



Emotional Empathic Proximal Learning Educational Environment
PEARL
2018-1-IT02-KA201-048515

Pedagogical approach model

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Introduction

The educational model for early childhood education that will be experimented and scientifically validated by the European project Erasmus + KA 201 PEARL “Emotional Empathic Proximal Learning Educational Environment” derives by the idea of foster children's growth through an empathetic and emotional proximal learning environment based on group activities. The model addresses the children aged from 0 to 6 years and, in collaboration with the experts of the partner institutions from Italy, Lithuania, Spain and Turkey. PEARL represents the international meeting point of neuro-psycho-pedagogical research and educational institutions, to build a network involving academia, teacher training organisations, educational organisations and schools for the promotion of educational models that promote pro-social skills and empathic and emotional proximal learning.

The first 6 years of children's life should be a period in which they should freely experiment and develop all their abilities and self-confidence, in order to be able to move into the primary school educational world with the proper attitude. The environment in which the children should grow is respectful of the individual and at the same time facilitates the relationship with the others, stimulating the openness to each child's abilities to reach a common goal. The preschool class should be an example for an inclusive society where all the individuals can give their contribution.

PEARL model focuses on the group, peer relationships and the development of empathic emotions for the creation of a proximal learning space. The main focus of the educational model is on the positive emotional impact on learning and educational processes, through the use of nature-related elements and educational robotics for pro-social values (cooperation, empathy, mutual aid, etc.).

Reference theories

Montessori

Maria Montessori (1870-1952) was among the first women to graduate in medicine in Italy and devoted herself to psychiatry and childhood.

Her method began to develop when she turned her attention to observing children between three and six years of age. Her predecessors Séguin and Itard had initiated what she would later develop as her own method for the development of the child in the midst of growth and discovery of the world. The three doctors had in common their observation of children with sensory deficits or various forms of disability. This particular one represents the starting point for the birth of an educational path based on sensory stimulation, especially tactile stimulation. In fact, the resulting material, especially that of the Montessori method, aims to work on fine motor skills and eye-hand coordination. All the activities created aim at educating the senses and show a strong connection between the use of touch and the possibility of cultural and psychological growth. Montessori focuses on hands that touch, manipulate,



discover, search and create. This woman was able to intuit what neuroscience confirmed almost a century later: experiences, actions and relationships with objects, through the senses, implement synaptic connections. The materials are objects that have the power to make an abstract concept experiential and keep it active through reiteration.

According to Montessori, another fundamental element that helps the child to grow is error. In the course of an activity, the child experiences mistakes (e.g. playing a game of interlocking pieces), which become essential for growth. By nature, mistakes are not a source of anxiety; on the contrary, they are a valuable part of the learning process. Mistakes stimulate reasoning, changing strategies in order to achieve a goal. Maria Montessori calls it the child's friend.

Montessori underlined also the unique importance of two elements that are indispensable for the harmonious growth of children: the teacher and the class group. The former has a special task, which is to 'open the way', to be a guide for those who are discovering the world and themselves. The teacher never replaces the child, but lets the discovery be the real teacher that will trigger learning. The second (the group of peers) is essential for communication and the building of relationships capable of promoting and pursuing a common goal: to achieve a harmonious and complete development through the experimentation of the surrounding world (in our case, a learning environment designed specifically to achieve this goal).

Piaget's genetic epistemology

The Swiss psychologist Jean Piaget (1896-1980) has elaborated, during his very long and vast activity, a new "philosophy of the mind" founded on empirical bases and on an interdisciplinary integration that was unknown to philosophy. Despite the traditional occidental philosophy that considers the problem of "knowledge" as central, he has shown that he can find new solutions, expressed in a theory of the mind that has as its fundamental requirement the notion of "development". The achievement of the adult ways of thinking is not immediate, but proceeds by subsequent stages, each one plays a necessary and unavoidable role due to the progressive rebuilding of their functioning.

Piaget considered the development of the structure of the mind as a process of continuous reorganization through the interaction between the mind and the environment. The psychogenesis emerged as an evolution - starting from the birth - from simple mental structures (based on action) to increasingly complex structures, based on thought.

Adaptation takes place through two fundamental processes:

- assimilation: allows the body (and mind) to incorporate elements of the external environment into its structures;
- accommodation: produces a change in these structures due to the effects of assimilation.



Between assimilation and accommodation, a balance is created that allows the reorganization of mental structures and their ontogenetic development.

