EnglishProfile
Reference level descriptions for English

Aspects of pronunciation across CEFR levels and some implications for language learning

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Education and Culture DG
Lifelong Learning Programme

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Overview

1. Pronunciation in L2 English

2. What makes the rhythm of a language?

3. A pilot study: data, annotation, results

4. Implications for language learning

1. Pronunciation in L2 English

- Pronunciation is a key part of *phonological competence.*

- It involves the acquisition and mastery of various components.

- Insufficient skill affects a learner's *intelligibility* which is a main focus of communicative language teaching.

- It is also important for assessing language production.

What influences pronunciation?

Various factors:

- a learner's overall *linguistic proficiency*

- *cross-linguistic differences*

- the nature of the *language activity*

- other social (external) and cognitive (internal) factors affect the production or reception of pronunciation

An under-researched area

- Existing studies focus on the *segmental* level of L2 phonology
    - e.g. the acquisition of the l/r distinction by Japanese and Chinese ESL learners (Bradlow 2008).

- We aim to focus on L2 prosodic development by:
    - identifying aspects of pronunciation that are important for specific CEFR levels ("criterial features")
    - using these aspects to describe different CEFR levels.

- … so that we can describe the development of phonological structure in L2 learners.

The context: English Profile

- English Profile aims to:
    - understand what the CEFR actually means
    - investigate real learner English
    - develop RLDs for each CEFR level.

- This *pilot study* will help to develop resources that characterise levels of phonological language proficiency, to be used by ELT professionals in various ways.

Why do we need this research?

- There are various English Profile spoken data collections going on …
- …but not much research to date (an exception is Mike McCarthy's work on fluency, see McCarthy 2011)

- Descriptions of speech features by CEFR level will enhance the existing findings on vocabulary, grammar and functions (see the EP booklet)…
- … and have wider implications for teaching and learning practices and materials.

2. What makes the *RHYTHM* of a language?

- Typically we distinguish *stress*-timed and *syllable*-timed languages
    - Stress-timed: time intervals between prominent syllables of roughly equal length
        - e.g. Dutch, English, German
    - Syllable-timed: successive syllables of roughly equal length
        - e.g. Czech, Italian, Spanish

Rhythm affected by:

- Amount of consonants and vowels in speech
- Length of consonants and vowels
- Accentuation
- Final syllable lengthening

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Stress-timed languages (English, German, Dutch)	Syllable-timed languages (Czech, Spanish, Italian, etc.)
'complex' consonant clusters → High amount of Cs in speech	Almost only CV structures →Low amount of Cs in speech
Reduction of unstressed vowels	No reduction of unstressed vowels →Length of V longer
Final syllables lengthened	Final syllables almost same length as non-final syllables
Large durational difference between accented/unaccented syllables	Little durational difference between accented/unaccented syllables

What measures were used?

- A set of measures of phonological and prosodic proficiency that could be discriminatory or *criterial* properties of the different CEFR levels.

- These measures were applied to a small set of General English speaking tests (average candidates)
  - to explore whether the measures vary by L1 and level
  - to establish whether they are valid and robust measures.

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Introducing Rhythm Metrics

- Developed to quantify cross-linguistic differences in rhythm

- Have been successfully applied to child speech, clinical speech, and L2 speech

Rhythm metric	What it measures
% V	Proportion of vocalic material in speech
Varco-V & Varco-C	Variability in V/C interval duration (StDev divided by mean)
nPVI-C	Variability in consonantal interval duration normalised for speaking rate

3. Pilot study: data

- Recordings from Cambridge English tests used for examiner training

L1/Level	German	Korean	Spanish
A2	x	x	2
B1	2	2	2
B2	2	2	2
C1	x	x	2

- 2 participants per language group per level
- Roughly 60 sec of speech per participant

Data annotation

- With Praat, a free speech analysis programme (Boersma & Weenink 2011)

