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**RESEARCH ON EDUCATIONAL NEUROSCIENCE**

**IL FUTURO PROSSIMO DELL'EDUCAZIONE  
NELL'UNIVERSO DIGITALE**

*Ripensare, ricollegare e visualizzare:  
il contributo delle neuroscienze educative*

**THE NEAR FUTURE OF EDUCATION IN THE DIGITAL  
UNIVERSE**

*Rethinking, reconnecting and visualising: the contri-  
bution of educational neuroscience*

**Volume 1**

**A cura di  
Francesco Peluso Cassese**



**EDIZIONI  
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# “OVERCOMING BARRIERS YOU CANNOT SEE”. PEDAGOGICAL REFLECTIONS ON THE ENCOUNTER BETWEEN SPORT CLIMBING AND VISUAL IMPAIRMENT

## “SUPERARE BARRIERE CHE NON SI VEDONO”. RIFLESSIONI PEDAGOGICHE SULL’INCONTRO TRA ARRAMPICATA SPORTIVA E DISABILITA’ VISIVA

Nicoletta Ferri

University of Milano-Bicocca, Italy

nicoletta.ferri@unimib.it



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### ABSTRACT

The paper investigates the inclusive value that a sport climbing context can represent for blind and visually impaired adolescents through data from a qualitative research conducted by the University of Milano-Bicocca. From the perspective of Embodied Pedagogy, the article highlights both the pivotal components of the materiality of sport climbing and the pedagogical relevance that the experience of these elements can assume for an adolescent with visual impairment.

Il contributo indaga il valore inclusivo che un contesto di arrampicata sportiva può rappresentare per adolescenti ciechi e ipovedenti attraverso i dati di una ricerca qualitativa condotta dall'Università degli Studi di Milano-Bicocca. Nella prospettiva della Pedagogia del corpo, l'articolo evidenzia sia le componenti cardine della materialità dell'arrampicata sportiva sia la rilevanza pedagogica che l'esperienza di questi elementi può assumere per un adolescente con disabilità visiva.

### KEYWORDS

Sport climbing, Visually impairment, Embodied Pedagogy, Inclusion. Arrampicata sportiva, Disabilità visiva, Pedagogia del corpo, Inclusione.

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## Introduction

*When I was 15 years old, I lost my sight. I was not afraid of being blind and not seeing anything. I was afraid of being cast aside, of being forgotten.*

(E. Weihenmayer)<sup>1</sup>

*When you achieve something you never thought you could achieve, you are climbing an invisible obstacle in your life.*

(Koba)<sup>2</sup>

Some sports, due to their constitution, organization and functionality, can represent privileged areas of practice and motor exploration for those who start from a specific condition of sensory disability. This is the case of sport climbing for blind or visually impaired people and, in this contribution, we intend to reflect on the educational and inclusive possibilities that this sport can offer in this direction, starting from a concrete social and research project.

The *Born to Climb* project is an educational and social project aimed at promoting the practice of sport climbing as a tool for social inclusion and psychophysical wellbeing for adolescents and young people with visual sensory disabilities, promoted by Cooperativa La Vecchia Quercia (Lc), Consorzio Consolida (Lc) and I Ragni di Lecco A.S.D., with the contribution of the Lombardy Region and Fondazione Cariplo, under the patronage of University of Milano-Bicocca. The project was developed between October 2018 and June 2019 in the town of Lecco (Italy) and involved fifteen blind and visually impaired teenagers from 12 to 17 years old in a cycle of indoor sports climbing lessons guided by professional educators and qualified F.A.S.I. – Italian Sport Climbing Federation – instructors. In order to provide specific tools for working with blind persons, the project was structured with a training focus and as first phases, a specific training related to visual impairment was designed for the instructors by expert educators and the typhlopedagogue<sup>3</sup>. Following the development of sport climbing lessons with adolescents, in the third part of the project some participant's schools had been

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<sup>1</sup> Erik Weihenmayer, American mountaineer and activist. He was the first blind person to reach the summit of Mount Everest on May 25, 2001.

<sup>2</sup> Koichiro Kobayashi, called Koba, Japanese paraclimber athlete, category B2 (visually impaired).

