Measuring the effect of metacompetence in EFL pronunciation learning

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Outline

1. Background and question
2. Method
3. Results so far (data from 2 months)
4. Future directions
1 Background


1. metalinguistic awareness
2. L1 competence
3. explicit instruction
1 Background

metalinguistic awareness

Image: http://goo.gl/0VSbCT
1 Background

L1 competence
1 Background

explicit instruction
2 Question

Does theory matter or is practice alone enough?
3 Aim

theoretical English phonetics → practical English pronunciation

Images: http://goo.gl/XJIKQ8 http://goo.gl/PfPsgo
3 Aim

theoretical English phonetics

behaviour, performance

practical English pronunciation

performance
4 Method: Online data

How is behaviour measurable?

theoretical English phonetics

*behaviour, performance*
4 Method: Online data

Previous studies (e.g. Lechowska 2005)
- class observation
- questionnaires

theoretical English phonetics

 behaviour, performance
4 Method: Online data

Our blended approach:

- online course (Moodle)
- 30 tutorials (90 mins each)

theoretical English phonetics

*behaviour, performance*
theoretical English phonetics

behaviour, performance
4 Method: Online data

Aim

After this class, you should be able to:

- list all the Polish vowels and describe their quality; place the vowels on a vowel chart
- describe the differences between the Polish and English vowel systems
- describe the differences between the properties of Polish and English vowels
- describe the most common errors regarding the English vowel system that Polish EFL

To do before the class (~ 1 hr)

1. Because there are no good materials on the topic, I prepared my own video lecture for you to rewatch.

2. Complete this quiz to see if you understood the video lecture. (~15 mins)

3. The video lecture is based on this handout. You may want to read it, too. (~25 mins)
4 Method: Online data

-theoretical English phonetics

behaviour, performance
4 Method: Online data

theoretical English phonetics

behaviour, performance
4 Method: Online data

- theoretical English phonetics
  - behaviour, performance
- events can be logged
While Moodle is great for hosting content, its reporting module isn’t very helpful.
4 Method: Online data

Hits on EPP 1BA/11 by Junior College

Displaying 415 records
4 Method

19 Nov (Topic #4) – Vowels 1
- Pre-class: 11 views, Tuesday, 2 December 2014, 11:19 PM (8 days 3 hours)
- Free practice quiz: Vowels 1 – English vowels (post-class): 1 view, Tuesday, 26 November 2014, 9:22 AM (15 days 17 hours)

26 Nov (Topic #4) – Vowels 2
- Pre-class: 5 views, Wednesday, 26 November 2014, 8:17 AM (14 days 18 hours)

3 Dec – Midterm test
- If you need more phonemic transcription practice: 2 views, Tuesday, 2 December 2014, 7:51 PM (8 days 7 hours)

10 Dec (Topic #5) – Co-articulation 1
- Pre-class: 5 views, Wednesday, 10 December 2014, 8:06 AM (18 hours 44 mins)

Topic 15
- Free practice quiz: IPA transcription
  - Grade: 7.44 / 10.00, Tuesday, 21 October 2014, 6:44 PM (50 days 9 hours)
- Free practice quiz: 5-min phonemic transcription quiz
  - Grade: -, Tuesday, 21 October 2014, 6:53 PM (50 days 8 hours)
- Transcription practice: 10 popular brand names you’ve always mispronounced – until now
  - Grade: 8.00 / 10.00, Tuesday, 21 October 2014, 7:10 PM (50 days 8 hours)
- Free practice quiz: the speech chain
  - Grade: 5.00 / 10.00, Tuesday, 21 October 2014, 7:10 PM (50 days 8 hours)
4 Method: Online data
4 Method: Online data
4 Method: Online data
4 Method: Online data

PIWIK
4 Method: Online data

PIWIK
4 Method: Online data

PIWIK
4 Method: Online data

**PIWIK**

**Evolution over the period**

<table>
<thead>
<tr>
<th>Date</th>
<th>Visits</th>
<th>Avg. Time on Website</th>
<th>Actions per Visit</th>
<th>Pageviews</th>
</tr>
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<tbody>
<tr>
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<td>Wed 22 Oct</td>
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<td>Wed 3 Dec</td>
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</table>

**Report**

- 66 visits
- 19 min 24s average visit duration
- 2% visits have bounced (left the website after one page)
- 17.7 actions (page views, downloads, outlinks and internal site searches) per visit
- 0.53s average generation time
- 336 pageviews, 206 unique pageviews
- 0 total searches on your website, 0 unique keywords
- 0 downloads, 0 unique downloads
- 0 outlinks, 0 unique outlinks
- 69 max actions in one visit
4 Method: Online data
4 Method: Online data

