

ARE FRENCH IMMERSION “ACCENTS” UNIQUE?

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The purpose of this investigation was to determine whether or not the British Columbia French immersion program produced differing accents (in this case defined as pronunciation) from other L2 French programs in the province. Five native speakers of French teaching in the Department of French at Simon Fraser University evaluated words, sentences, and narrative utterances of 17 L2 French speakers living in a non-Francophone environment, who completed either high school French immersion or Core French (FSL). Using a program ID choice task, listeners indicated which program the anonymous speakers had completed. Results suggested that French immersion speakers can be distinguished from Core French speakers at above chance levels, though success rates among listeners varied slightly. Formal analysis demonstrated that longer utterances produce more accurate choices. Self-reports of immersion speakers suggest that they spent a greater amount of time with their immersion peers both inside and outside the school environment than with English-speaking peers.

INTRODUCTION

French immersion (FI) is an L2 French program offered in many schools around the world. It originated in Canada in the early 1970s (Roy, 2008) based on the bilingual education theories of McGill University professors Penfield and Lambert (Fraser, 2011). Typically, participants in this elementary and high school program are all L2 learners of French who start off with no knowledge of French (Lambert et al, 1983). The students are meant to acquire the language through interaction rather than learn through formal instruction, and become bilingual by the end of the program (Lapkin et al. 1983). Previous research has focused on lexical, syntactical or morphological mastery among FI students, group dynamics and social interaction among students, and most recently, some VOT analysis (Genesee, 1978; Flege 1995; Courcy 2002; Mougeon et al. 2004; Birdsong 2004, 2007; Netelenbos, 2013). Furthermore, prior research has also suggested that FI students had closer interpersonal relationships with their immersion classmates than with their Anglophone peers (Courcy, 2001). However there is a lack of data on FI accents.

Current Question

This study was part of a larger body of work where I hoped to begin to answer the broad question: does FI lead students to develop their own French “Immersionese” accent? The study defined accent in terms of pronunciation. One objective was to examine whether or not FI speakers sounded different from Core French (CF) to L1 French listeners. I therefore asked the following question:

- Can L1 French listeners distinguish FI from CF speakers based on L2 accent alone?

METHODS

The full study consisted of two perception tasks (an accent rating task, and a program ID choice task) and an acoustic analysis (VOT and formant analysis). Here, attention will be placed on the results of the program ID choice task. In this task, L1 French listeners had to choose which program they believed each speaker had completed, based only on their pronunciation of words, sentences and extemporaneous utterances.

Speakers

Speech samples were collected from a total of 22 speakers who had completed a variety of French high school programs in British Columbia. Among those, 17 (4 male, 13 female) speakers who completed early French immersion (EI), late French immersion (LI), and the FSL program known as Core French (CF). Furthermore, in this study, all students not attending the FI program will be referred to as “English program peers” because the majority of their education is taught in English. Program differences according to the BC Ministry of Education are summarized in Table 1.

Table 1

Key Differences Between French Programs in BC

French Program	Starting Year	% of French Used in Elementary School	% of French Used in High School
EI	K	100-80	75-25
LI	6	100-80	75-25
CF	4	7	7

An online questionnaire was used to elicit background information from speakers. All speakers were between 19 and 23 years of age, and had completed a high school French program in BC in the last two years. A majority of FI speakers were monolingual English speakers and half of CF speakers were L1 English speakers. The online questionnaire also provided information on the interpersonal relationships among FI speakers.

Elicitation

Written French instructions were presented on a computer screen prior to elicitation, and oral instructions were given in English. An interchanging red and green computer screen would signal to the speaker when to listen (red screen) and when to speak (green screen). The recordings took place in a sound-treated room in the Applied Phonetics Lab in the Department of Linguistics at Simon Fraser University. The speaker recordings were digitally edited to separate all word, sentence and extemporaneous stimuli.

