ELEARNINGNEWS ARTICLE

Year 2 - number 30 Wednesday 20 june 2018

Neuroscience: the focus for educational designers

When the course is not engaging, students will have problems paying attention and this will lead to poor results. Educational designers must be aware of how the human brain works to maximize the attention of learners.

A recent study calculated that a person's average attention has decreased from twelve to eight seconds compared to the past. Apparently this decrease is due to the fact that multitasking people have difficulty filtering irrelevant stimuli, also because they are more easily distracted by multiple media at the same time. In any case, the report found that people's ability to be multitasking has greatly improved. As a result, the researchers concluded that the weakening of the average attention is the result of the brain's ability to adapt to the environment over time and is a direct consequence of the transition to the use of content in multitasking mode, especially from mobile.

Why do educational designers need to know the attentive processes?

For eLearning designers who face the challenge of creating high quality training modules, but at the same time facilitating the storage and transfer of information, it is very important to know how the brain works in terms of attention.

Learners have to process the enormous amounts of information presented to them and, therefore, the brain tries to make mental economy, implementing some control measures. First, it defines the priority of different stimuli: it discriminates and chooses which information to recognize and ignore and establishes a hierarchy among them. Furthermore, in order to facilitate the comprehension of new information and obtain a more precise picture of the concepts, the brain links the new information to the knowledge previously stored in memory.
Finally, it is crucial to consider the amount of time that learners spend focusing on a particular topic: some things can be learned in a few minutes, others take much longer.

In any case, it is important that difficult information is presented in an engaging way.

Why do educational designers need to know the cerebral cortexes involved in learning?

According to neurosciences, the brain's ability to discern between different stimuli is found in two areas: the prefrontal cortex and the parietal cortex.
The prefrontal cortex is located behind the forehead and extends to the left and right sides of the brain. It is related to conscious concentration. It is an important pivot of the motivational system and helps focus attention on a goal.
The parietal cortex is located behind the ear and has a more instinctive function: it is activated when we face sudden events that require action.

It is necessary to keep in mind that people focus their attention when action is required on their part or when they see that a given learning experience can help them achieve a personal goal.

How attention is related to memory

Training is considered successful when participants are able to remember and apply what they have been taught.
The brain always tries to filter the most relevant stimulus in the immediate future. As a result, it is easier to pay attention to an information that arouses our interest.
To achieve effective learning, it is important that the participants are focused. The designer will have to help them in this activity, including various elements and levels of interactivity. The mere presentation of information can prove to be highly

counterproductive.

Suggestions to attract students' attention

There are excellent ways to get and keep the learners' attention:

- Engaging with a good narration, emotionally fixed to its pivotal points;
- Engage with interactive content;
- Using large visuals - the reason for our attenuating attention is that we are assaulted by images; carefully choosing what and how the students see has great freedom on their involvement with the program;
- Linking new concepts to familiar ones through comparisons and overlaps;
- Simplify. If a topic is presented in a simple, clear and interesting way, the learners will be looking for more information about it.

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