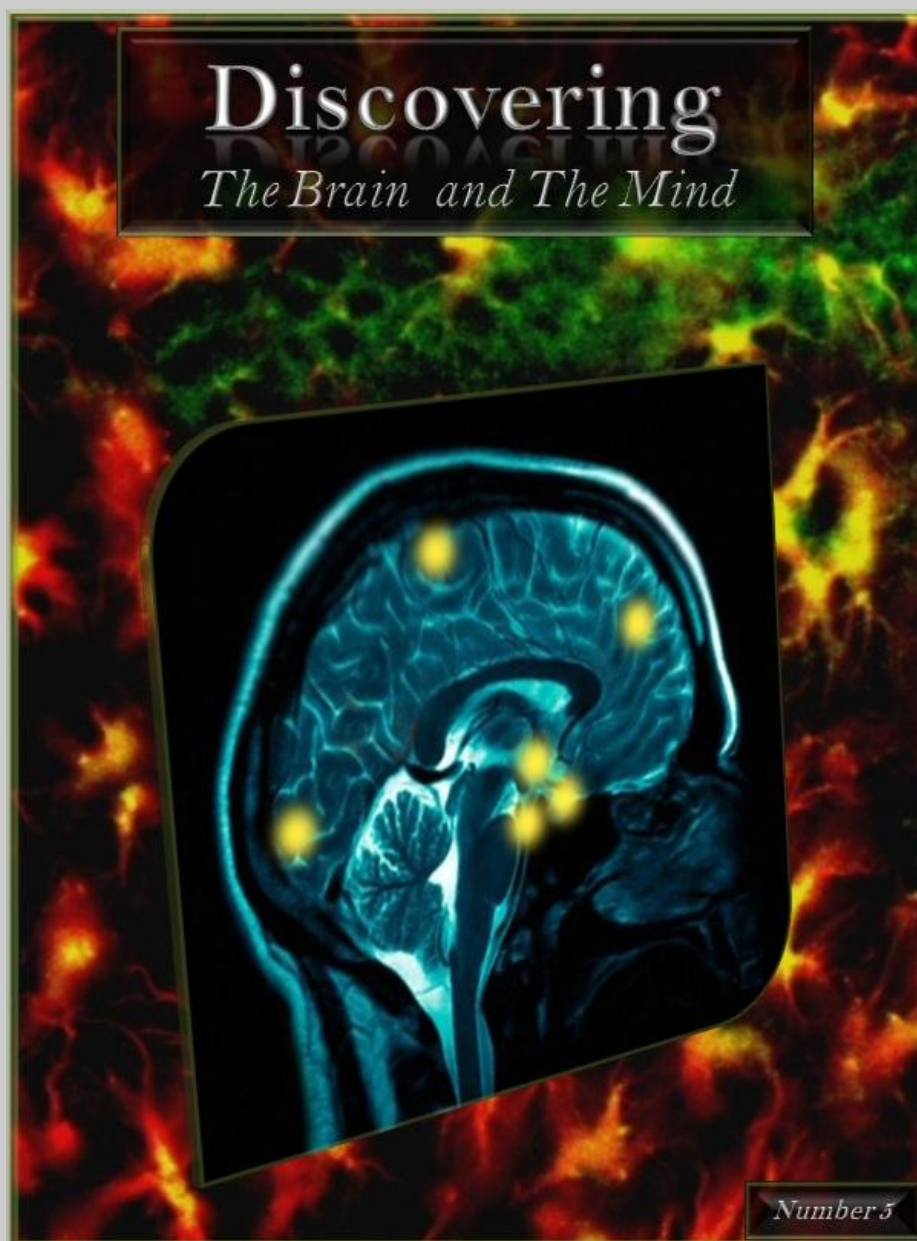




# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)



Editor: Educate for Human Development Association

Senior Editor: Dr. Carlos Logatt Grabner

Senior Editor:

