

REFLECTED GAZES: RETHINKING TEACHER EDUCATION BETWEEN THEATER AND NEUROSCIENCE

SGUARDI RIFLESSI: RIPENSARE LA FORMAZIONE DEI DOCENTI TRA TEATRO E NEUROSCIENZE

Cristina Zappettini

University of Bergamo
cristina.zappettini@unibg.it

Antonio Borgogni¹

University of Bergamo
antonio.borgogni@unibg.it

Abstract

The exigencies that the educational reality imposes on us require us to rethink and reconstruct the relationships the relationships of bodies both within and between bodies, that inhabit school, educational, and social space. The complexity-based approach requires us to acknowledge and validate the systemic and processual nature of learning, welcoming recent neuroscientific findings that demonstrate how any pedagogically grounded discourse must include the bodily, perceptual, and sensory dimensions in a holistic and global view of the person.

In theatrical research, the following performance themes are identified: intention, life forms, autopoietic feedback loop, presence, and empathy. These connections between the performing arts and the field of education can be utilised to rethink teacher education from an embodied perspective.

Le emergenze che la realtà educativa ci impone ci chiedono di ripensare e ricostruire le relazioni dei corpi, nei corpi e tra i corpi che abitano lo spazio scolastico, educativo e sociale.

L'approccio fondato sulla complessità chiede di accogliere e avvalorare la natura sistemica e processuale dell'apprendimento, accogliendo le recenti risultanze neuroscientifiche che mostrano con evidenza come ogni discorso pedagogicamente fondato debba comprendere la dimensione corporea, percettiva e sensoriale, nella visione integrale e globale della persona.

Vengono individuati temi performativi di rilievo nella ricerca teatrale: l'intenzione, le forme vitali, il loop autopoietico di feedback, la presenza e l'empatia. Tali elementi di connessione fra le arti performative e l'ambito educativo didattico possono divenire utili per ripensare la formazione docente in un'ottica embodied.

¹ The article was co-edited by the authors. Cristina Zappettini conceived and developed the article and edited paragraphs 1, 2, 3 and 4; Antonio Borgogni revised the article and supervised the drafting in terms of the body-related scientific literature. The authors edited the introduction and conclusion jointly.

Keywords

Performing arts, education, presence, self-poietic loop, empathy.

Arti performative, educazione, presenza, loop di feedback, empatia.

Introduction

Neuroscientific findings have returned corporeality to the centre of pedagogical reflection, with an extension to the relational dimension, as the person can no longer be the object of reflection without incorporating the links he or she establishes with the community from the perspective of intersubjectivity (Ammaniti & Gallese, 2014). While cognitive neuroscience has long provided evidence of embodied simulation (Gallese, 2007), which links actor and observer who share in the resonance of motor acts, with released simulation (Gallese & Guerra, 2015), emphasis is placed on the potential for the fictional mechanism to facilitate the emotional engagement of the observing subject.

Recent neurophysiological findings, combined with the theory of theatrical and performative cultures, and supported by the contributions of 20th century pedagogues (Cruciani, 1995), open up fruitful spaces for study and reflection, providing educational and didactic disciplines with an innovative perspective that is able to introduce about theoretical and practical change.

Corporeality has returned to the centre of the discourse in the human and social sciences, as stated elsewhere. However, in school practise, bodies are increasingly configured as an *absent presence* (Borgogni & Zappettini, 2021), as they are often involved only during the hours relegated to physicality, and they continue to struggle to enter into didactic research in everyday life and minimal phenomenologies (Borgogni, 2020).

The reflections, which could be quite lengthy, request a list of topics that represent intersections between theatrical cultures and pedagogical discourse. These topics are objects of study for the theory and aesthetics of the performative and allow us to investigate educational action from new vantage points, based on the interaction between teacher and student, educator and educated, and actor and spectator. The focus will be on certain elements of the performing arts that can also generate contamination in the pedagogical and didactic spheres: intention, life forms, the autopoietic feedback loop, presence, and empathy.

1. Teaching is theatre and theatre is teaching

(Rivoltella, 2021)

« *The school is a continuous performance, risking body and soul*».
Alessandro D'Avenia

Theatre is the art of presence, it occurs *hic et nunc*, and it is «an active and participatory art form, which implies the presence of a living body in relation to other bodies, those of other actors and spectators, interacting simultaneously in the same space» (Carlomagno, 2020). Teaching shares the same qualities; there are numerous connections between the performing arts and the pedagogical sciences due to their shared elements, processes, modalities, cultural objects, and devices. Rivoltella (2021, 23) postulates the assonance between theatre and education by stating, «*teaching is theatre (and theatre is teaching)*» because the nature of education is performative.