<sup>3</sup> In the project was present a typhlopedagogue, a pedagogist specialized in visual impairment.

involved: in a fully inclusive perspective, the schoolmates experienced climbing practices and techniques guided by their blind companions.

In the last part of the project, several dissemination actions took place to spread the achievements, as the Seminar at the University of Milan-Bicocca entitled “The opposite of one: *two* in the experience of sport climbing for the blind and visually impaired. Pedagogical, sporting and inclusive reflections and presentation of the *Born to climb* project”, in May 2018.

In parallel of the social and educational goals of *Born to climb*, the lead Partners designed a part of the project as an action research in order to assess the inclusive and pedagogically relevant outcomes as well as the professional awareness of these dimensions. These research tasks were addressed to the *équipe* of Embodied Pedagogy of the University of Milano-Bicocca and, more specifically, to the author of this article. In order to answer these research questions, a qualitative data collection was structured to gather the point of view of all stakeholders and track enacted changes during the process. It has been given a structured *reflective journal* (Gray, 2007) to educators and instructors, to take notes in relation to their pedagogical observations (Gobo et al., 2017) during the course and to be able to have a common base to discuss during the focus groups. Direct field observations and interviews addressed to the typhlopedagogue as well as the involved teenagers and specialists in the paraclimbing field, had been conducted by the researcher. The collected narrative and reflective data were first analyzed through a coding process (Boyatzis, 1998) and then aggregated in thematic areas. This paper aims to highlight some of these thematic reflections about the inclusive potential of sport climbing for blind or visually impaired adolescents. Within this direction of action, observations of the peculiar sport settings explored through a specific literature review and with interviews to expert interlocutors, will be interwoven with excerpts coming from qualitative data and related to the experience of the actors involved in the project.

In the following paragraph, we start considering how a motor point of view, framed in the theoretical perspective of Embodied Pedagogy (Gamelli, 2011a; 2011b; Ferri, 2022), may help to investigate the inclusive dimension of sport climbing, with a focus on the three macro-categories that characterize its setting: action (the motor gesture), space and time.

### **1. Looking at the materiality of sport climbing from a pedagogical perspective**

## 1.1 A person-sized gesture

A first aspect we would like to consider here in relation to the motor gestures involved in sport climbing is its relative lack of standardization (Grant, 1996). There is a structural reason for explaining the low homologation featured in the gestures of this sport: in the transition from one hold to the next, each practitioner finds the optimal way to perform the ascent according to his/her anthropometric characteristics, physical abilities and technical skills. It is a person-friendly gestures in which there is a creative element that is linked to the very origins of this sport, in nature. Everyone chooses the route by adapting the technical gestures on his/her own corporeity, and it is exactly this space between the technique and the (personal) expression of the gesture that guarantees to climbing an high inclusive potential: for this reason the practice is largely accessible even in the case of sensory disabilities, because it allows the development of personal and specific ways of approaching the wall.

The type of motor action used in this sport has further specific potential for people with sensory disabilities. Observing a sport climbing ascent, it is easy to realize that the motor scheme on which this sport is based, the way of proceeding up the wall, is one of the most basic in the human kinesthetic alphabet: a quadrupedal motion, in this case *a vertical quadrupedal motion*. And this can offer to a blind or visually impaired person an opportunity to develop important motor skills.

*In the past, I met the mother of a blind child who, in order to be able to offer her child the opportunity to freely experience movement without being restrained and conditioned by fear – her own fear and also child's - decided to put her an helmet, which would have prevented from seriously hurting, but not from hitting and bumping into obstacles. This would have been for her an exceptional experience to learn how to orient in space. (BtC project typhlopedagogue, interview)*

Crawling is a pivotal stage in human development for many reasons: primarily, it is one of the first truly autonomous movements a child makes in space (Yamamoto et al., 2020). It can happen, however, that it is a developmental step that parents hastily accelerate by the desire – behind which they often hide apprehension and anxiety – for their child to walk as quickly as possible (Walle, 2016; Ceciliani, 2008). This is common in the experience of parents and children with sensory – and especially visual – disabilities. In the action of crawling without the guidance of sight, the head is the outpost, the first body area in contact with any encounter

surface and therefore most exposed to impact. For this reason, in a (hyper)protective perspective, blind children are often pushed to quickly reach a standing position, in which they could use the upper limbs to protect and orient themselves in space (Houwen et al., 2010; Wang, 2004; Brambring, 2001). The practice of climbing in adolescence, youth or adulthood with visual impairment can therefore represent a pivotal motor experience (Lee et al., 1985), because it permits to retrace motor patterns that, due to unfavorable environmental and educational factors, may not have been fully experienced.

