This dissertation examines the acquisition of French nasal vowels by American college students who are learning French as a second language. Nasal vowels in French are common, and present persistent difficulties for learners. Their acquisition in perception is not well understood. French has a phonemic contrast between oral and nasal vowels, English does not: nasalized vowels exist as variants of the oral vowel.

To explore the developmental steps during acquisition, this dissertation analyzes the connection between phonetic categorization and phonological contrasts in lexical representations for learners at various levels of proficiency. Naïve (no French knowledge) participants, intermediate and advanced learners of French, as well as French native speakers, participated in phonological processing tasks involving perceptual mapping, discrimination and lexical decision. Since nasal vowels are not part of the English phonological grammar — as opposed to French /kɑ̃/ ‘quand’—, learners will likely first “repair” such a disallowed feature combination (nasal+vowel) in perception, before being able to acquire a new underlying representation. Two possible acquisition strategies are outlined: nasal unpacking, (e.g., they will “repair” /kɑ̃/ as /kɑn/) and nasal-stripping (“repairing” /kɑ/ into /kɑ/). The application of either strategy is probed via a categorization task contrasting the predicted difficult pairs (/kɑ̃/ vs. /kɑn/; /kɑ̃/ vs. /kɑ/).

The results indicate that naïve listeners mostly heard French nasal vowels as sequences of oral vowel+nasal consonant, applying nasal unpacking. However, exposure to French instruction appears to modify the strategy: learners initially heard French nasal vowels as oral, thus applying the nasal-stripping strategy. Eventually, advanced learners successfully perceive and acquire nasal vowels in terms of their phonological underlying representation. This dissertation significantly advances our understanding of the underlying phonological representation of these complex sounds in learners’ developing phonological grammars, and of their perceptual similarity across languages.