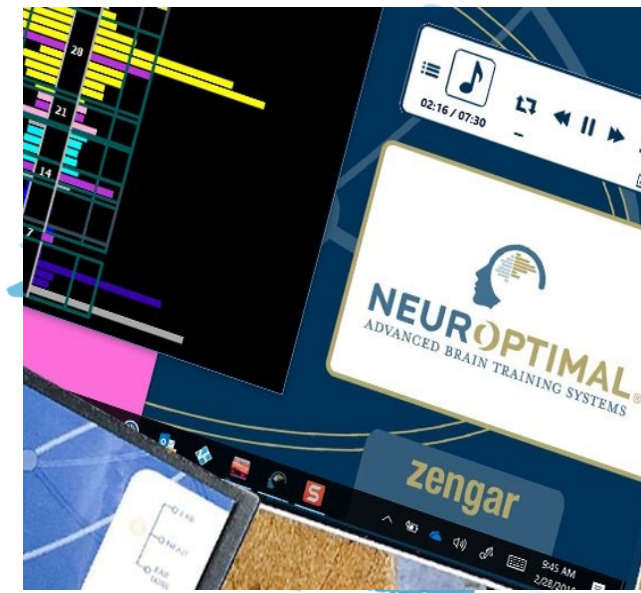


Zengar® Facilitator



The Basic Certification Course 2021

NeuroOptimal®

Dynamical Neurofeedback®

Zengar® Basic Certification Course

Preface

Module 1	The Philosophy & Theory of NeurOptimal®
Module 2	The Foundation of NeurOptimal®
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Questions & Answers

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Preface

1. How you say the name of the system ‘**NeurOptimal®**’ not Neuro-Optimal.
2. Always have the ® **registered sign** after NeurOptimal®, after Dynamical Neurofeedback® and after Zengar®.
3. **Any LIVE housekeeping** information (when you will take a break, when you will stop the recording for questions, how and when you will demonstrate the system, where the restrooms are, or drinks/food).
4. Being part of the **FDA (Food and Drug Administration)** was a choice Zengar® made so we could share our philosophy most accurately.
5. **“Personal Transformation”** is not about getting rid of a disorder, or symptoms or a diagnosis- it is about learning how to become *flexible* and *resilient* in the world. It is about moving away from ‘discomfort’ and listening to your own Central Nervous System.
6. **Dynamical Neurofeedback®** is a term ONLY Zengar®® uses to describe the NeurOptimal® mathematical process of measuring movement or change in terms of the DIFS (the timing of the frequencies).
7. Both **Val and Sue Brown** have multiple degrees, and both are Clinical Psychologists.
8. Both **Sam & Alex** are children of Sue and have backgrounds in business and media respectively, they run the daily operations of the Zengar® business while Val & Sue are partially retired.
9. Make sure they have their **Participant Class Syllabus** so they can keep notes, a highlighter, a pen, and an extra pad of paper.
10. **Stop the recording after each Module** for questions and any dialogue- questions are provided at the end of each Module to support that section.
11. **Each Module has notes for specific slides** if participates have additional questions you will have more information to help them through the process.
12. As a **Facilitator please study the Course yourself** and ask the Director of Education any additional questions you may have.

MODULE 1:

The Philosophy & Theory of NeuroOptimal®

Slide 1-

This section is totally how the *CNS & brain communicates* naturally with the entire body

- “Communicating” is all about *noticing the differences*

Slide 2 -

The communication the brain uses is an enormous network of electrical signals. These larger groups can oscillate, or pulse, at specific frequencies like a strobe light. The *pattern of firing is chaotic and not predictable*.

- Random means there is a pattern, just not predictable- Chaotic means there is never a pattern
- Linear processes consider these to be ‘brain waves.’ We understand *there is no such thing as a ‘brain wave’*, these are electrical pulses or oscillations.

Slide 4 -

Consciousness is self-regulated meaning that *processes not requiring our immediate attention take place outside of our awareness*.

- *The language our body speaks is dynamical*, always looking for changes and differences to report to itself and then responding to that information.

Slide 5 -

The brain’s ability to create pathways and *adapt to a new set of change is essential for learning and ‘surviving’* ...this is called a *‘self-organizing dynamic system’*.

- *Difference between Dynamic & Dynamical*- “Dynamic refers to change whereas Dynamical refers to changes in how change happens as it is happening” Val Brown

Slide 6 -

The brain does not demonstrate absolute values for the amount of electrical activity required for a specific function (in other words we cannot say you must be at _____level for full functioning).

- Our bodily functions generally regulate blood pressure to around 120/80 or to a temp of 98.6 but this *does not stay constant nor is it ‘fixed’*. We would not worry if it is 119/78, we understand it will never be exactly the same every moment.

Slide 8-

The *CNS detects changes* in the electrical signal in four ways:

- i. *Duration*- length of ‘time’
- ii. *Intensity*- amplitude/strength
- iii. *Frequency*- the oscillation
- iv. *Shift*- ‘flutter’ (wobble etc...)

Slide 9

A healthy CNS uses the DIFS to *detect change so that it continues to be resilient and flexible.*

- The CNS is always moving away from discomfort, it is not moving towards a place of 'most comfort'.

