

## LEARNING, MEMORY AND EMOTIONS

Gaetano Altavilla

University of Basilicata, Italy

Review paper

---

### Abstract

*The purpose of this article is to compare and find a confirmation on some of the principles of learning, with reference to the thought of some authors such as Bruner, Vygotsky and Piaget. Aspects such as experience, memory and emotion, can facilitate or hinder the process of learning, in the light of these pedagogical ideas provide some link with the teaching and educational practices of a school context.*

**Key words:** *learning, environment, experience, memory and emotion*

---

### Introduction

The purpose of this article is to compare and find a confirmation on some of the principles of learning, with reference to the thought of some authors such as Bruner, Vygotsky and Piaget, starting from the assumption that cognitive development can not be understood outside of a culture, that is, outside of mediations emotional, educational and social factors that make it possible. Children learn and develop on the basis of social, actively constructing meanings cognitive activity through interaction with the physical, social and emotional, and how, the latter together with the statement, play a secondary role in the learning process, strongly influencing the activity cognitive, motor, social and emotional child.

### Learning and the environment

The development of each person is realized by the physical, social, cognitive and emotional, they operate in such a way as to be interconnected and interdependent, so much so that any change occurs in any of these areas affects and is affected by other them. In young children, for example, acquire the ability to crawl, crawl and then walk increases their opportunities to understand and use the surrounding environment. These processes are also investing aspects of interdependence as the experience, learning, memory and emotion. On a physiological level it was discovered that the experience changes the functioning of our brain, building new neural networks and strengthening the bonds previously created, so as to change the way we think and the quality of our thinking (Carr 2011). The brain functions are formed according to a continuous interactive process and selective, resulting in a neural network of more complexity. The experience and learning go hand in hand with the change in organic and evolutionary, being essential for the adaptation to the environment. When you prepare a stimulating environment for children's learning, they are encouraged to be curious, to ask questions, to think and find solutions, thus expressing their ideas through communication codes are always different. If, in such contexts, it also promotes trust, respect and open dialogue, the children, who study and work actively, gradually learn to interconnect the socio-

emotional and cognitive, physical and motor development. All of these implications urge to think that you will ever have homogeneous groups in a class, because no two children equally between them, and therefore the provision of individualized or personalized learning paths become even more of a need and no longer an option didactic.

### The role of memory and emotions in learning

Learning is a process that is to call to mind what has passed in the neuronal system by experience and memory. What each of us remember it is always different from what they remember the others, even if it is shared experiences. Each of us, however, in its own way, reminds you of events, situations, emotions and feelings, sometimes for a short period of time, sometimes for life. Learning and memory are affected by other mental processes, the attention, by emotion and motivation, which affect both the quantity and the type of information to be stored. Memory is the mental function once assimilation, retention and recall of information learned during the experience, and it is an element that characterizes the learning process, which is essential to know and make the changes in the body, functional to overcome situations problematic, always different, offered by the environment. When you store an event it is important that the brain is not busy with other tasks, since the inference (produced new knowledge processing information stored in memory), or new information obtained interfere with those previously learned, preventing the mnemonic retention (ability to remember what you had experience and can be placed in the interval between learning and recall, ie, the time between the moment of the experience and the subsequent use of the experience). If a student, for example, occur without new definition that is left between the definitions of the time and always in a different form, he can not memorize all the material, since the biological process of storage of new information does not allow it. If, however, you must retrieve a memory, it is easier to do so if it calls to mind a meaning, if it relates to an animate or inanimate object, unless it is free. Certain events or data can be considered only for

a few moments, others just for the time needed to pass an exam, and still others are remembered for a lifetime. This is because intense emotions come into play, personal desires, and of course the moments of extraordinary emotion or unpleasant events, which affect deeply. And anyway, what is stored only has a significant emotional connotation. Another aspect related to memory concerns the modulation of memory by emotion, in fact many of our cognitive activities are not based on simple logical- deductive procedures, but especially learning about shapes capable of interfering with the implications of physical, emotional and other factors.

A learning achieved only on the cognitive level abstract stays away from the real context and from direct experience. It does not reach a storage neuronal enough to be remembered long term because the recording takes place without interconnection with many other associative networks and therefore has little chance of being activated in other experiments apprenitive. The development of intelligence derived from the emotional relationship that is established at birth with the people who take care of us. Any person comes into contact with the educational dimension of the children should be able to contain their emotions and modulate them so that they can integrate into the process of building their personality. Emotions play an important role in the processes of learning and memory, for example, when they happen to study a subject that you do not love, it was often annoyed by the effort that you have to do to learn it. This negative tendency will increase the time you have to dedicate, making it even more strenuous effort for learning. So emotions are able to acquire results that a priori thought unattainable. Emotions play a dual role, can have a positive or adverse consequences. Goleman found that anxiety disrupts thought and can hinder academic performance, however, the anticipatory anxiety can promote motivation and commitment to prepare for a test.

