Teaching Methodologies for Mixtec Tones

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Por d...

Tono Alto (AA)
máá   "mamá"
kúé   "despacio"
cháá   "poco"

Tono Medio (MM)
laa   "pájaro"
koo   "siéntate"
yoo   "a lado"

Tono Bajo (BB)
chee   "toro"
vee   "pesado"
taa   "hombre"

Aims of the presentation

1. Offer a <u>set of teaching techniques</u> that we have used ourselves when teaching/learning tones, as very little is available in the current literature of <u>tones teaching/learning crosslinguistically</u> and nothing is available for <u>Mixtec</u> specifically.
2. Emphasize the need for a <u>collaboration</u> between <u>linguists and language teachers</u> in the teaching of tones, as well as the importance of a <u>student-centered approach</u> to teaching tones.
3. Highlight the importance of <u>tone transcription for the community</u>.
4. Offer a set of linguistically informed teaching techniques and suggestions that will help people in the Mixtec community and beyond, for both <u>native and non-native speaker learners</u> of the language.
5. Present suggestions to <u>fieldworkers</u> for learning and transcribing tones.

Road map

1. Where are these languages spoken?
2. Why this work is important
3. Basics of Mixtec tones
4. Student centered learning
5. Techniques
6. Lesson plan suggestions
7. Conclusions

Tu'un Savi (Mixtec) languages (81 languages) are spoken in Mexico in the states of Oaxaca, Puebla and Guerrero, and also in Baja California, Mexico City, Veracruz, and California.
Language family: Otomanguean. Number of speakers: 496,038.
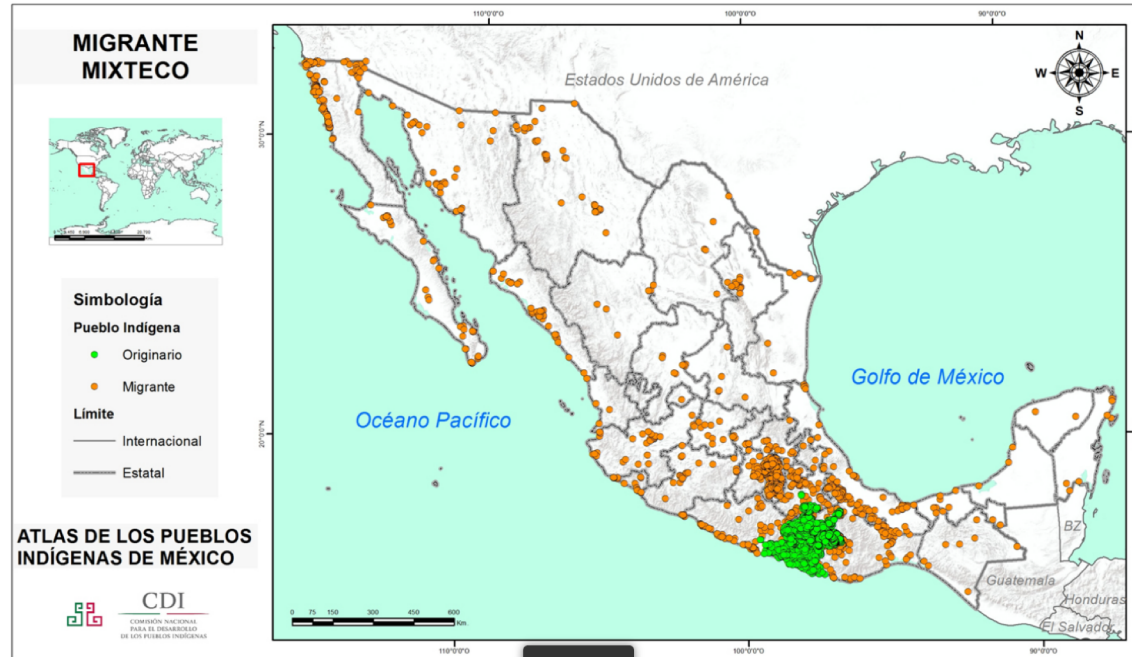
Why this work is important

- It is important for the community to learn how to write tones.
- Mixtec languages are endangered, so it is important to find a way to preserve the language in written form and with tones:
  - To have a valid written record
  - To properly communicate
  - To facilitate learning by non-native speakers and heritage speakers.
- As linguists we produce a lot of written material about a language, so archiving tones should be as accurate as possible.

