French Vowel Acquisition: Unit Assessment Project for the Department of World Languages and English Language Learning

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Introduction

This report outlines the progress on assessment projects within the World Languages and English Language Learning Department at Harold Washington College during the Spring of 2022.

All assessment projects follow a six stage process that has been agreed upon by the Assessment Committee at the college. These six stages are the following:

1. Department Buy-in and Outcome Definition
2. Assessment Research and Design
3. Pilot Assessment Tools and Processes
4. **Administer Specific Assessment**
5. Data Analysis
6. Supporting Evidence-Based Change

The role of the assessment liaison is that of support and reportage about assessment projects at the Program Level and at the Unit Level within the Department.

Program Level Assessment

The Department of World Languages / English Language Learning has not asked for support for any program-level projects during the past year. The faculty members are, however, engaging in curriculum development that could, in the near future, encourage them to reach out to the assessment liaison for support in gauging student learning within newly created curricula.

Unit Assessment

The ongoing French phonology acquisition project as it was originally designed before the pandemic, has been challenging. All French students in courses offered by faculty for this assessment project have been 'remote' since the Spring of 2020. As a result, a key element of the project, the use of the free program Praat, has proven to be a major obstacle. Many students have been resistant to downloading software they are not familiar with, or they have been using a smartphone (which will not allow the download of Praat) to attend class and do their academic work. Without Praat, the software that allows participants to ananye their vocalizations and those of native French speakers through the production and analysis of spectrograms, the project cannot proceed in the way it was designed. As a result, during the Fall of 2021 and Spring of 2022, I opted to shift the focus of the project from its original design to a scaled back design using short google forms as surveys for students to fill out. This approach, while accessible to students who use any type of device,

has only allowed for students to use the auditory channel to evaluate French vowel sounds, rather than the audio and visual supports that a spectrogram would have provided. Still, students have responded to the surveys when presented by the French faculty. Another issue that has arisen as a result of the pandemic is the size of classes. This semester, especially, enrollment for French courses has suffered, making any data gathered in the surveys for this project statistically non-generalizable. Nevertheless, these trials have resulted in development of methods for pronunciation analysis that can be transferred to other world language courses such as Spanish, Japanese, or Chinese.

Stage 1: Department buy-in and outcome definition

The World Languages Department has been supportive of this project since its inception in 2018. The current Department Chair, as well as the only full-time French professor, Andrew Aquino-Cutcher, has been involved at every stage. Since his initial proposal that we work together to help his students acquire French phonology more effectively, to his willingness to have his students in the current semester participate in the ongoing study, he has been a steadfast supporter. Our original discussions of the six-stage process of assessment before the pandemic resulted in the selection/creation of the following SLO (adjusted and revised over the last year as the project was scaled down and refocused):

- *Students will pronounce the consonant and vowel sounds of French with a high degree of accuracy.*

Although there was no existing SLO focused on pronunciation in any of the pre-pandemic French courses, and since the professor had been reluctant to add one as the World Languages Department had just completed the process of curriculum development of existing French courses, I had proposed that, if this project was successful, then the above listed SLO be added to all French syllabi. (See Supporting Evidence Based Change section)

Stage 2: Assessment research and design

The original assessment tool I designed was a pronunciation activity utilizing an open-source speech analysis app called Praat. The activity procedures call upon the students to do the following:

1. Choose any French speech sounds (from the inventory of French consonants, oral vowels, and nasal vowels) that they want to practice and improve upon.
2. Use Praat to create a spectrogram of those target sounds in French.
   a. Which will produce a spectrogram

3. Study the diagrams of the vocal tract as well as the instructor-provided materials showing tongue positions for various French vocal sounds, isolating those diagrams and materials that demonstrate how to pronounce the sound(s) they have chosen.
4. Reproduce the chosen sound(s) using Praat.
5. Analyze the target sound spectrogram and the spectrogram of their version of that sound to look for similarities and differences.
6. Make adjustments in the student's vocal tract.
7. Repeat steps 4 through 6 as needed until the student-produced sound matches (more or less) the target sound.

In order for any of this to be possible, the students had to be trained in the procurement and use of Praat as well as trained in the basics regarding what a spectrogram is and how it can provide a visual aid to help them acquire more target-like French pronunciation.