Managing Editor: Marita Castro

Coordination: Emanuel Moreira Merlo and Yasmín Logatt

Translation: Mirta Pola Rosi

Designed by: Cristian Logatt

Videos: Jorge Carcavallo Picho - Cris Posadas & AMiGOS - [www.crisposada.com.ar](http://www.crisposada.com.ar)

Designed Lid by: Pablo Kalhofer

Hosted and Distributed by: Jorge Condomi - [Tlpweb](http://Tlpweb)

*Allowed his total or partial reproduction mentioning the source, I title*



# Discovering The Brain and The Mind

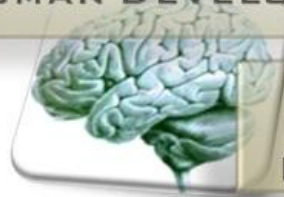
Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)



## Educate Association

FOR HUMAN DEVELOPMENT



Program: Line of Change

Neurosciences for all public



### Formation in Neuropsychoeeducation 2010

*Open to all public*

The new knowledge on the brain allows us to reach the human and ethical development that the present times requires.

Targeted to: Educators, professors, School Heads, consulting agents, professional, trainers counselors in the area of human resources, coaching, psychology, psychopedagogy professionals, therapists, marketers, medical doctors and all person interested in acquiring knowledge on the brain and aiming at pioneering in the application of neurosciences and distinguish themselves in their field. In a clear and accessible language, which boosts to fast understanding and application in personal, labor, educational and social. Areas.

Semi presential in Spanish only.: starting May 2010 / March : no vacancies available  
Distance mode: Starting every month In English and Spanish

#### Objetives:

- To learn more about the emotional world and the highest functions of the brain: cognitive and executive.
- To know the neurobiology of emotions and of decision making, and the types of evaluations that the brain does before different stimuli: Instinctive, emotional, rational.
- To promote the knowledge offered by neurosciences so that all the people can achieve:

- To understand and know themselves .
- To understand and to know others
- To solve and prevent conflicting situations.
- To model or change facets of their personality that require improvement
- To define and to reach objectives.
- To act with high human values.
- To prevent the emotional and mental harm to future generations.

Contact us: [información@asociacioneducar.com](mailto:información@asociacioneducar.com)  
TEL: (+5411) 4582-1003 [www.asociacioneducar.com](http://www.asociacioneducar.com)



# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)

## Asociación Educar and *De Excelencia*

IberExpert, a company created in Spain in 2003, has the aim of approaching, through a series of courses and actions of consultancy or advising, the most novel techniques and tools to facilitate the development of its functions to the professionals of the different areas from companies and organizations with direct or indirect relation with users or clients, in a frame Good Practice and Constant Improvement.

The evolution of the initial concepts, enriched with the practice acquired in these years and the special relation that we maintain with our clients, cradled in the professionalism and upmost respect to the rules we spread, has encouraged us to explore new areas of knowledge that contribute to Total Quality - Excellence to all the people, independent of the activity they develop.

This new Mission is the one that drives the birth of *De Excelencia* (Of Excellence) as a division of IberExpert, created to develop oriented specific programs of formation to the profit of the professional excellence in all scopes.

Within the framework of this new challenge, we have the enormous satisfaction to represent in Spain *Educate for the Human Development Association* (Asociación Educar), with which we will altogether develop works in the scope of the Neurosciences.



# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)

Thanks to its enormous international experience as pioneers in this field and to the communion of ideas of both companies, this collaboration will enrich our work having allowed us to approach new subjects from the foundations of the mental process.

One of our projects together is the presentation of the course in "Neuromarketing" to be developed in Madrid on April 26 and 27, 2010. It is offered to all the professionals with direct or indirect relation with processes oriented to clients, commercial management and businesses.



# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)

## ***Neuropsychoeducation in organizations Neuromarketing***

### ***Emotions are contagious I:***

***How the opinion of others influence consumers***

***Nse. Marita Castro***

*Investigations realised in different Universities, demonstrate that our brain is particularly social. We, homo sapiens sapiens, got to overcome the difficulties and dangers of the past thanks to working in group. This is the reason why we are easily affected by the emotions of the others, specially as consumers.*



*If we were asked if our opinions can be influenced by the one of other people, we would answer no, and we would feel upset if they told us that we are mistaken. But a study realised in the University of Indian shows how our BBMU (body brain mind unit) takes into consideration the opinions of the other BBMUs.*

*The investigators Adam Duhachek, Shuoyang Zhang, and Shanker Krishnan, carried out this work trying to understand in what situations the emotional negative state of some people is more influential in others.*



# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)

*They asked a group of volunteers to give their personal opinion on a new product and, as expected, they received negative and positive appreciations.*

*Later on, they gathered all the volunteers and informed who of the group had given positive and negative opinions. At this stage it was observed how the opinions given by other people produced a remarkable influence in the individual appreciations.*

*Two points to emphasize were the following:  
The volunteers who gave a positive opinion were most susceptible to being influenced by the negative opinions.*

*The volunteers who were more negative increased this characteristic if their point of view was discussed in group.*

*Researchers concluded that the weight of social networks has to be taken especially into account, how much the more nowadays, due to Internet, since they influence impelling the individual attitudes of consumers.*



# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)

## ***What does the brain do when we do nothing?***

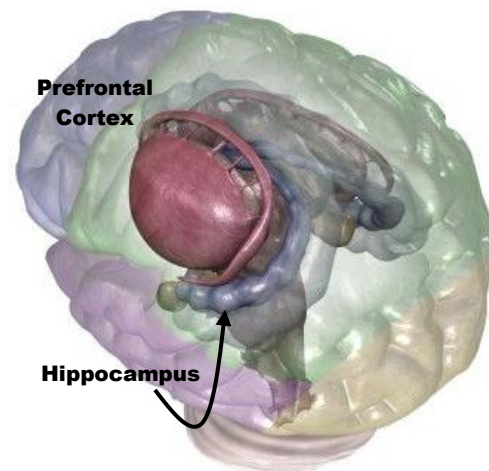
*When we rest we believe our brain stops “thinking”, actually it is consuming lots of energy because, although we may not be aware, it is the time it works the most.*

The first observations in this subject were done in the fifties, by Dr. Louis Sokoloff, in Pennsylvania University, when measuring the cerebral waves of a person he noticed that the power consumption of the brain was larger while the person slept than while doing mathematical calculations.



At present professor Marcus Raichle, neuroscientist of the University of Washington, has confirmed what Dr Sokoloff assumed 5 decades ago, through his research. According to Raichle we have a nucleus or central module in our brain that fulfills the function of day-dreaming, imagining and checking memories, to role play probable future situations and to plan possible actions

When we think that we are at leisure in a Paraguayan hammock, watching the horizon or in a daydreaming state relieving our mind from stress, in fact our BMMU (body brain mind unit), is working intensely in analyzing our memory banks (neuronal networks) and imagining eventualities that could arise.

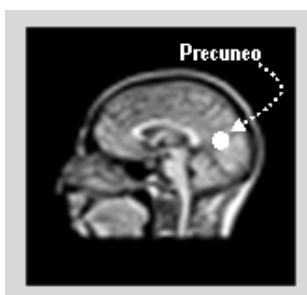




# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)



The hippocampus is one of the areas that interact constantly with this nucleus which is also known as network of the brain by default or default mode of the brain, since its function is essential in the short and long term memory and in recalling.

The conversation among neurons is what consumes so much energy. The medial prefrontal cortex, cingulated cortex, precuneus, post lateral and insular cortex are some of the regions that display great activity during the rest and that decline when an action directed to a certain goal begins.

The studied brains of Buddhist people demonstrated that when is meditating, they manage to block the network by default, but that it activates immediately if meditation is interrupted.