Module 1:
The Philosophy & Theory of NeuroOptimal®

Questions & Answers:

1. **Does the body naturally ‘talk’ to the other parts of the body?**
 - a. Yes, through detection of a change and notifying that bodily system to react or respond.
2. **How does that communication take place?**
 - a. Using electrical impulses and conveying the DIFS.
3. **What does Process Variability mean?**
 - a. The brain is infinitely cycling & self-regulating NO is also responding in this same way.
4. **What is the difference between Dynamic & Dynamical?**
 - a. Dynamic- in movement, Dynamical is changing due to the information just received.
5. **What is meant by “the brain does not demonstrate absolute values”?**
 - a. The body only has ‘general’ value, body temperature, blood pressure, etc...
6. **What is the CNS always doing?**
 - a. Moving away from discomfort.

MODULE 2:

The Foundation of NeuroOptimal®

Slide 1 -

The **definition of ‘feedback’** is monitoring a body function and giving that information back to the individual.

Slide 2 -

Neurologists use an **EEG for diagnostic purposes** looking for abnormal electrical activity (seizures etc...) Neurofeedback and especially NeuroOptimal® uses the EEG as a training, not a diagnostic instrument.

- **IF we started with a DX and created a ‘protocol’** then we would be ‘treating a problem’ lastly, measuring it in terms of monitoring progress due to the Sessions, then it is a treatment model.
- **Terminology in the NeuroOptimal® system is important.** In the past, we may have been limited by the hardware of a Linear field called Neurofeedback, however, it is important to remember we are fundamentally different, and we must be able to share that difference in ‘words’.

Slide 4 -

NeuroOptimal®’s approach adheres to the thought that a ‘natural ability to move away from discomfort’ will occur when the individual is able to move freely between cortical events **creating a flexible & resilient brain**. We see this when a trained individual is able to ‘allow simple agitations to occur without making a big deal out of it’ or when ‘a typical triggering event no longer creates the same emotional response’.

Slide 6 -

Metaphor: A Balance Beam...

- **A Linear Approach-** has ‘Thresholds’ (a specific frequency range) like bumpers (or bars that actually trigger sounds and/or visual elements) on both shoulders pushing you from one side to the other side as it guides you (pushes you) to stay on the beam.
- **A Dynamical approach-** Would assist someone to stay on the beam by having mirrors that are showing the DIFS that indicate where your feet are about to be placed on the beam in space and time (**information**) so you can place your foot confidently to stay on the beam. Allowing the person to make the decisions for foot placement themselves.
- Explain ‘**augmenting and inhibiting as a ‘threshold that initiates the feedback’**’- pushing and pulling the electrical activity (encouraging & discouraging specific frequencies).

Slide 8 -

PDF Non-Linear & Linear: Sect I

- On the left we see the **4-D Non-Linear Dynamical Neurofeedback® approach of NeuroOptimal®**
- With the **DIFS leading to intrinsic changes** identified through training (the reason you started the neurofeedback process).
- On the right we see the **2-D Linear approach** of a chart...with external confirmation that the technician did the protocol the QEEG indicated to do... (possibly personal enrichment very possibly side-effects without intrinsic change occurring).

Slide 9 -

PDF Non-Linear & Linear: Sect II

- The Dynamical Neurofeedback® side demonstrates a mathematically generated (JTFA- Joint Time Frequency Analysis) process which dynamically detects variations in cortical activity 256 times per sec.
- The *Linear side shows the singular bandwidths* that a technician must manipulate during a Session - totally *dependent in the 'after math' of an event* and dependent on the skill of the technician.

Slide 10 -

PDF Non-Linear & Linear: Sect III

- Dynamical Neurofeedback®= *intrinsic focus on flexibility & resilience*.
- Linear= totally *dependent on external charts* to determine on-going protocol.

Slide 11 -

PDF: Feedback Loop

- Note there is NOT a Trainer- *NeuroOptimal® advocates that the dance is between the Client and the NO system software*.

Slide 12 -

This is a 'waveform'. The electrical activity is measured to determine which frequency level it is. (*We do not use the terminology 'brainwave'* and we remind the Trainer to not use this terminology also).

1 Hz activity is one complete 'waveform' in one second of time, indicate how 42 Hz would look in that same period. ***Understand this information is vital in a different Linear system however, for NeuroOptimal® it is not that important as we do not measure 'per cycle'*

- *Show amplitude as the height of that wave from center*, indicate how a low amplitude 1Hz wave would differ from a high amplitude 1Hz wave.

Slide 14 -

PDF- 10/20 System-

- *A Linear system believes* - they are influencing cortical activity directly below their sensor and therefore, move their sensors to create a bigger change in the protocol, therefore, their 'placement' is important to their process.
- *A 'Dynamical' system understands* we are reading a summation of activity and because it is a nonlinear dynamical system, we cannot witness one change and believe the system as a whole is not affected. Therefore, we want to keep our view/picture the same by keeping consistent placement (or in Linear terminology 'montage'), knowing we are affecting the entire system. C3/C4 are practically the most central location front to back and top to bottom!

Slide 15 -

The neurofeedback process is *'breaking up consistent, persistent patterns' by interrupting that electrical activity with the 'feedback'*.

- When the individual hears (unconsciously) the interruptions, the electrical patterns STOP, and the *individual is reminded of the present moment* and a new electrical pattern occurs.

- *In a Linear process* the technician is **forcing an ‘augment’ or an ‘inhibit’ of specific frequencies that are pushing the CNS (Central Nervous system)** in ways that may be unwanted or not needed in that moment and therefore, leading to side-effects.