Speech Materials

Speakers recorded words and sentences heard during two delayed repetition tasks, as well as an extemporaneous narration using a picture story (Derwing and Munro, 2013). Some of the words had previously been used by Birdsong (2003) in an analysis of L2 French among adult learners of French. All speakers recorded a total of 10 words, each with a particular target sound for listeners to focus on (see Table 2). From these, three words *temps* (/t/), *lundi* (/ɛ̃/) and *bureau* (/y/) were selected for analysis. The English and French /y/ differ in terms of vocal frequency, and nasal vowels such as ɛ̃/ as more common traits of the French language, so English speakers may tend to fully pronounce the /n/. There are also differences in VOT and aspiration between the French and English /t/, and although this sound does not impede intelligibility, it may come into play in terms of accentedness. Only these three sounds were selected to save time for listeners.

Table 2

Words and Target Sounds for the Program ID Choice Task

Words	Target Sounds
bureau	/y/
château	/a/
compliment	/ɑ̃/
coup	/u/
lundi	/ɛ̃/ or /œ̃/
pain	/ɛ̃/
père	/ɛ/
pré	/ʀ/
temps	/t/
tombeau	/o/

Speakers also recorded 7 sentences, of which 3 (“*Il y a un tombeau au milieu du pré.*”, “*Lundi, si j’ai le temps.*”, “*J’ai laissé les documents à mon bureau.*”) were later analysed by listeners. As indicated by the underlined words, sentences used words from the word repetition task. Finally, using a picture story (Derwing and Munro, 2013) with 6 images depicting two individuals accidentally exchanging suitcases, speakers each gave their own versions as to what happened in the story.

Listeners

The 5 listeners were all L1 French speakers living in BC, but were originally from France or Quebec. They were post secondary professors in the French Department at Simon Fraser University, between the ages of 36 and 60. All listeners had also lived in other English speaking countries or provinces in Canada prior to arrival in BC. Listeners also claimed to be familiar with the French programs offered in BC and had between 14 and 35 years of French teaching experience. When asked about the importance of pronunciation for French proficiency, listeners gave mixed responses ranging from 7 (very important) to 5 (somewhat important). When queried about their impressions of FI students' accents, 4 of the 6 replied that they thought FI students have similar accents to each other, but not to other French program students, and two listeners expected that FI students would sound similar to Francophone students from the Programme Cadre school system.

Listening Procedure

Using a Praat script, listeners evaluated the stimuli in the same sound-treated room. Listeners attempted to guess the program each speaker had completed, first based on their pronunciation of words. For the program ID choice task, listeners first heard and evaluated all speakers saying *temps* in a randomized order, followed by *lundi* and finally *bureau*. Then, listeners repeated the choice task then for three sentence sets, S1, S4, S7, (randomized) and finally for the narration (randomized). There was a possibility for the listeners to replay each word and sentence up to 3 times before they made their evaluation, after which the next stimulus was presented. Because previous formal analysis (not presented here) on CF and FI accent ratings had demonstrated no significant difference between EI and LI speakers, the two groups were combined. Therefore listeners only had to choose between FI and CF groups for the choice task.

RESULTS

Web Survey Results

While there is some anecdotal evidence that listeners can distinguish between FI and CF speakers, the question remains as to why. As was suggested in a case study on FI students (Courcy 2001), they tended to spend more time with other FI peers in school even during break time, than with English speaking peers, and going so far as to use French as a means to distinguish themselves from their English-speaking peers. As this could be a potential explanation for a common accent among FI students, participants in this research were asked how much time they spent with their FI peers in comparison with their English program peers in a) the school setting; and b) outside of school. Only EI and LI students had to answer these two questions.

It was again found that typically FI speakers spent much more time with their FI peers in school than with English program peers (see Table 3), with LI speakers claiming to spend the most time with their FI peers. These findings are similar to Courcy (2001), showing that, at least in the school environment, FI students were closer to their FI peers than to students outside the program.

Outside the school setting, LI speakers still spent the most time with their French program peers (see Table 4). In fact, 6 out of 7 EI speakers claimed to spend at least an equal amount of time with their FI peers as with their English program peers. These findings seem to corroborate Courcy’s case study results.

