



University  
of Victoria



# Seeing Speech:

## *A Pronunciation Toolkit for Indigenous Language Teaching and Learning*

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# Context

- *“... Pronunciation is very, very important, because not only does it give us the indicators of what the word is, and what it means ... but it gives a full meaning of your expressions of how you feel ...”* (SELILIYE Belinda Claxton, SENĆOŦEN language activist)

# Objectives

- Develop multimedia ***pronunciation*** resources using ***ultrasound*** visualization technology
  - Part of a larger project investigating the utility of ultrasound in pronunciation learning across a wide range of languages
  - (e.g., Japanese, Cantonese, Mandarin, French, Spanish, German)

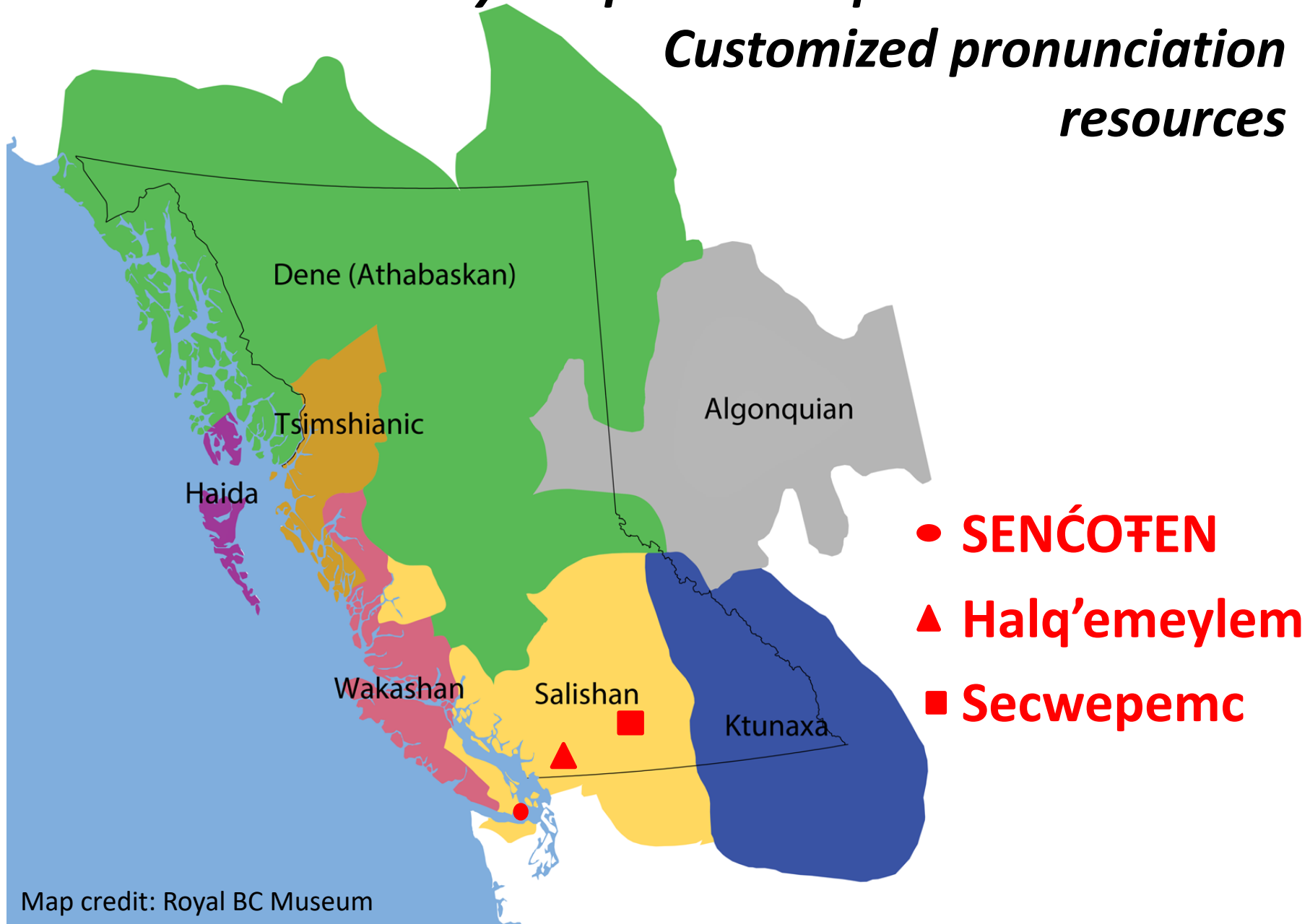


→ ↻ | <https://enunciate.arts.ubc.ca> 📖 ☆ | ☰ 🔍

**A Visual Language Learning Tool**

Are you curious about what happens inside the mouth during speech? How does the tongue move? How can you improve your pronunciation in a language you are learning? This site will show you the inside of the mouth and the tongue movements and positions for different speech sounds.