Slide 16 -

We run into many processes that use the ‘umbrella’ of neurofeedback. Just to make sure everyone understands to be considered neurofeedback- the process **MUST** use electrical-cortical activity and it must have a ‘feedback’ element.

- **Sound systems:** any time a signal is given to the brain in hopes that it will start to produce a ‘louder’ version of that signal, then it is NOT neurofeedback.
- Or in other words if a single frequency or a band of frequencies are presented to the brain in a way that makes the brain ‘reproduce’ or entrain / migrate to that sound, then it is NOT a neurofeedback system.
- Ex. Of these are:
 - i. Binaural beats
 - ii. Len’s
 - iii. iLs
 - iv. All Listening Programs- TLP, Tomatis, Neuro-tone,
- **We as Trainers can migrate to the Client’s ‘frantic-ness’** if we are not doing our own Sessions (more on this in the Advanced Day 2 training).

Module 2:

The Foundation of NeurOptimal®

Questions & Answers:

1. **Are we a diagnostic model?**
 - a. No, we are a training model only.
2. **Is it important for us to know what the individual's DX, symptoms or condition is?**
 - a. No, none of that information will help the CNS respond to the differences in the electrical signal.
3. **What is NeurOptimal® training an individual to learn?**
 - a. Resilience and flexibility.
4. **Why is terminology so important with NO?**
 - a. Because this process is unique and easily misunderstood.
5. **Name 3 main differences between a Linear system & a Dynamical system?**
 - a. The way we measure- 2-D vs 4-D, the way we revisit the Session
 - b. After Session views vs graphs and charts
 - c. Measuring movement vs, a still picture.
6. **What is the difference between an entrainment process and a feedback program?**
 - a. Entrainment is always moving the individual towards a pre-decided goal or a 'specific state', whereas a feedback system is always assisting in a teaching process.

Module 3:

The History of NeurOptimal®

Slide 2-

Mission Statement: found on the Zengar® website. It is much longer than the few sentences on the slide.

Slide 3-

The first true experiment that made the field of Neurofeedback noticed was designating **14 Hz Frequency Band** as the **SMR frequency (Sensory Motor Rhythm)**.

-The Research was designed to create seizures in Cats so they could stop them in humans. They found a 'still body & active mind' (the Cat just before it pounces) is called the SMR frequency.

- **Take-Away:** A new frequency was coined **SMR** for a still body and an active mind, considered a 'State Based Protocol'.

Slide 4-

The field continued noticing "**State-Based**" protocols with the acknowledgement of the "Alpha/Theta Ratio" - and everyone started doing either SMR or Alpha/Theta- work.

- **Take-Away:** A new set of frequencies showed 'state shifts' **eyes open/closed** as important within the Linear, Non-Dynamical field.

Slide 5-

At about this same time ADHD work was popularized in the Linear model with '**Alpha State Training**'.

- Now the field literally had 3 different '**protocols**' they were using for almost all Clients (with a few people looking at '*pattern-shifts*' like Anna Wiseman etc...).
- **Take-Away:** Another 'state based' frequency to be noted for a specific disorder (hence, a diagnosis was important, and a 'treatment' was given).

Slide 7-

Solution Orientated Rapid Transformation S.O.R.T. (Healing Through Meeting)

- '*Each Moment of each Session is separate*' **Dr. Val Brown** so each Session starts this process over again...a fundamental belief in the NeurOptimal® system.
 1. **Meeting-** Meet the Client let go of there being an Identified Patient.
 2. **Joining-** Join their story so they feel understood as they understand themselves to be..." Get the Client's Story, which is always the Problem" 'building rapport' (*every problem contains the solution*).

3. **Developing- Staying with the Client's story** to get the rest of the story which contains the **solutions**. Getting exceptions to the story 'I am ALWAYS depressed', really? There was NEVER a time when you were not depressed? Are you depressed when you sleep? (Once the Client confirms that you have the entire story: both the problem(s) and solution(s) you will be in rapport and the Client will follow you as you move to...

4. **Transformation- Telling now the whole story with both problem and possible solution included** "oh ok, so there are times in your life when you were depressed, and there have been times you were not depressed and when you are not feeling depressed it was when you went bowling with your friends". "What do you think would happen if you just went bowling with your friends even while you were feeling depressed?" "Would you be willing to try that and let me know how it goes, what happens?" This is called the 'Emily Latella shift' (the shift that occurs, might be a head nod, release of shoulder, giggle, sigh etc...).

5. **Resolving-** Solve again the original problem by using the Transformation that just occurred right then and there.

Slide 8-

5 Phase Model -This is the same type of S.O.R.T. processing in a mathematical/computerized method that is going on backstage with NO and was started with the 5 Phase model.

"What needs to happen today that will make you feel it was worth being here?"

"What makes something a problem is that YOU don't want it".

- **Take-Away:** First time EVER different 'protocols' were being used in the same Session working more on flexible transitions (Five Phase Model).

Slide 9-

Period 3 Approach- Val & Sue were now together, and Sue brought in her expertise and her 5 higher level degrees!

- **Take-Away:** Internal reduction of switching 'protocols' now **concurrently training different frequencies** at the same time. Also, training towards focus and relaxation at the same time while organically trying to allow the brain to reorganize itself. (Period 3 Approach).

Slide 10-

NeuroCARE Pro

- **Take-Away:** Moving towards a blend of frequencies and changing to reorganize for flexibility and resilience (NeuroCare Pro).

