



The Progression of Phonetic Transcription Skills in a Speech and Language Therapy Training Program

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Background

- Phonetic transcription is a key skill in SLT used for assessment, diagnosis, intervention, and when working with multilingual clients.
- In Ireland and the UK, professional guidelines expect SLT students to be competent in transcription using the IPA, ExtIPA, and VoQS.
- Training across academic programs varies widely (Lee & Bessell, 2024). → How well SLT students retain and apply transcription skills throughout their education? How effective are current teaching approaches?

Aims & Objectives

- To explore how students' transcription skills progress over time within an SLT programme by comparing transcription accuracy of Year 2 and Year 4 students (consonants in typical & disordered speech).
- To analyse transcription accuracy by consonant class (e.g., plosives, fricatives, etc.) and identify error patterns.
- To consider influencing factors such as coursework exposure, clinical experience, and student confidence, to inform future training practices.

Methodology

Participants
Year 2 students (n = 13)
Year 4 students (n = 16)
4-year UG SLT program



Transcription task

- A list of 20 words, two types of speech
 - Typical (Irish English)
 - Disordered (imitations designed to include commonly occurring atypical consonants)
- Participants transcribed both



Questionnaire

- Clinical experience (n placements)
- Interest in phonetics & transcription
- Confidence in transcription
- Quality of audio



Data analysis

- Percent correct transcriptions (PCT%)
- Two-way repeated measures ANOVA
- Detailed error analysis

$$PCT (\%) = \frac{\text{Correct transcriptions of target consonant}}{\text{Total transcriptions (correct + incorrect) of target consonant}} \times 100$$

A scoring sample from the Excel spreadsheet.

Year	Participant	w	ʃ	b	ʒ
2	S01	correct	correct	correct	∅
2	S02	correct	correct	b	s
4	S01	m	correct	b	ʒ
4	S02	correct	correct	B	ʒ

An example of detailed error analysis table

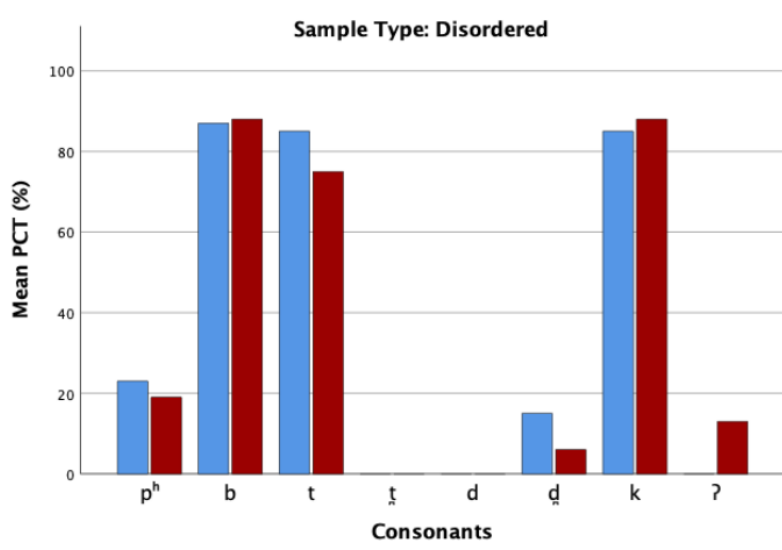
Sample type	Target consonant	Frequency of occurrence in the sample	N correctly transcribed/ N total transcribed	Overall PCT (%)	Common alternative transcription	Other alternative transcription
Typical	m	3	87/87	100%	N/A	N/A
Typical	dʒ	1	18/29	62%	g (4)	ʒ(2), dj(2), ∅(2), j(1)
Disordered	l	5	142/145	98%	∅ (3)	N/A
Disordered	tʰ	1	12/29	41%	t (12)	tʔ(5)

Note. Findings in this table are from this study.