In sport climbing the sense of sight is not the most important sense involved in motor action. The sense of touch is more or equally important because it is necessary to understand the type of hold and thus assessing one's repositioning in space in relation to the next step on the wall. For this reason, a classic exercise in climbing didactics is to blindfold children, young people, neophytes, in order to make them feel holds properly and develop a more refined listening of proprioception and movement: a *prehensile listening* (Sugi et al., 2023). From this point of view, being sightless makes it possible to approach this sport in a very specific way, using the haptic function of the hands, which is often particularly developed in blind persons<sup>4</sup>. Climbing also refines the haptic function of the feet, which is important in the case of visual impairment because it can help to build a greater sense of postural security. In sport climbing technique, there is in fact equal use of the hands and feet, and the latter perform their own, autonomous functions in the motor gesture: in addition to supporting the body, they facilitate the climbing action, making it fluid and harmonious. They function like probes that assay and analyze the field of action in a systematic way; according to their explorations, the whole body consequently moves. This has been a very significant element in the *BtC* project: as an educator has explained in the interview, participants "discovered their feet" and in this way they started to develop the ability to listen to a part of the body previously used with much less perceptive and kinesthetic sensitivity.

## **1.2 In the space of the wall, in the time of a breath**

The research data collected highlighted how sport climbing offers visually impaired persons a privileged motor practice area, relevant not only for the sense-perceptive component, but also for the specific spatial setting. The wall is the territory where athletes create their own track and, potentially, it is a very useful element for the visually impaired ones because it remains a stable and constant reference throughout the execution of the motor gesture, giving a clear spatial orientation that other sports do not offer. The importance of the presence of the wall is not only linked to a practical level, but also to a virtual one: it is the imagined map, on

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<sup>4</sup> This is not necessarily true for visually impaired people.

which the athlete can memorize the route by simulating its crossing, movement by movement. This is a pivotal exercise for climbers, a peculiar training of attention and memory, as many studies show (Di Paola et al., 2013).

Blind and visually impaired children and young people build their *ability to think and mentally represent reality through touching*. During the BtC project it has been proposed to them a tactile, haptic exploration that, in an integrated way with respect to the other senses and through the support of language, has set the very material conditions to allow *knowing* and *thinking*.

*What I saw happening in the experience of sport climbing was the possibility of touching a specific target and to be able to “see” it, to be able to think about it. [...] “I have to get there and, in order to get there, I have to do this route, this path, and when I walked it, touching it with my hand, I have realized it, I have arrived”.*

*In my opinion, this constitutes an exemplary and highly symbolic experience, as well as a physical and concrete one. A learning experience that remains as a model, within itself. (BtC typhlopedagogue, interview)*

The practice of concentration in this sport is connected to a special way of listening: the personal climbing rhythm. In a not competitive context<sup>5</sup>, the time of ascent is related to the very rhythm of the climber, who beats the gesture in relation to the breath. Listening and proprioception are important factors developed through the training of a tonic rhythm of muscular contraction and decontraction, in connection with breathing. Long or shorter pauses are needed in different climb route passages. From this point of view, climbing becomes an opportunity to learn to focus on oneself, for example concentrating on the air entering and leaving the lungs, avoiding apnea. The technique of this sport is based on exhalation during the phases of major muscular contraction, like a “launch”, and on managing the breath to recover the effort made.

For these reasons, with respect to the temporal dimension and from a pedagogical point of view, climbing can be a particularly meaningful context for visually impaired people, because offers the possibility *to tune in to an inner time* and follow it, beyond any external demands. Pedagogically, this is very relevant because it improves the capacity of *self-regulation* which is highly transferable to other experiential and learning contexts.

*Self-regulation means to learn skills that I could really try to transfer because they became like internal resources, I’ve internalized them. In turn, they became resources nourishing the desire to go forward by exploring. (Garbo, 2009, p. 24)*

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<sup>5</sup> In sport climbing there are three types of competition: Speed, Lead and Boulder.

