**Spectrogram Nametags Demo—for Kletzkoppen & other outreach**

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To run this demo you need:

-A laptop

-A good external mic + preamp

-Brother label printer

-Headphones

-up-to-date Praat software

Optional but nice:  
-ear defenders

The goal of this demo is to make stickers (‘name tags’) with spectrograms on them. This demonstrates the kind of tools we use to study language in a fun way.

To set up:

1. Set up gear

-Plug laptop in and turn it on.

-Plug in zoom preamp (usb port) to computer

-Plug in headphones and microphone to preamp. The mic has an on/off switch but it doesn’t need to be turned on if it has a preamp.

-Plug in label printer to computer and to power cable.

1. Set up computer

-Log in as TerminalPC. Password = leave blank, just press enter.

-Open desktop version of Praat.

-Open script: Praat menu -> Praat/Open Praat script / select ‘spectrogram\_recDraw’ from the desktop.

-Minimise script.

1. To run demo:

In Praat:

-Control – R to run script

-A popup box will appear. Change time as needed in variable ‘rec len’ (seconds) to specify the recording window. 2.5 seconds is pretty good from some basic testing. Very small kids will need longer.

-Count ‘3, 2, 1, Go!’ and press the button OK at ‘go’.

-Two windows pop up:

-in the ‘Sound’ window, use the mouse to highlight the relevant area (here, you can replay with heaphones plugged in if you need to)

-then, in the ‘pause’ window, press the button ‘continue’

-The picture saves to the file ‘printme.png’ on the desktop.

In Windows photo viewer:

-Open ‘printme.png’ with Windows Photo Viewer

- control-P to print!

-- here, you can minimise the printme.png window—it’ll automatically update once the script saves a new photo.

Talking points:

Here are some of the big points I like to get across to kids- in order of easy – advanced:

-1. Words are made up of lots of different kinds of sounds with different pitches. This is a picture of those different pitches of sounds (up-down axis) over time (left-right axis).

-2. What makes your voice sound like you is the different pitches in your voice—your sticker is unique because you made it.

-3. Vowels and consonants (klinkers / medeklinkers) are different—vowels look like stripes, because they are continuous sounds, and consonants are the different stops / noisy bits. They are made differently in your mouth!

-4. We use this type of measurement in a few ways in our research:

1. To see how people talk differently from each other in terms of the types of sounds they make. Your voice will sound different to other people’s voices—we can measure that!

2. To measure how hard / easy certain types of words / sentences are to say—things that are hard to plan in your head take time, and by making recordings and looking at them in this way, we can study it easily.

-5. With enough practice, you can read these pictures to know what word is being said! Here, you can have one person put on the ear defenders and guess from the spectrogram picture on screen what word was said. (this may require a phonetics course... but give it a go if you want!)