of the teaching-learning process is constantly reorganizing and restructuring, and it is for this reason that it is important to establish the foundations of an educational perspective open to the challenges of society and knowledge (Perla, Vinci, 2021). It is from this perspective that we believe, in light of some reflections that we will make, that learning develops as a consequence of relationality, in turn as a consequence of affectivity. The teacher, therefore, considers herself/himself in a modern sense, as a reflective and relational researcher (Mortari, 2009).

3. Research

When we talk about the educational process, in particular psycho-education, we are referring to the study of learning and teaching processes whose aim is to generate a high quality of learning for students and to guarantee educational success for each one (D 'Agostini, Cantone, Pascut, Paschetto, Feruglio, 2022). It is in this sense that the role of education becomes fundamental, as it is aimed at encouraging the learning of knowledge and skills of the individual student, taking into consideration the potential, specificities and motivations of each individual in learning (Cottini, 2022). Cognitive and also metacognitive processes have the task, therefore, of identifying personalized paths of knowledge according to the logic of the learner's potential, in order to be able to create the right situations and strategies for resolving and carrying out a job (Zhang, Basham, Yang, 2020). In this way it will be possible to motivate and simplify the learner's learning process, helping her/him in building her/his own identity and therefore responding to the very task of education (Esteban-Guitart, 2019).

Three fundamental points therefore stand out in the educational process:

1. Education in critical thinking: that is, the ability to enable the student to create innovative and creative ideas, to reason in logical terms and not to passively suffer what comes from the surrounding environment.
2. Education for pro-sociality, i.e. educating students in positive and supportive relationships and reciprocity.
3. Education to live as learning to dominate uncertainties: that is, the ability to adapt to changes and conflicts through the use of tools for interpreting and understanding reality.

From this perspective, it is therefore necessary to improve the teaching-learning processes in order to refine educational practices, in which the teacher represents a real catalyst for change, capable of involving every single student.

The teacher needs to possess specific skills such as the ability to build his own classroom setting so that knowledge and concepts can have a strong impact on the educational and training action in qualitative terms (Castoldi, 2017).

She/He has to be simultaneously a teacher and a meta-reflective researcher, therefore, continually asking herself/himself new questions, making new hypotheses and reflecting on own educational proposals, so that she/he herself/himself can be the first to be able to learn from the experience and therefore continuously grow from a professional point of view (Gross, 2022). A peculiar characteristic of the teacher-researcher, therefore, is the continuous modification of her/his teaching planning and educational action which is based on the relationship and on the continuous alternation of practice-theory-practice (Altet, 2003). The teacher researcher is therefore a reflective professional who, guided by her/his reflective ability, and will, manages to improve her/his educational action and consequently the quality of the educational proposal. Therefore, the educational experience is continuously deconstructed and reconstructed based on an analysis of needs in order to be able to identify the real situation in which the student finds herself/himself and the possible zone of proximal development (Ferrero, 2021).

The above highlights the importance of observation done by the teacher. It can be defined as a collection of data, aimed at the exploration and knowledge of a specific situation, behavior or phenomenon (Amin, Adiansyah, 2018). It is evident that, in the educational field, in the relationship that exists between the observer, the observed and the observation, the relationship represents a fundamental element. Thinking back to the question "what does low performance depend on?", one could therefore answer that learning can be defined as a transformation or modification of behavior following a cognitive, affective, social and emotional experience. In other words, it could be defined as a process that requires lived experiences in

order to generate a change that could be permanent, momentary, conscious or unconscious (Scarinci, Dipace, 2021). We therefore highlight the importance of the relationship that exists between the teacher and the learner as protagonists of the teaching-learning process and the importance of building, from an educational point of view, a learning environment in which the psycho-educational intentions coincide with the cognitive styles of the students and therefore manage to create a training experience that is effective and efficient.

The teacher-student bond, in the learning process, is also strongly characterized by the emotional-relational aspect.

There is a predisposition to learn, so let us ask ourselves why differences exist and how these concepts are linked by relationality.

