

A longitudinal study of the evolution of English pronunciation in Catalan Primary Schools

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GRAL / UB

The present report provides qualitative results of the analyses performed on learners' speech data collected over the six years of primary education. Data come from six state-funded schools with socially mixed intake in the area of Barcelona (though data from all schools were not technically available for analysis from each year; see the table below). As part of that larger research project (funded with grants from the EU *Lifelong Learning* programme and *Recercaixa* to C.Muñoz and E.Tragant), a phonetic analysis was conducted to determine what segments (vowels and consonants) are the most difficult to master for Catalan-Spanish primary school pupils learning English as a foreign language. The analysis also aimed at finding out what aspects remain problematic and could be improved by the end of primary school (see the table below for participants' sample). The analysis was carried out by a trained phonetician and subjected to reliability analyses with a second native-speaker rater.

Participants

Time	Academic year	N of Schools	N of Students
Time 1	2006-2007	2	11
Time 2	2007-2008	6	37
Time 3	2008-2009	6	35
Time 4	2009-2010	6	32
Time 5	2010-2011	5	28
Time 6	2011-2012	5	28

Time 1

The phonetic analysis of primary school children production elicited by means of a picture naming task (Tom's house¹) has shown that their pronunciation of the majority of English sounds is significantly influenced by their first language (L1: Catalan/Spanish). Certain consonants and vowels present difficulties for most students:

Problematic consonants: /dʒ/ in **giraffe**, /r/ in **tiger** and **parrot** (trilled R); tendency to omit word initial /h/ in **helicopter** and final /t/ in **elephant**.

Problematic vowels: /æ/ in **cat**, **apple** and **rabbit**, /ə/ in **banana**.

A frequent mistake was word **crocodile** which was produced as /'kokodrail/ or /kuku'dril/ by all students. There were some instances of stress misplacement in words like **lion**, **giraffe**.

Time 2

The phonetic analysis of speech production in Time 2 elicited by two production tasks (i.e. Restaurant task and Vocabulary task²) has shown that children tend to make similar mistakes to the ones they made in Time 1 following the pattern of L1 pronunciation.

Problematic consonants: most students still cannot pronounce /r/ in a target-like manner (trilled R); half of the children have problems with /ə/ in words like **teeth**, /dʒ/ in **jam** and **giraffe**, all students produce unaspirated stop consonants in initial /final position /p/, /t/, /k/.

Problematic vowels: /æ/ in **apple**, **jacket**, **cat** (but pronunciation of words **can** and **thank** is acceptable); lax vowel /ɪ/ in **sit**, **fish** and **orange** (pronounced as /ɔ:randʒ /), /ə/ in **banana**. Also /ɜ/ in words **skirt**, **girl** and **purple** presented difficulties for most students; most students tend to pronounce English /ʌ/ as /o/ in words like **monkey**, **brother**.

¹ In this task a picture of a house was presented to the children and they were asked to name all the animals they could see in the picture

² In the Restaurant task children were asked to imagine they went to an English-speaking country with their family. They had to imagine that they were in a restaurant and had to communicate with a waiter. The researcher provided children with prompts. In the Vocabulary task children were asked to say any words in English they knew.

Most of those children who attempted to produce sCV (**spider, snow, skate**) inserted /e/ in the initial word position.

Some instances of stress misplacement observed: **elephant, giraffe**.

Progress: Pronunciation of word initial /h/ (for example: **hair, hello** and **head**) may be considered as one of the definite improvements children made in Time 2. However, it should be pointed out that they do not pronounce initial /h/ in a target-like manner, i.e. they tend to voice it.

Time 3

The phonetic analysis of speech production in Time 3 elicited by two production tasks (i.e. Restaurant task and Vocabulary task) has shown that children tend to make similar mistakes to the ones they made in Time 2 following the pattern of L1 pronunciation.