Then came the initial wave of the pandemic, followed by the delta and omachron waves, the last of which purportedly scaring significant numbers of students away from face-to-face courses, resulting in the World Languages and ELL Department opting to conduct most foreign language courses in the 'online live' mode. Enrollment was further depressed at colleges, especially community colleges, across the nation due to the improving economy at the time. Attempts were made in the early stages of the pandemic to continue with the original design, but several problems emerged:

1. For a significant number of French students, a smartphone was their main way to access course content and attend remote class meetings, and the program Praat cannot be downloaded onto a smartphone.
2. For the students who were using devices that Praat could be downloaded on to, there was resistance from students who were leary of strange apps from overseas sources, as Praat is.
3. Even if 1 and 2 above were not issues, there still remained the issue of how hard it is for non-linguistics students to overcome their apprehension at the strange look of a spectrogram, something I could help students surmount if the courses were face-to-face and they had the ability to work with me in person in our dedicated multimedia lab in Room 310. When left on their own in their own homes, not a single student completed the procedures listed above, nor did any come to see me during my extensive tutoring time for help. The project as it was designed, I concluded, could only be carried out in a face-to-face context in which the students have access to desktop computers in Room 310 all of which have the Praat program already installed and where the students can receive support from myself as a tutor assignment to that space as well as student workers whom I have trained in the use of Praat. This can be the reality once the pandemic finally abates and the department returns to offering foreign language, especially French classes face-to-face.

In the meantime, I decided to further my understanding of student learning of French pronunciation by using much more scaled back tools that would be accessible to remote students using any device. To that end, beginning in Fall of 2021, I opted to use google forms, a format students are quite familiar with.

This spring I invited French students to engage with two google form surveys, both focusing on the differentiation between French oral and nasal vowels. One of the surveys was a repeat from the end of last semester, but the other was a new survey. After speaking with many students from various backgrounds and disciplines (in my capacity as tutor) I came to understand that. the shooter the survey, the more likely that students would be to engage with it. This design allowed for only the collection of 'perception' related data from students. This approach is advantageous because it mimics the typical way that humans deal with sound perception, through aural means only. The disadvantage of this approach (as opposed to the approach taken initially in this project with Praat) is that it only allows students to use the auditory channel to discern sounds whereas Praat would allow them a visual representation of the sound (in the form of a spectrogram) in addition to the auditory stimuli.

Small scale tool design:

Challenging Sounds Survey 1-

This survey consists of four multiple choice questions which ask students to discern which of a set of words contains a certain vowel sound.

1. Which French word below contains 'this" [ɛ̃] vowel? (Go to https://jbdowse.com/ipa/ and scroll down to the Nasal Vowel chart. Then click on the [ɛ̃] located in the 'Low-Mid' row on the white-colored side of the 'Front' column.)
   a. Aime
   b. Peine
   c. Pain
   d. Saine
   e. None of the above
2. Which French word below contains "this" [œ̃] nasal vowel? (Go to https://jbdowse.com/ipa/ and scroll down to the Nasal Vowel chart. Then click on the [œ̃] located in the 'Low-Mid' row and the grey-colored side of the 'Front' column.)
   a. Brun
   b. Lune
   c. Brune
   d. Jeune
   e. None of the above.

3. Which French word below contains "this" [ɔ̃] vowel? (Go to https://jbdowse.com/ipa/ and scroll down to the Nasal Vowel chart. Then click on the [ɔ̃] located in the 'Low-Mid' row and the grey-colored side of the 'Back' column.)
   a. Bombe
   b. Bon
   c. Bord
   d. Bonne
   e. None of the above
4. Which French word below contains "this" [ɑ̃] nasal vowel? (Go to https://jbdowse.com/ipa/ and scroll down to the Nasal Vowel chart. Then click on the [ɑ̃] located in the 'Low' row and the white-colored side of the 'Back' column.)
   a. Mène
   b. Femme
   c. Plane
   d. Danse
   e. None of the above

Challenging Sounds Survey 2-

This survey consists of just two questions which require students to compare two words spoken by native French speakers and to gauge the extent to which the principal vowel sounds in the words were alike or different.

Instructions to the participants: Each of the two following questions contains a pair of French words, each of which contains either an oral vowel or a nasal vowel. Read each pair of words in each question, then click the link next to each word to hear the word spoken by a native speaker of French. Finally, assess your perception of the vowels contained in each pair of words using the scale provided in each question.

