Learning the sounds of *Skwxwú7mesh sníchim*

Many of the consonant sounds of the Squamish language are hard to learn, but how do we know what sounds are hard just for English speakers, and which sounds are universally hard to learn? This primer is for Squamish language educators, and summarizes this issue.

The next two pages offer examples of what sounds from the language should be universally easier / harder to learn for children, based on prior papers about phonological acquisition. We also describe ages at which these sounds are typically mastered in childhood by native speakers of languages like Xhosa or Mayan, which contain many of the consonants in Squamish that English does not have. The last page offers an annotated bibliography of the scientific literature.
Difficult sounds may include articulations:

- In the back of the mouth
- Where the tongue tip touches the back of the teeth

Which sounds are easier?

The Squamish sounds that are easiest to learn are nasal sounds (like "m" and "n"), plain stops (like "p", "t", "k"), and semi-vowels (like "y" and "w") because these sounds are very common in the world’s languages and easy to articulate.

Which sounds are harder to learn?

The hardest sounds to acquire include the category of affricates and their popped/ejective versions, consisting of sounds such as "ts", "ts’", "ch", "ch’", and "t’.t’" because these are complex articulations for children to make.

---

Aspirated sounds are also hard to master. These sounds are common in English: consonants such as "p", "t", and "k" are aspirated if they’re pronounced with a burst of air after release of the tongue. This often happens at the starts of words—for example, the word "tea" begins with an aspirated "t" sound. Squamish has more plain consonants like the "t" in "steep," which doesn’t have a puff of air. Young children may have trouble distinguishing the two types of consonants, and might use the wrong type sometimes.

---

Sounds such as "kw", "kw", "kw’", "kw’", "xw", and "xw" are also difficult to learn, because they sound similar to each other in the perception of children, especially native English-speaking ones— for this reason, these sounds and are best learned in the context of different words rather than in isolation.
What do we mean by mastery?
Clinically, this usually means that children successfully produce the intended sound 90% of the time.

3 years – 3.5 years of age
At this age, we expect children to have mastered nasal sounds ("m" & "n") and "y" and "w." We also expect them to have partially mastered some other consonants, generally including "p," "t," "k," "s," "sh," "l," and "h." This partial mastery will vary from child to child.

3.5 years – 4 years of age
In addition to above, children have most likely mastered "lh," "x," "kw," "kw," "kw,'" "kw,'" "xw," and "xw." In terms of partial mastery, children may have picked up "ts' " by now.

4 years – 5 years of age
In addition to above, children start a couple more sounds including "ch" and "ch'."
Children have mastered ejective consonants, which include "p'," "t',' and "k'."

5 years – 6 years of age
Affricates are still not totally mastered, but children most likely have learned "tl'."
A note about the source of this research:

Most language acquisition research looks at languages with **large populations of speakers**. This means that the results mostly assume that children get a lot of exposure to the language starting at a young age.

For languages with **smaller populations of speakers**, where children hear the language less often, we can assume that the **order** will stay the same, but the **timing** might be delayed by some time.

Annotated bibliography for the above information


   **This study looked at children learning isiXhosa and their acquisition of sounds. They learned that the hardest sounds included affricates (like "ch" and "ts") and some types of plosives (like "k" and "t"), specifically aspirated ones (pronounced with a small puff of air).**


   **This study looked at both first and second language learners of Q’eqchi’ and their ability to distinguish similar and different sounds. They found that there was more difficulty producing phonemes that were more similar rather than less similar.**


   **This article looked at children at 2.5 and 2.8 years old acquiring isiXhosa, and their speech processing and production. Using a picture word-naming assessment, they found that affricates (like "ch") were the most difficult phonemes to acquire, while ejectives (like "k") were easier.**