PDI in Second Life EFL pronunciation teaching and learning

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Abstract

In 2008 in Łódź I talked about "SLEFL pronunciation, or: on teaching and learning EFL pronunciation in Second Life" (http://ifa.amu.edu.pl/~swlodek/abstract.htm#abs55). In 2009 I presented "Phonetically Augmented Virtuality in Second Life" (http://ifa.amu.edu.pl/~swlodek/PAV_in_SL.pdf). In 2010 I will show how I have been using the *Phonetic Difficulty Index* (PDI) to extract and prepare pronunciation materials for my Second Life students from the PDI-annotated:

- Brown corpus (http://en.wikipedia.org/wiki/Brown_Corpus)
- Reading A-Z corpus (http://www.readinga-z.com/)
- other corpora and word-lists

Unlike in my previous *Accents* presentations the specificity and uniqueness of SL environment will not be the focus of attention. Instead I will explain: (i) how PDI is instrumental in preparing resources customized for the needs and wants of the students, (ii) how it affords a high degree of control and precision in selecting materials from suitably processed and tagged text corpora and word-lists, (iii) how these materials are forged into interactive tasks, games and quizzes which I have used in the SL classroom. Examples will include: (a) sentences showing low and high PDI, and containing at least 8 words, (b) sentences and stories with the highest proportion of words containing velar nasals, word-final voiced consonants, aspirated stops, Am-Br pronouncing differences and other common pronouncing. These resources have been used in a variety of activity types, from self-access unsupervised exercises offered to any SL resident passing by, through simple in-class reading aloud with error feedback from the teacher, to paired information gap dialogues with students reconstructing their clozed notecards on the basis of other students' feedback, followed by teacher debriefing.

All information and advice contained in this presentation can be directly used in First Life (FL) EFL pronunciation teaching in a variety of settings. The character of this presentation is thus thoroughly practical. Standard theoretical assumptions about the best methodology of teaching and learning EFL pronunciation in an artificial setting are accepted without further question.

Presentation plan

1. Introduction: teaching pronunciation in *Second Life*
2. PDI: short introduction & selected bibliography
3. Selecting difficulties for treatment
4. Examples of activities/games
   4.1. 60 frequent words and 10 sentences with Am-Br pronouncing differences
   4.2. 30 sentences with many words containing a velar nasal sound
   4.3. 30 sentences with many words containing aspiration
   4.4. Pronunciation of tea-time vocabulary
5. Conclusions
6. Appendices

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1. Introduction: teaching pronunciation in *Second Life*

Place in-world: http://slurl.com/secondlife/UWA%20VIRTLANTIS/205/231/33
Place on web2: www.virtlantis.com
Time: every Wednesday at 9pm CET, since August 2008, 96 sessions so far
Participants: about 50 unique avatars altogether, about 5-6 regulars
Communication in-world: public and private voice chat, with text chat support and backchanneling
Communication on web2: posts on www.virtlantis.com: text, audio, pictures, video
Techniques: one-on-one, pairwork, groupwork, information gap, quizzes, games, quests, reading aloud, repetition, teach-in, small talk, transcribing, metaphonetic discussions
Props: SL PAVed objects, notecards, scripts, recordings, websites

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2. PDI: short introduction & selected bibliography

The *Phonetic Difficulty Index* (PDI) is a quantitative/qualitative measure of word pronouncing difficulty to L1 learners of a given L2. Specifically, in its current implementation, it assigns numerical (0-10 range) and difficulty (61 pronouncing problems) Polglish-sensitive tags to an English word-list or text (see Appendix 1). The range of applications of the current version of PDI extends from evaluation of pedagogical materials, such as texts, word-lists, dictionaries, etc., in terms of phonetic difficulty, to generation of word-lists meeting user-specified phonetic criteria for teaching, learning, testing and materials preparation.

Sobkowiak,W. & W.Ferlacka (in press). "PDI as a tool of phonetic enhancements to graded e-readers", a plenary paper read at the *20th International Conference on Foreign and Second Language Acquisition in Szczyrk*, 15th to 17th May 2008.