- Inter-annotator agreement: 97%
  - the first file was annotated by all three researchers and a comparison of boundary placement was made
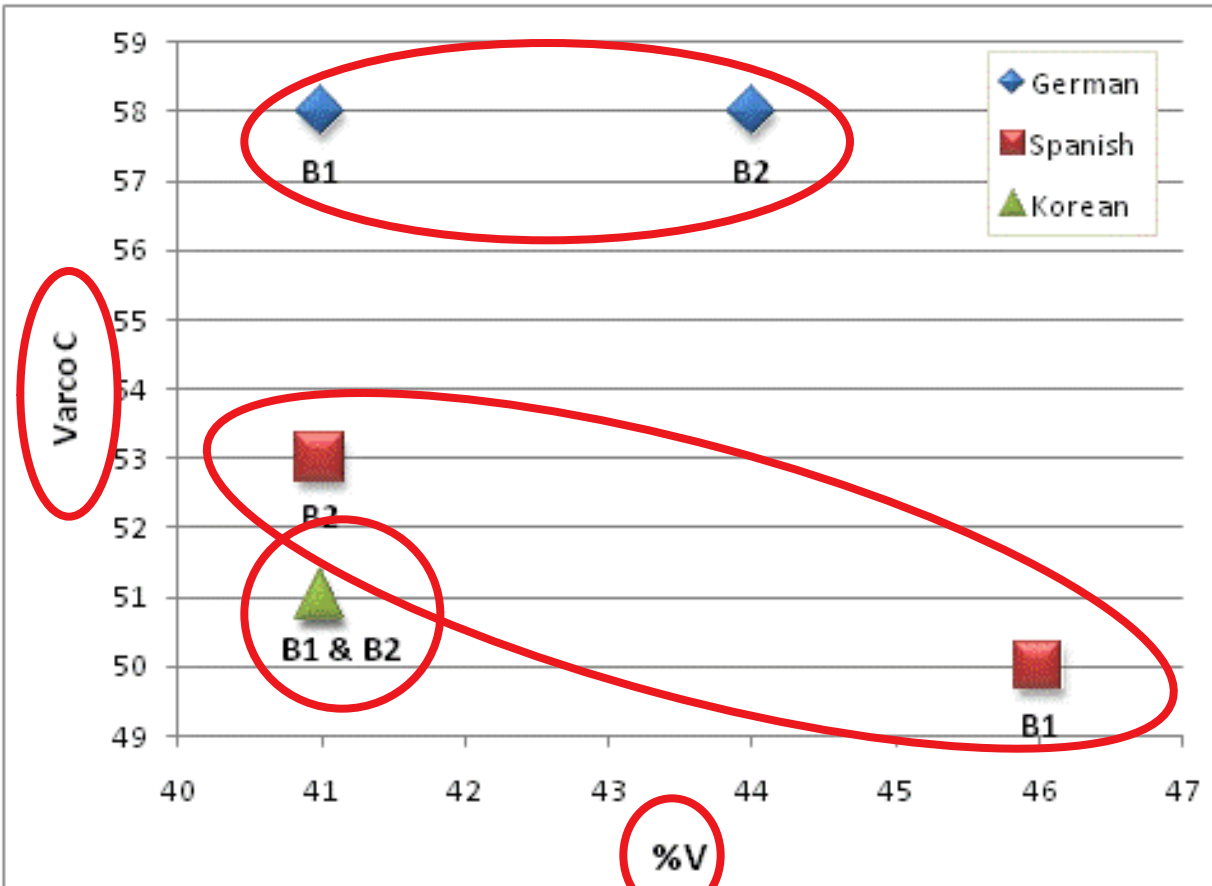
So, what did the pilot study reveal?

1. Cross-language comparison of the measures (German, Korean, Spanish) …

2. … at two CEFR levels (B1 and B2)

3. (also Spanish at A2-C1 levels, not reported here)

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Cross-language comparison of measures at B1 and B2 levels

Cross-linguistic differences, with:

- Highest Varco-C values for German
- Highest %V value for Spanish
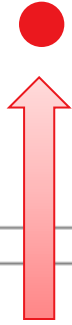- Reflect L1s
- Korean relatively low on both
- Progress towards a NS reference point?

