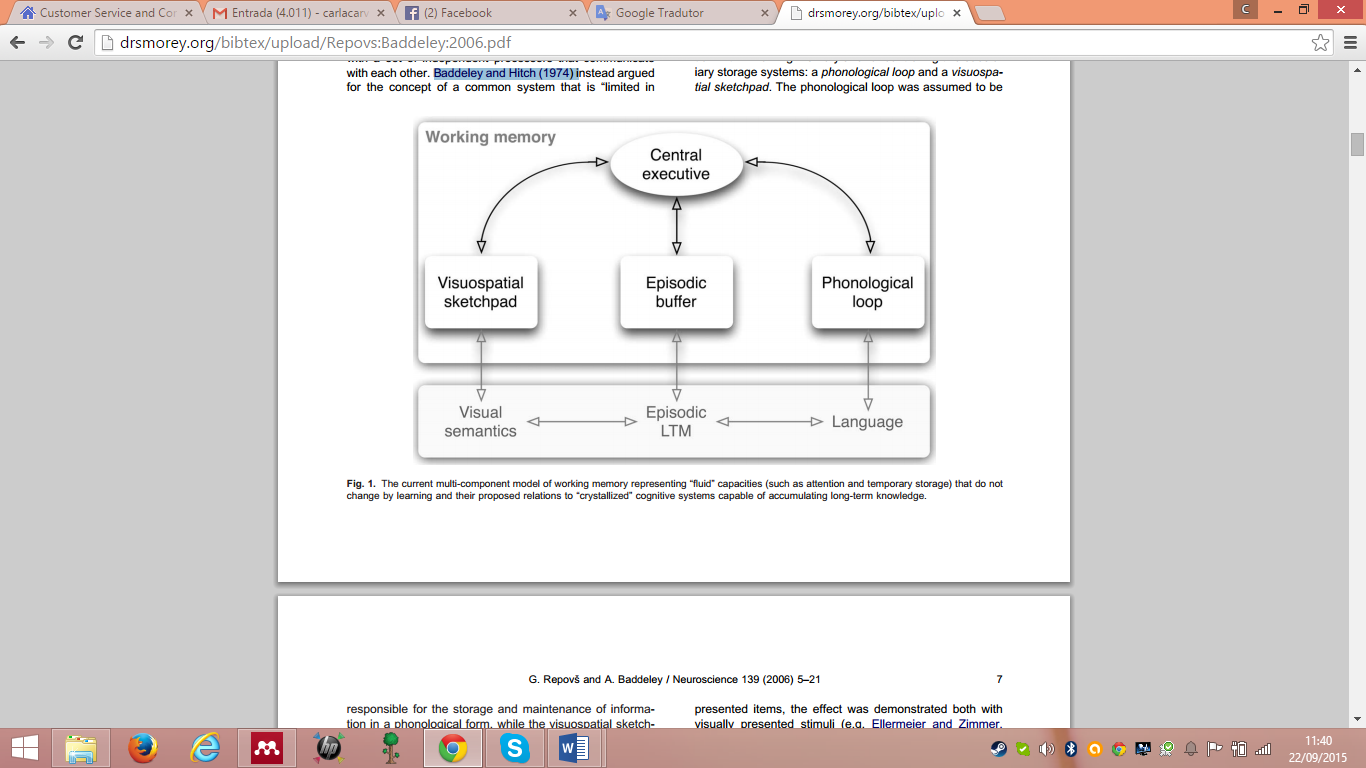
**Carvalho, C. O. (2015). Mapas Pensantes® as a cognitive intervention resource for high school students. Master's thesis, Institute of Psychology. Federal University of Bahia, Salvador.**

Mapas Pensantes®, originally called Thinking Maps©, are a set of visual teaching resources associated with cognitive processes used for interventions in learning environments. Currently it is suggested that, when used by teachers in school context, they act as a common language, improving learning and transforming information into knowledge, facilitating communication and sharing of logical thinking. Studies indicate that the use of Mapas Pensantes® promote academic development, expansion of vocabulary, improvement of reading comprehension and mathematical reasoning, as well as developing social and intrapersonal skills.