According to Piaget the mental development of the child unfolds from childhood to adolescence in two main periods:

- Sensorimotor stage, in the first two years of life;
- Conceptual stage, from two to twelve/fifteen years.

These periods can be divided into various stages. This is a description that still retains its validity today and that represents an essential reference to introduce the concept of evolution of mental structures.

In the essential lines, the characteristics of these stages are the following:

- *Sensorimotor stage* - the child progressively develops his own modes of interaction with the environment.
 - In the first month perception and movement are uncoordinated functions (sees an object but does not know how to grasp it). Then the child adapts the two functions, at the beginning in a rigid way, then more and more adapted to the environment.
 - Between 4 and 8 months the child learns that objects are separated entities and that they continue to exist even if they disappear from the visual field ("permanence of the object" and "permanence of the person"). Images of people and objects are thus formed that are not directly perceived and on which the mind can operate
- *Conceptual period* - introduction of language and symbols in mental operations.
 - *Preoperational stage* (from 2 to 7 years):
 - Symbolic function substage (up to about 4 years), the classification of objects into categories begins according to certain properties; the "symbolic play" begins
 - Intuitive thought substage (from 4 to 7 years), the mental operations of classification and serialization of objects are developed.
 - *Concrete operational stage* (from 7 to 11 years), in which the child develop the ability to mentally operate on objects using concepts such as number, weight, volume and so on. The fundamental principle of conservation is conquered.
 - *Formal operational stage* (from 12 to 15 years) is the stage of completion of the mental development of the child. It can perform mental operations regardless of the reference to real people and objects, using concepts and symbols.

Vygotsky's historical-cultural theory

The theory of Lev S. Vygotsky (1896-1934) was developed between the 1920s and 1930s but remained mostly unknown until the 1960s, before becoming the focus of research and studies in the 1980s.



The main innovation introduced by the Russian psychologist is the attention to the genesis of the consciousness of the human psyche.

According to Vygotsky the difference between animals and men is a qualitative leap characterized by the development of higher psychic processes dependent on the historical-cultural context in which a child grows. Both the lower and higher psychic processes are material processes that take place in the brain, with the difference that the higher psychic processes develop in relation to the social and cultural environment.

The contents of the adult's thoughts have been acquired and processed as external (culturally determined) tools, which have become internal instruments over time. Ontogenetic psychic development is therefore a cultural development, as it is essentially based on the process of internalization of the means provided by the socio-cultural environment. Vygotsky defines this process as the "genetic law of cultural development", for which the psychic functions developed in social relations (interpsychic functions) subsequently become internal to the individual (intrapyschic functions).

According to the Russian scientist the school represents the main cultural mediator that the child meets in the first years of life. The relationship between teacher and pupil is not a mechanical process of unidirectional transmission of information from the first to the second, but rather as a circular process of teaching by the teacher and learning by the learner. Therefore the interpersonal and social character of education is underlined.

Within the framework of this conception, Vygotsky elaborated the concept of "Zone of Proximal Development", that is the area of mental activity that the child can reach with the help of adults and which comes to be added to the mental activity that he can produce on his own. While this latter activity fundamentally depends on ontogenetic maturation, the socially mediated mental activity anticipates and disengages from these maturing stages. With the help of the teacher the child produces a cognitive performance which they would be able to reach at a later (next) stage of their development.

In general, the Development Zone is that area between the development level that an individual has at a given moment and the potential level that they can reach if guided by an experienced partner (mediator). According to this principle the child learns (and grows) through subsequent stages that are not generally defined for the human species but are epigenetically and socially declined individual by individual. It is the current situation and the context that determines the "proximal" significant learning area, or those learning that the child is ready to achieve.

In other words, each child has their own development potential and educators and teachers must be able to grasp exactly what a child could do with their help. The activities proposed to the single child should be planned so that they are not too easy, because they would lead to boredom, or too difficult because they would risk to demotivate the child.

Bandura's Social Learning Theory



The research of Albert Bandura (1925-2021) expanded knowledge about learning processes, drawing attention to the various ways in which social experiences contribute to personality and conduct regulation. Bandura, distancing himself from the current of behaviourism, emphasised how learning does not only occur through direct contact with the elements that influence conduct, but how it can be mediated through the observation of other people through a process of modelling.

Bandura's social learning theory emphasizes the importance of observing, modelling, and imitating the behaviours, attitudes, and emotional reactions of others. Behaviour is learned from the environment through the process of observational learning.