L1 English

How does this compare to English L1?
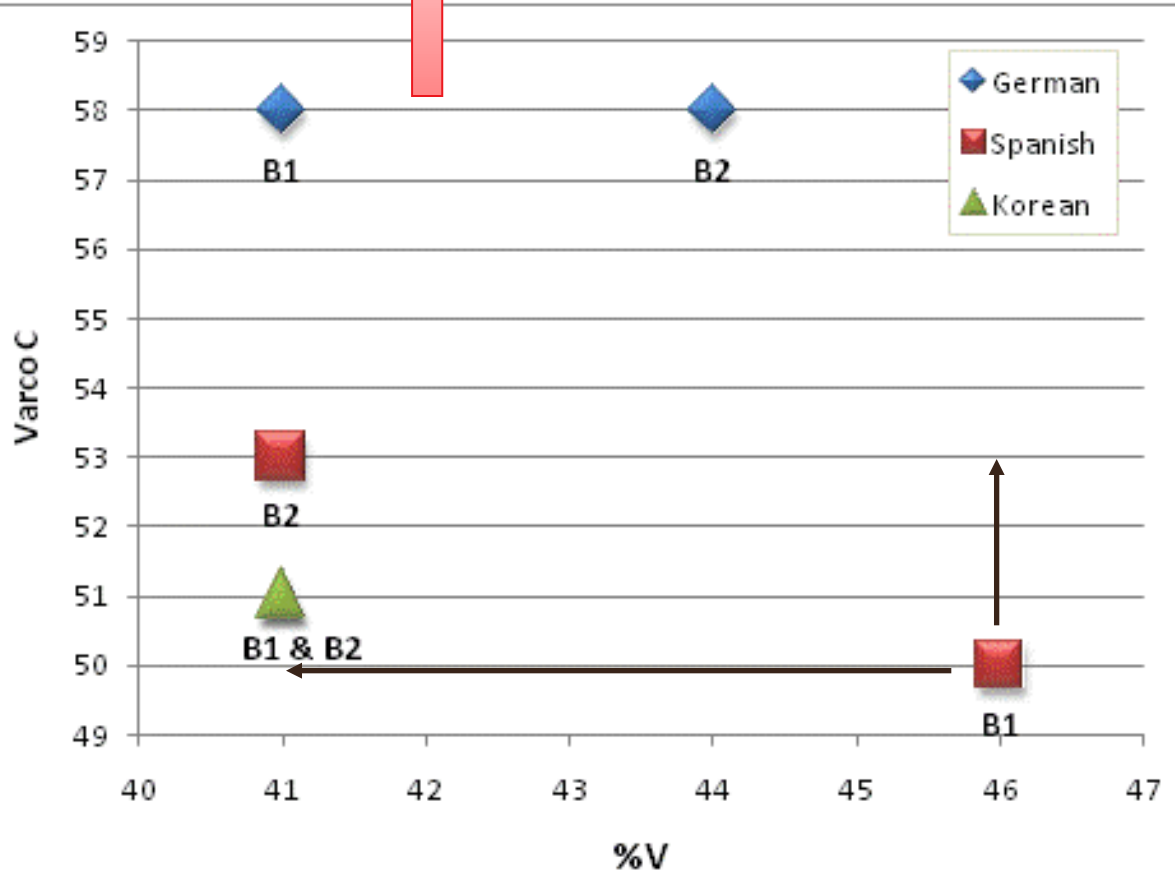
- English Varco-C reference point much higher
- Only Spanish moves in right direction
- Others constant
- English %V comparable to German & Korean
- Spanish moves in right direction

To summarise so far …

- Cross-linguistic differences reflect L1s, with:
  - Highest *variability in consonantal interval duration* for German.
  - Highest *proportion of vocalic material* for Spanish.
  - Korean relatively low on both measures.
- There is movement towards a NS 'reference point':
  - English *variability in consonantal interval duration* much higher than all L1s.
  - Spanish speakers move in the right direction, other L1s constant across levels.
  - English *proportion vocalic material* comparable German/Korean
  - Spanish moves in the right direction.