Teaching is a performative activity because it is theatrical in the sense that it involves voice, gesture, and body in context. This similarity can be found in a variety of pedagogical approaches, from Dewey (2020), who identifies experience as intensified vitality, as art in germination, to Frauenfelder (2017),

who affirms the significance of theatre because it simultaneously engages the body and the mind, as well as the heart, soul, and feelings.

The results of neuroscientific research have radically changed the long-held conception of the motor system in physiology. The meaning of gestures (motor acts, because they are intentional) is not provided by abstract cognitive operations; rather, it is *grasped* by the observer. The reciprocity of intentions and gestures between actor and observer makes communication or understanding of gestures possible. According to Carlomagno (2014), we find scientific evidence that gestures are the expression of embodied knowledge capable of fostering alternative forms of cognition. Access to understanding the behaviour of others frequently occurs implicitly, without language as a mediator. Action is more immediately reflected in the intersubjective encounter than any linguistic-mental exchange. According to Ammaniti and Ferrari (2020), the intersubjective exchange postulated on the basis of the mirror neuron system is characterised by *inter-corporeality*, which serves as the basis for the encounter and mutual knowledge, supported by the mechanism of *embodied simulation*.

By accepting neuroscientific findings and weaving theatrical discourses with pedagogical ones, we can determine that if our bodies are always resonating when we interact with others, it is impossible to observe performative and pedagogical phenomena without taking into account the *inter-corporeality* dimension that contributes to the formation of a community that, as a one body, communicates meanings, is changed by them, and constantly seeks harmony.

The relational and communicative processes of actors and spectators, as well as those of teachers, educators, trainers, and learners, pupils, and students, are involved in the execution of intentional motor actions and the motivation to act decisively. «Being in the classroom or in the theatre means being there with body, mind, and heart, being a lived presence; only in this way can the learner or audience member say they are sensorially involved in a cognitive and empathic osmosis that enables them to say they have experienced a transformative cathartic dimension» (Carlomagno, 2020). The teacher's work, like that of the actor's, focuses primarily on him as a whole person: body, mind, and soul; exterior and interior; expressiveness and emotions.

In school or theatre, we can never be passive spectators, but actors who are continuously involved, through the body, in social events. Neurophysiology, through the contributions of Alain Berthoz (2011) on the use of the body and gesture for the construction of spatial concepts, has provided a complex, non-linear perspective that transcends the linear view of the teaching-learning process (Carlomagno, 2014).

2. Intention and vitality forms

« Everything happens as if the other person's intention inhabited my body,
or as if my intentions inhabited his body »
(Merleau-Ponty, 1979; 154).

Assuming neuroscientific findings and interweaving the study of performance theory with pedagogical and didactic discourse, we observe that intention and life forms, which characterise the staging and the relationship created between actor and audience, can also offer significant contributions to the teacher.

In the words of theatre historian Luciano Mariti, intention is the « gateway between the body-mind of the actor-spectator, a necessary element without which the spectator would not be engaged on a prereflective level. It is also the period with the greatest motor potential. [...] Intentionality is an inner impulse of the action, a motor that functions even when the action is not physically unfolded » (Mariti, 2009; 72).

From Stanislavsky (1982) to Grotowski (1993) and Barba (1985), the theatrical research of pedagogical directors (De Marinis, 2008, 2013) has centred performance work on the development

of a strong intentionality, which leads the actor to the transformation of simple movements into physical actions (Carreri, 2007).

According to neuroscientific theory, the actor on stage not only portrays a character but also has the ability and responsibility to elicit powerful psychophysical responses in the audience (Zappettini, Borgogni, 2021). To maintain the viewer's interest, the actor must know how to direct the viewer's attention, as if with a «*cognitive lock pick*» (Sofia, 2013). The actor must therefore simultaneously perform the action and attract the attention of the audience. This double objective alters the nature of every scenic intention, which in theatre is defined as a *dilated intention* (Sofia, 2013;153) because it is extended both toward the action on stage and, in some way, towards the audience.