Basics of Mixtec tones

Yucuquimi de Ocampo Mixtec (iso: mxv) has three tones:

High (á)	Mid (a)	Low (à)
tátá 'padre'	tata 'semilla'	tàtà 'medicina'

Tone patterns in bimoramic words
(León Vázquez, 2017)

	High	**Mid**	**Low**
High	High-High	High-Mid	High-Low
Mid	Mid-High	Mid-Mid	NA
Low	Low-High	Low-Mid	Low-Low

Lexical and grammatical tones

H-H	M-M	L-L	H-L	H-M	L-H
ndó'ó	ndo'o	ndò'ò	ndó'ò	ndó'o	ndò'o
'you (formal)'	'will suffer'	'basket for tortillas'	'tail'	'is suffering'	'adobe'

Grammatical tones: different aspects have different tones and different paradigms

POTENTIAL	CONTINUATIVE	COMPLETIVE
keja 'will do'	kéja 'does'	kèja 'did'
najama 'will change'	nájama 'changes'	nàjama 'changed'
tyijó 'will cook'	tyíjo 'cooks'	tyìjo 'cooked'

Student-centered learning

- Keep in mind the difference between learners.
- Choose the right methodology based on the type of learner and don't just apply the same methodology to every learner.
- Apply the right methodology at the right time. Some methods are better at the beginning while others are better later.

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3 kinds of learners = different problems

1. **Native speaker learners:** aware of tones but cannot distinguish them. Alternative: use of context and audio recording technology.
2. **Non-native speaker learners:** not aware of tones, need basic training to recognize and distinguish them. Alternative: ignore tones.
3. **Heritage learners:** variable awareness of tones but cannot distinguish them. Alternative: ignore tones.

Student-centered teaching (Rogers, 1983)

- Individual differences in learners' backgrounds, interests, abilities, and experiences are accommodated and respected (McCombs & Whistler, 1997).
- Each learner is distinct and unique: people learn at different speeds and with different styles even at different stages of the learning process.

We want to emphasize student-centered teaching and learning for tone learning, independent of whether the learner is a linguist or a community member, someone being taught or someone learning on their own.

Techniques

1. Humming
2. Whistling
3. Bottles
4. Musical notes (singing/musical instrument)
5. Recordings + Flash cards (Adapting Sonnenschein, Hernandez & Hall Hernandez, 2018)
6. App to check Hz
7. Grouping by tones - key sets
8. Probing for cognate tones from one variety to another (Adapting Pike, 1948; Cruz & Woodbury, 2014)

1) Humming

Advantages:

- Native speakers can generally do it if they know the words
- Helpful for a non-native speaker to check whether they have understood the right tones

Disadvantage:

- Requires time to make sure that the tones are correct, for both native and non-native speakers (different learning time between perception and production)

2) Whistling

Advantages:

- In the communities where whistling is a method of communication the usage and ability to whistle the correct tone is already innate

Disadvantages:

- Not everyone can whistle.
- Not a very precise way to produce and perceive the tones (Pike, 1948)

3) Bottles

Advantages:

- The sound of the bottle helps the distinction between tones, almost at a musical level.
- Easy to get and entertaining (thus motivating) for the students.
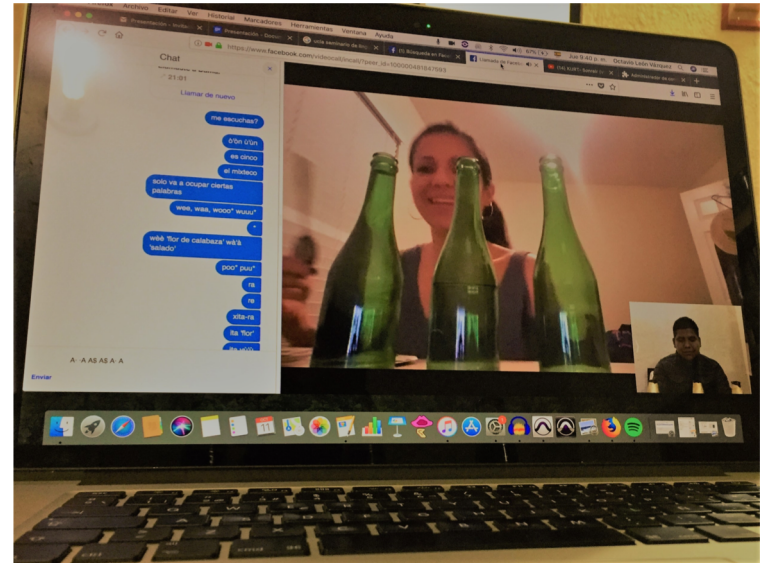
Disadvantages:

