

## **Thought and Talked: an fMRI study of past-tense generation in Spanish/English bilinguals**

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Work in the bilingual literature has revealed that processing of syntactic information in a second language differs from that observed in the first language. However, to date no published study has looked at the difference between processing of regular and irregular functions in a second language. Using a word generation paradigm we studied the neural activation patterns associated with past-tense processing in a group of 12 Spanish/English early bilingual young adults. Functional MRI scans were obtained while the participants covertly generated the past tense of regular and irregular English verbs. Significant neural activation for irregular verbs versus regular was found in the left inferior frontal gyrus extending into more superior areas, as well as in the left supramarginal gyrus. Additionally, areas of the left precentral and left inferior parietal gyri were also found to be greatly activated in the irregular condition. In contrast, a cluster of voxels in the right cingulate and bilateral precuneus was activated significantly more by regular verbs than by irregulars. Interestingly, activation in the left thalamus was similar to the activation found in previous research with monolinguals when generating irregular verbs. These findings reveal greater activity for irregular forms than regular forms in early learners of English as a second language. Findings will be discussed within current theoretical frameworks of past tense processing.