## 2. Riding the challenge

Although sport climbing, thanks to proper safety management, is a low-risk activity, a strong adrenaline component is at the core of its practice, especially for beginners: the height, the different perception of weight distribution in a vertical position, the absence of floor support, the emptiness, hanging from the rope, are just some examples of the many elements that make this sport an unusual, disorienting, extraordinary experience, not only from a motor point of view. It is a vestibular but also emotional, psychological disorientation, and from an educational perspective we can connect this aspect to the theme of adventure, a topic with high pedagogical relevance. Adventure is an important component at any phase of development because drives towards the not-given, the new, the not-yet-experienced (Massa, 1989; Bertolini & Caronia, 2015), and it has deep connections with the motivation to learn (Farnè et al., 2018). In adventure there is a break from the everyday activities (and sometimes from its passive habits) and the perception of risk functions as an activating agent.

*Thanks to the exceptional, the world suddenly and obviously appears different to the child. And appears different also his place in it. [...] Through disorientation and the dimension of the exceptional, an attempt is made to break certain habitual patterns and the images the child has of himself. (Bertolini & Caronia, 2015, p. 132)*

The participants in *Born to Climb* were all teenagers; challenging one's limits, testing oneself, exploring and experimenting safely an increasing autonomy are important experiences at that age (Barone, 2009).

The increase of self-confidence was one of the thematic areas emerging from data analysis: achieving climbing goals triggered adolescents to raise the level of challenge in next meetings and produced a new sense of self-confidence.

*S.: "At the beginning I didn't think it was possible. I didn't think the educators would ever propose such a thing [...] and I was a little afraid. Then gradually I felt more confident".*

*Researcher: "And when you climb, what do you think about it"?*

*S.: "I think: 'Wow, at last! I'm doing this thing!' It is the realization of my philosophy: anything is possible if you know your limits and if you believe in what you are doing. Climbing makes me confident". (Interview with S., 14 years old)*

Sport climbing encourages practitioners to go beyond their comfort zone and to train their problem-solving aptitude; climbing challenges the ability to solve



difficulties encountered during the route and it prompts to explore the limits of mental and physical abilities (Johnson et al., 2001; Mazzoni et al. 2009). These aspects develop self-efficacy and self-esteem, as well as the ability to concentrate and focus attention (Bourdin et al., 1998; Sarrazin et al., 2002). For these reasons sport climbing can represent a precious activity for adolescents, who are living a moment in life where important steps related to the process of individualization are present. This is important especially when this process, for various reasons – in this case related to a sensory disability – is more uncertain and associated with low self-confidence and self-valuation.

*A particularly devalued identity can be reconstructed if one discovers oneself unexpectedly capable of doing something and, within a context in which everything is new, one is more likely to risk what for the child is the real novelty: actively and incisively intervening in the world. (Bertolini & Caronia, 2015, pag. 134)*

### **3. The adventure of knowing**

Beyond the aspects more strictly related to the motor gesture, *Born to climb* was for the participants a meaningful learning experience: embodied, deep, rooted in the body awareness that was gradually being refined in the teenagers.

This is evident from data collected at many different levels: on a personal level, the participant teenagers realized the important motor progress they went through; but also a personal growth in terms of challenging and overcoming their own limitations and fears; and, finally, it was relevant their desire and motivation and the displeasure experienced for the end of the project.

John Dewey in “Experience and Education” reminds us that not all experiences are educational but only those having certain characteristics. Among them he stresses *continuity and openness to future experiences*. The principle of continuity of experience means that each experience receives something from those that preceded it and modifies in some way the quality of those that will follow (Dewey, 1984). Thus, it can be said that there is a common thread that connects these dimensions and there is always, from experience to experience, a small change in the subject and thus, referring to Bertolini and Caronia, a change in his/her worldview that includes the origins of intentionality and behavior. Dewey (1984) argues that this dimension has the potential of influencing attitudes related to the quality of experiences that will follow by promoting certain preferences or aversions or making it easier or more difficult to act for this or that objective.

An experience is educational when it fits dynamically into a person’s life process, broadening his/her horizons, producing meaning and expanding perspectives. As Dewey says, the greatest mistake is to believe that an individual learns only that particular element that he/she is studying at that moment.