Exploring the concepts of *vitality forms* (Stern, 2011) and *subtext* (Stanislavsky, 1982), we can observe that stage actions are always characterised by precise intentions, which are either manifested through explicit verbalization or, in the majority of cases, implicitly understood in the sub-play (Carlomagno, 2020) that they express, depending on the characteristics of the action in terms of time, space, force, trajectory, and direction. Even in school, the verbal and physical actions of teachers have a transformative effect on the behaviour or learning of students. To make their intervention more incisive, teachers must develop a greater understanding of the mechanisms, communicative scope, and strategies that can move forces and lead to listening. The interaction between the subjects of the pedagogical relationship only partially utilises the communicative power of dialogue because the nonverbal component allows intention and emotion to emerge; it includes body language, the intensity of the gaze, the eyes, the intonation of the voice, and the selection of pauses.

Vitality forms (Stern, 2011), which often lead us to say of an *energetic* handshake, a *gentle* caress, a *violent* outburst of anger, or a *hinting* smile, are « the experience of a force in motion, with a certain temporal profile and a certain sense of vitality and directionality» (Rizzolatti, Gnoli, 2016).

The teacher is also responsible for fostering the capacity to interpret and comprehend *vitality forms*. This is a fundamental aspect of interpersonal relationships and demonstrates how the performing arts can contribute to the development and improvement of relational and communicative skills in the educational and didactic realms.

Thus, it would appear that the mechanism of motor mirroring underlies our understanding of the motor intentions of others' actions (Gallese, 2010; 248) that we observe on stage and in the classroom. The process of action recognition through observation is a *simulation* or internal imitation of the observed actions that enables us to comprehend the intentions underlying the actions performed by others (Iacoboni, 2008; 33).

3. The autopoietic feedback loop, the presence

« Attention is no longer just a filter,
but an expression of intention anchored in action ».

Alain Berthoz

The feedback loop is a self-referential (Fischer-Lichte, 2016) and autopoietic (Maturana, Varela, 1995) system with an inherently open-ended and never completely predetermined outcome. Insofar as whatever the actors do has an effect on the audience and vice versa, the performance is produced and ruled by an uncontrollable, self-referential feedback loop whose course cannot be predicted. This uncertainty was once regarded as a flaw and an inconvenience to be avoided or minimised, as the reaction of a single spectator could, for instance, reduce the participation, interest, and tension of others. With the performative turning point, beginning in the 1960s, the feedback loop became the subject of experimentation and research, with the performance increasingly becoming the place where the specific functioning of interactions, the conditions, and the development of the negotiation process between actor and spectator are investigated. The task of the director is to

develop staging strategies in order to design and establish experimental conditions, isolating or focusing on variables and factors.

If we observe the relationship between *minus and magis* educational subjects in the dance step they perform in search of harmony (Bertagna, 2018), we observe the same transformative force that binds actor and spectator. The teacher is required to rethink some fundamental elements of his or her operation on the school stage, using feedback as an indispensable tool for realigning and adjusting the classroom, just as the director carefully plans the space, the presence of the actors on stage, the dosing timing, and the construction intentions (Carlomagno & Minghelli, 2021).

Le strategie di messinscena che vengono identificate sono lo scambio di ruoli di attore e spettatore, la formazione di una comunità di attori e spettatori, le diverse modalità di contatto reciproco, cioè il rapporto tra distanza e vicinanza, tra sfera privata e pubblica, tra sguardo e contatto fisico (Fischer-Lichte, 2016).

The physical co-presence of actors and audience members contributes to the formation of a community that participates in the experience of collective transformation. If the ritual contributes to the formation of community, then the educational and didactic event, through its transformative pedagogical relationship, propels the education of communities. The physical co-presence of actors and spectators is a prerequisite for the production of a community and simultaneously entails the possibility of interaction. As stated by Eugenio Barba (1965; p. 75), « Plunged into the same spatial reality, actors and spectators celebrate in communion the communitarian ceremony of the theatrical ritual. [...] The actor addresses the spectator, touches him, speaks to him, constantly surrounds him, and keeps him under the yoke of his physical, tangible, disturbing, and extraordinary presence».

Presence is an additional element that qualifies theatre from a pedagogical standpoint. It is a performative quality « produced through specific embodiment processes by which the performer produces his phenomenal living body as the master of space and the focus of the spectators' attention» (Fischer-Lichte, 2016; 169 The actors' art consists of bringing life into a normally lifeless situation « of *acting exposed*, of showing oneself, of being watched, dilating intention in order to strengthen one's scenic presence; this is achieved through intentional acting» (Zappettini & Borgogni, 2021; 166).