Table 3

Amount of Time Spent with Immersion Peers vs. English Program Peers in School (Total Number of Immersion Speaker Self Ratings)

French Program	Much More Time	A Little More Time	Equal Amount of Time	A Little Less Time	A Lot Less Time	Total
Early	5	0	1	1	0	7
Late	4	0	0	0	0	4

Table 4

Amount of Time Spent with Immersion Peers vs. English Program Peers Outside of School (Total Number of Immersion Speaker Self Ratings)

French Program	Much More Time	A Little More Time	Equal Amount of Time	A Little Less Time	A Lot Less Time	Total
Early	2	3	1	0	1	7
Late	3	1	0	0	0	4

Program ID Choice Task Results

Listeners were able to correctly identify the speakers’ programs from the recorded words a majority of the time. The figures show the accuracy of each listener by category and demonstrate that in all cases except one, the listeners correctly identified speaker categories with over 50% accuracy for all three word tokens. Furthermore, listeners had an accuracy rating of 67%, 68% and 65% respectively for each of the token words seen below.

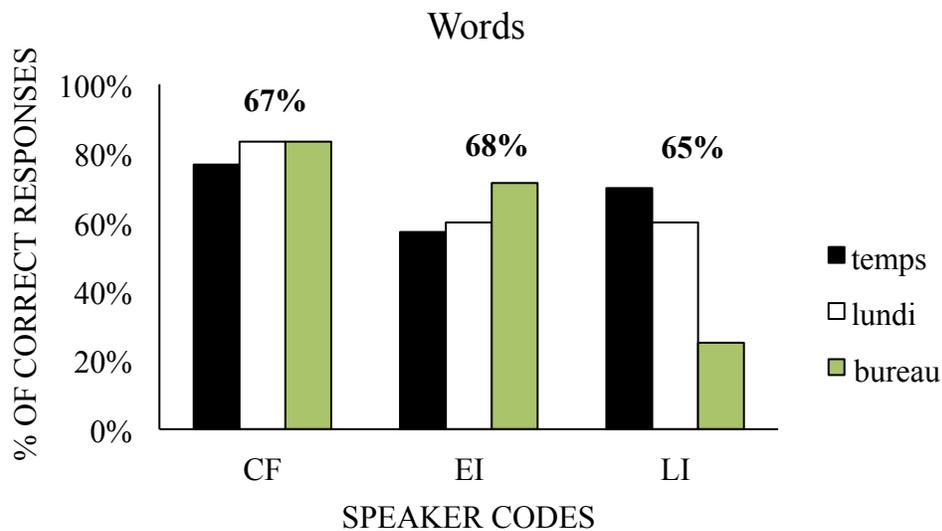


Figure 1. Correct speaker program choices by word for all speaker groups. Percentages indicate the overall accuracy for all three speaker groups.

Statistical analysis results with $p=0.05$ or below, indicate significantly better than chance performance (see Table 5). A binomial distribution was used to evaluate whether each total was statistically better than chance. Listeners were able to identify speakers' programs 40% of the time (6/15) at above-chance levels on the basis of isolated word production.

Table 5

Binomial Probability Results for Token Words, Sentences and Extemporaneous Narration

Item	J871	J729	J987	J121	J678
<i>temps</i>	0.1855	0.0944	0.0944	0.0472*	0.0052**
<i>lundi</i>	0.1484	0.0052**	0.0944	0.0472*	0.0944
<i>bureau</i>	0.0944	0.1484	0.0472*	0.1855	0.0182*
S1	0.0944	0.0052**	0.0010***	0.0182*	0.0182*
S7	0.1484	0.0010***	0.0052**	0.0472*	0.0944
S4	0.0472*	0.0001***	0.0052**	0.0182*	0.0010***
Narration	0.0472*	0.0052**	0.0182*	0.0052**	0.0010***

* $p < 0.05$

** $p < 0.01$

*** $p < 0.005$

Longer stimuli demonstrated more accurate results from listeners for the program ID choice task. This can be seen in the program ID choice task results for the sentence productions. Listeners were able to significantly identify speaker programs 80% of the time for sentences. This was especially true for CF speakers (90% accuracy for S1, 100% for S7 and 97% for S4). In total, listeners were accurate 76% of the time for S1, 80% of the time for S4, and 70% of the time for S7 (see Figure 2). Listeners were accurate above chance 70% of the time for sentences (see Table 5).