Scientists also consider that this network can be involved in diseases like the Alzheimer, depression, (ADHD), autism and the schizophrenia.

We can say that our brain owns genetic memories that are complemented with that we acquire from culture, these memories are knitted through the communication among neurons and the creation of neuronal networks.

This is a fast process in emotional learning but long and complex in other learning processes that imply the connection of several neuronal networks.

The main function of our UCCM is survival so to respond fast to possible stimuli it uses deliberative short cuts by means of making predictions.



# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)

If a hunter catches sight of a prey that is running, to shoot to the animal the predator must predict where it will be in milliseconds, not to miss the shot, this prediction is done using the accumulated information and experiences.

The prediction and deliberative short cut use consolidated or automatized neuronal networks that get at this stage, partly thanks to the task done while “our brain rests”.

*From now on we may say to people who are resting:*

*Always doing something, are you?*



# Discovering *The Brain and The Mind*

Number 5

www.asociacioneducar.com

## ***Neuropsychoeducation of general interest***

### ***Envy activates the areas of pain and pleasure the brain, according to the luck of the envied person.***

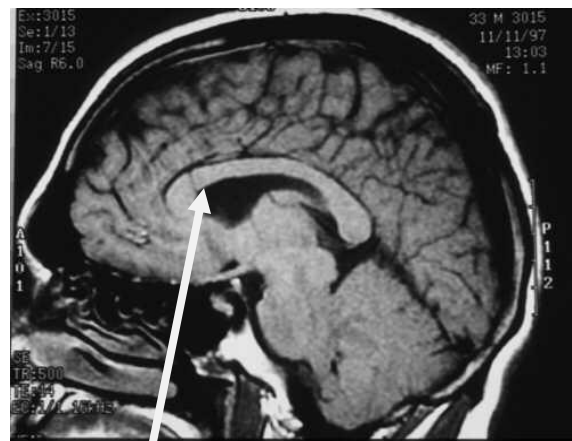
***Nse. Marita Castro***

*To feel envy is a natural human reaction, when person is surpassed in some aspect by another one, he/she suffers, but on the other hand he/she feels pleased when something fails to that person. Both reactions are aspects of envy. The cerebral activity that carries out this emotion has been studied and observed by investigators of the Institute of Radiological Sciences of Japan.*



To feel envy, (in Latin invidia: to watch with bad eyes) does not allow us to pay attention to our own life nor to overcome our own weakness.

In order to know the neuronal pathways of envy, scientists monitored the brains of some people while they imagined carrying out situations and been surpassed by other people.



The cingulated cortex is a brain area that also takes part in our empathic capacity and it is placed above the corpus callosum.



# Discovering *The Brain and The Mind*

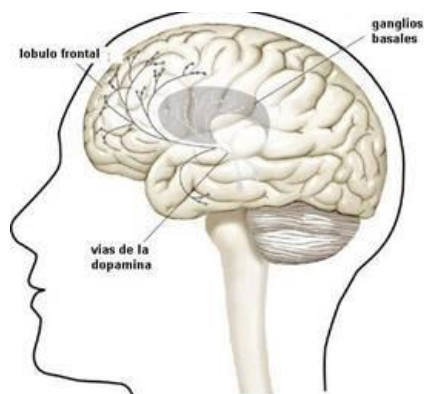
Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)

In the cases in which the individuals imagined interacting with people they considered superiors and that produced.

envy to them, the cerebral regions related to physical pain, the cingulate anterior cortex got activated, an area that, in addition, comprises the circuits of keeping something in mind.

Then volunteers were asked to imagine how the envied person fell into disgrace, in this case, the circuits of reward of the brain got activated.



Those had felt more envy had a greater activity in the dopaminergic pathways of the brain, in charge of pleasure.

Hidehiko Takahashi, main author of the study, says that there is a Japanese saying that expresses it very well: "The misfortunes of the other taste like honey."