In his study of behaviour during the performance, Barba describes the presence as the actor's *strength*. This *core of energy*, like a suggestive and knowledgeable, but unintentional irradiation, which captivates the audience's senses and compels them to focus on a particular actor is the result of many years of experience and work (Barba, Savarese; 2005). It is not sufficient to produce a corporeality capable of dominating space and capturing the spectator's attention; rather, one must « produce one's own living body as an energetic body» (Fischer-Lichte, 2016; 173). The performer employs specific embodiment techniques to generate the energy that circulates and affects the audience. The teacher is also required to engage in personal growth work in order to acquire these techniques through training that can lead to the development of presence. If it is the actor's unique ability to generate energy so that it circulates in space and can be felt by the audience, then the teacher can also pursue a path of growth in the awareness and management of this force within the context of their relationship with the students. Insofar as the actor is successful in inducing the audience member to generate energy, the audience member perceives the performer as a source of energy, and this force that flows between the parts is able to transform them. We can see how these references also apply to the motivational, attentive, teaching, and learning processes between teacher and student.

When the actor realises presence by producing his phenomenal living body as an energetic living body, he appears as an «*embodied mind*, that is, as a being in which body and spirit/consciousness cannot be separated but are always given to each other » (Fischer-Lichte, 2016; 175). Today, it appears imperative to recover the bodily and embodied dimensions of pedagogical processes in a way that protects the complexity and integrity of the individual. Even more so if experiencing oneself and the other as presently present involves experiencing oneself as an *embodied mind* and, as a result, experiencing being as extraordinary, transformed, because it is constantly becoming in relationship.

Being there is also essential to the pedagogical experience; Rivoltella (2021), echoing Don Milani, writes that one should not be concerned with « *how one should do school*, but only with *how one should be to do school*» (Milani, 2017; 267). Being present means supporting *embodied* didactics, which aims at being, at making students and teachers vibrate in resonance, at "feeling" the classroom in the direction of passionate engagement. Since knowledge « is always crossed by the body, by the drive, whose highest aim is the transformation of the objects of knowledge into erotic bodies» (Recalcati, 2014; 88).

4. Empathy

*« One comes from caring,
called by an affectivity that gave us birth
and as it is often said, "brought us into the light". »
Ivo Lizzola*

As the late director Peter Brook remarked in the preface to Rizzolatti and Sinigaglia's text (2006), regardless of linguistic or cultural differences, actors and audiences share the same actions and emotions. Neuroscience provides evidence of this via the mechanism of embodied simulation (Gallese & Guerra, 2015); we can observe someone's facial expression and understand its meaning not only through analogy, but also through the reuse of the same neural circuits upon which our first-person experience of that particular emotion is based. Similarly to actions, emotions are immediately shared: « the perception of another person's emotion activates the same regions of the cerebral cortex as when we experience that emotion» (Rizzolatti, Sinigaglia, 2006).

These factors also seem important to us in the context of schools. Since the pedagogical relationship between teacher and student encompasses emotional and affective aspects and is based on elements of empathy, active listening, and comprehension of emotional experience. It is the strong educational bond that drives meaningful learning and encourages exploration, knowledge, and the overcoming of fears and obstacles.

In the theatre, we observe a character's facial expression of a particular emotion, and this perception allows us to comprehend the expression's emotional meaning. According to Gallese (2007, p. 24), the sharing of the same bodily state between observer and observed enables this direct form of understanding, which we might refer to as "empathetic." This process involves the body and emotions directly, so embodied simulation would appear to explain intersubjective functioning in a novel manner.

Evidently, in order to foster a climate of mutual aid, positive interdependence, and cooperation, it is becoming increasingly important to train teachers and educators to recognise and comprehend the underlying motivations behind the actions of others and to transmit these skills to students. «The more empathetic we are, the more unconsciously our muscles resonate with those of someone who is mimicking a particular emotion» (Gallese, 2007; 23).

As stated by Bruno Rossi, placing oneself on the same affective wavelength, co-sensing, decentralising and sharing affectively, and emotionally participating in the psychic experience of others facilitate communication and encounters, moderate competition and discourage aggression, increase the disposition to understand, reduce psychological distances and lower the level of conflictuality, limit resistance and defences, promote involvement in what concerns the other party and they promote the expression of help and sociability, especially towards those who are in conditions of difficulty and need (Rossi, 2017).

The communion created between actor and spectator during a theatrical performance, as well as the unique human connection that develops between two people who look each other in the eye or between teacher and student in an authentic contact that transforms both parties through a unique

transformative process. All of these interactions, which we can define as empathic, give rise to responsibility toward the other and reshape ethics and the value system to the extent that the other "comes to meet me" and no longer leaves me unchanged.