Slide 11-

The acronym C.A.R.E. stood for **Comprehensive Adaptive Renormalization of the EEG** (Keep in English) explain the term 'renormalization' returning to natural intrinsic ability of **flexibility & resilience**.

Slide 14-

Time Line-

- a. 5 Phase Model- 1993
- b. Period 3- 2000
- c. NeuroCarePro- 2003
- d. V2.0 - 2009
- e. NO3- 2018

Module 3: The History of NeuroOptimal®

Questions & Answers:

1. **Did NeuroOptimal® start as a Linear process?**
 - a. Yes, the process started with pre-existing equipment that Val & Sue used to design the current NO3.
2. **NeuroOptimal®'s mission is to 'relieve suffering'?**
 - a. True, they have always wanted to make sure anyone that needs the process is able to use the system and a Professional Mental Health Care Practitioner is not responsible for providing the service.
3. **Is the S.O.R.T method important for Trainers to use with Clients?**
 - a. It is in the 'background' of the NO process and part of the concept of how NO works. We do not have to actively use it with our Clients.
4. **What does S.O.R.T. stand for?**
 - a. Solution Oriented Rapid Transformation.
5. **What is the C.A.R.E. method?**
 - a. *Comprehensive Renormalization of the EEG*- It stands for looking at the entire EEG spectrum (0.1 - 64 Hz activity, allowing the CNS to learn from itself again, listen to the information within the EEG).
6. **What system do we use today and what makes it different than the past models?**
 - a. NO3, is considered Dynamical Neurofeedback®, it is a mathematically based program, provides real time info- 256 times per sec.

Module 4:

Basically, How Does it Work?

Slide 2-

The **NeurOptimal®** process starts where they are in that given moment and they will never be back to that moment again...

- **NeurOptimal®** So, as we put 3.0 altogether it is important to note some of the **crucial differences**. In **NeurOptimal®** there is **no need for diagnosis**. Why is this? **NeurOptimal®** is designed to give the brain information about what it has just done. **The brain then uses this information (or detection of change) to organize itself.**
- **Describe a Session:** During a Session, the Client listens to music or watches a movie file (.avi, .mov or other popular movie formats). The music/movie plays continuously when the brain is running “on course” (whatever that course is for that particular brain) but as soon as **NeurOptimal®** detects that the brain made a change in electrical signal, (Duration, Intensity, Frequency or Shift), feedback is provided to the brain via a very brief pause in the sound. By offering this information **NeurOptimal®** gives the opportunity to the brain to adapt itself in response to the information, which then provides yet new and different information for **NeurOptimal®** to mirror back. Like a dance, **NeurOptimal®** and the brain adapt to each other microsecond by microsecond, dynamically adjusting their steps based on what the other has just done.
- **256 times per second NO ‘mirrors back information so the brain can reorganize itself’.**

Slide 3-

No absolute values in our body is very important to how NO works...

Slide 4-

The Orchestra-

- When the **NeurOptimal®** system is constantly detecting the changes in cortical activity, in all four of these components and mirrors back to the individual that a change is occurring within the CNS -
- The DIFS built into the software system is mathematically calculated through the JTFA process detecting the change in the cortical activity millisecond by millisecond. The mirror indicates the information as change that is about to occur, and the interruption is given as the feedback warning you that something is now different. This ‘information’ given to the brain in ‘real-time’ notifies the CNS just as it intrinsically communicates to itself that a change is about to occur. The CNS (just as it does with its own intrinsic wisdom), makes the changes it deems necessary for its own personal enrichment.

Slide 5-

In-Line Adaptive De-Noising

- One of the benefits of working with fluttering is that muscle movement and other sources of unwanted signal are far less of an issue for **NeurOptimal®** than they are on Linear systems. **NeurOptimal®** continuously eliminates this signal noise, making effective training MUCH easier and more reliable. This unique, in-line Adaptive De-noising algorithm makes worrying about signal quality a thing of the past. No need to spend onerous time checking hookups or connections!!

- As long as there is contact with the scalp, NeurOptimal® will actively remove electrical noise from the signal providing a superior quality of feedback. It also means that NeurOptimal® can run under high electrical noise conditions (such as in many hotel rooms or in older buildings) that would be impossible for Linear systems.

Slide 6-

So we have talked about this, but this is what makes the NeurOptimal® system so unique...**the mathematics in this process drives the ability to see and measure change in several ways.**

Slide 7-

The changes or ‘Shifts’ in an EEG are referred here as a ‘flutter’, is the cusp of change (or Shifts).

Slide 8- GIF- Hummingbird

Slide 9 -

- NeurOptimal® works with **functional brain instabilities**. These are not amplitudes (amounts) or other Linear measures used in other systems. The term functional brain instability does not refer to a negative place or position. It is the **transitional movement between settled and stable**. It is a necessary internal movement away from a place of discomfort and towards a place of comfort (however, not a specific place of balance). As the brain starts to move into a functional instability, which we target in “time-frequency envelopes”, the sound you hear pauses very briefly. **The brain immediately pulls itself back from these functional instabilities and reorients/adjusts**. Over time, the brain learns to maneuver around such instabilities instead of falling into them, resulting in fewer issues and improved functioning – which we call **increased flexibility and resilience**.

Slide 10-

The communication within our CNS is based on information derived from the changes in EEG, blood flow, temperature, vestibular balance, all different parts of the body. **It is that information that CNS detects as crucial to sustaining itself**. With the NO mathematics it is the **fluttering around the TFE’s that give this same crucial information to the individual about the EEG signal**.