My study aimed to determine the effects of Thinking Maps on reading comprehension and working memory. The Multi-component Working Memory Model of Baddeley (2012) was used in this study – See figure below. The literature suggests that working memory plays an important role in our cognitive functioning and is considered a good predictor of learning (Alloway & Alloway, 2010; Dehn, 2008; Uehara & Landeira-Fernandez, 2010), since it is responsible for complex cognitive activities, including language comprehension, reasoning and problem solving. It is argued that working memory also has an effect on reading comprehension (Wagner & Ridgewell, 2009) and in turn influences academic performance (Gentaz, Sprenger-Charolles, & Theurel, 2015; Wagner & Ridgewell, 2009). Studies also indicate that the use of visual and verbal resources, including graphic organizers, contributes to the activation of the working memory passive subsystems (visuospatial sketchpad and phonological loop).



(Figure from REPOVŠ & BADDELEY, 2006)

Mapas Pensantes® is a visual learning system contributing towards enhanced academic performance – because of the parallel use of visual aids, written and spoken language (Edwards, 2011; Hyerle & Alper, 2011; Hyerle, 2009; Lopez, 2011; Manning, 2003) . It is contended that the efficacy of Mapas Pensantes® is related to the activating of the working memory, according to the multicomponent model (Allen, Baddeley, & Hitch, 2014). It is important to understand how the use of Mapas Pensantes® can activate both the phonological loop and the visuospatial sketchpad, for example it is suggested that the processes of binding and chunking information seems to be triggered during the creation of the Mapas Pensantes®. The application of Mapas Pensantes involves both the connection of information sources from different sensory modalities (binding) and the integration of information units into larger agglomerates (chunking).

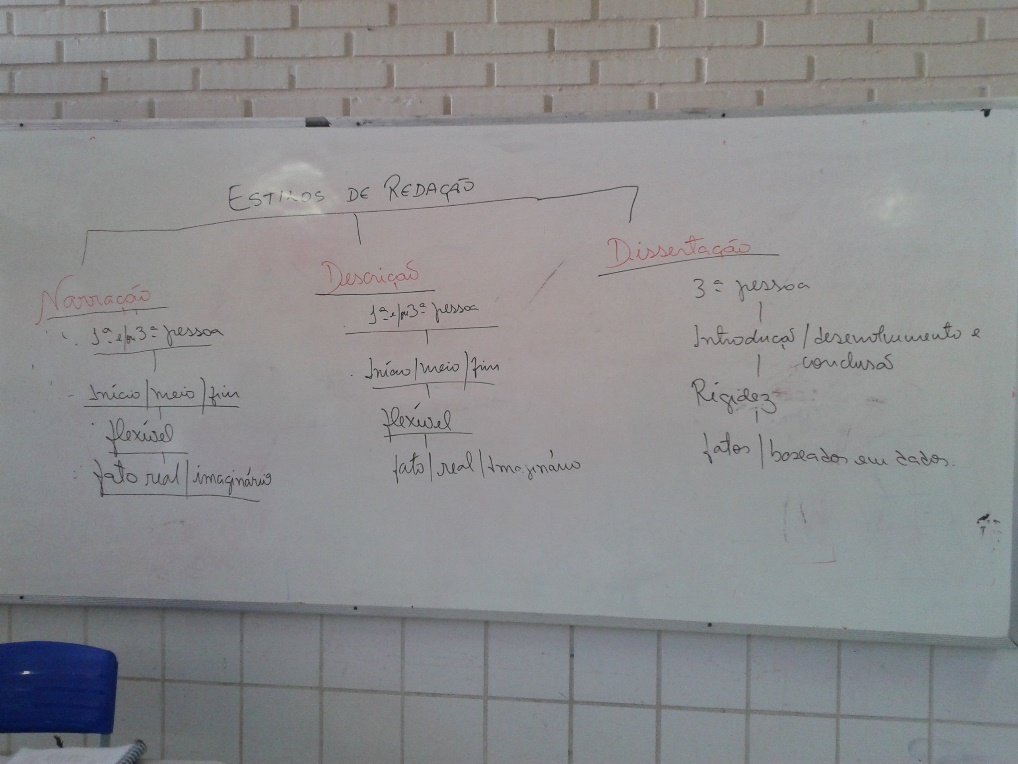
My research recommends that improved methods should be developed to assess reading comprehension for adolescents and adults in Brazil. Such research would assist to generate better indicators for measuring reading comprehension and thus lead towards the development of more effective intervention strategies.

Examples of the Mapas Pensantes® during intervention research:

1) Thinking of sustainability



2) Different types of writing



3) Sequencing ideas for writing



Photo of Carla Carvalho



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