Empathy, in fact, «transforms us because it illuminates the moral stakes of existence and consequently induces us to reopen doors that have been too hastily closed, to give another chance to events that we believe to be irrevocably concluded, [...] empathy becomes the assumption of responsibility towards the other as a subject who suffers or rejoices, who loves or hates. Empathy acquires moral significance» (Boella, 2006; 76).

Conclusions

The educational reality that teachers and students inhabit today, which has been damaged by a period of fragility, requires rethinking and reconstructing the relationships of bodies in bodies and among bodies that populate school, educational, and social spaces.

The training of teachers and educators must increasingly incorporate the physical, relational, and affective aspects of education. A shift is anticipated from an approach to motor and bodily practises linked to disciplines and projects, segmented and fractioned in the hours devoted to them, to a perspective based on the complexity of teaching and learning processes that is *embodied* and strongly characterised by a bodily, motor, and relational dimension. The teacher-director is required to accept and validate the systemic and processual nature of learning, accepting the recent neuroscientific findings that clearly demonstrate that any pedagogically founded discourse must include the bodily, perceptual, and sensorial dimensions in a holistic and global view of the individual.

Empathy and presence (theatrically understood as *strength* and *energy*) enable an interpersonal interweaving coloured by emotions and sensations that favours intentional consonance between the subjects of an educational relationship. This creates closeness and familiarity via mechanisms of reciprocal mirroring, which neuroscience explains are rooted in brain circuitry (Ammaniti, Ferrari, 2020; 56). The gaze, as a concrete action of mirroring, blesses, legitimises, and values the other's diversity, not its presumed conformity to us (Zappettini, Borgogni & Carlomagno, 2022). It is possible to rethink teacher education from an *embodied* perspective through the development of an understanding of the performative dynamics of intention and life forms and the regulation of the autopoietic feedback loop.

The theatre, a place of gazes, meets the school and the educational community in its offering of itself as an authentic experience of the gaze, which is a discovery of the other, a meeting that establishes a profound, affective, pedagogically and educationally productive communication.

References

- Ammaniti M., & Ferrari P. F. (2020), *Il corpo non dimentica*. Milano: Raffaello Cortina Editore.
- Ammaniti M. & Gallese V. (2014), *La nascita della intersoggettività*. Milano: Raffaello Cortina Editore.
- Bandura A., (2000), *Autoefficacia: teoria e applicazioni*. Trento: Erickson.
- Barba E. (1965), *Alla ricerca del teatro perduto*. Padova: Marsilio Editori.
- Barba E. (1985) *The Dilated Body*. Roma: Zeami Libri.
- Barba E. & Savarese N. (2005), *L'arte segreta dell'attore. Un dizionario di antropologia teatrale*. Milano: Ubulibri.
- Bertagna G. (2018), *Educazione e formazione*. Roma: Studium.
- Berthoz A. (2011), *La semplicità*. Torino: Codice edizioni.