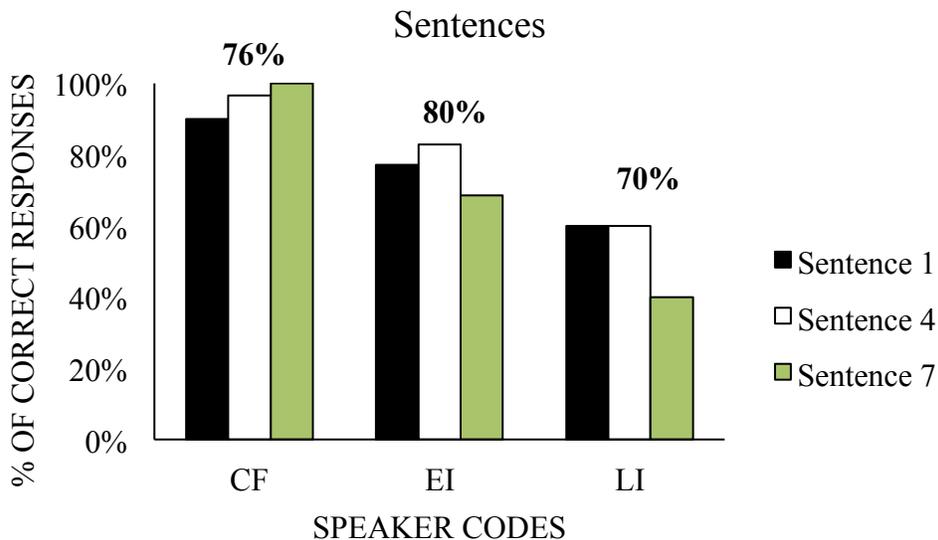


Figure 2. Correct speaker program choices by listeners for *S1*. Percentages indicate the overall accuracy for all three speaker groups.

Finally, the extemporaneous results (Figure 7) were very comparable to the above sentence results. Listeners were best at guessing what program CF speakers completed (93% accuracy) followed by EI (77%) and the LI (65%). In total listeners were above chance 100% of the time for the narration task (see Table 5). Both sentence accuracy results and narration accuracy results seem to confirm that it was easier for the listeners to identify programs when utterances were longer.

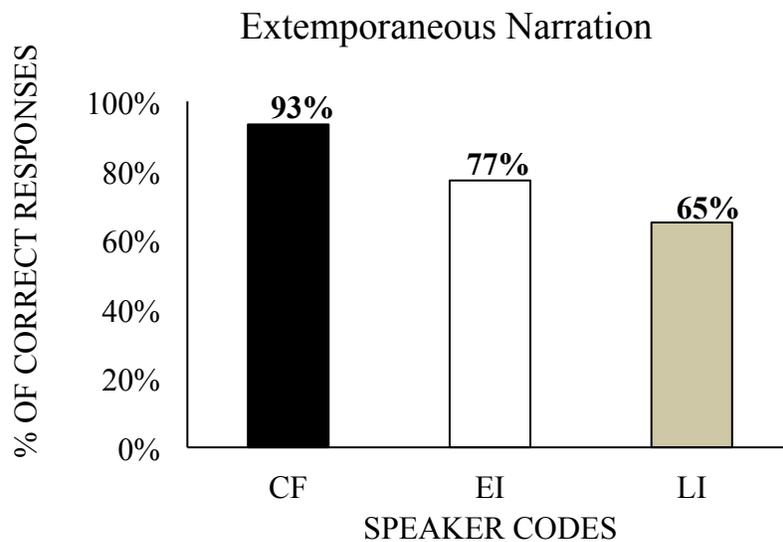


Figure 7. Correct speaker program choices by listeners for *Extemporaneous Narration*. Percentages indicate the overall accuracy for all three speaker groups per listener.