*Collateral learning*, the formation of enduring aptitudes or repulsions can also be much more important. The aptitude that is most important to be acquired is the *desire to learn* (Dewey, 1984).

This aspect in the project emerged as a cognitive disposition of learning, related to the sense of the adventure of knowing. The transferability of skills and attitudes to other areas of experience it is perhaps the highest achievement that participants have acquired from the project, along with discovering the thrill of knowing. As the pedagogue Nicola Cuomo argues in these words:

*The emotion of knowing can be recognized as the energy that can determine the overcoming of difficulties, of the fatigue that knowledge paths often propose, transforming them into an enjoyable adventure.*

*In this adventure that knowledge proposes, there are not paths “flattened or cleared” from difficulties, mistakes, fatigue... Like an explorer, a climber, who ventures into knowledge, into knowing and desires to experience the efforts, the defeats, the fatigues... as these are part of the emotion of knowing and give the “flavor”, the “charm of adventure”. (Cuomo, 1995, pag. 45)*

#### **4. Toward a deeper presence**

In contrast with the motor and educational potential that sport – and in particular sport climbing – can offer to people with visual impairments, research interviews revealed that many of the teenagers involved in the project (twelve and fourteen years old) were at their first sport experience.

*Researcher: Which sports have you played in your life, G.?*

*G.: None.*

*Researcher: Is it the first one?*

*G.: Yes, it is the first, just first experience. Maybe that’s why I say it’s right to entice people. It’s something to share together. (Interview with G., 12 years old)*

This element is surprising but it is coherent with the field literature, where many studies show that the experience of continuous and intentional sport practice is not widespread for persons with visual disabilities (Campbell et al., 1999; Crews & Campbell, 2001). Some studies note possible health damage of this inactivity: risk of overweight, lower cardio-vascular training, lower sports performance compared to peers without visual impairment (Hopkins et al., 1987; Lieberman & McHugh, 2001). Motor inactivity in youth and adulthood also appears to be co-responsible for depressive states as well as motor limitations (Haibach et al., 2014).

*When I climb, I use all of myself, I forget about my blindness. I use everything I have to do something. For me it is a moment of fullness of life where mind and body are one hundred per cent involved. When a disabled person is climbing, he is on an equal footing with a normal person. He is not worrying about a leg he doesn't have or eyes that don't work. A climber is concerned about climbing and not falling, whether he/she is disabled or not. This makes you feel alive, full of energy. This activity has formed my character, the attitude to try and try again, to hold on, to get close to the limit. (Interview with S. Salvagnin)<sup>6</sup>*

For people with sensory disability, sport practice can represent a pivotal training area for self-awareness and state of presence, because it influences the posture and the attitude towards the world. M. Feldenkrais (1991), creator of the homonymous method, used to speak about “acture” and not “posture”, meaning that our positioning in the world is continuously dynamic and in relation to a musculoskeletal adaptation to circumstances. The tonic dialogue is one of the first form of communication between a mother and her baby, and it comes much earlier than any words and any meaning. It is a set of responses that are articulated in contractions and decontractions: this “tonic dialogue” weaves our very first dialogue with the world (Gamelli, 2011b). D. Stern (Stern, 2010) argues that on this primordial bodily dialogue we create the kinesthetic basis of emotions, the embodied substrate of our emotions (Cartacci, 2002). The discipline of climbing enables to train the state of tonicity in a sensitive and non-mechanical way and this could promote an active and reactive relationship with the world and the environment around us. It is a practice that increases body awareness in terms of “presence”, as emerges strongly from the words of the paraclimber athlete Simone Salvagnin.

*Climbing is like a great metaphor: there is attachment to life, the desire to go high, to reach the summit of self-realization. You are hanging on to something trying to rise. And then responsibility is required, because when you climb there is always someone you are securing with the rope. If you think about it, you have someone else's life in your hands.*

*Climbing made me reborn and so I would now like to involve other young people in this wonderful sport. (Interview with S. Salvagnin)*

## **5. The relational potential of belaying**

A further potential emerged from the BtC project concerns a pivotal aspect of the practice and teaching of sport climbing: belaying. As the athlete progresses, the

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<sup>6</sup> Simone Salvagnin, athlete in the Italian National Paraclimbing team.

belayer gives her the rope that is strictly necessary for the ascent and that, in the event of a fall, will be kept in tension through the lock off tool she has tied on, the grigri.