Sobkowiak,W. & W.Ferlacka. 2006. "Calibrating the Phonetic Difficulty Index". In W.Sobkowiak & E.Waniek-Klimczak (eds). 2006. *Dydaktyka fonetyki języka obcego w Polsce*. Konin: PWSZ w Koninie. 173-187. Proceedings of the Phonetics in FLT 6 Conference in Mikorzyn, 8-10 May 2006. http://ifa.amu.edu.pl/~swlodek/Miko06-cyrk2.htm

Sobkowiak,W. 2004. "Phonetic Difficulty Index". In W.Sobkowiak & E.Waniek-Klimczak (eds). 2004. *Dydaktyka fonetyki języka obcego. Zeszyt Naukowy Instytutu Neofilologii Państwowej Wyższej Szkoły Zawodowej w Koninie nr 3*. Konin: Wydawnictwo PWSZ w Koninie. 102-

3. Selecting difficulties for treatment (from impromptu discussion)

Some comments on pronunciation errors I noticed in our meeting on Oct 13th 2010

http://www.virtlantis.com/pg/blog/WłodzimierzSobkowiak/read/25697/pronunciation-with-wlodek-barbosa-6th-meeting - annotation-4108

The main reason why I asked the discussants to choose a controversial topic was to have them exercise LESS CONTROL over their pronunciation than what they usually have. It's well known that people discussing such a topic tend to pay less attention to how they speak, so some problems of pronunciation (and also vocabulary and grammar, of course) tend to come up into the light, so to say, rather than being suppressd by the speech processor before they leave the mouth of the speaker. This rationale proved to work perfectly in our meeting, too. Below is a selection of the pronunciation errors of those students who allowed me to make them public (TY!), with some comments of my own.

Alf

honest /h-/ (the word starts with a vowel)
people /-l/ (the final /l/ is "dark")
because /-kaus/ (there's no diphthong here, just a /o/ vowel)
things /sings/ (the notorious <th>!)
truth /tru:s/ (and again!)
politicians /-k@ns/ (the last syllable begins with a fricative /S/)
countries /-s/ (final devoicing; should be /-z/)
accept-except (what is the pronunciation difference?)
what /vot/, why /vai/, one /van/ (typical Gerglish feature; spelling pronunciation)
bad /bet/ - (vowel should be more open, and /d/ at the end)
punish /pu-/ (a different vowel in the first syllable, please)
idea /-ea/ (this is a hard diphthong! try /aidi@/)
pe'nalty (wrong stress)
bribes /brips/ (should be /braibz/)
talent /telent/ (wrong vowel in the first syllable)

Heimlaga

deserve /-s@:v/ (voiced /z/ in the middle, please)
bad /-t/, dig /-k/ (final devoicing)
full /fyl/ (the /u/ sound was a bit too rounded, French style :-)
things /-si/, health /-s/ (<th>!)
they /d-/, without /-d-/ (<th> again, this time voiced)
capa'city, 'fulfilled (word stress)

Abraxas

visions /-S-/ (should be voiced)

4. Examples of activities/games (excerpts from notecards in-world)

4.1. 60 frequent words and 10 sentences with Am-Br pronouncing differences http://www.virtlantis.com/pg/blog/WłodzimierzSobkowiak/read/22172/wlodek-recovered-slactivities - annotation-2843

This is a list of common English words which differ in pronunciation between British and American accents. Many of them differ in the /r/ sound only: pronounced in American English and silent in British. Sometimes the difference is in the pronunciation of a vowel. See if you can identify the difference in each case, and if you can pronounce each word both ways.

At the bottom of this notecard 10 sentences are given. These sentences have been selected from a series of readers written for native American children ("Reading A-Z"), from almost thirty thousand sentences in 317 texts on 18 grade levels. Each contains a few words with Am-Br pronunciation difference (not necessarily the words from the list of 60). The sentences have a relatively low pronouncing difficulty overall. Can you identify the words with contrasting pronunciations? Correct answers are provided at the bottom.

1. all	5. always	9. body	13. government
2. already	6. another	10. car	14. hear
3. also	7. ask	11. follow	15. her
4. although	8. because	12. form	...

----

1. Whether you sing, dance, play an instrument or sit and listen to music, be sure to make it a part of your life.

2. But poor Pat was so late and so deep in thought that when he came to the fork where the path split off he didn't even look up.

3. The first time you do a free fall it seems like a short time because everything is so new.

...

The Am-Br contrasting words are:

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1. whether dance or sure part your

2. poor thought fork where path

3. first fall short because new

...

4.2. 30 sentences with many words containing a velar nasal sound http://www.virtlantis.com/pg/blog/WłodzimierzSobkowiak/read/22172/wlodek-recovered-slactivities - annotation-2856

These sentences have been selected from a series of readers written for native American children ("Reading A-Z"), from 317 texts on 18 grade levels. These are sentences with the highest proportion of words containing a velar nasal sound in all 317 texts: at least four such words in each sentence. Correct pronunciation of this sound appears to be one the most common problems of foreign learners of English. Hence, this text is good for practice and testing of this problem.