Some differences in success between listeners were noted for this task. Listener J871, for instance, was only able to differentiate significantly between speakers for *S4* and the narration task (see Table 5). On the other hand, listener J121 had the highest success at differentiating between speaker groups. Further analysis suggests that some speakers were more readily identified as FI or CF than others (see Table 6). Interestingly, CF speakers were more frequently evaluated as being CF than FI speakers were evaluated as FI. Only two FI speakers (EI1469, LI1847, marked with an asterisk in Table 6) were labeled more readily as CF. Of these two, LI1847 was most often mistaken for a CF speaker.

Table 6

Percentage of Times Each Speaker's Program was Correctly Identified

Speakers	words	sentences	narration
CF1806	93%	93%	100%
CF5844	60%	93%	100%
CF7209	93%	93%	60%
CF7716	93%	100%	100%
CF8024	47%	93%	100%
CF9685	100%	100%	100%
EI1469*	73%	40%	40%

EI2080	53%	87%	80%
EI2523	27%	80%	60%
EI2893	93%	87%	100%
EI2981	73%	80%	80%
EI8048	53%	87%	80%
EI8550	67%	73%	100%
LI1847*	33%	27%	20%
LI2009	47%	80%	100%
LI5481	40%	53%	60%
LI9778	87%	53%	80%

DISCUSSION

Results indicate that listeners' program guesses were more accurate when utterances were longer than a single word, though even guesses based on isolated words were sometimes accurate. It should also be noted that total results were above 50% accuracy for words, sentences and narrations. In general, EI and CF program ID choice results showed that listeners could identify with moderate accuracy what program these speakers finished. One possible reason for this is that FI students have more experience with French, and thus had more time to improve their accents, leading listeners to simply choose FI for those speakers whose accents sounded more native-like, and CF for speakers who sounded less native-like.

Additionally, all listeners were able to distinguish between FI and CF at above-chance levels for the narration task. This could suggest that listeners were not listening for pronunciation alone, but for a combination of phonetic, prosodic, grammatical and lexical information, as was previously suggested in other works (Genesee, 1978; Tatto, 1983). Together, these traits may have helped listeners identify the program these individuals finished. This was also suggested by some of the listeners upon completion of the program ID choice task.

However, a second possible explanation for why FI students sound different from CF students is that the FI program promotes a sense of community, or "apartness" from other non-FI students. Unlike Francophone program schools, which are often in separate buildings from English program schools, FI programs are normally housed together with the English program. Despite this, it was demonstrated that FI speakers spent more time with their FI peers than with English program peers, even after entering high school where only a maximum of 3 classes are taught exclusively in French. In the rest of the classes, FI students would be mixed with English program students. The results from the online questionnaire concur with the case study by Courcy (2001) where FI students claimed to have closer relationships with their Immersion classmates than with English program peers. A unique FI pronunciation could therefore be a result of group affiliation, where speakers choose to emulate a shared pronunciation pattern, resulting in a homogenised accent. Orr (2011) found anecdotal evidence that homogenised

accents could occur when a common L2 was being used as a tool for communication among differing L1 speakers.

It is possible therefore that the FI program is producing a sense of group affiliation that extends to pronunciation as well. Gatbonton et al (2005) demonstrated that in cases where the minority group is large enough, some speakers chose to sound foreign to prevent appearing “less loyal” to their L1 community. Pronunciation patterns can therefore be used as a marker of group affiliation. FI students may too be choosing to sound more similar to each other than to CF, who may be viewed as outsiders to the “FI community”. To add to this, one of the listeners presented a personal anecdote during their rating task, in which she reported that her son (a Francophone) had been faking an L2 French accent to avoid sounding different from his FI peers. It is unclear if FI students feel isolated from their English program peers because of their French instruction, or if their view their self-earned bilingual status as superior to both monolingual English program students and Francophones and therefore choose to associate less with them in elementary and high school.