In society, children are surrounded by many influential models (individuals that are observed) that provide examples of behaviour, such as parents within the family, characters on children's TV, friends within their peer group and teachers at school. Children pay attention to some of these people (models) and encode their behaviour. At a later time they may imitate (i.e., copy) the behaviour they have observed.

There are three core concepts at the heart of social learning theory.

a) People can learn through observation.

Bandura identified three basic models of observational learning: a live model (which involves an actual individual), a symbolic model (which involves real or fictional characters), a verbal instructional model (which involves descriptions and explanations)

b) Internal mental states are an essential part of learning process.

Bandura noted that external, environmental reinforcement was not the only factor to influence learning and behaviour and identified also intrinsic reinforcement as a form of internal rewards, such as pride, satisfaction, and a sense of accomplishment.

c) Just because something has been learned, it does not mean that it will result in a change in behaviour.

Individuals do not automatically observe the behaviour of a model and imitate it. There is some thought prior to imitation, and this consideration is called mediational processes. This occurs between observing the behaviour (stimulus) and imitating it or not (response). Furthermore, we have a lot of cognitive control over our behaviour and just because we have had experiences of violence does not mean we have to reproduce such behaviour.

The social learning is influenced by three aspects. First, the child is more likely to attend to and imitate those people it perceives as similar to itself. Consequently, it is more likely to imitate behaviour modelled by people of the same gender. Second, the people around the child will respond to the behaviour it imitates with either reinforcement or punishment. If a child imitates a model's behaviour and the consequences are rewarding, the child is likely to continue performing the behaviour. Third, the child can also take into account of what happens to other people when deciding whether or not to copy someone's actions. A person learns by observing the consequences of another person's (i.e., models) behaviour. This is known as vicarious reinforcement.

One of the most important aspects of Bandura's view on how personality is learned is that each one of us is an agent of change, fully participating in our surroundings and influencing the environmental contingencies that behaviorists believe affect our behaviour. According to Bandura, social learning theory emphasizes that behaviour, personal factors, and environmental factors are all equal, interlocking determinants of each other. This concept is referred to as reciprocal determinism.



Constructivism and Co-Constructivism

Constructivism recovers some concepts from positivism and neo-positivism: knowledge as an active construction of the subject, is a concept present in much of the research of this century. Dewey, Piaget and Vygotskij can be considered constructivists. Learning is the product of the active construction of the subject, grounded in the concrete context through forms of collaboration and social negotiation, in an individual and intentional 'construction of meaning'. Learning is not only seen as a personal activity, but as the result of a collective dimension of interpretation of reality. New knowledge is constructed not only on the basis of what has been acquired in past experiences but also through a construction produced by the cognitive activity of the subject in an adaptive relationship with reality and above all the sharing and negotiation of meanings expressed by a "community of interpreters".

Constructivism places the learner at the centre of the learning process. The focus of the teacher shifts from performance to the cognitive processes of learning. The teachers are facilitators of this process, ready to recognise the learners' needs.

In the co-constructivism approach the relationship is twofold and the learner directly influences the learning environment. The learning environment becomes a place where learners can work together to help each other, using a variety of tools and resources. The learning environment can be physical or mental, characterised by:

- Construction and not reproduction of knowledge;
- Motivating and varied content (disciplinary analysis);
- Learning situations based on realistic cases;
- Multiple and complex representations of reality;
- Multiplicity of possible paths to allow recursive processes;
- Collaborative learning;
- Valorisation of differences;
- Reflective and metacognitive practices;
- Extensive use of technology;
- Strong and structured scaffolding;
- Self-determination of the path (and objectives) by the learner.

This learning environment fosters and generates cognitive integration, production of meaning and intentional construction of knowledge, through the assumption of tasks, objectives, responsibility for decisions and mistakes.

The co-constructivism approach makes it possible to integrate in a coherent and interacting way: the disciplinary contents, the physical elements, the objectives, the ways to achieve them, the criteria and methods of evaluation.

Educational strategies

Cooperative Learning and Collaborative learning

These two concepts represent teaching and learning strategies where students are grouped together to study/work on a particular assignment or topic to maximize their own and others learning opportunities. They represent two of the means for



implementing and developing the transmission of essential values for life in society respectful of all the differences.

A cooperative/collaborative learning structure is about working together to achieve common goals, in which teamwork is essential and the mutual support is encouraged. A cooperative/collaborative team is more than just a “collection” of individuals doing something together. There is an interdependence of positive aims that leads to a common achievement of goals.