Slide 11-

Because the process is giving mathematical information about a cortical event, **the changes are natural, and give the impression of being ‘subtle’ and communicating** in the same method the CNS communicates to the body on a regular basis.

Slide 12- PDF- Surfer

Metaphor- Standing in front of a mirror- you naturally stand taller because you have the sight (information) that you are slouching

- **Turbulence** is not a ‘bad’ sign, it is movement...and any movement is information. The process does not ‘diminish movement’, instead it makes **the movement become easier to maneuver through...** The ocean that is choppy isn’t bad to a surfer, but the surfer can be taught how to move more effectively through the waves better so they can ‘ride the waves’ smoothly.

- It doesn't matter if the surfer has a red bathing suit or a blue one, so we do not need to diagnose him with a name' for him to successfully learn to manage a smooth surf.
- Each surfer has a unique weight, approach, & balance to efficiently ride each individual wave. And each wave will respond differently with its own unique height, volume and spray that also changes with each wave. This dance between the rider and the waves is unique to every surfer.

Slide 14-

It is interesting how we can get into a medical conversation without even knowing we are there!

- How many Sessions will it take for _____?
- But I was diagnosed with _____
- My son has _____ and is on _____ medication, how will NO work for him.
- When we respond in this Linear, medical language then we have entered the "Treatment Zone"

Slide 16-

PDF - Rumble Strip Metaphor

- **The rumble strips on the side of a road are there to indicate change**, it is not negative or positive, it is only change. The rumble strips are a visual and tactile way of reminding you that change has occurred or is about to occur should you stay on this path. If you want to go off the road it may make sense to go over the rumble strips, or if you are coming back on the road you may cross over them. But the decision is still your decision.
- In the NeurOptimal® system **the mathematics give you this same information, through the interruptions...**you are being advised of where you are and you have a choice: go over the rumble strips and change your tire or OOPS...I need to turn back or I will go off the road...

Slide 17-

Knowing the body is a Dynamical system, there are only 4 ways to control it (a non-linear Dynamic system).

Slide 18-

- **Extrinsic constraints-** "ANYTHING other than the process occurring during a Session"
- Med's, other processes (NF, therapies, vitamins etc.)

Slide 19-

- **Chaotic perturbation-** Randomly changing individual controls - chaotic environment- changing the temperature of a room, and see what happens, change the lighting and see what happens, change the draperies and see what happens- chasing chaos to illicit a response.

Slide 20-

- **Entrain & migrate**- the third process that can control a Dynamical system
- Examples are: Sound systems- iLs, Hemi-Sync, Tomatis

Slide 21-

The definition of entrainment- Should someone need more information.

- **Entrainment** <https://yourpotentialrevealed.wordpress.com/2012/12/05/entrainment/>
- “Entrainment is a theory of physics, which has a scientific basis and I think it is a very beneficial concept to understand because it brings light to a lot of energetic patterns that we hardly take notice of. Entrainment is a theory of physics which states that two objects vibrating at different speeds will entrain to each other to vibrate at the same, or very similar speed when put within close proximity to one another. This works not only with inanimate objects, but also with the energy of live beings. This concept is omnipresent and applies to all energy. The cells and energy within your body, people who meet each other and objects that come into contact with each other. This makes sense vibrationally because we know that due to the Law of Attraction which states that like attracts like, vibrations that are too vastly different from each other cannot occupy the same space. So, they must entrain to each other if they are going to be within close proximity of one another. So, indeed, we do live in a harmonic universe”.

Slide 22-

Synchronization Through Chaos

- The NeurOptimal® system uses this process to control the chaos of a non-linear Dynamical® system.
- So how do we make sense out of the electrical chaos that we call EEG that occurs in our brains?

Slide 23-

This does NOT mean this is a one size fits all system...because it is NOT doing the same interruptions for every Client. Instead, it is meeting each CNS where it is (whether on medication, on drugs, newborn, elderly, or a dog)

- We are always adjusting for internal balance milli-second by milli-second.
- It is also important that we do not emphasize it is a ‘plug and play’ this indicates it is the same for everyone, it is highly sophisticated intricate system that is able to detect even the most subtle change in cortical activity.

Slide 25-

If you hear the interruptions, it is usually because several interruptions have occurred at one time.

Slide 26-

If you hear us repeating some of this information, it is because we want to make sure everyone hears it in a variety of different ways. It is very important to understand what NO3 is and what it is not.

Module 4:

Basically, How Does it Work?

Questions & Answers:

1. **What do we mean by each NeurOptimal® Session is the first and the last?**
 - a. The NeurOptimal® system is working on the whatever brain it is hooked up to. That brain is different every time it does a Session and that Session is non-repeatable.
2. **The NeurOptimal® software is looking for the DIFS in electrical voltage how often?**
 - a. 256 times per second.
3. **The NeurOptimal® process has a de-noising built into the software program. Why is that important to know?**
 - a. The NO system uses only the ‘Chaotic’ electrical activity and discards any sinusoidal (consistent 60 or 50hz information).
4. **What do we mean by a ‘flutter’ or a ‘shift’?**
 - a. The movement in the electrical signal is a flutter. It is the change that occurs as it is getting ready or in the process of a shift.
5. **What does it mean when we say “NeurOptimal® works with functional brain instabilities”?**
 - a. These are not amplitudes (amounts) or other linear measures used in other systems. The term functional brain instability does not refer to a negative place or position. It is the transitional movement between settled and stable.
6. **There are 4 ways to control a Dynamical system- which one of these do we use with NeurOptimal®?**
 - a. Extrinsic constraints,
 - b. Entrain & migrate,
 - c. Chaotic perturbation
 - d. Synchronization through chaos

Module 5:

The Technicalities of Running the NO System

- Get Systems out
 - How to add (and edit) a Client
 - Add a Location
 - Change the media

Slide 1 - 31 -

Go through the system and the manual together as in the recording.