Question 1:

1. hôtel (https://audio.lingvist.io/v1/6ef8471d-20af-49b7-a92b-1b9408111cbc/word/b95e2069021dcb564f897e4da05c9d11.mp3)
2. an (https://audio.lingvist.io/v1/6ef8471d-20af-49b7-a92b-1b9408111cbc/word/18b049cc8d8535787929df716f9f4e68.mp3)

Answer to be given using a Likert Scale of 1 - 4 (1 = The two vowels sound the same, 4 = Teh two vowels sound totally different)

Questions 2:

1. poste (https://audio.lingvist.io/v1/6ef8471d-20af-49b7-a92b-1b9408111cbc/word/fbf270256baeb94572a075247427ddef.mp3)

2. nom (https://audio.lingvist.io/v1/6ef8471d-20af-49b7-a92b-1b9408111cbc/word/aee37c30f5d091a495526f636a3527bb.mp3)

Answer to be given using a Likert Scale of 1 - 4 (1 = The two vowels sound the same, 4 = Teh two vowels sound totally different)

Stage 3: Pilot assessment tools and processes

The goal of this semester was to test the theory that students would be more willing to engage with a tool tha

- is in a format and using an app that they are familiar with (i.e. Google Forms)
- is not an inordinate burden on their time, thus allowing them to engage with each question in a more thoughtful way.

The course we tried this out in was a new course (see details in the Supporting Evidence Based Change section below), Intensive Oral Practice in French, whose enrollment is only three students. Given that low enrollment number for the course, the survey engagement, three responses for Challenging Sounds Survey 1 and two responses for Challenging Sounds Survey 2, indicates that students may well be more apt to participate in an optional assessment if the tool meets the two criteria bullet-pointed above.

Stage 4: Administer specific assessment

This semester, we attempted to administer the two surveys as a pilot:

Part 1 - Choosing Class Sections

At the beginning of this semester, Professor Aquino-Cutcher volunteered to have the following sections of HWC French for participation in the assessment:

- French 206 (see Supporting Evidence Based Change section below for details on this course)

Professor Aquino-Cutcher is the instructor of record for this section which is a 12-week class.

As stated above, there are ongoing challenges:
- Extremely low enrollment

- The lack of visual aid for students (which would be provided by a spectrogram)
- Maintaining momentum/engagement with students who are taking the class remotely

As stated in previous reports, whether the ongoing pandemic is responsible for these difficulties, or if they are caused by the remote medium, or by a combination of the two is an open question.

Part 2 - Administering Pilot Assessment

Having only two or three responses on these surveys does not give French instructors much help beyond the knowledge that their students are able and willing to take this survey. The next step should be to use these surveys again at pre-assessments in a future semester in which more students are taking courses face-to-face and who can visit the multimedia lab in Room 310 for support from myself and from student lab aides whom I have trained in the use of Praat. That way, the data from these surveys will raise student awareness of their perceptions (or lack thereof) of these sounds as a precursor to engaging with the originally designed assessment tool that utilizes Praat.

Please see the Small Scale Tool Design subsection within the Assessment Tool Design section above for the complete version of the questions below.

Challenging Sounds Survey 1:

Question 1 results-

Even though there are only three responses shown below, this is the most interesting due to the dispersed nature of those responses. There is no consensus, which means to me that the students are much less sure about this sound, [ɛ̃], compared to the other vowel sounds they were asked to engage with.

Which French word below contains 'this" [ɛ̃] vowel? (Go to https://jbdowse.com/ipa/ and scroll down to the Nasal Vowel chart. Then click on the [ɛ... on the white-colored side of the 'Front' column.)
3 responses

- aime
- peine
- pain
- saine
- None of the above.

33.3%
33.3%
33.3%
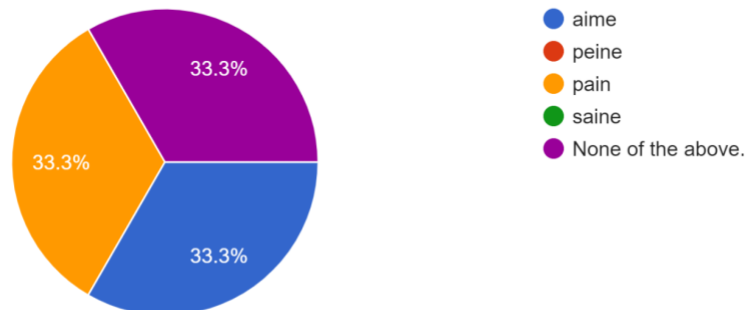
Question 2 results-

Questions 2 - 4 seem to indicate much more consensus among participants, but this might very well be different if there were more students taking it.

Which French word below contains "this" [œ̃] nasal vowel? (Go to https://jbdowse.com/ipa/ and scroll down to the Nasal Vowel chart. Then click on... and the grey-colored side of the 'Front' column.)
3 responses

- brun
- lune
- brune
- jeune
- None of the above.