Cooperative learning is more structured with definite actions, while Collaborative learning is less structured and based on free interactions. We can summarise the main differences among communication, cooperation and collaboration in the following table.

Activity	Communication	Cooperation	Collaboration
<i>Learning</i>	Information transmission	Knowledge transmission	Knowledge generation
<i>Query</i>	Individual query	Delegation of tasks	Common query
<i>Decision - making</i>	Agree to disagree	Vote (majority rules)	Social negotiations to consensus
<i>Goals/agendas</i>	Multiple goals / multiple agendas	One goal / multiple agendas	One goal / one agenda
<i>Responsibility</i>	Individual responsibility	Individual responsibility	Group responsibility
<i>Learning relationships</i>	Complete independence	Partial interdependence	Complete interdependence

Educational Robotics

Usually educational robotics indicates an interdisciplinary learning environment designed to interactively introduce students to Robotics and Programming.

Through play, educational robots help children develop one of the basic cognitive skills of mathematical thinking: computational thinking. That is, they help develop the mental process necessary to solve problems through an orderly sequence of actions.

We understand educational robotics as a strategy for the social growth of the child and not as a mere mean of teaching coding. The introduction of a tool like educational robots in the class is not only an aspect of playful entertainment or something functional for a certain model of teaching ICT. It also becomes a structural element.

The facilitative aspects of the robots, emerge in individual and group behavioural processes, reshaping the whole educational function of the environment, the tools, the roles and approach to growth itself.



The robot is not considered by the children as a school tool, it looks like a toy and keeps its attractive aspect. Especially for the younger children the robot can stimulate their imagination for long time. The robot can become each character they want (explorer, chef, superhero,...) and this projection can continue after the play is over.

The robot is both an extension of the child's intentions (by acting on actions programmes for it) and a separate element, because it is external. This emotional freedom to act, try and potentially make a mistake, means that through group educational robotics, children can express their potential freely and cultivate positive, helpful relationships with others.

Therefore, unlike pure coding, educational robotics fosters a part of our neuropsychological and relational development system not based on the individualism, which can grow through other technology tools related to ICT (smartphones, tablets, etc.). The use of these tools tends to be promoted to improve speed of thought and calculation, forgetting how important it is to increase awareness, socialization, elaboration and metabolisation of the learning processes. In group educational robotics, coding and programming of robot's actions becomes a social, shared exploit. The result of a decision is taken in agreement with others; the effect of discussion brings common objectives and strategies to be adopted. It is an opportunity for experimenting in leadership and communication styles and is the product of the union of several view points and ways of thinking. Therefore, coding in group educational robotics is not only an abstract task that assists computational thinking, but also takes the form of mediated reproduction, adapted to child development. This is what happens in daily reality, when the resolution of a problem situation takes place within a complex social matrix, involving heterogeneous people, elements, conditions and variables.

Working with the educational robotics in groups stimulates:

- teamwork, abilities like collaboration, positive communication and mutual help;
- the development of shared rules;
- empathy and proactivity, strengthened without external intervention, but thanks to the dynamics that are established between participant;
- a learning process free from fears. Children are free to learn by trial and error, because the robot becomes a transfer of responsibility that never judges: the success is for the group and the individual, and any failure experienced is due to the robot. Children empower the ability to accept error as a natural process of learning and of life, in a serene, jovial way. The robot allows the repetition of an action, as many times as needed or wanted, without leaving a memory trace of mistakes and imperfections.

Furthermore, the phase of sharing rules is fundamental for robotic activities. Very soon in the process, children learn to establish and respect order, not only because programming requires them to follow a precise sequence, but also as this is indispensable both to enjoy the game and achieve the set goals. Therefore, the use of the robot in groups becomes a metaphor for behaviour in society, in terms of following the conventional rules.

PEARL Pedagogical Approach

Educational Emotions

One of the key concepts of PEARL pedagogical approach are the Educational Emotions.



Educational Emotions are those that lead to the well-being of the child, that facilitate harmonious development and that stimulate the educational process, for example joy, trust, interest, serenity, ...

Educational emotions develop in relation to the group and the environment. Growing and learning in a positive, empathetic and emotional educational environment allow children to develop a better self-knowledge and to increase their social and relational skills. An empathic environment that welcomes the children, freeing them to express themselves to the best of their abilities and in which they learn to express their own emotions and recognise those of others. One of the fundamental elements for the development of educational emotions is, therefore, an environment that facilitates the relationship with the other, that stimulates respectful encounters open to each child's abilities.

