**Figure 1**: Performance in terms of number of moves (A) and time (B) per trial in the TT task. The results show a significant learning effect during the 40 trials, a significant group effect and a significant interaction between learning and groups in term of moves (A) and time (B).

Figure 2: PET scan comparisons:

Brain activation of the 3 phases of cognitive procedural learning (TT task). Significantly activated regions at the threshold of p<.001 uncorrected for multiple comparisons and time course of activation across learning.

The plots represent the relative contribution of the different conditions of our paradigm, according to the "effects of interests" for selected peaks (The plots represented in this figure correspond to the regions in bold type. All the regions cited under this first region presented the same evolution of activation). The 1st, 2nd and 3rd histograms correspond to the cognitive, associative and autonomous phases respectively.
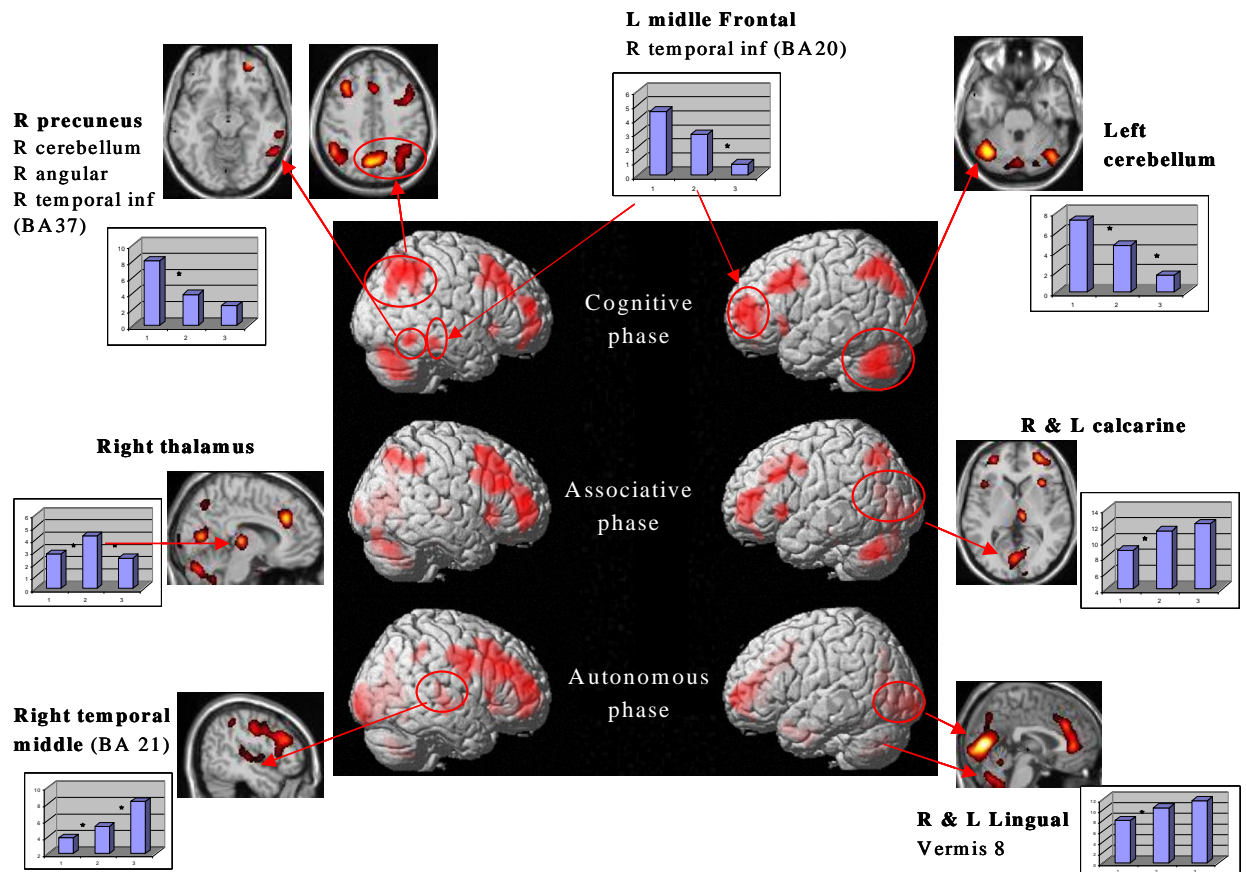
Figure 3: Between-group comparisons of the activations of the three phases of learning. The regions more activated in the older group are represented in red. Comparisons did not reveal supplementary activations for the younger group.