However, it should be noted that sounding more native-like does not appear to be a goal, or a necessity to FI speakers in this study. Nor does their pronunciation appear to impede intelligibility. This is perhaps unsurprising, because the FI program is tailored to non-Francophone living in a non-Francophone environment. They do not have to fit in to the French-speaking community, because they may already feel like they are part of the aforementioned “FI community”. What should be highlighted here is that this newly-formed environment is not based on ethnicity or social status, but rather on the program itself. This means that the pronunciation is institutional in nature, and may therefore not exist if the program was not created in the first place. Taking a closer look at FI accents may be gateway towards identifying a new subgroup of accents: Institutional accents.

Altogether, the results of the Program ID Choice task (forced choice FI vs. CF) indicated that the native-French listeners could distinguish FI speakers from CF speakers. In general, longer utterances provided the most accurate results. Although the research analysed only a portion of the recorded words and sentences, the results are an important step toward identifying FI accents as distinct from other L2 French accents. However, further research would have to be conducted on immersion (such as comparing FI accents to Francophone program accents) in order to better conclude if the FI program produces a distinct accent, and thereby also help indicate if an institution alone can foster a distinct L2 accent. Though this study marks the beginnings of the answer, as of yet, this question remains unsolved. I hope this study will further the interest in immersion accents, and immersion group affiliation in the future.

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REFERENCES

- Birdsong, D. (2003). Authenticité de prononciation en français L2 chez des apprenants tardifs anglophones : analyses segmentales et globales. *Acquisition et Interaction en Langue Étrangère*, 18, 31 October 2013.
- Birdsong, D. (2007). Native like pronunciation among late learners of French as a second language. In O-S Bohn, & M. J. Munro (Eds.), *Language experience in second language speech learning: In honor of James Emil Flege* (pp. 99-116). Amsterdam: John Benjamins Publishing Company.
- Courcy, M. (2001). *Learners experiences of immersion education: Case studies of French and Chinese*. Clevedon, GBR: Multilingual Matters.
- Derwing, T. M., & Munro, M. J. (2013). The development of L2 oral language skills in two L1 groups: A 7-year study. *Language Learning*, 63, 163–185.
- Flege, J. E. (1987). The production of "new" and "similar" phones in a foreign language: Evidence for the effect of equivalence classification. *Journal of Phonetics*, 15, 47-65.
- Fraser, G. (2011). Immersion schools: Wallace Lambert's legacy. *Canadian Issues*, 5-9.
- Gatbonton, E., Trofimovich, P., Taylor, D. (2005). Learners' ethnic group affiliation and L2 pronuncaiont accuracy: A sociolinguistic investigation. *TESOL Quarterly*, 39, 489-511
- Genesee, F. (1978). A longitudinal evaluation of an early immersion school program. *Canadian Journal of Education / Revue Canadienne de l'Éducation*, 3(4), 31-50.
doi:10.2307/1494684
- Lapkin, S., Swain, M., & Argue, V. (1983). *French immersion: The trial balloon that flew*. Toronto: OISE Press.
- Mougeon, R., Rehner, K., & Nadasdi, T. (2004). The learning of spoken French variation by immersion students from Toronto, Canada. *Journal of Sociolinguistics*, 8(3), 408-438.

- Netelenbos, N. (2013). *The development of voice onset time in French immersion children*. (Unpublished Masters). University of Lethbridge, Lethbridge, Alberta.
- Orr, R., Quené, H., Diefenback, T., van Leeuwen, D. A., Huijbergts, M. (2011), An international English speech corpus for longitudinal study of accent development *Interspeech*, ISCA, pp. 1889-1892.
- Rehner, K., & Mougeon, R. (1999). Variation in the spoken French of immersion students: To ne or not to ne, that is the sociolinguistic question. *Canadian Modern Language Review*, 56(1), 124.
- Tatto Mabel, A. (1983). *A comparative analysis of grammatical errors in the written code between grade eleven immersion French and grade eleven core French*. (Unpublished Master of Arts Teaching of French). Simon Fraser University, Burnaby.