- Boella L. (2006), *Sentire l'altro. Conoscere e praticare l'empatia*. Milano: Raffaello Cortina Editore.
- Borgogni A. (2020), *L'intenzionalità educativa degli spazi pubblici*. Roma: Studium.
- Borgogni A. & Zappettini C. (2022), A disciplinary body is a disciplined body. In «Nuova Secondaria Ricerca», 7, Anno XXXIX, pp. 375-384.
- Carlomagno N. & Minghelli V. (2021) Distance teaching as a performative experience. in «Italian Journal of Health Education, Sports and Inclusive Didactics», Anno 5, n. 2, pp. 187-198.
- Carlomagno N., Palumbo C., Sibilio M. (2014), Traiettorie non lineari della ricerca didattica: le potenzialità metaforiche ed inclusive delle corporeità didattiche. «Italian Journal of Special Education for Inclusion», anno II, n. 1, pp. 129-143.
- Carlomagno N. (2020), Le potenzialità didattiche delle arti sceniche. «Education Science & Society», 1, pp. 346-359.
- Carreri R. (2007), *Tracce. Training e storia di un'attrice dell'Odin Teatret*. Milano: Il principe costante edizioni.
- Cruciani F. (1995), *Registi pedagoghi e comunità teatrali del '900*, Roma: E & A editori associati.
- De Marinis M. (2013), *Il teatro dopo l'età d'oro*, Roma: Bulzoni.
- De Marinis M. (2008), *Capire il teatro. Lineamenti di una nuova teatrologia*, Roma: Bulzoni.
- Dewey J. (2020), *Arte come esperienza*, Milano: Aesthetica edizioni.
- Fischer-Lichte E. (2016), *Estetica del performativo. Una teoria del teatro e dell'arte*, Roma: Carocci Editore.
- Frauenfelder E. (2017), Interview, in Carlomagno N. (2021), *Performative Didactics: the Declination of Simplicity in the Performing Arts*. «Nuova Secondaria», n. 10, Anno XXXVIII.
- Gallese V. (2010), *Corpo e azione nell'esperienza estetica. Una prospettiva neuroscientifica*. In Morelli U. (2010), *Mente e Bellezza. Arte, creatività e innovazione*. Torino: Umberto Allemandi Editore.
- Gallese V. (2007), *Il corpo teatrale: mimetismo, neuroni specchio, simulazione incarnata*. In Bortoletti F. (2007), *Culture Teatrali, Teatro e Neuroscienze*. Bologna: Edizioni Carattere. 16/2007.
- Gallese V. & Guerra M. (2015), *Lo schermo empatico. Cinema e neuroscienze*. Milano: Raffaello Cortina Editore.
- Grotowski J. (1986), *Conferenza a Liège, Cirque Divers, 2 gennaio 1986* in Richards T. (1993), *Al lavoro con Grotowski sulle azioni fisiche*, Milano: Ubulibri.
- Iacoboni M. (2008), *I neuroni specchio. Come capiamo ciò che fanno gli altri*. Torino: Bollati Boringhieri.
- Lizzola I. (2014). *L'educazione nell'ombra. Avere cura della fragilità*. Roma: Carocci Faber.
- Mariti L., *Transiti tra Teatro e Scienza*, in G. Sofia (Ed.), (2009), *Dialoghi tra teatro e neuroscienze*. Roma: Alegre.
- Maturana H. R. & Varela F., (1995), *L'albero della conoscenza*, Milano: Garzanti.
- Merleau-Ponty M., (2019), *La struttura del comportamento*, Milano: Mimesis.
- Merleau-Ponty M., (1979), *Il corpo vissuto*, Milano: Il saggiatore.
- Milani L. (2017), *Tutte le opere*, Milano: Mondadori.
- Recalcati M. (2014), *L'ora di lezione. Per un'erotica dell'insegnamento*, Torino: Einaudi.
- Rivoltella P. C. (2021), *Drammaturgia didattica, Corpo, pedagogia, teatro*, Brescia: Scholé.
- Rizzolatti G. & Sinigaglia C. (2019). *Specchi nel cervello. Come comprendiamo gli altri dall'interno*. Milano: Raffaello Cortina Editore.
- Rizzolatti G. & Sinigaglia C. (2006). *So quel che fai Il cervello che agisce e i neuroni specchio*. Milano: Raffaello Cortina Editore.
- Rizzolatti G. & Gnoli A. (2016), *In te mi specchio. Per una scienza dell'empatia*. Milano: Rizzoli.
- Rossi B. (2017). *L'intelligenza empatica*, In M. Sibilio, *Vicarianza e didattica*. Brescia: Editrice La Scuola.
- Sofia G. (2013). *Le acrobazie dello spettatore. Dal teatro alle neuroscienze e ritorno*, Roma: Bulzoni editore.
- Stanislavskij K. S. (1982). *Il lavoro dell'attore su se stesso*. Bari: Editori Laterza.
- Stern D.N. (2011). *Le forme vitali: l'esperienza dinamica in psicologia, nell'arte, in psicoterapie e nello sviluppo*, Milano: Raffaello Cortina Editore.
- Varela F. (1996). *Neurophenomenology: A Methodological Remedy for the "Hard Problem"*, in «Journal of Consciousness Studies», vol. III, n. 4, 1996, pp. 330-349. In M. Cappuccio (2006). *Neurofenomenologia. Le scienze della mente e la sfida dell'esperienza cosciente*. Milano: Bruno Mondadori.
- Zappettini C., Borgogni A. (2021). *Performing arts and neuroscience: body and mirrors in theatrical expressivity*. «Italian Journal of Health Education, Sports and Inclusive Didactics», Anno 5, n.2, pp. 161-171.

Zappettini C., Borgogni A., Carlomagno N. (2022). Quartieri di Vita 2021: Fragilities and Performing Arts in Neuroscience and Humanities, «Italian Journal of Health Education, Sports and Inclusive Didactics», Anno 6, n. 1.