*For almost everyone there was the discovery of the possibility of belaying companions on the wall. It is the great revelation of the course. Using the grigri, sliding the rope to allow others to climb or descend makes one feel responsible. Even for G., who is totally blind, it is a great joy to live this role and to let her mate S. safely enjoying the wall! A totally unprecedented way to “se-cure” someone else! (S., Educator, Ongoing Observations)*

The rope that secures and therefore binds the companion is a concrete, tangible but extremely sensitive and sophisticated instrument of relationship. From its tensions it is possible to have a fairly precise idea of the position of the climber even without having direct visual contact.

From a pedagogical point of view, these moment of encounters between peers, belaying each other, were among the most significant of the project. There was fear, of course, because of the responsibility perceived, but above this rose the amazement, the gratification and the sense of pride. This simple exercise reversed the roles: thanks to the mediation of the rope, the physical taking care of someone else broke out the common perception of being dependent.

*Educator: In climbing she has found a partial answer to her desire to free herself from adults or “normally sighted” companions. She relishes climbing up and down the wall as an act of freedom, as a time when she can rely on her own strength and that of her mate who belays her, who is often the trusted friend G., who is blind and therefore in the same situation as her. But what she is most proud of is being able to do belaying. (S., Educator, Ongoing Observations)*

*Researcher.: Do you like to belay your mates?*

*S.: Yes, so much. It’s nice because I feel responsible. It’s nice because it’s also an exercise to increase ... self-esteem, responsibility.*

*(Interview with S., 12 years old)*

Another relevant element in breaking down the relational pattern of dependency in which visually disabled people sometimes find themselves it is the autonomy of motor gesture exploration: this is definitely a leitmotif in the field of visual impairment. As highlighted in the interview with Alessandro Biggi, coach of Italian National Paraclimbing Team, where he refers an anecdote, related to the 2018 World Championships in Innsbruck:

*Biggi: there was this Japanese world champion athlete, 50 years old, visually impaired, category B1: Kobayashi, called Koba. He told his guide: "You have just to tell me where the holds are. I'll take care of the rest, because I'm not a remote-controlled robot. I don't want you to command me".*

*[...] What do I learn from the experience of training blind persons? Always the same thing: that they are athletes. And as a coach I have to find the right distance: sometimes being too much followed or too set up bothers them. They tell you: "However, I can climb!".*

*In fact, with them we are doing this negotiation: "You study the holds and the wall and if you don't get something or if you need help, I'll give you advice". (Interview with A. Biggi)*

The theme of dependence and autonomy is nodal in any educational context: the balance between leading and being led characterizes any kind of intentionally educational/learning space. For people with disabilities, the development of autonomy and thus personal abilities is even more relevant (Garbo, 2005; Pavone, 2014).

*The balance between autonomy and dependence is always very delicate because these children grow up with educational figures beside them, on whom they feel they depend for so many daily needs, but from whom they would like to detach in order to be able to do it on their own. In the project I did not perceive this "polarity" too much, perhaps because it is somewhat inherent in sport climbing to "depend" on someone who makes you safe and it was normal to get help from other people, while still doing the activity independently because in the end, when you get off, you have to rely on your own abilities. (L., Educator, Ongoing Observations).*

From this angle, the relationship between guide and paraclimber, but also between climber and belayer, offers an excellent context to train a constant search for balance in terms of relational autonomy. As the project unfolded, instructors were given young participants less and less instructions. In connection with this point, it was interesting to see how adolescents were gaining more and more confidence in an autonomous gesture, conquering exploratory autonomy.

*Being in a situation where it was normal to ask the climbing instructors for help, led her to recognize more of her need for help while staying on the edge of "as long as I can, I'll do it myself". (L., Educator, Ongoing Observations)*

The group of participants in the Born to Climb project had the peculiar opportunity to experience a peer group dimension with mates having the same visual disability. Although it was not an inclusive context, this acted as a facilitating element

because, as reported by the educators, it represented for the participants a rare condition. The low number of students with sensory disabilities in the Lecco area doesn't allow many concrete opportunities for sharing and meeting: in this scenario, the Born to climb project offered a unique opportunity.