Sentences do not make any coherent story. Read the text silently for understanding first. Then read it aloud in a possibly natural manner. You'll get feedback on your pronunciation problems.

1. Doing things little by little is just as good as doing things all at once.

2. Pretty soon he saw his younger brother shouting, leaping and waving his skinning knife.

3. There is feasting, dancing, singing and gift giving and the totem pole's stories are told.

...

4.3. 30 sentences with many words containing aspiration

These sentences have been selected from the Brown corpus, a collection of American texts of about 1 million words. These are sentences with the highest proportion of words containing aspiration; at least five such words in each sentence. Correct pronunciation of aspirated sounds appears to be one of the most common problems of foreign learners of English. Hence, this text is good for practice and testing of this problem.

Sentences do not make any coherent story. Read the text silently for understanding first. Then read it aloud in a possibly natural manner. You'll get feedback on your pronunciation problems.

1. During the election campaign both candidates - Davis and Bush - reportedly received anonymous telephone calls.

2. College teachers in Texas are not required to have the education courses.

3. They lacked time to prepare the Congo, as the British and French had prepared their colonies.

...

4.4. The pronunciation of tea-time vocabulary

The complete list of tea-time vocabulary uploaded by Kip to http://www.virtlantis.com/pg/pages/view/20920/ can be useful not only for vocabulary learning as such, but also for pronunciation exercises and tasks. I've grabbed the list, edited it slightly (deleted duplicates, alphabetized, spell-checked, removed some punctuation) and fed it into my pronunciation-difficulty script. The program: (i) transcribed the 1997 entries phonetically, (ii) counted the sum and word-average of their phonetic difficulty using a list of about sixty criteria, (iii) tagged each entry with the number of times each of the most common ten difficulties occurs in it. Because all this data can be queried interactively, I can now generate lists of vocab meeting specific phonetic criteria. Below find a tiny sample of possible query options. I hope you'll find these resources useful. Please don't hesitate to ask me to generate a custom-made list for you. I'll do my best to accommodate your needs and wishes :-)

Vocabulary entries phonetically difficult overall
----
advantages and disadvantages
consciously
continuing education

contradiction
corporations
currency
double-meaning
...

Vocabulary phonetically difficult, with >5 words in the entry
----
42 different nationalities are represented
Had you heard of this before
Has the cat got your tongue
Please give me your John Hancock
Studying abroad is an immersive language learning experience
...

More than 5 schwas in the entry

No offense but I don't really like your idea for the following reasons
Please don't take this wrong but I don't really agree with what you are saying
to be aware of the purpose of something
to make a living by selling things on the side of the road

More than 3 cases of final voiced consonant in the entry

My memories of this have faded away
in terms of damage to cars
to have a good command of a language
to lose find one's bearings
to make a living by selling things on the side of the road

More than 3 cases of Am-Br pronunciation difference in the entry
----
a straight forward or clear process
opportunity for collaborative adventures and problem solving
to feel comfortable wearing a mask or uniform

There are 594 one-word entries in 1997 altogether
---> 95 of these contain aspiration
---> 12 of these are very hard phonetically
----
consciously   *occupation*   *spontaneously*
currency   *participant-driven*   *time-consuming*
instantaneous   *power-driven*   *turn-out*
justification   *so-called*   *vegetarian*

Just 3 one-word entries with /D/:
----
get-together
nonetheless
rhythm

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5. Conclusions

- Pronunciation teaching in SL is not fundamentally different from that in FL

- I treated of unique affordances of SL for teaching elsewhere, under the label of PAV
  http://ifa.amu.edu.pl/~swlodek/PAV_in_SL.pdf

- PDI can be used to forge EFL pronunciation materials in SL/FL:
  - from raw e-text of any kind (first stripped of punctuation, in current implementation)
  - automatically phonetically transcribed and phonolapsologically tagged (currently 61 tags)
  - with a high degree of precision (within the available phonetic criteria scope)
  - meeting specific learner needs/wants (in terms of segmentals mostly)
  - meeting specific teacher needs/wants (in terms of problem selection, word freq, etc.)