- The quantity of water in the bottles needs to be done right or it can be very confusing.

4) Musical notes (do, mi, sol)

Advantages:

- If the students are music oriented they find this technique very helpful and easy to use.
- The notes are very separated from each other and that can help the learner in recognizing the tone associated with each note.

Disadvantage:

- If the students are not music oriented they will basically never really succeed with this method.
- The student needs to understand to refer only to these three notes and not rely on the difference with the other notes.

5) Recording + flash cards

sì'ì

(hongo)   (fungus)

Advantages:

- Visual learners can see the object to which we refer.
- Audio helps reproduction and repetition.
- Self study.

Disadvantages:

- If a mistake is made it is not possible to be corrected.
- Needs labor to be produced.
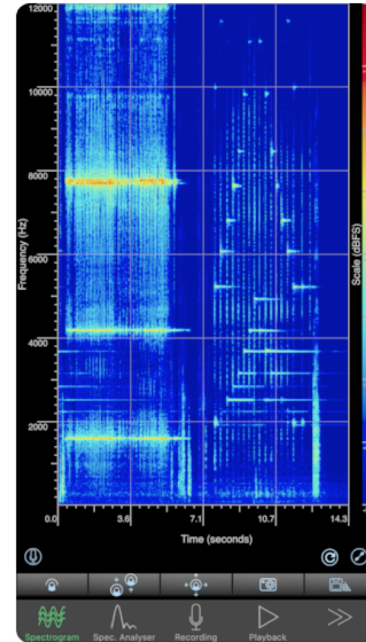- It helps only at the beginning stages.
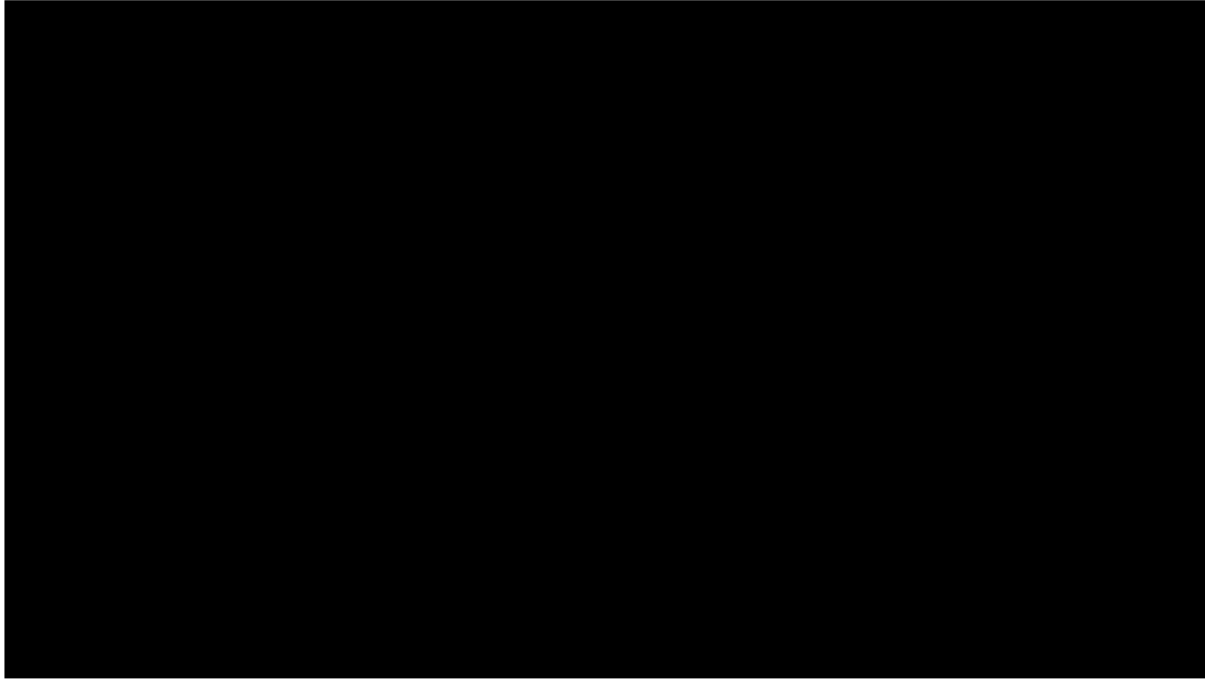
6) App to check Hz

