MAIN PREMISES

- Second language acquisition process depends on input, interaction and output (Long, 1996; Pica, 1994; Swain, 1985)


- Technology tools can be used to combine these factors:
  - chat (Darhower, 2007)
  - discussion boards (Arnold & Ducate, 2006; Arnold, Ducate, Lomicka, & Lord, 2005; Fahy, Crawford, & Ally, 2001; Paulus & Roberts, 2006)
  - podcasting (Ducate & Lomicka, 2009; Lord, 2008)
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RESEARCH QUESTIONS

1. Do L2 learners improve their pronunciation of target sounds (/ɾ, r, p, t, k/) over the course of a semester engaged in self-analysis?

2. Do learners who participate in podcast communities with other learners improve their pronunciation on those sounds more than learners working alone?

3. How do learners react to self-analysis and (for experimental group) to the community aspect of the podcast project?
PARTICIPANTS (N=40)

- **Experimental group**
  - n=22
  - Enrolled in Phonetics course at U Wisconsin – Madison
  - Mostly Spanish majors and minors

- **Control group**
  - n=18
  - Enrolled in Phonetics course at U Wisconsin – Madison, taught by same instructor
  - Mostly Spanish majors and minors
TREATMENT

- **Experimental group**
  - Podcast project with students at UF in similar course
  - Completed assigned recordings every 3 weeks
  - Posted recordings to podcast page
  - Self-analysis of own pronunciation
  - Group analysis and comments

- **Control group**
  - Completed assigned recordings every 3 weeks
  - Posted recordings to online course management page
  - Self-analysis of own pronunciation
DATA AND ANALYSIS

Lectura.
Lee el texto a continuación en voz alta. No hables ni muy rápido ni mi lento, sino a una velocidad normal. Es probable que haya palabras desconocidas, simplemente pronúncialas lo mejor que puedas. Presta atención especial a los rasgos suprasegmentales de las frases.

Poco a poco, a medida que la noche fue avanzando, la presencia de la fotografía empezó a hacerse más molesta y obsesiva cada vez. Concentré la mirada en la espiral del fuego. Cerré los ojos tratando de dormir. Pero todo era inútil. Los ojos amarillos de Sabina me miraban. Su soledad antigua se extendía como una mancha húmeda por toda la pared. Pronto entendí que la tranquilidad y el sueño de horas antes serían ya imposibles mientras aquel viejo retrato siguiera frente a mí. La perra despertó sobresaltada, y se quedó mirándome sin entender muy bien. Yo estaba ya junto al escaño, nervioso y aturdido, pero dispuesto a poner fin a aquella situación. El recuerdo cercano de la soga me empujaba. El temor a la locura y al insomnio había comenzado a apoderarse de mí.Cogí el retrato entre las manos y lo miré otra vez: Sabina sonreía con una gran tristeza, sus ojos me miraban como si aún pudieran ver. Y, en la desolación extrema de aquel andén vacío --vacío para siempre--, su soledad de entonces atraviesó mi corazón. Sé que nadie jamás me creería, pero, mientras se consumía entre las llamas, su voz inconfundible me llamaba por mi nombre, sus ojos me miraban pidiéndome perdón.

La lluvia amarilla (Julio Llamazares)
ACOUSTIC ANALYSIS

- PRAAT v. 5.3.17 (Boersma and Weenink, www.praat.org)
- Tap /ɾ/ vs. trill /r/ distinction
/pʰk/ - Voice Onset Time

- The length of time that passes between when a stop consonant is released and when voicing (the vibration of the vocal folds, or periodicity), begins
ACOUSTIC RESULTS: tap /r/

▶ Accuracy percentages

<table>
<thead>
<tr>
<th></th>
<th>PRE recording</th>
<th>POST recording</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>75%</td>
<td>73%</td>
<td>-2%</td>
</tr>
<tr>
<td>Experimental</td>
<td>71.4%</td>
<td>78%</td>
<td>+6.6%</td>
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</tbody>
</table>

No significant changes in either group
ACOUSTIC RESULTS: trill /r/

Accuracy percentages

<table>
<thead>
<tr>
<th></th>
<th>PRE recording</th>
<th>POST recording</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>19%</td>
<td>40%</td>
<td>+21%</td>
</tr>
<tr>
<td>Exp.</td>
<td>17.05%</td>
<td>38%</td>
<td>+20.95%</td>
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</table>

Significant improvement in both groups
## ACOUSTIC RESULTS: /pʰk/ 

### Results in milliseconds

<table>
<thead>
<tr>
<th></th>
<th>PRE recording</th>
<th>POST recording</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>/p/</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>25.31</td>
<td>26.99</td>
<td>+1.68</td>
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<tr>
<td>Exp.</td>
<td>26.73</td>
<td>21.98</td>
<td>-4.75</td>
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<td><strong>/t/</strong></td>
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<tr>
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<td>28.01</td>
<td>+0.56</td>
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<tr>
<td>Exp.</td>
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<td>26.38</td>
<td>-5.61</td>
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<tr>
<td><strong>/k/</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>45.33</td>
<td>42.74</td>
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<tr>
<td>Exp.</td>
<td>47.89</td>
<td>40.31</td>
<td>-7.58</td>
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</table>