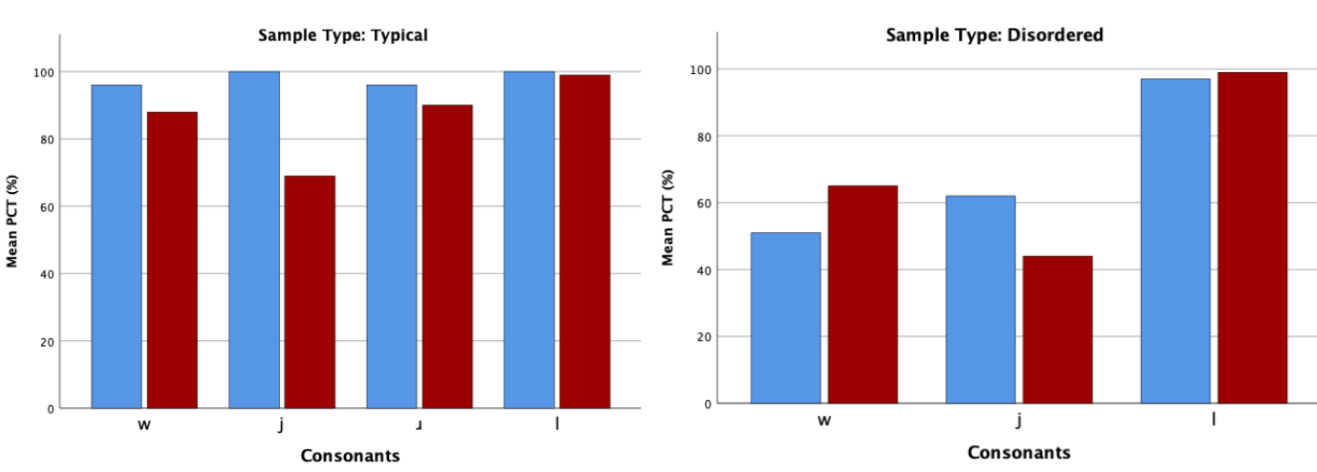
Results

- Typical speech sample transcribed more accurately: PCT_{typical} 86%, PCT_{disordered} 30%
- No significant difference between Y2 and Y4 students $F(1, 104) = 0.25, p = .62$

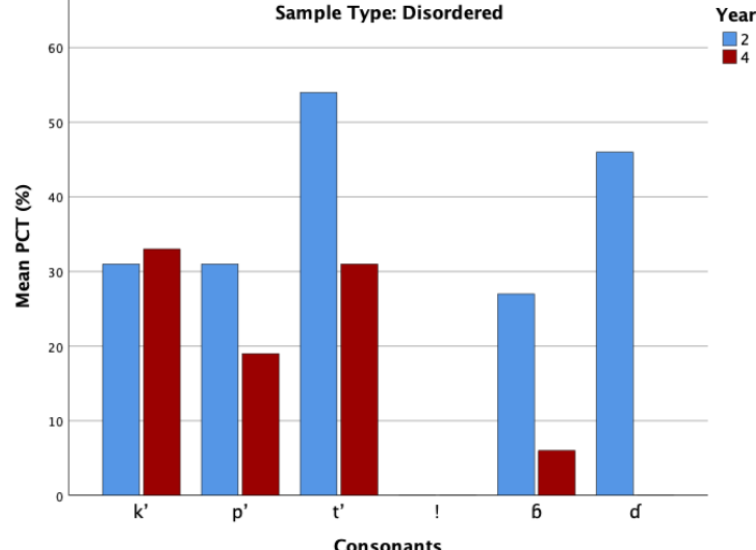
- Plosives** are generally accurately transcribed (PCT_{typical} ~100%, PCT_{disordered} ~80%), except dental plosives and glottal stop



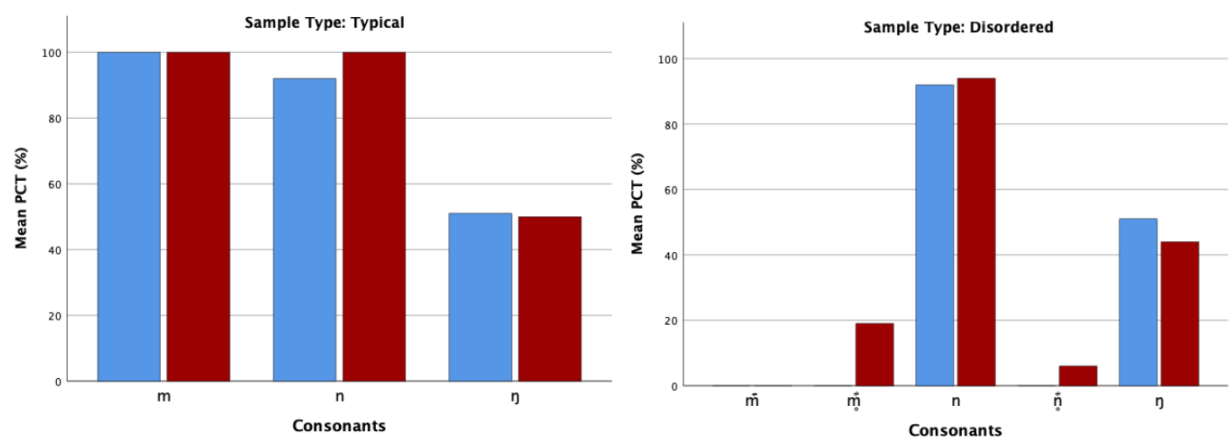
- Approximants** are generally accurately transcribed (PCT > 90%), however for [j w] PCT_{disordered} < 60% with frequent omissions