Advantages:

- It helps to study alone and check the tone production, by checking the number corresponding to the amplitude of the tone.

Disadvantages:

- It is hard to use because there is not a 'one-number' answer but it depends on the speaker, the position of the tone, etc..

7) Grouping by tones - key sets

Advantages:

It allows comparisons between the tones that someone is sure about and the tones that someone does not know, by keeping an example available.

Disadvantages:

Different vowels could mislead a speaker, it is hard when the vowels in a CVCV constructions are different, as the speaker is not used to it.

Key sets

H-H	M-M	L-L	H-L	
kó'ó 'aperture'	ko'o 'drink'	kò'ò 'dish'	kó'ò 'bloomed flower'	**CV'VO**
yá'á 'orange'	ya'a 'pass'	yà'à 'dirty'	yá'à 'hot pepper'	**CV'VA**

8) Probing for cognate tones from one variety to another (Adapting Pike, 1948; Cruz & Woodbury, 2014)

Advantages:

- Some words belonging to the same semantic field tend to have the same tone (numbers, body parts, colors, etc…)
- It is possible group words by tones; therefore each day it is possible to group four examples of only low tones, only mid tones, etc.

Disadvantages:

- It is good for the beginning but after we start the verbs it is not so helpful anymore, because many verbs have suppletive forms while the tones stay the same.
- Different languages might have different tonal groups. Some varieties have more tonal groups then others, so if the speaker is a native speaker of another variety he/she will have more troubles understanding/remembering.

Syllable grouping with tones

	A (L-L)	B (M-M)	C (H-H)
CVV	kòò 'snake'	yaa 'song'	ndáá 'white'
	xòò 'griddle'	laa 'bird'	táá 'when'
	nòò 'face'	taa 'write'	cháá 'little'

Semantic categories

Colors	Numbers	Body parts	Verbs potential
ndì'í 'purple'	ùù 'two'	dìnì 'head'	kata 'will sing'
yà'á 'orange'	ònì 'three'	kòndò 'knee'	kuchi 'will wash'
kwà'á 'red''	kòmì 'four'	chòò ' 'rib'	kaka 'will walk'
kùxí 'white'	ò'òn 'five'	dòkò 'shoulder'	kani 'will hit'
tùún 'black'	ìñò 'six'	nòò 'face'	kuti 'will seem'

Suggestions for native speaker learners

- Learn the tonal contrast (bottle, humming, whistling) and also the symbols used for different tones
- Learn the difference between the tone perception of different vowels with different heights (ex. i vs a)
- Show minimal pairs and learn them depending on the syllable structures (CVV, CV'V, CVCV)
- Learn tonal patterns to facilitate the predictability of the cases available
- Show the semantic categories
- Introduce grammatical tones

Possible problems

- Lack of faith in recognizing the tones -> be supportive!
- Difficulties in writing
- Interference of Spanish in reporting tones
- Adult learners are afraid to lose face

Suggestions for non-native speaker learners

- Identify the tones and get used to the different levels
- Do not rely on recordings but use them at the beginning to practice, especially with flash cards
- Have someone correcting
- Have keywords that help in remembering
- Show minimal pairs and learn them depending on the syllable structures (CVV, CV'V, CVCV)
- Learn tonal patterns to facilitate the predictability of the cases available
- Show the semantic categories
- Introduce grammatical tones

