Instructor Notes for Module 1.3: Level 1

Doing The Math: *Your Brain is SO Smart!*

Unit 1, Module 3 (Week 3 of Levels 1 and 2)

How the brain predicts what is needed, and in time frames faster than we can imagine. How familiarity precedes prediction.

Overall focus of the class: Building on the previous introduction of predictive processing. Application of *The Buzzy Bridge* (previously the *Tinn-ee* principle), Principle 1.

- **Before class:**
  - Cue up the video
  - Check in 15 mins before class: any emails or texts?
  - Open or print trainer notes
- **Housekeeping: 10 mins**
  - Make sure people are receiving emails
  - Does everyone know how to access and make use of the module pages?

    - Has everyone completed the registration survey, so that I have your emergency contact information?
    - Review Module 3 webpage:
        - What is interoception?
        - Oliver Sacks gets and fMRI of his brain on music
        - Neuroscientist Alan Harvey on what evolution points to when understanding the function of music.
        - Script & crib sheets for Principle 2: The Tinn-ee
- **Check-in: 10 mins**
    - Did you try the Tinn?
    - Did you try with FEELING in mind? Discussion: we've come from and ears/larynx model. It can be challenging to move to a feeling/brain model.
- **Before the video: 10 mins** (optional if the last section went over)
- Different people have different brains.
    - Not everyone will tell you they experience the "buzz" right away. That's ok.
        - Remember that it's brain training. Continued behavior + intention will deliver changes in experience.
    - Alternatives to the *Tinn*

        - Cat tongue
        - Open hum (teeth apart, hum on *M)*
        - Cranky goose
    - Why not *ng?*
    - Explain NVM Trifecta
        - Buzz in face + “nothing” larynx + activated abdominal wall
        - This demonstrates phonating as a single, embodied function.
        - The act of intending to generate an interceptive experience (e.g., feeling in the face) engages the *system* for phonating.
- **Video, 10 mins:**
    - Prepared short video: ***Doing the Math***
    - IF you watched the video already, you probably tried the exercise!
- **5 MINUTE BREAK**
- ***Workshop Tinn-ee* (20-30 mins)**
    - Select one participant for the workshop. Everyone else is on mute.
        - Make clear that this is a demo and does not have to be perfect.
        - You will clarify based on exceptions at a later date.

- Be *very* regimented this first time. Follow the script as closely as possible.
- Remember, it doesn't have to be perfect.
- **Do the exact thing again with another participant.**
  - Invite questions
  - Remind them that they can buy time with you if they want to go over this privately.
  - Make the promise of a LEVEL 2 course. Certified Coach training helps people come away more confident and with a greater understanding of this.

- **Lecture, 20-30 mins:**
- *Please look over these notes.* ***Decide what your priority is*** *so that you can pace it. This outline assumes that there are no questions or interruptions, and that never happens. :)*
  - What does "doing the math" mean?
    - Use catching a ball as an example:

- The ball is tossed to you and you catch it. Easy, right?
- Your brain figured out:
    - The moment the ball left the person's hand.
    - The speed and distance of the ball.
    - The size and shape of the parabola of the ball.
    - Where in space and when in time to place your hands in a position to catch the ball.
    - The exact amount of pressure needed to catch the ball without dropping it.
- THAT's a LOT of math!

- Your brain is always speaking this language and figuring out how your body is interacting with your environment. When we focus attention on our interoceptive experience, we're doing the same things. We're saying, *Hey brain...I would like you to use these environmental signals, these pieces of sensory information to make calculated predictions about what I'm going to need to meet my intention.*

- By focusing on how our brains predict sensory data, we're reverse-engineering great pop singers.
    - This is what they do.
    - Do they know they're doing it? No more than you're aware of how you caught that ball I tossed.

- **Q&A and/or discussion to the end of class**
    - **If there is time and people are interested** in sharing, discuss any points that need clarification for anyone in the class.
    - Remember that if one person asks a question, that question IS shared by others!
    - IF your class doesn't talk and you have time to fill, use the following notes.

- **Extra points for Lecture:** ***This is only necessary if you still have time and your class is reticent to discuss and/or ask questions.*** Pick the points you'd like to visit.

- Do a recap of Step Zero on the way to “tinn.”
    - The point is NOT to make a particular sound, stay in tune, or do it right. The point is to allow your brain to do these calculations based on intention + sensory input.
    - Point out how the student keeps doing the same behavior (*tinn*) and the teacher helps direct the student’s *attention* to an interoceptive awareness of phonation. Walk them through how that works.
        - Make the “m,” notice the “m.”
            - This is simply because many people do not have this level of awareness.
        - Make the “n” notice the “n.”
            - The tool of making a *tinn* sound should be offered.
            - They notice where their tongue is in their mouth.
        - Identify the element of the sound, notice it.
            - This engages the brain in a specific way. Whenever we hear sounds, our brains parse out the different “sound ingredients” such as timbre, timing, distance, volume, and pitch.

- In this step we hear the sound as a whole, but our *focus* is on a particular quality of that sound.

- Repeat that.
  - Now that the brain knows what it's looking for, it will be easier to identify.
  - Your singer may now experience that quality as being 'bigger' or more present in their experience.
  - Taking this step to focus on the sound quality previously identified will make it easier to feel in the next step.
- Shift your attention to the front of your face, see if you can feel the sound you just made in the front of your face or mouth.
  - The shift of attention from sonic discernment to interoceptive awareness is yet another brain function.
  - This will be a small feeling.
  - Reassuring the singer that this is experiential and they cannot "get it wrong" will help them focus their

attention on their interoceptive experience of their phonation.

- Identify specifically, notice.
  - Here we “turn down the noise” on other incoming sense data.
  - As the singer is focused on answering the question “where do you feel it” their brain is NOT paying attention to other data, and amplifying this experience.
- Phonate with intention, notice
  - This starts the process of using interoceptive awareness with intention.
  - This is data that will be used in their brain’s ability to predict based on internal senses.

- Call attention to different learning styles and timelines.
  - Does your singer need to take a step back and feel their body breathe, or feel their heart beat?

- Recap why: the interoceptive experience gives them:
  - Confidence (most consistent sensory experience as opposed to hearing) from reliability

        - Singers can sing consistently in situations that have less-than-optimal acoustics or in amplified situations.
        - Shores up the embodied experience of singing
    - Agency (they are in charge of their internal experience)
    - Step-by-step understanding
- Talk about finding the “sweet spot.”
    - Things that are unfamiliar represent the lack of a neural pathway. Allow your brain to “do the math” and get the hang of giving you what you intend.
    - Tricky at first
        - This can feel very tricky. Your clients feel like they’re on a balance beam, and you’ll want to help them by correcting and adjusting.
        - The more *their brain* can solve the problem, the faster it will happen. Don’t tweak.
    - “Sweet spot” is indicated by:
        - Buzz (or similar concept word) in the face
        - “Nothing” feeling in the larynx
        - Slight engagement of the abdominal muscles