During a positive experience, the brain releases neurotransmitters that stimulate health, facilitate memory of the event and develop neurological growth. The neurochemical signals prompt a repetition of the experience. A positive educational experience leads to longer lasting learning. Creating a positive, emotional and empathetic environment that puts children in a positive mood therefore leads to an improvement in the child's health and learning.

Often educational emotions and peer relationships develop through actions that are out of the teacher's sight. When we focus our attention on non-verbal language, we can see that it is very rich in nuances. In early childhood, communication is mainly through this aspect. Being free to act and communicate, in an environment that provides educational stimulation through group activities, children develop a greater ability to communicate non-verbally and to understand the communication of others, improving empathy.

Play and educational emotions

In early childhood (and also in later ages) education must be linked to positive emotions and one of the elements that most provokes this reaction is play. Since educational emotions are based on what brings a feeling of well-being to the child, play is one of the most useful elements in understanding the application of this approach. Play is not just about having fun. Through play, the child can: experiment with new cognitive paths, safely explore its limits, strengthen skills, overcome the fear of error and judgement, strengthen social (and pro-social) skills,...

Play is a natural regulator of social relationships and its value in education should be strongly taken into account not only in early childhood.

During social play, children develop their ability to control themselves and their reactions. In play there are rules that must be followed, but at the same time play is characterised by imagination and creativity. Play allows the progressive acquisition of the ability to be in a group and to develop divergent and creative thinking.

Furthermore, play often involves the use of objects and toys. In early childhood, the "mine" dimension, the ownership of an object, plays an important role in defining a child's identity. The following passage to overcoming this egocentrism is facilitated by cooperative play, by educational group activities based on educating emotions.

Children therefore move from I to WE, from MY to OUR and finally from OUR to YOURS. This fundamental transition for growth and development can take place in a positive way if facilitated by educational activities based on educational emotions.



Positive and negative emotions, educational and non-educational emotions

When talking about emotions we usually refer to positive and negative emotions.

By negative emotions we do not mean those such as anger, sadness, fear. It is important that children learn to know and express these emotions because they are part of life and have their own personal, developmental and social function.

By negative emotions we refer to those that are non-educational, that cause a block in the educational and growth process. One of the non-educational emotions on which it is essential to act is the fear of error and of making mistakes. An empathic and emotional educational environment permit to develop a positive view of the mistakes as part of the growth.

Empathic Proximal Learning Educational Environment

The group is one of the fundamental elements in the development of educative emotions because it increases the range of emotions felt by the individual. The group becomes a social corpus, with which to face difficulties and learn from each other. We call this aspect the '*Proximal Learning Environment*'. This is an evolution of Vygotsky's concept of Zone of Proximal Development. It is a transmission of knowledge, responsibilities, roles and intuitions in groups, where peer education becomes a collective, evolutionary learning process. The concepts of proximity is no longer only mental/cognitive, but it takes also its concrete meaning of closeness. The group relationship, in the actual space of the class where the children act and play, fosters and nurtures the potential development of each child capacities and abilities.

Group relationships stimulate abilities, like collaboration and positive communication, they facilitate peer scaffolding and mutual help. This learning takes place playfully and naturally, developing attitudes of listening to each other. Attributes of empathy and proactivity are strengthened without external intervention, but thanks to the dynamics that are established among participants. In cooperating for a common goal, children learn to put needs of the group before their own and this is a basis for prosocial behaviour.

The respect and understanding for the emotional aspects is fundamental in the proximal learning educational environment, that is why we have underlined the importance of create an empathic atmosphere. All the children have to feel understood and respected in the expression of their feelings.

The group also acts as a motivator for the learning experience: the experience of frustration while facing difficulties is shared (and therefore better experienced), children with greater abilities become an example to be followed, communicative exchanges make the experience richer and more stimulating. Within a group emerge dynamics of closeness and estrangement, inclusion and exclusion that intensify emotions and structure the child's personality.

When group activities are designed with the development of educative emotions in mind, a positive attitude develops among the members, which then leads to the expression of support towards children with greater difficulties: a positive environment made up of positive examples leads to the development of positive attitudes.

The value of roles

The educational environment has to facilitate the proximal learning, how it has to be thought and structured to ease the relational aspect. To develop an educational environment based on educating emotions and facilitated by the relational dynamics



of the small group, the teacher can act by creating roles for the children during educational activities.