Possible problems

- Stress in one's own language interferes with tones
- Need more practice to get used to contrasts in tones (unless the learner speaks another tonal language)
- Rely too much on recording instead of spending time practicing and too much confidence in the pitch track on Praat
- Cannot read material without tones and understand it

Conclusions

- Tone transcription is important for the community and to transmit information for future generations.
- Not every speaker learns in the same way: be creative and intuitive.
- Adjust the methodology to the level the learner is at.
- As a linguist, always make sure to report tones in your writing in the most accurate manner; also make sure to write the level of confidence of the tones in your archived material.

Future directions

- More work on acquisition of tones by heritage learners is needed to better understand the difficulties of this group, and the most effective methodologies for their learning.
- We need more written material with tones!! It is hard to teach a language without written material.

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Ndìvé'échó-ni!
Thank you!
¡Muchas gracias!

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Appendix 1 - Praat
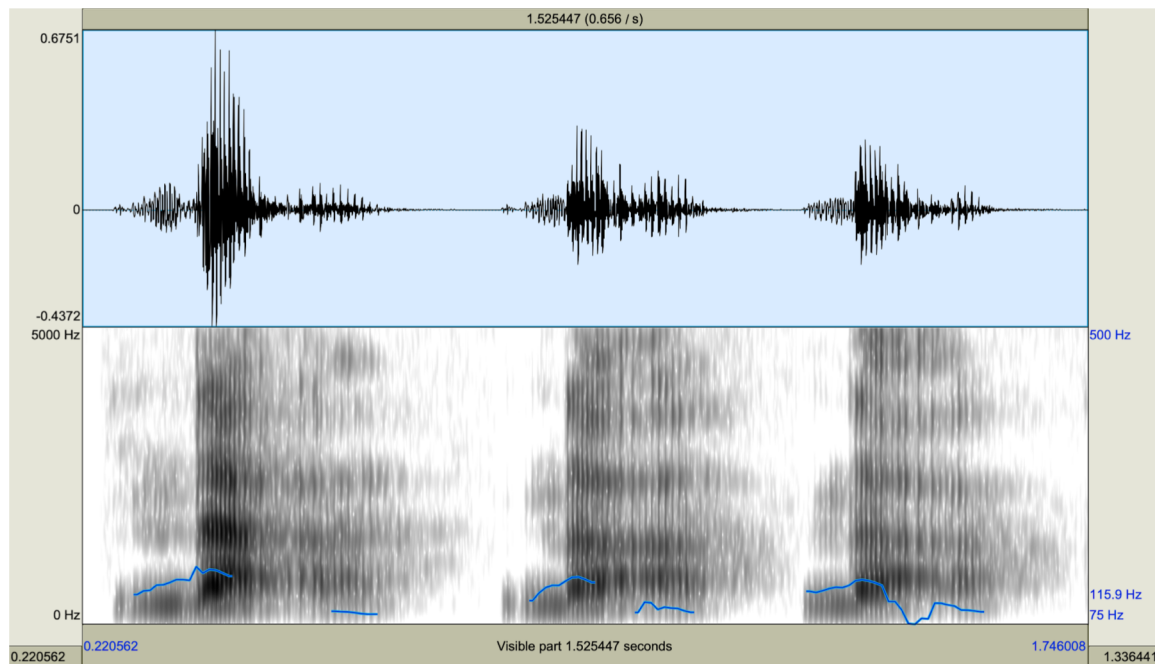
Appendix 2a: Word structure

CVV	CV'V	CVCV
yoo 'moon'	ve'e 'house'	dito 'God'
koo 'snake'	de'e 'son'	yito 'tree'
ndoo 'cane'	ye'e 'door'	xito 'bed'
doo 'blanket'	ke'e 'do'	ndito 'stand'

Appendix 2b: Word structure

CVV	CV'V	CVCV
yoo **'moon'**	ve'e 'house'	dito 'God'
koo **'snake'**	de'e 'son'	yito 'tree'
ndoo **'cane'**	ye'e 'door'	xito 'bed'
doo **'blanket'**	ke'e 'do'	ndito 'stand'