Pain and pleasure are two of the forces that take over our BBMU (body brain mind unit), to feel envy produces pain to us, the pain of the envied person produces pleasure, but shame also plays a very important role since it makes us feel socially wrong, something that generates pain and in this case its presence acts like a control mechanism.

However, to neuropsychoeeducate ourselves and understand more about our biology is a more humane and evolved mechanism to manage our instincts and emotions better.



# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)

## ***Fable of the serpent and the firefly***



Once upon a time there was a serpent chasing a firefly untiringly, the insect tried to flee as fast as it could.

But the serpent would never stop in its watching.

The firefly could flee one day, two, but on the third one, absolutely exhausted, it could only face the predator and asked to be answered a question before being swallowed, something the viper agreed to do.

-Am I part of your nutritional chain?

-No!

- Have I done any harm to you?

-No!

-Then, why do you want to kill me?

-Only because I cannot stand seeing you shine! , the serpent answered.





# Discovering *The Brain and The Mind*

Number 5

www.asociacioneducar.com

## ***Neuropsychoeducation of general interest***

### ***Emotions are contagious II:***

#### ***How positive emotions influence our brain***

***Nse. Marita Castro***

---

The "***specular or mirror neurons***" were discovered by Dr. Giacomo Rizzolatti and his team, in 1996 during an investigation realised with primates. At the beginning of this discovery, it was considered only a motor system of imitation.

Present investigations indicate that these neurons contribute to make your own the actions, sensations and emotions of the others. According to the words of the neuroscientist Vilayanur Ramachandran, the discovery of mirror neurons will do to psychology, what DNA means to Biology. This group of neurons activates when a subject observes what another one does, the activated circuits are the same of person that takes the action ahead and allow the observer to feel them like his/her own in the brain.



*Investigations realised in different Universities demonstrate that our brain is particularly social. As Homo Sapiens Sapiens, we got to overcome the difficulties and dangers of the past thanks to forming groups and this made us easily affected by the emotions of the others.*



# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)

We have all been told sometime that smiling is good, since we will also get a smile from the people we interact with.

Many studies have been realised presenting images with different emotional load and several speakers have used them in their presentations to produce certain emotional states in the audience.

But to go deeper in this important subject and to complete the studies already done with visual aids, researchers from the University College of London added auditory stimuli to their investigations.

The work consisted of making a group of people listen to auditory stimuli that were vocalizations of negative emotions like fear and misfortune, and positive emotions, like fun and satisfaction. While they heard the sounds their brains were monitored through functional magnetic resonance.

The neurons in mirror of all the participants' brains activated before the perception of all the stimuli as well as the face muscles that also had different degrees of mobilization.

But the most interesting result was to observe how laughter and triumphant voices were those that produced the greatest response.

It is important to pay attention to the results of

this work to reflect on how positive emotions activate mirror neurons much more than negative ones, when we have believed the opposite for a long time, very good news actually !.

But we should not forget that negative emotions are also contagious, they arise very fast and last longer in our BBMU. In addition, as we saw in the note



# Discovering *The Brain and The Mind*

Number 5

[www.asociacioneducar.com](http://www.asociacioneducar.com)

“Negative emotions are contagious I “, the negative opinion of others influences our positive vision of something and increases the negativity.

Consequently, we must remember that positive emotions promote the group interaction and contribute to develop our empathic capacity.

Science allows us today to understand and know more about our Biology, which must take us to be fully aware of the societies, families and labor groups we must construct so that the name of the specie that defines us, homo sapiens sapiens, is the one that really corresponds to us.

#### In the classroom

This article corroborates the importance of working in a friendly atmosphere at school.

Aggressiveness and violence are every day issues for students, so to work in a calm atmosphere, sharing experiences and leaving the saturation of competition aside, is an oasis for the stress teachers as much as students go through.

Neuropsychoeeducation allows us to integrate and enjoy this new scientific knowledge in our working area, the classroom.

Nse. Mirta Pola Rossi