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6. Appendix 1: PDI codes, difficulties and sources of error

No	PDI code	Difficulty	Source of likely Polglish error
		(a) mostly graphophonemic	
1.	a.	<ur> in word	schwa, /r/?
2.	b.	<ei> in word	many phonetic realizations
3.	c.	<ie> in word	many phonetic realizations
4.	d.	<eo> in word	many phonetic realizations
5.	e.	<ea> in word	many phonetic realizations
6.	f.	<ow> in word	/aʊ/ or /əʊ/?
7.	g.	<au> in word	<au> –> /aw/ in Polish
8.	h.	<ou> in word	many phonetic realizations
9.	i.	<aw> in word	/ɔ:/ or /oʊ/?
10.	j.	<gh> in word	many phonetic realizations
11.	k.	<ui> in word and not <qui>	many phonetic realizations
12.	l.	<gn> in word and not /gn/	/gn/
13.	m.	<lk#> in stem	/lk/ or /k/?
14.	n.	<mb#> in stem	/mb/
15.	o.	<mn#> in stem	/mn/
16.	p.	<alm#> in stem	/lm/
17.	q.	<stle#> in stem	/stl/
18.	r.	<ed#> in verb/adjective/adverb and not /ɪd#/	schwa insertion
19.	s.	<#kn> in word	/kn/
20.	t.	<#ps> in word	/ps/
21.	u.	<#exce>/<#exci> in word	/ekts-/
22.	v.	<age#> in stem and not /eɪdʒ#/	/eɪdʒ/
23.	w.	<ate#>/<ative#> in stem and not /eɪt#/-/eɪtɪv#/	/eɪt/
24.	x.	<able#> in stem and not /eɪbl#/	/eɪbl/
25.	y.	<ey#> in stem and not /eɪ#/	/eɪ/
26.	z.	>40% more letters than sounds	confusing phonogram clusters
		(b) mostly pronunciation	
27.	A.	linking /r/	/r/ or not? (BrE), trilled?
28.	B.	centring diphthong /eə/	/j/ breaking, smoothing, schwa
29.	C.	centring diphthong /ɪə/	/j/ breaking, smoothing, schwa
30.	D.	centring diphthong /ʊə/	/w/ breaking, schwa, /u/
31.	E.	vowel /ʌ/	Polish /a/
32.	F.	clusters /θs/ or /ðz/	/s/
33.	G.	interconsonantal /ʊ/, but not <oo>	/ʌ/, /ju/, /ʊ/, schwa?
34.	H.	velar nasal /ŋ/	/ŋg/, /ŋk/, /n/
35.	I.	aspiration	unaspirated stops
36.	J.	short schwa /ə/	schwa quality
37.	K.	long schwa /ɜ:/	schwa quality and quantity
38.	L.	voiced apico-dental /ð/	/d/, /z/, /v/
39.	M.	voiceless apico-dental /θ/	/t/, /s/, /f/
40.	N.	pre-voiced /dɪs/ or /mɪs/	/z/

41.	O.	/əʊ/CCV	/o/
42.	P.	vowel overnasalization	Polish-like fully nasal vowels
43.	Q.	voiced obstruent + /s/ or /s/ + voiced obstruent	regressive voicing assimilation
44.	R.	hiatus /ueɪ/ or /ieɪ/	glide insertion
45.	S.	post-alveolar fricatives /ʃ,ʒ/	Polish apical substitutes
46.	T.	post-alveolar affricates /tʃ,ʤ/	Polish apical substitutes
47.	U.	glottal fricative /h/	Polish velar fricative /x/
48.	V.	stop geminates	both released
49.	W.	word-final syllabic sonorants	schwa insertion
50.	X.	non-word-final syllabic sonorants	schwa insertion
51.	Y.	non-syllabic dark /ɫ/	clear /l/
52.	Z.	final voiced obstruent	devoicing
		(c) mostly morphology	
53.	0.	British≠American	accent confusion
54.	1.	more than 5 syllables	stress and articulation problems
55.	2.	secondary stress	reduced to unstressed
56.	3.	compound	stress, geminates
57.	4.	<ic#>/<ical#> in bi/trisyllabic-plus adjectives	stress
58.	5.	<ary#>/<ory#>/<ery#> in bisyllabic-plus stems	stress, vowel quality
59.	6.	contraction of pronoun with verb, e.g. <you've>	no contraction
60.	7.	proper noun	graphophonemically irregular
61.	8.	abbreviation, acronym, number	expansion, vocal spelling

6. Appendix 2: Wlodek Barbos'a phonetic cocktails (in-world)

Włodzimierz Sobkowiak: *PDI in Second Life EFL pronunciation teaching and learning*

Plenary lecture at *Accents 2010*, Łódź, December 11th, 2010