

397LH L1 and L2 topics

New and similar L2 phones

L2 phonology

- We have seen proof of transfer
 - Any phones present in the L1 is transferred and used in place of phones of L2

Flege (1987)

- L2'ers do not produce phones of L2 authentically
 - Do not perceive L2 phones accurately?
 - Motor control issues?
- Adults L2'ers not able to modify previously established articulatory patterns (contra children)

Equivalence classification

- Permits humans to perceive constant categories
- Adults and older children have well established phonemic inventories
- Does the EC prevents L2'ers from establishing a phonetic category for similar but not new L2 phones?

Equivalence classification

- Some phones in L2 seems so dissimilar acoustically and articulatory from phones in L1 that EC is unlikely to occur

Experiment in Flege (1987)

- Tested 'two, tous, tu'
- /u/ vs /y/
- /t/ vs /t^h/

Assumption

- L2'ers will not be able to produce authentically L2 phones that differ acoustically from phones in L1 unless they established a phonetic category for the phones of L2

Predictions

- If this is correct and adults have not passed a 'critical period' for speech learning, highly experienced native English speakers of French should produce the new French vowel /y/ authentically but not the similar French /u/.

Subjects

- 1 monolingual English group
- 1 monolingual French group
- 3 groups native American English learners of French (B, C, D)
- 1 group of French native exposed to English

Experiment

- Produced sentences and phrases

TABLE I. The phrases used to elicit the production of /tu/ and /ty/ in French, and /tu/ in English

English		French	
/tu/	/ti/	/tu/	/ty/
1. two little boys	TV programs	tous les prêtres	tu les montres
2. two little girls	TV schedules	tous les évêques	tu les opposes
3. two little cats	TV ratings	tous les soldats	tu les observes
4. two little dogs	TV violence	tous les marins	tu les renvoies
5. two little birds	TV reception	tous les médecins	tu les obtiens
6. two little mice	TV antennas	tous les dentistes	tu les informes
7. two little men	TV commercials	tous les gendarmes	tu les regardes

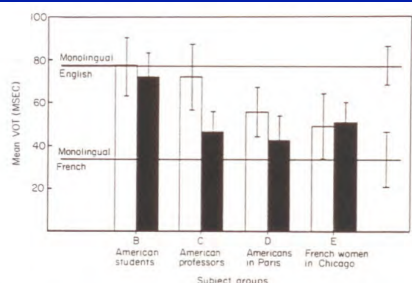


Figure 1. The mean voice onset time, in ms, in tokens of /t/ in *tous* (■) and *two* (□) by the L2 learners in four groups (represented by bars) and by monolingual native speakers of English and French (represented by horizontal lines). Most means are based on 70 observations (7 subjects × 2 conditions × 5 replicate tokens); the brackets enclose ± 1 standard deviation.

Results on /t/

- Inexperienced English-speaking learners of French do not differentiate L1 and L2 /t/
 - French /t/ is similar enough to English /t/ to be considered an instance of English /t/
 - = equivalence classification
- American instructors produce L2 French /t/ with intermediate VOT

Results on /t/

- More advanced learners produce L2 French /t/ with intermediate VOT duration
- Bilinguals shown to evidence of 'compromise' VOT values for L2 as well

French /u/ vs. English /u/

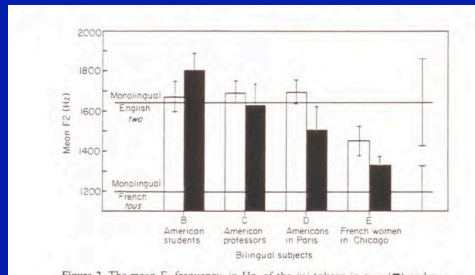


Figure 2. The mean F_2 frequency, in Hz, of the /u/ tokens in *rous* (■) and *two* (□)

French vs. English /u/

- Higher F_2 on /u/ in *tous*
- Change with experience, general tendency
- Blend English and French /u/ as one category (either in one or the other)

French vowels

F_1 regards height:
 F_1 low, vowel is high
 F_1 high, vowel is low

F_2 regards back/front:
 F_2 is low, vowel is back
 F_2 is high, vowel is front

Fréquences typiques des formants [réf. nécessaire]

Voyelle (API)	F_1 (Hz)	F_2 (Hz)
[u]	320	800
[o]	500	1000
[ɑ]	700	1150
[a]	1000	1400
[ø]	500	1500
[y]	320	1650
[e]	700	1800
[ɛ]	500	2300
[i]	320	2500

French /u/, /y/

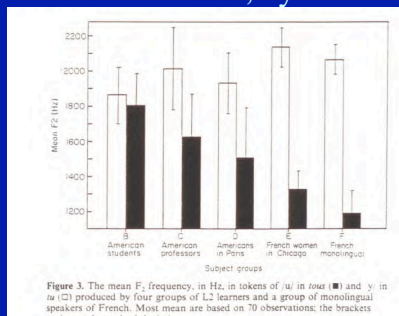


Figure 3. The mean F_2 frequency, in Hz, in tokens of /u/ in *tous* (□) and /y/ in *two* (■) produced by four groups of L2 learners and a group of monolingual speakers of French. Most means are based on 70 observations; the brackets indicate ± 1 standard deviation.

Results

- Except for non-experienced learners (first columns), learners' /y/ productions have formant values closer to the one of French controls

Results

- Neutralization of the contrast between French /u/ and English /u/
- New category for /y/

Results

- L2'ers created a new category for a **new** phone, absent from their L1
- L2'ers identify acoustically different phones in L1 and L2 as belonging to the same category, thus able to modify their previously established patterns of articulation when producing **similar** L2 phones