Points to bear in mind

- We are describing, NOT prescribing
  - So it does not matter that all of our sample did not move towards the NS reference point across levels
  - … we need to find out why this is

- We have begun to explore other measures
  - e.g. the duration of accented and unaccented syllables

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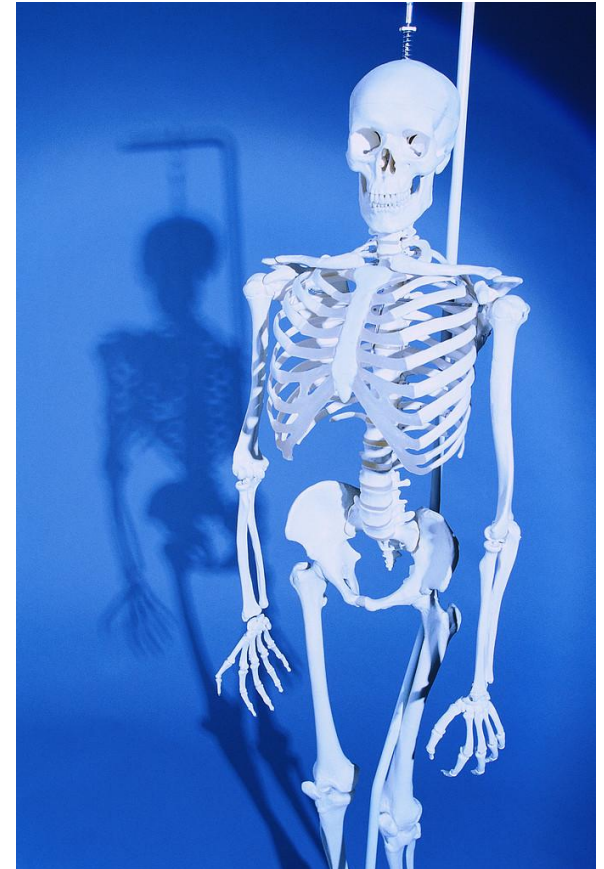# Towards a framework of criterial features of L2 spoken English

- This pilot study suggests we can develop a framework based on measures like the rhythm metrics analysed.

- The next step is to analyse how the learners realise *syllable structures, accents* and *boundaries*, to better understand the properties of L2 speech.

- Our findings show that these speech properties crucially depend on L1 background.

So what might a framework based on this research look like?

Warning – bare bones only!

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Level	Stress-timed	Syllable-timed
B1	High amount of Cs Relatively low amount of Vs	Low amount of Cs Very high amount of Vs
B2	Amount of Cs as B1 Higher amount of Vs	Amount of C higher than B1 but still off target (slight progression) Amount of Vs lower than B1 but still off target (slight progression)

But what does this actually mean?

4. Implications for language learning

• As language teachers we are concerned with both intelligibility and accuracy …

• … and should note **when**, **how** and **why** each is required of our learners.

• Understanding what learners of a specific L1 *can do* (in a **specific context** and with **particular constraints**) should inform L2 teaching

• i.e. what structures or features we should explicitly teach, what we should encourage learners to notice and work on independently, etc.

Specific applications for English Profile

- We plan to develop *Can do statements* (i.e. describe what a learner can do) from these results …

- … so we can "road test" our findings with a wider sample of learners (more CEFR levels and L1s).

- These will inform *learning materials and classroom practices* directly, which can be specifically targeted to CEFR level and L1 background.

So what's next?

- For this **project**:
  - Expand research with further L1s and more samples.
  - Extend measures to include e.g. syllable structures.
  - Explore more spontaneous or everyday speech from corpora.

- For **English Profile**:
  - Begin to form a framework of RLDs for pronunciation.
  - Explore how these interact with other linguistic features.

What's next?

- For **you**:
  - Read the EP booklet to find out more about initial findings.
  - Join the English Profile Network.
  - Consider contributing or collecting written or spoken data.

Thank you from the
EP Pronunciation Project Team:

Cambridge ESOL:
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