From the point of view of neuroscience, the study of child development and learning processes has been observed over the decades from different disciplinary perspectives (Vygotsky, 1969; Pontecorvo, Tonucci, Zuccheromaglio, 1984; Patruno, 2014; Fedeli, Frison, 2018; Travaglini, 2021), investigating in an increasingly in-depth manner the neuronal circuits involved in cognitive and behavioral performance. From a psychological point of view, the global conduct of the interested party was studied, finally as regards with the pedagogical vision, the behavior was analyzed and contextualized within specific relational contexts. Therefore, the educational approach must be based on different factors perhaps not only on a correct opposition of empirical data deriving from different disciplines, but on integrated models in which the various dimensions and their interactions are analyzed. It is in this way that pedagogy also considers brain functioning and at the same time uses a scientific approach capable of going further.

The first dissociation occurred between the emotional and relational aspects, in the first case considered as a variable capable of promoting or compromising individual and social well-being, in the second case considered as fundamental factors for school performance and entry into the world of work. .

What is the origin of the capacity for representation? And how can the teacher benefit from this knowledge in the teaching and pedagogical action?

It is all about building a learning environment (Gualdaroni, 2021).

Analyzing in detail the main theories on learning we can distinguish: Maslow's theory of motivation which focuses on human needs and how they influence learning at the same point; Skinner's behaviourist theory which states that learning is the result of connections between behavior and consequences; Piaget's cognitivist theory which conceives that learning occurs through continuous training of the thought-experience relationship; Bandura's social learning theory which

states that learning occurs through observation and limitation of others; Thorndike's reinforcement learning theory states that learning occurs when behaviors are followed by positive or negative consequences. Finally, the constructivist theory that affirms that knowledge is not a copy of reality but a mental construction based on experiences and reflection. Therefore, from this summarized perspectives, learning is an active process in which students build their knowledge through interaction with their surroundings (Dettori, 2021).

The constructivist perspective leads us to accept and give credit to Attachment, as the student is not a *tabula rasa* but is conceived as an organism embodied within a process of layers and resources that create her/his Representation, which are known and structured maps of reality. It is therefore necessary to understand that students learn on their own Representations as basis or foundations. Faced with these innovative learning models that focus on a student as a builder of knowledge, the role of the teacher changes because she/he will have to place students in problem solving conditions in order to give them the opportunity to reflect, propose creative ideas and acquire new knowledge (Tore, Peretti, 2020). In this sense the main actor is the student and the teacher takes on the role of facilitator, for instance generating the scaffolding on which the learner can rely where necessary.

In this system the causes of failure must be sought above all in the affective level and therefore in the relationship between the teacher and students, particularly in the ways and degree in which emotions and relationships with others are regulated. They can be manifested in relationships between peers or between the peer group and teachers, leading to academic failure/success (Zanetti, Gualdi, Francesca, 2017). Therefore, the latter could be defined as the obstacle in the learner's learning process.

School failure must therefore be understood as a social and individual process which can be divided into two factors:

1. The learning process: the aim of which is the construction of knowledge;
2. Social processes: the purpose of which is to unite cultural, social and normative conditions.

Obviously the phenomenon of school failure, or even worse conditions of abandonment, generates repercussions from the point of view of school functioning itself and consequently on the society system. Therefore, aspects such as affection, relationality and belonging can only be part of the world of school and the training of "innovative" teachers.

In this sense, the first response to the phenomenon of school failure was given with the Education and Training 2020 program which includes among its main objectives

the reduction of the school dropout rate. In this regard, the importance of the O.P.A. protocol is noted.