- Watch the two videos together

Module 5:

The Technicalities of Running the NO System

Questions & Answers:

1. **What are the 3 main commands when using NO3?**
 - a. Tap
 - b. Double Tap
 - c. Tap & Hold
2. **How do you go directly to recording a Session?**
 - a. Double Tap the Name of Client
3. **How to add a Client?**
 - a. Double Click on word Client in header
4. **Where do you move data from an old Client somewhere to keep it safe?**
 - a. Archive it
 - b. Right Click to Archive
5. **Where do you go to help yourself with information when you think the system is not working correctly?**
 - a. Use the Path of Self-Empowerment PDF
6. **Why is there occasionally a small envelop exposed on the Vault?**
 - a. This is a message from Zengar®

Module 6:

Hooking Up Yourself & Your Clients

Slide 2-

Remind participants that it is not important to have an exact hook up

- More paste is preferred over less
- Animals are ok to hook up

Slide 4-

What are the sensors doing?

- Black sensor is the ground on the earlobe
- Blue is the reference sensor on top of ears
- Yellow is the active sensor on head - reinforce that the blue is referencing electrical current back to the active (yellow) and comparing the two.

The value used within the program is the voltage drop between the active and reference sensors.

Module 6:

Hooking Up Yourself & Your Clients

Questions & Answers:

1. **How much paste should you use?**
 - a. An ice cream scoop full, covering the metal of the sensors.
2. **Do we move our sensors around?**
 - a. No, they are always on C3 & C4.
3. **When taking the sensors off an easy way to make a 'clean' removal is_____?**
 - a. Wiggle the sensors gently at the top of the wire in a circular direction to remove sensor with the paste.
4. **When we clean the sensors we use_____?**
 - a. Alcohol wipes, hot water, baby wipes.
5. **When do you need to replace the sensors?**
 - a. When they rust (wrapping them up wet, leaving them in a baby wipe, allowing them to soak in water) bending or breaking the delicate wires on the active sensor as you put them on the head, or age as the silver plating wears off.

Module 7:

The Role of the Trainer

Slide 1-

The importance of training your own brain cannot be emphasized enough...we all go into this system for a reason and the ability to talk about the progress you have witnessed with yourself, plus the ability for you to understand what your Client is going through is very important.

Slide 2-

The body detects change and change is inevitable = Dynamical (therefore, if the CNS could notice these changes again, then a resilience and flexibility will be regained = personal transformation).

Slide 3-

So, the role of the Trainer- is to...

- **“Be a Detective”**- assisting in keeping track of all the subtle shifts.
- **Releasing Expectations**- also means do not create an expectation (when we tell someone we will do ___ number of Sessions, or take fish oil along with the NeurOptimal® process etc...) then it creates an expectation that this will not work without that info.
- **Educate Clients**- using resources, helping them get answers etc...
- **Monitoring their ‘Shifts’** using the **DIFS** as an external monitoring system is the same as the internal system.
 - a. **Duration**- how long does the symptom last
 - b. **Intensity**- how strong is the feeling (give it a rating scale 0-5)
 - c. **Frequency**- how often does the symptom last (again a 0-5 rating scale)
 - d. **Shifts**- how many small subtle changes are occurring...and documenting those
- Be ok if the Client doesn't feel the change (they probably won't be sensitive to their feelings or perhaps be overly sensitive...just be ok either way!

Slide 6-

What is a Shift

Shifts are small subtle changes; we will look for these in several different ways.

Module 7:

The Role of the Trainer

Questions & Answers:

1. **What are some of the differences between our role as an NO Trainer or as a Therapist?**
 - a. We allow the Client to take the lead and assist them in feeling the internal changes.
2. **Is it possible to NOT feel changes?**
 - a. Yes, if the brain/body has been hyper focused on feeling only the bad symptoms as small subtle changes occur it is likely the newer intrinsic changes can still be over-run by the strong.
3. **Being a Detective means _____**
 - a. Monitoring subtle changes and helping the Client recognize those changes.
4. **What types of shifts will happen?**
 - a. They will be small shifts, moving away from discomfort- falling asleep faster, staying asleep, waking refreshed, not yelling at the other driver on the road, etc....
5. **How do we help them notice these small subtle changes?**
 - a. Keep an audio/visual diary, try the 'Monitoring Shifts' tool, ask a lot of questions and keep good notes.

Module 8:

Monitoring Shifts Tools -

Slide 1-

Tracking their Shifts

- Ex: “I don’t sleep well” = How long it takes to fall asleep, are you able to stay asleep, do you toss & turn, snore, have nightmares, urinate or grind teeth while sleeping? Do you wake feeling refreshed?

Slide 2-

The One Hundred-

- This form was created to give ideas, options and a framework to better understand noticeable shifts

Slide 3-

The Wish List and Tracking Shifts

- Our measurement model: please go over these forms (they are part of the PDF packets)
 1. Take the One Hundred and Pick 3 of the most concerning problems
 2. Write those general concerns on the **Wish List**
 3. Use a different **Tracking your Shifts** form for each Wish list Item
 4. Break down into its smallest components by asking these questions
 - What will need to change for you to know you have had a shift
 - How do you think will that shift will affect you?