# *Community-led partnerships in Southern BC: Customized pronunciation resources*



# Some challenging sounds in Salish languages

	Labial	Dental	Alveolar	Lateral	Post-alveolar	Velar	Uvular	Glottal
Stops	p p̣		t ṭ			(k) kʷ ḳʷ	q q̣ qʷ q̣ʷ	ʔ
Affricates		ṭθ	ts ṭṣ	ɬ	č č̣			
Fricatives		θ	s	ɬ	š	x xʷ	x̣ x̣ʷ	h
Nasals	m ṃ		n ṇ			ŋ ŋ̣		
Resonants				l ḷ	j j̣	w ẉ		

# Video production: SENĆOFEN

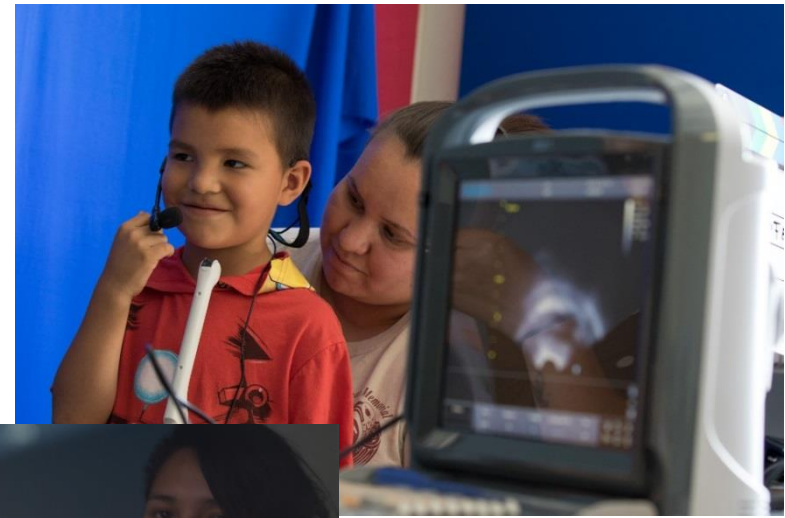


Photo credit: UBC Communications

# Video production: Halq'emeylem



Photo credit: C. McKenna, APTN



# Video production: Secwepemc





# Sample overlay videos: SENĆOŦEN



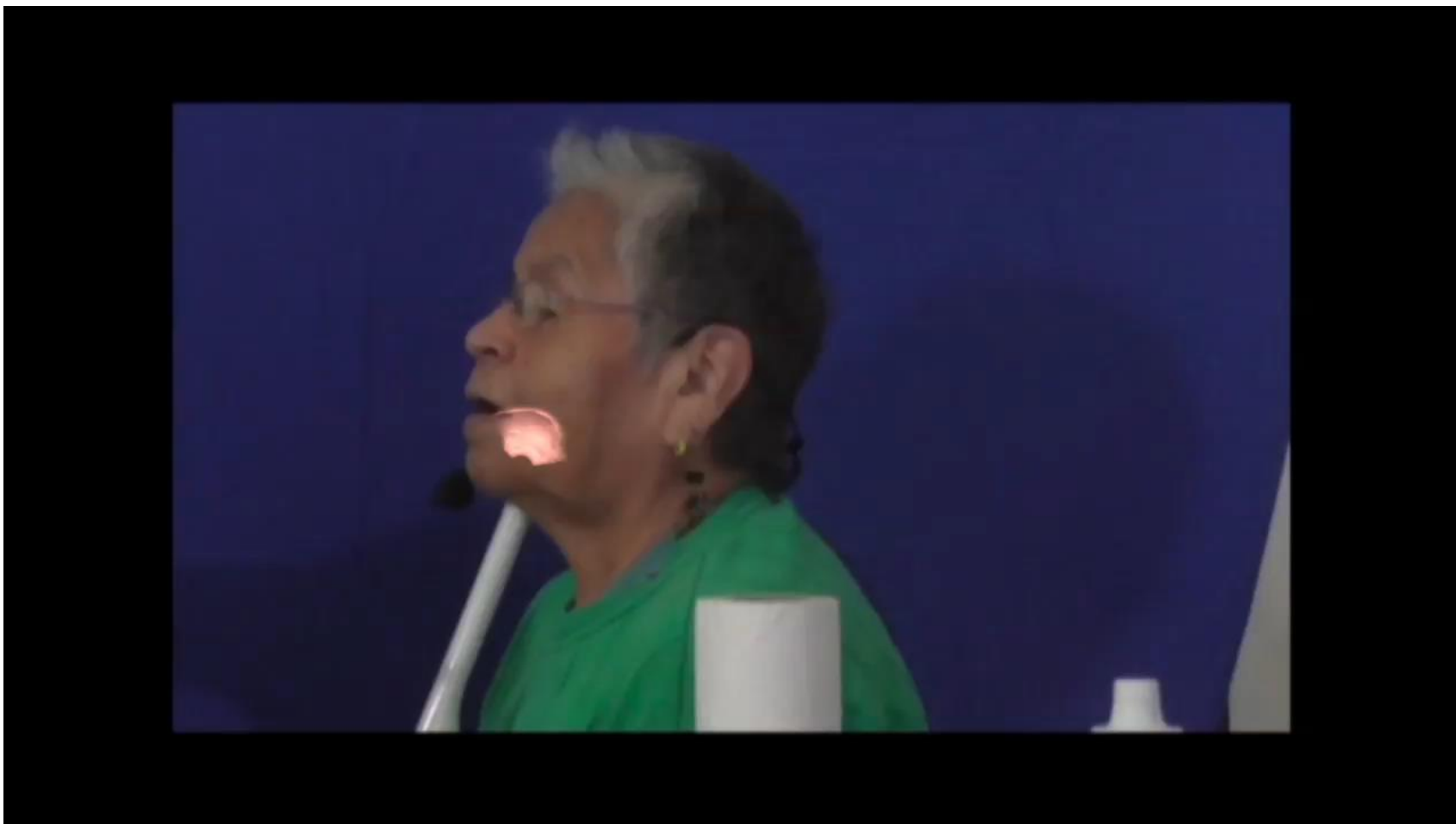
(mouse over video and hit PLAY)