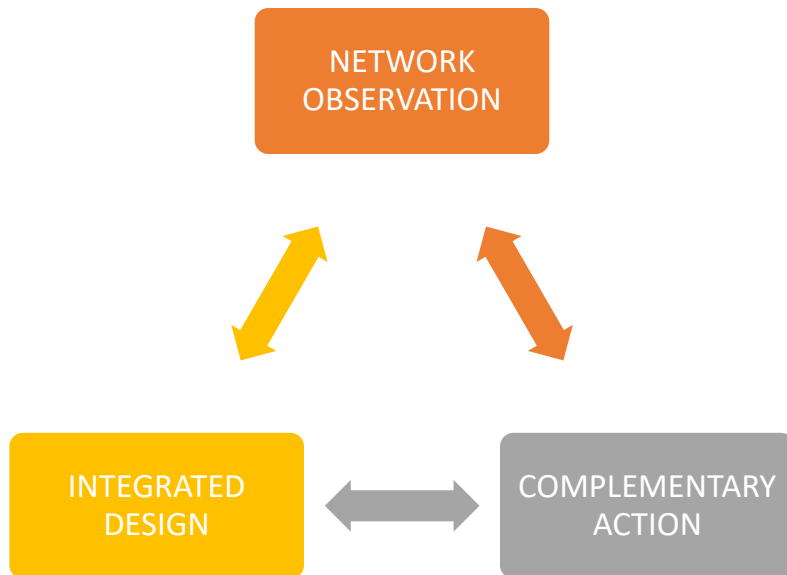


Figure 2: O.P.A. Protocol

It is showed as a triangle at the vertex of which there is the network observation and at the two data points are integrated as complementary action. This scheme aims to demonstrate the importance of creating forms of collaboration even in the presence of pupils/students suffering from disabilities following the bio-psycho-social model of the ICF, thus promoting a global approach that takes into consideration all the potential of the pupil/student through work network (Arrivabene, 2015).

So far, the approach has been in watertight compartments and the emotions seen in their disruptive aspect.

In the attempt to shed some light on the interdependencies of the cognitive systems with the emotional and relational ones, we delve into the Attachment theory putting relationality in this connection with the teaching-learning process. On the basis of these reflections we carry forward the consideration of an important need for the development of relationality for the contemporary teacher: How does Attachment function for the learning? What is the function of Representations for learning?

The main function of Attachment is to offer and guarantee protection to the developing individual, therefore particularly in the first years of life when a newborn is much more fragile (Di Dio et al., 2020). Thanks to Attachment, the child is provided with the appropriate tools to safeguard her/his safety even in the absence of an adult or reference figure. She/he manages to develop knowledge of her/himself and the surrounding world from both a physical and social point of view, so as she/he can be able to enhance abilities and possibilities for adaptation and growth over time. If what has been said is true, then Attachment can be considered both as the process and the product, in the sense that it represents knowledge of what surrounds us. It is important to point out that in the Attachment relationship the child learns mostly in a procedural and non-conscious way, while, in the school context, the student is able to learn only when she/he gives the right value to the knowledge and the relationship she/he establishes with it. Conversely, if the learning process is not activated, a rapid decay of the information received is generated. In the latter case, the importance of the link between Attachment, learning and relationship is highlighted, understood as an Attachment relationship, not only of the learning context, but also the producer of the latter. At this point a question arises: is the object of knowledge transferred to the Attachment relationship or constructed?

4. Attachment and learning

Rethinking and retracing the question previously asked, the possible answer to which is what we tend to achieve in this study: the learning triangle is placed at the center of the educational process.

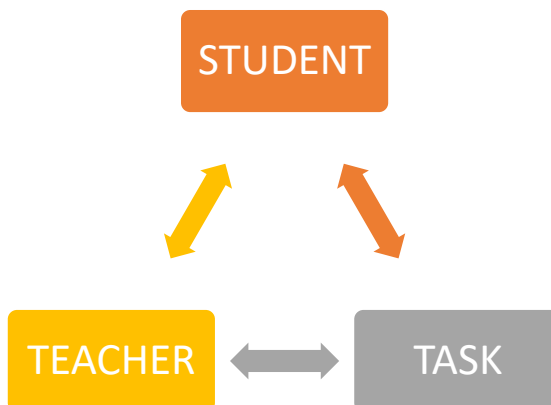


Figure 3: Learning triangle

As represented in figure 3 at the vertex of the triangle we find the student, the teacher and the task of the student to learn. With this last term we want to indicate the need to progressively and autonomously explore the world of knowledge, and at the same time to acquire information, develop the procedures and strategies which are necessary to verify the effectiveness of one's learning processes (Serbati, 2019) .