No significant changes in either group.
QUALITATIVE RESULTS: self-analysis reactions

- **Experimental**
  - I learned that it’s not just as simple as saying the words in Spanish without really thinking about how to pronounce them.
  - I didn’t think that the recordings would help me improve my pronunciation so much but I am really conscience of correctly pronouncing the “v” in Spanish and I know that eventually it will become something natural.
  - Through the habit of analyzing my speech, I began to pay closer attention in my other Spanish class or at any time I was speaking Spanish.

- **Control**
  - By continually analyzing my own pronunciation, I was able to recognize [my weaknesses], and I am now much more aware of it.
  - From a quick glance back through recordings, I can see huge improvement.
  - If I hadn’t listened to myself and spoke about these mistakes, I’m almost certain I would keep making them. It wasn’t humiliating, per se, but having to talk about your mistakes makes you not want to do them again!
  - One interesting thing I found while listening to my recordings again was how I sounded more confident in the last recording as opposed to the first one.
QUALITATIVE RESULTS: community reactions

(Experimental)

I noticed that most of the comments I received at the start of the grabaciones were eliminated by the next. This is exciting to me! I did not realize that my Spanish improved that much (or used to be that bad- hah), but it is encouraging to see the steps I’ve made throughout the course.

It was also really helpful to get feedback from my peers, who for the most part affirmed what I thought and also offered some really good suggestions.

It was refreshing to hear other people’s comments on how I speak. In high school we sometimes had oral tests where the teacher could point out areas of improvement but since being in college, there hasn’t been one oral test to help me see what I need to improve on. I enjoyed learning from this experience.

I also really enjoyed that our fellow group members supported each other and told each other not only what we did incorrectly but also some things that we did correctly.
QUALITATIVE RESULTS: individual reactions

(Control)

- I do not think I would have liked to participate in the podcast project. I would not have liked other people listening to my recordings. In addition, it would require a lot of extra time to listen to the other group members recordings and analyze his/her information as well. Similarly, for some individuals computer access may be an issue.

- I was able to work through my pronunciation issues to gain insight on how to advance my Spanish speaking without comparing myself to other students recordings or problems. I’m sure that the podcast project was also extremely helpful for the other class, but in the end, I think I would probably prefer our classes style of recordings instead.

- I don’t think I would have liked to participate in the podcast project because I would have to maintain a blog, something which sounds dreadful to me.

- I definitely would have liked to participate in the podcast project. I feel this is a great way to improve even more in speaking Spanish and that it would be very beneficial. Instead of only having to evaluate yourself, you can hear how other students sound and compare yourself to them. Also, you have others critiquing your pronunciation, which would give you further advice and constructive criticism on what to improve on and what you’re doing well. It seems like a great experience to compare your pronunciation with students from another college and to communicate with them as you’re going through this process.
Only significant improvement occurred on trill.
- Due to its salience?
  - 75% of responses on follow-up survey mentioned the trill.
- Due to phonetics/phonology problems between L1-L2?
  - Trill is only "new" (e.g., Flege, 1987) sound to Spanish, while others exist in some variant in English and thus may be more difficult to acquire or learned later (Flege, 1995; Major, 2001; Zampini; 2008).

Participants appreciated opportunity to self-analyze.

Groups enjoyed collaboration.

Individuals claimed to prefer working alone.
CONCLUSIONS

1. Do L2 learners improve their pronunciation of target sounds over the course of a semester engaged in self-analysis?
   - Yes, but only minimally, and inconsistently. The only significant change occurred with /r/.

2. Do learners who participate in podcast communities with other learners improve their pronunciation more than learners working alone?
   - No. There were no group differences on any of the sounds.

3. How do learners react to engaging in self-analysis and, in some cases, to the community aspect of the podcast project?
   - Self-analysis was appreciated by all. Those who engaged in collaborative communities found them beneficial. Those who did not expressed little desire to.
IMPLICATIONS

- Recording and self-analysis can be beneficial in acquiring more native-like phonological realizations (Lord, 2005, 2008).

- Technology tools offer new opportunities to practice language skills, (e.g., Llisteri, 2001, 2007).

- Building community, while an inherent part of the educational process (e.g., Rovai, 2002) may not enhance benefits in this case.

- Collaboration among learners, outside of class time, helps solve one of the primary concerns among language teachers - not enough time!
Thank you.

http://www.slideshare.net/glord/12-phonology-and-online-communities

glord@ufl.edu
sharrington2@wisc.edu