Problematic consonants: Most students cannot pronounce /r/ in a target-like manner (trilled R). All students produce unaspirated stop consonants in initial/final position/p/, /t/, /k/; there is also a problem with pronunciation of /θ/ in words like **mouth**, however some students improved their pronunciation of /θ/ and /dʒ/ in **jacket**. Students do not omit initial /h/ (however, they tend to voice it).

Problematic vowels: Among frequent mistakes are: /æ/ (however, pronunciation of **thank** may be considered acceptable), /ə/ and lax /ɪ/sounds (for example: **fish** and **six**). Also /ɜ/ sound presented difficulties for most students (for example: **girl**). Most students tend to pronounce English /ʌ/ as /o/ in words like **monkey**.

There were some instances of stress misplacement (**lion** and **giraffe**).

Word **crocodile** is still difficult to pronounce.

Progress: fewer instances of /e/ before sCV-words.

Time 4

The phonetic analysis of primary school children speech production in Time 4 elicited by a Picture Guessing Game³ has shown that children tend to make similar mistakes to the ones they made in Time 3.

Problematic consonants: all students produce unaspirated word-initial stop consonants (**table, play, ten, purple**); /r/ still poses a problem for some children (**trousers, red, green**); most students tend to devoice word-final consonants (**sad, shoes, red** and **is**); voiced /h/ (**happy, he, hair**)

Problematic vowels: /ɜ/ (**girl, purple, shirt**), /æ/ (**happy, black, stand**), lax /ɪ/ vowel (**pink, sit, orange**), /ʌ/ (**color, brother**), /aʊ/ (**brown, trousers**), some children mispronounce /ð/ (**the, this**)

Progress: Pronunciation of /r/ may be considered as one of the definite improvements children made in Time 4. There much fewer instances of trilled R. Word initial /h/ still remains a problem for all children (although there are no instances of omission, children tend to voice it). Also fewer children insert /e/ before sCV-words (e.g. **stand**). Some children improved pronunciation of /ɜ/ (**girl**).

Time 5

The phonetic analysis of primary school children speech production in Time 5 elicited by the Picture Guessing Game has shown that children tend to make similar mistakes to the ones they made in Time 4.

Problematic consonants: all students produce unaspirated stop consonants /p/, /t/, /k/; most still have problem with /r/ (trilled R) in red, green; some children mispronounce /ð/ in **this** and **the**. Those children who attempt to pronounce words like jeans and jacket mispronounce /dʒ/. Pronunciation of word initial /h/ remains the same.

Most students tend to devoice word-final consonants in **sad, red, read** and **is**.

³ In this production task children were playing a guessing game with a researcher. The task consisted of two parts. In the first part the researcher had to guess what character in the picture the child was thinking of and had to ask him/her questions like “Is it a boy or a girl?” and “What is he/she wearing?”. In the second part the child had to guess what character the researcher had chosen.

Problematic vowels: most students /ɜ/ in **girl** and **purple**, /æ/ in **sad**, lax /ɪ/ in **orange**.

Progress: Most children have improved /r/ (for example: **trousers** and **wearing**) and /æ/ (for example: **happy** and **black**).

Time 6

The phonetic analysis of primary school children speech production in Time 6 elicited by the Picture Guessing Game has shown that children have made a noticeable progress in pronunciation of sounds which were problematic in Time 5.

Problematic consonants: all students produce unaspirated stop consonants /p/, /t/, /k/; tendency to devoice word-final consonants (**sad**, **red**) remains in Year 6.

Problematic vowels: most students still have difficulties with /ɜ/ in **girl** and /ʌ/ in **color**, **brother** (pronounce /o/ instead).

Progress: most students have made definite improvement of their pronunciation skills from Time 5 to Time 6. Among them are:

- pronunciation of word-initial /h/
- most have improved /r/
- /b/ in **boy**, **book** and **trousers**
- /dʒ/ in **jumper** and **jacket**
- /ð/ in **the** and **this**
- most children significantly improved /ɜ/ in **girl** and **shirt**; /æ/ in **happy** and lax /ɪ/ in **this**