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Calm technology?

Like any other label, the concept of calming technology risks to be widely understood and articulated in a manner that could theoretically justify designs which, from a neurological perspective, fail centering the periphery. While the principles of attention that guide the distinction between center and periphery in technological design are sound, the actual design seldom accounts for the cognitive principles that enable the learner to distinguish the center from the periphery, and, furthermore, to distinguish what peripheral information needs to be brought to the center at any given time.

CALL neural-cognitive model for beginning Spanish

Guided discovery and “centering the periphery” are the principles that guide the Neurocognitive Model of CALL for First Year Spanish.

Linguistic Features

- Language is largely determined by the computational character of neural networks, the structure of our brain, and by our interactions with the physical and social environment. Accordingly:
 - o The interpretation of the linguistic sign (“thirdness”) is a relational process built by analysis (Pierce’s Sign Theory)
 - o In early stages of a second language acquisition the interpretation of the linguistic sign remains linked to its meaning in the first language.
- Pragmatic and lexical semantic model. The model is informed by a semantic theory in which meaning is the result of a process of social interaction.
- Grammaticalization and categorization are not distinguishable. Mapping of meaning onto form implies learning how different lexical-grammatical items relate to one another.
- Language is a system of recursive representation.
 - Deep understanding is principled and supports transfer

- Implicit understanding of combinatory rules (grammar?)
- The model enhances the depth of processing information that will allow students to identify the intimate relationship between form and meaning by:
 - 'elaborative processing': relates to the number of encodings and number of processed semantic features or dimensions for a particular linguistic feature
 - 'meta-cognition' or self monitoring of learning and thinking
 - feedback provided acts as online meaning negotiator
- Long term memory is a function of the quantity and quality of meaningful information subjects have extracted through the encoding operations.

Therefore,

- the linguistic model is non linear. Unlike artificial intelligence (AI) models, the complexity of our neural computational model lies on its nonlinear modality
- it pays predominant attention to aural memory
- it is conceptually organized around possible semantic primitives

Graphic design features

The model aims to enhance memory and attention by:

Low cognitive load: undivided attention

Linear progression

Use of media to direct attention: the model relies on graphic design and visual aid over explicit directions to guide students' interaction with the program

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