- User IP address
- User Moodle ID
- Date and time of click
- Page being viewed

User IP address
User Moodle ID
Date and time of click
Page being viewed
Time on page
Page viewed prior to the current page and after it
Files that were clicked and downloaded
Browser, operating system, brand of device used (desktop, tablet, mobile, etc.)
4 Method: Offline data
4 Method: Offline data

sociolinguistic interview

- Polish spontaneous speech
- Polish wordlist
- English spontaneous speech
- English reading passage (*Stella*)
- English dialogue
- English wordlist
- mimicry test
4 Method: Offline data

sociolinguistic interview

- Centre for Speech and Language Processing at the Faculty of English AMU
- Audacity for recording and editing
- Praat for analysis
4 Method: Offline data

pronunciation analysis (*wordlists*)

- impressionistic and instrumental analysis
- variables (consonants)
  - rhoticity (e.g. *water, forget*)
  - place of articulation (7 pairs, e.g. PL *dok* - EN *dock*)
  - aspiration (e.g. *pin, bin, spin*)
  - voicing / devoicing (e.g. *bad - bat*)
4 Method: Offline data

online survey

- age, birthplace, places of residence, education
- L2/L3 age of acquisition and current level
- documented medical hearing/speech impediment
## 4 Method: Overview

<table>
<thead>
<tr>
<th>Direct measures of success in acquiring English pronunciation</th>
<th>Practical English pronunciation skills</th>
<th>Theoretical knowledge of English phonetics</th>
</tr>
</thead>
<tbody>
<tr>
<td>● student performance in the practical pronunciation course (grades from tutorials/exam)</td>
<td></td>
<td>student performance in the theoretical phonetics course (grades from tutorials/exam)</td>
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<tr>
<td>● impressionistic and instrumental analysis of students’ recorded performance using Praat</td>
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<tr>
<td><strong>Indirect measures of success in acquiring English pronunciation</strong></td>
<td>surveys of:</td>
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<td>● self-reported gains</td>
<td></td>
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<td>● satisfaction</td>
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</table>
4 Method: Roadmap

- Online
  - Recording 1
  - Recording 2
  - Recording 3
    - Surveys
    - Grades

- Offline
  - Recording 1
  - Recording 2
  - Recording 3

- Oct ‘14
- Feb ‘15
- Jun ‘15

ongoing
4 Method: Participants

Image: http://goo.gl/fQwIYy
4 Method: Participants

14 students (British pronunciation model)

- age 19-20
- 12 Female, 2 Male
- Poznań or in its vicinity
- L1 Polish
- L2 English (B2-C1), age of acquisition 5-16 (mean 9.9)
5 Results so far

Online data

- first 2 months

Offline data

- Still no 2nd round of recordings (TBD in Feb)
- Today, recordings (*Polish and English wordlist*) used only to categorise learners at course start
5 Results so far

Outcome variable = phonetics course midterm grade

Predictor variable 1. Pronunciation level at course start based on Recording 1 (estimated coefficient)
5 Results so far

**Outcome variable** = phonetics course midterm grade

**Predictor variable 2.** Online phonetics course: number of visits (estimated coefficient)

$p = 0.454$

$\beta = -0.052$

$SE = 0.069$
5 Results so far

Outcome variable = phonetics course midterm grade

Predictor variable 3. Online phonetics course: avg. visit length
(estimated coefficient)
5 Results so far

**Outcome variable** = phonetics course midterm grade

**Predictor variable 4.** Online phonetics course: amount of pre-/post-class content covered (estimated coefficient)
5 Results so far

**Outcome variable** = phonetics course midterm grade

**Predictor variable 5.** Online phonetics course: results from pre-/post-class quizzes (estimated coefficient)
6 Conclusions

So far, one possible predictor of achieving success in gaining metacompetence is the amount of content covered in one online visit/sitting.
6 Conclusions

- observational study: no control group...
- ...due to ethical and practical issues
- users’ privacy concerns
- legal issues
- Piwik requires constant maintenance
- still, most objective measurement of pre-/post-class behaviour so far
7 Future directions

On-going monitoring of struggling students?
Predicting at-risk students?
7 Future directions

How do learners in an online setting actually learn?
7 Future directions

How do learners in an online setting actually learn?

teacher’s expectations
7 Future directions

How do learners in an online setting actually learn?

teacher’s expectations vs. reality

"YOUR HOMEWORK TONIGHT IS TO READ PAGES 57-112" 

NICE, NO HOMEWORK.
7 Future directions

How do learners in an online setting actually learn?

<table>
<thead>
<tr>
<th>Poniedziałek</th>
<th>Wtorek</th>
<th>Środa</th>
<th>Czwartek</th>
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<td>PE 1 CHOICE</td>
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<tr>
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<td>MET OF SCI&lt;br&gt;Sc C1</td>
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<td>PHON PHON/BRIT LIT (Sikor C1)</td>
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<td>LATIN&lt;br&gt;Kanieski&lt;br&gt;D Chem</td>
</tr>
</tbody>
</table>

teacher’s expectations

university’s expectations
References


Łodzikowski, Kacper. 2014. Flipped teaching with screencasts at university level. (Paper presented at the Young Linguists’ Meeting in Poznań, 4-6 Apr. 2014.).