The exam anxiety or performance generally has the power to lower the capacity in our students to answer correctly, but can also have a positive aspect. It may happen, for example, a student who works very anxious to meet the trials in an appropriate manner. Anxiety can therefore play negatively, and usually is, but it can also have a positive role as a stimulus efforts. In fact, good humor, cheerfulness, may be elements that facilitate creative thinking in the same way, hope increases the likelihood of commitment and success in school activities (see Pygmalion effect ), and finally, optimism can be a predictor of academic success. The Pygmalion Effect or " self-fulfilling prophecy," the meaning of which can be summarized as follows: if teachers believe that a child is more talented than it really is, we will deal with, even unconsciously, so different from the others, the child internalize the judgment and will behave accordingly, so the child will tend to become over time just like the teacher had

imagined. Considering the mental attitude of the teacher at the base of each teaching approach, it would be useful to think of having in front of a class full of individuals with the potential to bring out, in which to communicate, both consciously, and non-verbal, the conviction of their success. If negative emotions involve a restriction of attention, the critical and analytical thinking, positive emotions have beneficial effects on learning, make it wider attention and produce a creative thought (M. Seligman, 2007). A similar argument concerns the storage of events with positive characteristics rather than the forgetting of events disappointing. In fact, when you need to recall a memory, it will be much easier as the mood comes close to what you have in mind at the time of allocation, be it a good or bad event. The emotions characterize the behavior, experience, and development of every human being. According to Le Doux, when we are assailed by an emotion means that something extraordinary is happening, that threatens our very lives in psychic terms, so you have to activate multiple brain resources to contain and manage the problem.

It's a sudden reaction of the whole organism, involving psychological components, physiological and behavioral. Not only you learn from the explanations of teachers or from what we read in books, but we also store other items that reach the brain at the same time, consciously or not, for example, the colors and lights, background noise, positive emotions or negative experience that we try on that date. For this reason, use contexts and situations emotionally involving is useful both to make learning more enjoyable, and to achieve effective learning. The construction of a good emotional climate in the classroom, therefore, is not only facilitating the moment of acquisition of learning, but also at the time of the recall of previously acquired learning. Parents, teachers and educators continue to attach a certain importance and devote particular attention to the rational sphere, in the belief that the emotional develops itself in a kind of natural process. Today, thanks to the studies from the neurosciences we know however, that " rational mind " and " emotional mind " work and are molded to each other. In light of the foregoing, it can be assumed that, in the design of learning paths, the emotional factor has to be considered not as a facilitating element secondary, but as a structural element essential to learning, so you can definitely say that without emotion there is no learning

## Conclusions

Today the prevailing socio- constructivist paradigm, according to which the child actively constructs the meaning of reality in which he lives through its interaction with the environment. The concepts of assimilation and accommodation in Piaget's historical and socio-cultural system Vygotsky represent ideas that have been confirmed by recent advances in neuroscience.

Similarly, several studies on the brain and how it works call into question the teachers on how to organize and structure the learning environment, but also how to operationalize such information, linking them to the teaching and educational

practices ; trying to replace gradually the settings curricular transmission with an interdisciplinary dimension, fostering cooperative work, metacognitive, laboratory, within a network of relationships emotionally positive.

## References

- Bruner, J.S. (2003). *La mente a più dimensioni* [The mind in more dimensions. In Italian.]. Roma, GLF Editori Laterza.
- Calissano, P. (2004). *Mente e cervello* [Mind and brain. In Italian.]. Roma: Istituto della Enciclopedia Italiana.
- Carr, N.G. (2011). *Internet ci rende stupidi? Come la rete sta cambiando il nostro cervello* [Internet makes us stupid? How the network is changing our brains. In Italian.]. Milano, R. Cortina,
- Goleman D. (1997). *Intelligenza emotiva* [Emotional intelligence. In Italian.]. Milano: Rizzoli.
- Le Doux, J.E. (2003). *Il cervello emotivo. Alle origini delle emozioni* [The emotional brain. The origins of emotions. In Italian.]. Milano: Baldini & Castoldi.
- Oliviero, A. (2004). *Neuroscienze. Basi biologiche dei processi mentali* [Neuroscience. Biological basis of mental processes. In Italian.]. Rome: Istituto della Enciclopedia italiana.
- Piaget, J. (1967). *Lo sviluppo mentale del bambino e altri studi di psicologia* [The child's mental development and other studies of psychology. In Italian.]. Torino: Einaudi.
- Seligman, M. (2007). *La costruzione della felicità* [The construction of happiness. In Italian.]. Rome: Sperling & Kupfer Editori.
- Vygotskij, L.S. (1966). *Pensiero e linguaggio* [Thought and Language. In Italian.]. Firenze: Universitaria–G. Barbera.

## UČENJE, PAMĆENJE I EMOCIJE

### Sažetak

Svrha ovog članka je usporediti i pronaći potvrdu o nekim načelima učenja, s obzirom na razmišljanja nekih autora kao što Bruner, Vygotsky i Piaget. Aspekti kao što su iskustva, sjećanja i emocija, mogu olakšati ili spriječiti proces učenja, u svjetlu ovih pedagoških ideja dati neki link s nastave i obrazovnih praksi školskom kontekstu.

**Ključne riječi:** učenje, okolina, iskustvo, pamćenje i emocije

Received: September 14, 2014

Accepted: May 10, 2015

Correspondence to:

Prof. Gaetano Altavilla, Ph.D.

University of Basilicata

85100 Potenza, Matera, Via Nazario Sauro 85. Italy

Phone: +39 0971 202 011

E-mail: tanynella@alice.it