Module 1.4

The Neuro & the Vocal: *Building On Neurological Tools*

Unit 1, Week 4 (of 4)

Here we revisit what we've learned so far, and introduce the relationships, showing how one idea leads to the next. Motor memories -> predictive brain -> interoception -> attention -> phonation.

Week 1.4: The Neuro & The Vocal introduces the idea of one neurological principle leading to and/or informing another. We practice Principles 1 and 2 (*Finding the Tinn* and *The Buzzy Bridge*) to gain confidence.

Overall focus of the class: Definitions of interoception, motor memory. Application of *Find the Tinn*, Principle 1.

- **Before class:**
    - Cue up the video

    - Check in 15 mins before class: any emails or texts?
    - Open or print trainer notes
- **START RECORDING**
- **Housekeeping: 5 mins**
    - 4 kinds of people who take this class:
        - I'll do it when I'm perfect
        - Yeah, yeah...technique. I'll do the exercises and see.
        - Neurodivergent people: "You're not the boss of me. Don't tell me what to do."
        - People who are interested in the unique information and get in and mess it up.
    - ***It's up to YOU how much you want to get out of this class!***
- **Check in: 15 mins**
    - **Applying Principles 1 and 2: share your experiences**
        - The reason is to gain confidence.
        - The instructor should be encouraging by calling attention to the things that were right (or went well).
        - The instructor should be encouraging by providing context (e.g., it's voice lessons. Making mistakes is ok).

- “Yes, and” if someone shares something that is off track. (e.g., “Yes, that can be very effective. The way we’d approach that with a NeuroVocal framework is…)

- **IF NECESSARY: Ideas for prompts**
  - Have you tried on yourself? Students?
  - What’s come up?
  - Brain observations
    - Remember experiential blindness:
      - When the brain has no memory to reach for the thing feels *unfamiliar*. Familiarity = strong neural pathway.
    - Introduce coaching practice by offering alternatives in a way that allows the singer to self-assess. “We’re going to A/B this…”
      - Cranky goose
      - Sneer
      - Concepts: make the sound of a…
      - It’s a journey

Play video 1.4_The Neuro & the Vocal

- **Play Video: 6 mins**
- **5 minute break**
- **Workshop 30 mins**
    - Recap Hnnn
    - Recap Hunn-eee
    - Practice single-intention instructions
    - *Crucial:* Point out the importance of using the script. This language and these processes are new. Nobody expects you to know how to do this already. Show your clients that you're learning something.

- **Lecture: 30 mins:**
- Talk about *experiential blindness*. In the video we used a visual example, but experiential "blindness" can occur with any new sensory data. Remember...

  MEMORIES + SENSORY DATA = PREDICTION.

  Example of a **neuroplasticity in the immediate**, paying attention to what is known vs. what is new: "smell of cookies" in a house you know.

Not the same for motor memories, which are active.

In our exercise we've called it ***learned listening***, because that's what auditory neuroscientist Nina Kraus calls it. As we become more familiar with *the ingredients of a sound* we create hyper-specific memories that allow the brain to identify those sound components (or ingredients).

> **An example of this** would be the way in which you are now, at your current level of expertise, able to hear and appreciate singers in a way you were not capable of when you were 14.

The brain is searching for a memory ***as data is perceived***, so if it can't find a memory, it does other stuff. For example, if it's a short thing, you wait while it guesses, or you wait for an additional piece of sensory data to enter the mix so that your brain can retrieve an appropriate memory. (e.g., you are unable to identify a sound until another "sound ingredient" is added.)

BUT… if there *is no memory*, as is typically the case with the “hnn” exercise (or really, most of the exercises we’ll do) the brain is using *more incoming sense data than predictions to try to make sense of what’s happening*.

Let’s refer to that immediate neuroplasticity as *making a neural pathway on the fly*. The way this translates to lived experience is typically some form of *emotional* discomfort. (We’ll talk later about why that may be.)

The singer is exerting a lot of cognitive effort (attention spotlight, coordinated phonation with a very specific intention) **toward something for which they have no memory.** They *feel* frustrated, uncomfortable, or irritated. They may direct that at you in the form of questioning or challenging you.

The beauty, though, is that *as soon as the brain has a memory* for this feeling/sound, all of those feelings

tend to disappear. It doesn't take long. And once the brain knows what to predict, we can move on.

Closing remark (they have this in their class notes)

Challenging to move away from “this is music… we have to be in tune”. It’s challenging to move away from “we have a goal to meet”.

You have practice moving into this more physiological guided way of making sound. It’s just making sound. It will lead to singing but it’s not singing. It will lead to singing but it’s not singing. All the constructs we have around singing don’t apply. They’ll come in later but that’s not where we are right now.

New things aren't easy. Give yourself a chance to get the hang of it.