66.7%
33.3%
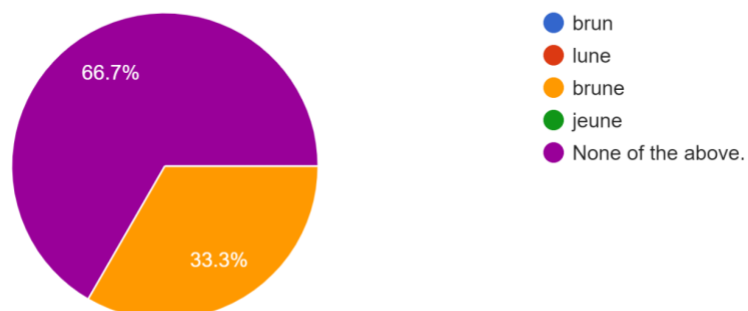
Question 3 results-

Which French word below contains "this" [ɔ̃] vowel? (Go to https://jbdowse.com/ipa/ and scroll down to the Nasal Vowel chart. Then click on the [...w and the grey-colored side of the 'Back' column.)
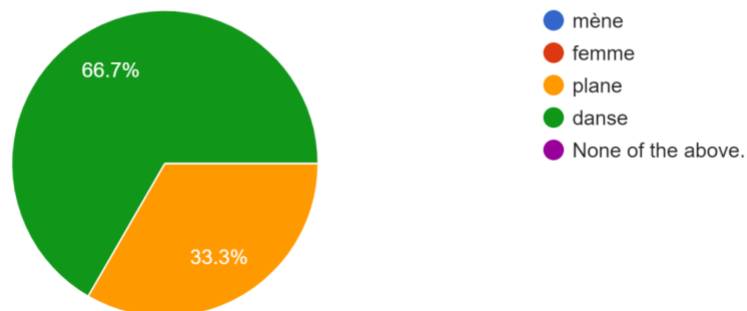
3 responses

- ● bombe
- ● bon
- ● bord
- ● bonne
- ● None of the above.

66.7%

33.3%
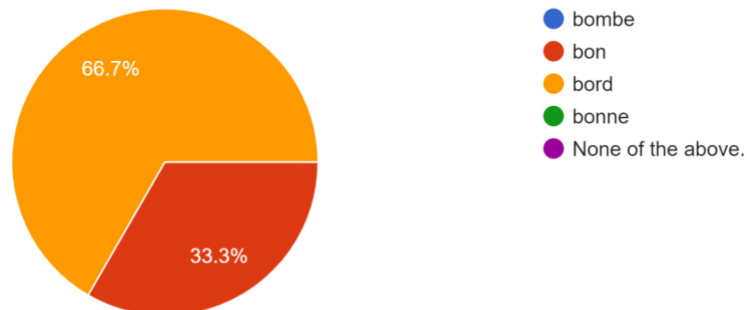
Question 4 results-

Which French word below contains "this" [ɑ̃] nasal vowel? (Go to https://jbdowse.com/ipa/ and scroll down to the Nasal Vowel chart. Then click on... and the white-colored side of the 'Back' column.)

3 responses

- ● mène
- ● femme
- ● plane
- ● danse
- ● None of the above.

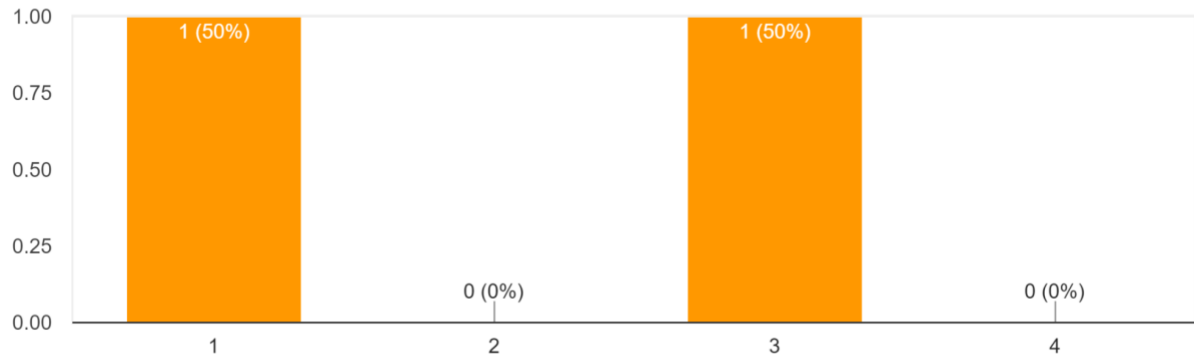66.7%

33.3%

Challenging Sounds Survey 2:

Question 1 Results-

The Likert scale values 1 as "the vowels sound exactly the same" whereas it values 4 as "the vowels are totally different". While I am capable of using Praat to verify the accuracy of the student responses below, that process is much slower and possibly less accurate (given that I am not a French speaker) compared to having the course instructor check the students' survey results.

hôtel

(https://audio.lingvist.io/v1/6ef8471d-20af-49b...cbc/word/18b049cc8d8535787929df716f9f4e68.mp3)
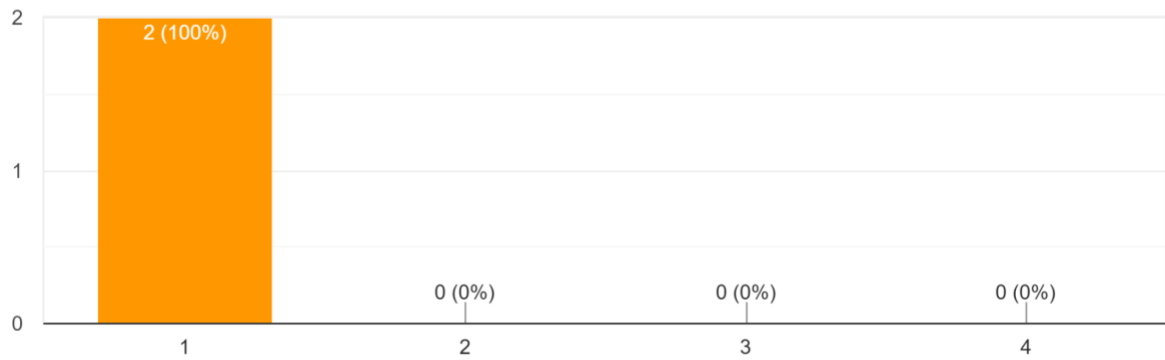
2 responses

Questions 2 results-

poste

(https://audio.lingvist.io/v1/6ef8471d-20af-49b...cbc/word/aee37c30f5d091a495526f636a3527bb.mp3)

2 responses

Stage 5: Data analysis

We are hopeful that next semester, Fall of 2022, enrollment will recover sufficiently to allow us to collect enough data with the assessment tool(s) for any findings to be statistically meaningful and generalizable.

Stage 6: Supporting evidence-based change

During the Spring of 2021, Professor Aquino-Cutcher shared with me that this project had inspired and motivated him to design a brand new French course, a course that would focus on pronunciation. Late last semester, he shared with me his great excitement that the following class had been approved and was on the schedule for Spring 2022 as a 12-week course:

- FRENCH 206 - Intensive Oral Practice in French
    - Description: Practice in spoken language, fluency and <u>accuracy</u>. Writing assignments, as appropriate to the discipline, are part of the course.
    - Prerequisites: Placement test, or grade of C or better in FRENCH 104, Consent of Department Chairperson.
    - 4 Lecture hours. 4 Credit Hours.
    - Offered At: HW, KK, TR
    - GE: Humanities

It is a testament to Professor Aquino-Cutcher's dedication to the course that he was able to persuade the HWC administration to allow the course to run despite having only three enrolled students, a number much too small to make any results from project surveys statistically meaningful or generalizable. Nevertheless, the existence of this course and the fact that it is running shows that the assessment project that Professor Aquino-Cutcher asked me to help him with back in 2018 has resulted in meaningful change for French students not only at HWC but at Kennedy King and Truman as well.

Program assessment update in discipline

As stated last spring, the next step would be for the full time faculty to create program level SLOs that are aligned with the course SLOs for each of the discipline areas:

- French
- Spanish
- Chinese
- Japanese

- Italian

Conclusion

For the continuation of this stage of the assessment process in Fall, 2022 I plan to do the following:

- Re-use both google form surveys
  - Pre-assessment/Post-assessment Surveys
    - Challenging Sounds Survey 1
    - Challenging Sounds Survey 2

- Follow the schedule below
  - Pre-assessment during weeks 1-2
  - Class visit to discuss the project during weeks 3-4
    - Describe what a spectrogram is and how it can help them with oral practice
    - Introduce Praat in lab 310
      - Use the vowels in the surveys listed above
  - Students visit Room 310 to use Praat / troubleshoot with me during weeks 5-9
  - Gather spectrograms from participants during weeks 10 - 11
  - Post-assessment during week 12

- Increase support for students
  - Don't rely only on tutorial videos
  - Face-to-face engagement with participants
    - Class visits
    - In room 310
  - Work through Praat procedures together with participants

- Expand number of sections for project
  - Include adjunct instructor courses

As was indicated last year at this time, it will be very challenging if French courses are held remotely again during Fall of 2022. Here's hoping we will be face-to-face by then!