# Sample overlay videos: SENĆOŦEN



(mouse over video and hit PLAY)

# Sample overlay videos: Halq'emeylem



(mouse over video and hit PLAY)

# Sample overlay videos: Secwepemc



(mouse over video and hit PLAY)

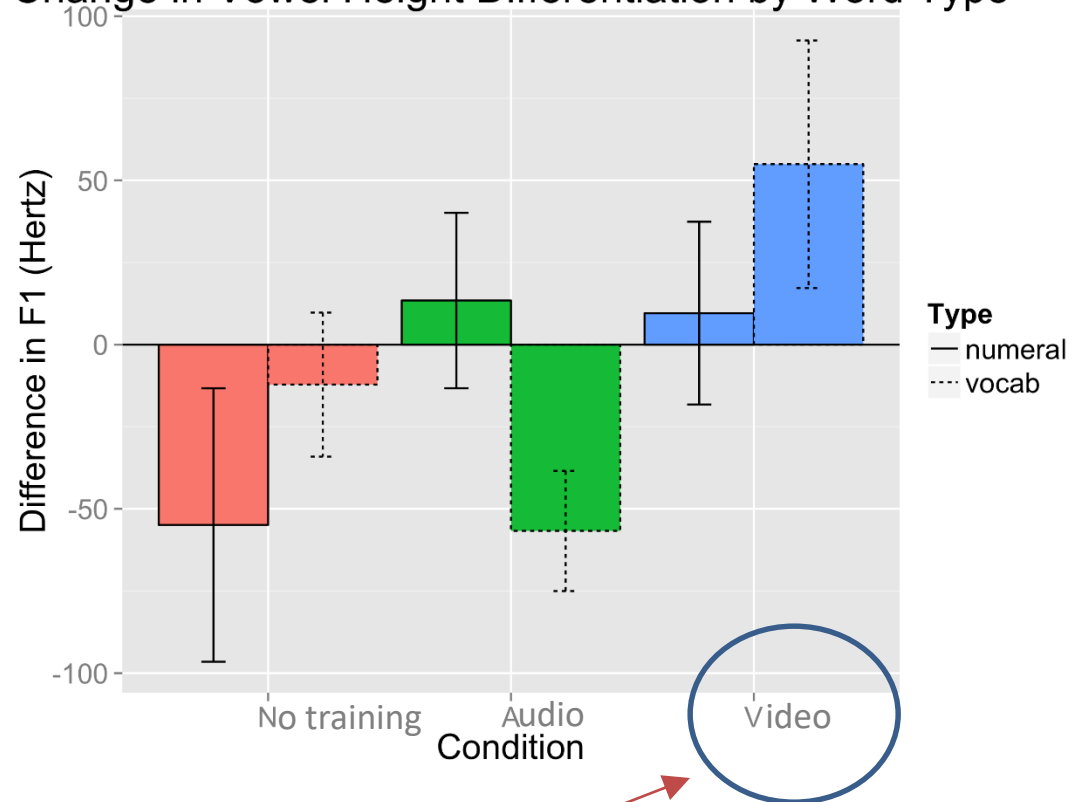
# Evaluating the effectiveness of the videos

## The videos work!

- e.g. Cantonese, Bliss et al, 2016



Change in Vowel Height Differentiation by Word Type



Students improved vowel production with video training, but not with audio training or no training

# Impacts



Video credit: UBC Communications

# Acknowledgements

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