*Educator: I was a little afraid about this at the beginning. Because to do an activity only for the blind or visually impaired seemed to me to be a ghettoizing activity. Pedagogically, I think is important to set up inclusive activities, for the visually impaired or blind and for not disabled persons. But I had to reconsider it because there is a need for such activities from time to time. There is a need for contexts where we find the opportunity to reflect ourselves in each other, the possibility for a confrontation and also the chance of getting rid of that sense of inferiority that our kids always have. This homogeneous context relaxed the participants, who shown openness willingness, enthusiasm and confidence. (S., Focus group educators)*

Climbing lessons acted as a welcoming, valuing, listening context, where teenagers could experience a sense of trust.

*Educator: The word that always comes to my mind when I think of this project is "trust"; because a person, in order to be able to build any kind of security – and learn how to connect it with her ongoing insecurities – must be able to trust. To believe that you are accepted for who you are in that place. It's important to feel that you can say "No, I don't want to do it" without being judged or inadequate. By receiving respect for their own times and rhythms, each of them could experiment and increase their sense of self confidence in relation to their ability to face new situations. (L., Educator, Ongoing Observations)*

Climbing context did function as a powerful activator of autonomy for some of the teens, for example for M.

*M. is almost 16 years old, and she always struggled to accept her low vision. She denied the extent of the problem, even at the cost of exaggerated and unprofitable efforts. Since she started the climbing course, the feeling is that a new world has opened up for her. Low vision has become speech; she verbalizes its existence without any more fears. Perhaps confrontation with other children of equal visual condition has relieved her from the belief that she had a problem to be hidden. Perhaps she has become aware of her relational and motor potential ("finally a sport I can play without problems!"), and this has lightened her worries [...]. Climbing has been a thunderbolt. When she talks about it her eyes sparkle as if she has found her place. (S., Educator, Ongoing Observations)*

In the gaze of the educator who has known her for many years, it is evident how for M., 16 years old, sport climbing represented a field in which for the first time she felt fully comfortable. The feeling of being able to access a dimension of challenge, with oneself and with others, without starting from a disadvantage, allowed M. to gain so much confidence in her own abilities that she asked the instructors if she could participate in an evening course with other teens of her age without particular visual impairments.

The expression of this desire was interpreted as an element of great success, both by the instructors and the educators involved in the project.

*Educator: Confidence: young participants, each in his/her own way, are bringing out an energy, a self-confidence that lead them each time to try something more, to achieve something new and to be satisfied with the results. I see them believing in themselves in a context where they feel welcomed, where their low vision is not invisible but it is in the minds of adults who can propose appropriate activities or explanations. (L., Ongoing Observations)*

This is perhaps the element with the highest educational potential that I have seen stemming from the project, because it allows – even in an integrated context with people with and without visual impairments – to enter into a logic of reciprocity and thus to generate recognition, resonance, and therefore beauty which, as Bateson says, lies in connection (Bateson, 1976).

## **Conclusions**

The assumption of a research posture in the *Born to Climb* project generated in all the participants a deeper awareness of the inclusive potential of this sport for persons with visual impairments. In this direction, within the perspective of Embodied Pedagogy, we highlighted both the pivotal components of the materiality of this sport – related to the type of athletic gesture, the use of spatiality and temporal dimension – and the pedagogical relevance that the experience of these elements can assume for a person with visual disabilities. Then we focused on the transferable components of sport climbing, related to learning processes, and on social/educational elements: the dimension of challenge and of trust, in peer group, were relevant components for the adolescents who participated in the project in terms of well-being and self-valorization. They described the experience of sport climbing lessons in very vivid tones, full of enthusiasm.

The awareness of the great inclusive potential unfolded in the *Born to Climb* project, made it possible, in the following year – and before the arrival of the Covid Pandemic – to relaunch the experience in outdoor. This possibility opens new avenues for research as the natural dimension is a context with less defined

weather/environmental variables where the encounters with the unexpected are more frequent and characterized by elements that, for a person with visual impairments, can furtherly change the boundaries of his/her "comfort zone".

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