Ex. General- I want to sleep better...

Ask Client what would have to happen to know you are sleeping better?

- Would it change how long it takes for you to fall asleep?
- Would you stop tossing & turning?
- Would you get up less in the night?
- Would you stay asleep longer?
- Would you wake feeling more refreshed?

Allow them to make these smaller increments for you both to follow as ‘Shifts’

Make sure you are following all changes, including language that is positive not just symptoms that are negative.

If they are watching for a big general Shift, they may be disappointed, and it may take much longer than some of the smaller incremental changes.

Slide 4-

Encouraging internal DIFs

- Encourage dialogue with the Clients that include these and many more- this is a good place to introduce the FDA language
- NeurOptimal® does not use charts, graphs or numerical values to determine an ‘external’ view of progress. We do not ‘judge’ a Session nor ‘predict’ future Shifts due to what we have seen.

Slide 5-

Why Eliminate Numbers, Graphs & Charts?

- We always encourage self-empowerment. If Trainers told Clients WHAT to do or WHEN to do it the Client would continue to look for approval, progress & direction from the Trainer.

Slide 6-

After Session Views

- Graphs, charts, and numerical values are only for predicting or judging the quality of the Session. They are used to determine the value of the Session or the quality of the Session and therefore the 'worth' of that Session.
- Due to the feedback being information for that individual CNS to detect that person must determine the value to them.

Slide 7-

Cross Ambiguity Function

- Cross Ambiguity Functions (CAFs) are 3-minute segments of data that overlap 1 minute each. These are evident in the Tunnels view (two slides from now) where you can display all the CAFs and display all the overlapping sections also.

Slide 8-

After Session Views

- "After Session Views" will now include "Tunnels". The Tunnel is a depiction of the entire Session from beginning (at the top of this main view) to the end at the bottom. The alternating colors as we progress through the Session are the CAF sections (Cross Ambiguity Functions). This will replace the CCACs from version 2.0 and is a much better representation of our cortical path and disruption over time.

Slide 9-

Tunnels

Important to note that this simply is a representation of the CAFs and the path taken through **this particular Session**. There are no numbers on these graphs, they are always on a basis of 100% regardless of the underlying data and therefore not comparable to any other particular Session.

Slide 10-

The Waterfalls

As with the Tunnels this representation is always on a basis of 100%, the highest levels of activity are always the top of the scale and red. Please discuss the ways to zoom in on a particular time and/or frequency segment.

Module 8:
Monitoring Shifts
Questions & Answers:

1. **What do we call the tools we use to measure progress?**
 - a. Progress Tracking Tools
2. **Can we see a graph of progress? If not, Why?**
 - a. We do not have static numbers to graph from, we are always in movement
3. **What can Trainers tell Clients about the progress they are making in the Matrix Mirror, the Waterfalls, or the Tunnels?**
 - a. Nothing that is the journey they took that day and in that given moment “nothing more, nothing Less”
4. **Trainers are considered Detectives T or F and Why?**
 - a. True, as a Trainer we are always looking, asking, and making notes of the Client’s Shifts
5. **One of the goals of looking within is...Why is this important?**
 - a. Empowering the Client to witness and feel their own changes
6. **Progress Tracking Tools include what items?**
 - a. Checklist 100
 - b. Wishlist
 - c. Monitoring shifts worksheet

Module 9: The Technical Side

Slide 1-

The Technical Side

- Explain you will demonstrate for them how to get on a ZenConnect in the next few slides

Slide 2-

Video- Updating Your New System

Slide 3-

PDF Tool for Self-Empowerment

- We encourage all Trainers to learn as much about their system, resources & tools as possible. This flowchart helps with following your needs and troubleshooting your solutions

Slide 4-

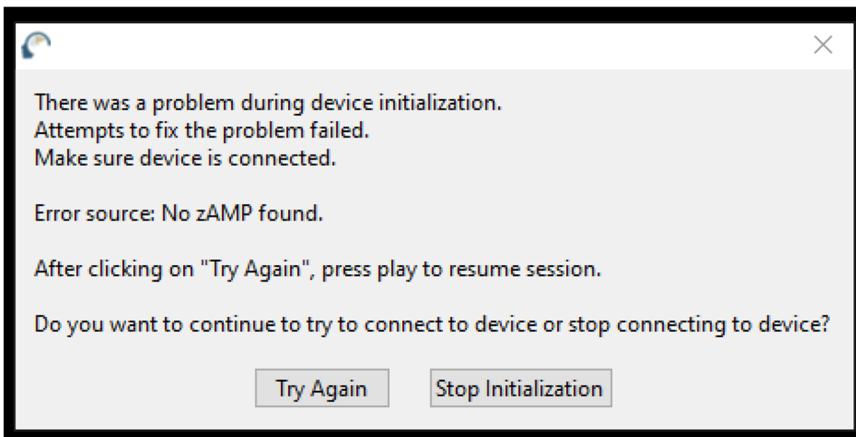
Tips & Troubleshooting

- Within the Zengar® manual that comes with your system is a list of additional ways to troubleshoot and ideas on how specific items

Slide 5-

Error Message

- Built into the NeurOptimal® system we are given basic information of the needs of the software program. Such as this Error Message:



Slides 6-10

How to Initiate a ZenConnect

- Go through the process of getting on a ZenConnect with your participants

Slide 11-

Resources and Videos

We have on our website short videos, eBooks, Webinars and Papers that give information about the company and the program. Look under the Education tab.

