Abstract: Lexical stress is critical in word recognition and speech segmentation in first language (L1). The encoding of lexical stress during the first stages of foreign language (FL) acquisition, and the extent of lexical integration with L1, was examined using a recognition memory task. English speakers studied Spanish words differing in their phonological similarity with English (cognate vs. noncognate) and lexical stress (trochaic vs. iambic), and attempted to discriminate words presented at test with the same or different studied stress patterns. Results showed that foreign word lexical stress is encoded and used as a recognition cue, with little interference from L1. Lexical integration of Spanish words with participants English lexicon was evident only for cognate words with identical lexical stress in L1 and FL, which had shorter recognition times compared to noncognates and cognates with different lexical stress patterns in L1 and FL.