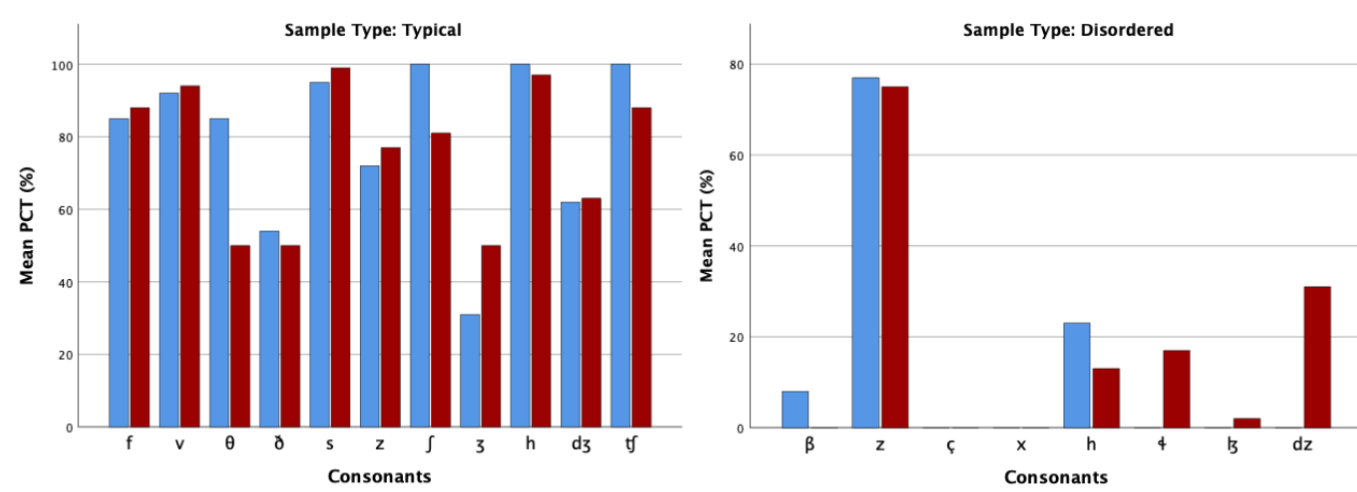
- Non-pulmonic consonants** transcription accuracy is poor (PCT_{disordered} < 40%, clicks < implosives < ejectives), frequently transcribed as pulmonic.



- Nasals** are generally accurately transcribed (PCT > 95%), with a notable drop in accuracy for [ŋ] (PCT ~50%). Errors in transcription of devoiced nasal fricatives [ɱ̥ ɱ̥̊]



- Fricatives & affricates** transcription accuracy varied. For [f v s ʃ h tʃ] PCT_{typical} > 85%, but for [ð ʒ] PCT_{typical} < 50%. Frequent voicing errors [θ] ↔ [ð], [s] ↔ [z]. Non-English targets poorly transcribed: PCT_{disordered} < 20%.



Questionnaire results

- Audio quality:** most participants (79%) rated it as 'excellent' suggesting it had no effect on accuracy of transcription
- Interest & confidence:** Both Y2 and Y4 students reported low interest and low confidence in transcription
- Clinical experience:** Y2 students had no experience in clinical settings. Most Y4 students completed 2-3 clinical placements, but used transcription infrequently, suggesting limited real-world practice

Conclusions

- Contrary to expectations, the study did not find significant differences in transcription accuracy between Year 2 and Year 4 students
- Clinical experience (i.e. number of placements) alone may not improve transcription skills without continued practice
- Disordered speech sample was transcribed less accurately, with non-English targets and use of the ExtIPA being challenging
- Findings suggest a need for ongoing, clinically relevant transcription training throughout the SLT programme to build student confidence and support accurate analysis in real-world settings