The teacher has two fundamental tasks:

1. Lead the student, in an active and participatory manner, towards new knowledge;
2. Promote an autonomous approach in the student towards learning and studying, eliminating forms of passive transmission in the teaching and learning process.

The third point present in the graph is the learning task, which defines the moment in which the student experiences the task intended as a place where the cognitive abilities are validated (Lis, 2017). Therefore, the term task is intended to define what is not known, but which at the same time must be explored in such a way that is possible to evaluate the student's skills.

The theoretical basis from which we therefore start is that the Attachment relationship produces learning through the Representation and patterns of knowledge of oneself and the surrounding world. Therefore, the Attachment relationship takes on a dual value: it represents the interactive context in which knowledge is conveyed from a source to a receptor, and at the same time it is also the object of knowledge that is co-constructed and no longer transmitted.

Indeed, there are findings that state the fetal predisposition to relationality and a representation which reflects the importance of the parent-child relationship. Of the mother, in particular, through the study of mirror neurons and other systems of action, perception and mutual affiliation, it has been observed that already in the first weeks newborns can show a wide range of facial expressions (Rovatti, 2020). The system explains a relational predisposition, so when parents respond by imitating the newborn, they represent exactly the input that the newborn is ready to receive, offering the child an emotional-affective experience of affiliation.

This generates important consequences: just think about "mirroring" and how important it can also be for the teacher in the classroom, as it is possible to offer a sense of security, value, comfort, protection, and therefore a certain basis for the exploration phase, which is the "learning".

With the basic term for learning, we want to define the general representations of the self, of the other, of the surrounding world, and for those that we will define,

specific, i.e. relating to disciplinary learning. The general ones being probably transcendental for the specific ones.

A greater frequency of activation of the action-perception system is predictive of greater relational competence. Furthermore, a fundamental role of this system emerges on how we learn from others. The role of observation is important in cooperative learning, which has the function of broadening the own repertoire.

5. Conclusions

In the theoretical framework we talked about, recalling various authors each belonging to different disciplinary matrixes, this path of researcher aimed at highlighting the relevance that can have an holistic approach to the development of the contemporary teacher training: thinking about, first and foremost, to the development of the inner competencies of both sides of the educational relationship such as teachers and students, this study aimed at showing the interwoven bond that exists between the cognitive-non cognitive-emotional-relational-ethical dimensions of the human being. For every newborn individual the Attachment reference is crucial for the development of all the faculties and abilities and, at the same time, the reference figures within the school context play a pivotal role in the shaping of the personality of that individual. We firmly believe that coming to know and deepen the importance of the link that exists between the spheres of the development of the whole human being and the learning process, seen as a vital tool to the development of the self, could constitute an essential key towards the knowledge and understanding of the possible growth of the new generations. To face the new challenges of our contemporary era, in the paradigm of the Acceleration and Alienation as Harmut Rosa says in one his works, it is urgent to recognize all these implications in the field of education: on one side paying attention to the role of the physical and motor “I” in the development of the mental Representation of the Self-Other-World and on the other side thinking and fostering an educational development of the relationality itself through an holistic approach to the disciplines taking into account that learning is a process that need all these components to be developed. These findings, if taken into account, could be relevant and beneficial when it comes to plan an educational action for the contemporary teacher education: in this regard, we believe that it could be the right time nowadays when talking about Sustainable development goals, to address a sort of propaedeutic within the teacher education around the inner competencies of both teachers and students as we showed in this study. As said, the “relational self” needs to meet the “physical self” (Röhrich, 2021) and we need to be clear

about the factors that intervene within the teaching-learning process in order to truly develop, also thanks to the neuroscientific findings, the emotional and socio-relational skills necessary for a sustainable and ethical growth of our human development.

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