Module 9:
The Technical Side -
Questions & Answers:

1. **What is The Path of Self-Empowerment?**
 - a. It is a Self-Help flowchart, assisting by guiding them through a sequential flow of actions to help themselves.
2. **Where can you find the 'How-to' videos?**
 - a. Within the software program under 'Tools', and on the website.
3. **Where will Zengar® send you updates or messages about the program?**
 - a. Within the software program is an envelope to display messages.
4. **What is a ZenConnect?**
 - a. The process of a Zengar® Technician working on your system to update or alleviate a problem.
5. **Do you always need to be online?**
 - a. No, you just need to be online at least once a week.
6. **What other resources do we have for Trainers or End-Users?**
 - a. We have on our website short videos, eBooks, Webinars and Papers that give information about the process and system.

Module 10:

Creating a NeurOptimal® Business

Slide 3-

- Discuss how you 'run a Session'
What that looks like to you:
 - Comfy chair
 - One Client vs 2 or more at the same time
 - Lights dim? (no fluorescents)
 - Leave room or not?

Talk about Extrinsic Constraints: ANYTHING that occurs outside of the NeurOptimal® Session- can review the Control Procedures

Slide 5-

- Please make a copy of this for your participants to look at- <https://neuroptimal.com/pass-members/documents/>
- **Rentals-** Make sure you have copied all the rental documents and have them there for the course participants to look at
- **Sharing the Matrix Mirror screen with your Client is 'risky'.** Many times they will ask you "what do you see" as if you have secrets on their process...Although, you can we do not recommend this in your office, it is likely to open up questions that are not necessary to the Client's journey and counter to the NeurOptimal® model. We suggest having an additional screen for the Client to watch the G-Force or movie

Slide 19:

- So after learning many aspects of the NeurOptimal® system we can now say that YOU are part of the PASS Membership Referral Program of Zengar®...you share the language, the philosophy and the process with others...PLEASE be respectful of that information. As the 'branding goes, we tell the Zengar® story...nothing more and nothing less or it isn't THEIR story.
- We could make up information like:
 - You could say: YOU MUST gradually go through the system, initial, second, regular, and then extended (but that would be someone else story, NOT Zengar®'s philosophy) ...that is YOUR story
 - You could say: Your body needs 2 overnight sleep cycles to acclimate to the changes (but that is not Zengar®'s philosophy) ...that is YOUR story
 - You could say: Everyone must start at 2 times a week for 30 weeks...that is also YOUR story

Slide 20:

- Branding includes capitalizing and bolding all words that NeurOptimal® uses, as long as it is in reference to NO text; Ex. Client, Session, etc...

Slide 22:

- Volunteers to share their elevator speeches...
- Then help people refine their 'Story'

Module 10:
Creating a NeurOptimal® Business
Questions & Answers

1. **Do you have to have a single separate office space? What other types of space works for NO Sessions?** In your home, in the Client's home, in an existing office using only 1 room of theirs (piggyback), mobile in a van or RV to their door.
2. **What is our first and most important component to working with others?** Train your own brain.
3. **What is a 'New Client Consultation Meeting'?** A time when you hear the Client's story, and you explain the process.
4. **What is the 'New Client Consultation Flip Book' and where can you find it?** In PASS under Tools & Resources
5. **What types of revenue streams are possible with NeurOptimal®?** Single Sessions, rentals, sales.
6. **Where can you find rental agreements, rental checklist and rental webinars for more information?** In PASS >Education > Free Webinars.

Module 11:

The Website- PASS & Non-PASS

** Reminder to check the website often for changes. As with any Dynamical system Zengar® is always changing, reviewing, responding, and creating new information to assist with the growing needs of our Clients.

Module 11:
The PASS Community
Questions & Answers

Questions & Answers- Branding and Logos

1. When we talk about 'branding' and logos for NeurOptimal® give me a few examples of ways we designate that language. One consistent language, bolded words that are important to NO, being careful to not add your own theories or beliefs.
2. We have a Reference Sheet of Terms for NeurOptimal®. There are three ways to designate Branded Terms:
 - i. Capitalized
 - ii. Bold
 - iii. Keep in English (Do not translate)

Give an example of each of these things: All words used specifically in the software program is capped. All registered names are always in bold and specific procedural words unique to NO philosophy is kept in English.

3. NO Logo rules are meant to exclude the Zengar® 'head' logo. However, we do have stamps and pictures you can use for advertising your website and business brochures. Where are they located? In PASS Tools & Resources>Marketing
4. Are you allowed to use Neuro or NeurOptimal® or Optimal in your business name? No, we would like you to steer clear of the product name, or Dynamical Neurofeedback® however, you can choose any other name.
5. Why do we asked you to do an elevator speech? It is the most difficult question to answer quickly, so having a few sentences to draw from quickly will be extremely helpful in your marketing.
6. Where can you find more information about starting a NeurOptimal® Business? In PASS Education>Webinars

Basic Certification

Conclusion:

Dr. Val Brown Video

Certificate

Quiz Information

- Include how and when they get their Quiz Link
- Thank you for being a part of the Facilitator's course
- Please take a moment and fill out your Class survey

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