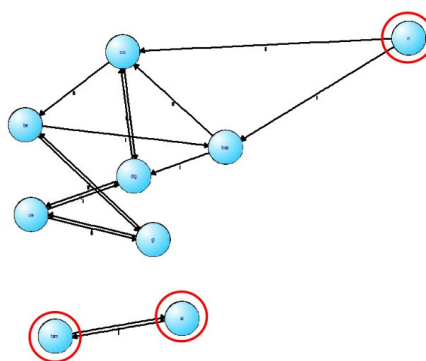
The role provides the child with clear references on what to do, a task is assigned but at the same time the freedom to act and decide how to carry it out; roles also allow for greater clarity within the group, facilitating the relationship; the rotation of roles allows the child to experiment with different responsibilities, to show his or her strengths and to improve certain skills.

Roles provide a flexible structure that supports the child in experimenting with social skills.

Acquiring a role, for a child, is not a simple thing, it means having a distinctive position in the 'micro-society' of the game that extends into the real macro-society. The attribution of a role in a playgroup context facilitates the inclusion of everyone, even those who are shy or have difficulties, since each group member has a task, therefore this attribution puts everyone on the same level. The role is also an element of acceptance by the group and of commitment to others. This is linked to the rules and function of the game itself, since in the distribution of tasks related to the use of the robot or to the game, each child has a responsibility towards the others and the goal of the game. From the role played in the group, a child can learn to be part of it and identify how they can help others. The role is not only the one that can be imagined with the robot and the game, but, once assigned by the teacher or by the group, it continues in the classroom, with friends and institutions represented initially by teachers and parents. Therefore, we can see a generalization in society of the role played in the classroom. This process occurs naturally for the child, within a playful, educational context in which they can take on different roles. In fact, the role given or acquired, within the group working with robots, is never static but can be repeated or changed, becoming itself a learning model of how the child can relate to the society in which they live.

This 'attributed role' reinforces self-esteem, the awareness and importance of play in the group and class. It inevitably enriches the role of the individual in society, at home and with family. When a child returns home, after an educational robotics activity, they simply replicate the one previously assimilated in the group, proudly emphasizing this to parents, because it represents a role as an adult. It is the child who wants to grow up in a positive way by embracing behaviours and models that are functional to learning and holistic education, but above all to their role in society.

To identifying the relational communication patters among children, the natural behaviour towards their classmates and the dynamic of inclusion and exclusion, it is possible to use a graphic representation of the group dynamics taking inspiration from Moreno's sociogram.





Teacher's Role

The role of teacher extends from a supplier or provider of knowledge to a supporter for the rules and parts played in activities. The teacher is initially a guide, but soon takes a step back and becomes a facilitator, i.e. an attentive accompanying person in the process of learning and growth that takes place in the group. As a facilitator, the teacher embodies a closer, more reachable adult model for children. Therefore, they learn from an open, curious and non-judgmental attitude to relate less anxiously or critically to novelties and unknowns.

The teacher also carries out the support function, according to those aspects and parameters that must be shared, so that each pupil knows why they have been given a role and the importance it has in the group.

Children's type of response (functional or dysfunctional) when making a mistake depends mainly on the classroom social and emotional climate. The teachers determine the social, emotional climate of a classroom to a large extent through dialogue, tone of voice, facial expressions, and classroom norms that they set. The teacher suspends any judgement on the results reached by the children. They have to have no expectations on the correctness of the results. The welcoming and the acceptance of the mistakes as part of the learning process is fundamental. It may happen that the teachers unintentionally communicates to the children with their non verbal and para-verbal behaviour their concern for the mistake or the expectation on the correctness of a finalized action. In this way the children learn that making errors in something wrong and this can lead to block the intention of try new things.

Inclusion of the children with disabilities

One of the fundamental elements in promoting a pedagogical model based on the Empathic Proximal Learning Environment is the importance given to the inclusion of children with disabilities in the group of peers.

Integration is often confused with inclusion. In the first case, children with disabilities and difficulties share the educational spaces with their peers; in inclusion there is a real participation in the common educational process in a communicative, relational and educative exchange of emotions that leads to the development and growth of the whole group of children. In fact, the inclusive relationship benefits both children with disabilities who will be more motivated to learn and will strengthen their communication, psycho-physical and cognitive skills, and their classmates who will develop pro-social skills of respect, acceptance of diversity, support and empathic listening.

Promoting inclusion from an early age has a lifelong impact on children and leads to the creation of a more inclusive society that is attentive to the needs of all its members.

To ease the path toward inclusion PEARL model rely on the use of educational robots that ease the relationship (as described above) and that represent playful medium through which the peers can communicate beyond words.