Global Voice Therapy Model (GVTM): Components and Application

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1. Inventor of GVTM

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Overview

• Introduction
• Components of the GVTM
  ◆ Additional methods that augment and support the “new” voice
  ◆ Stimulability testing
  ◆ Treatment hierarchy
  ◆ “New” vs “old” voice
• Motor learning principles in the GVTM
• Research related to the GVTM
• Application of the GVTM

Learning Outcomes

• Participants will……..
  1. Describe the components of the GVTM.
  2. Explain the motor learning principles applied to the GVTM.
  3. Understand the research supporting the GVTM.
  4. Apply the GVTM to clinical practice.
  5. Identify appropriate use of the GVTM in client examples and self-practice.

Introduction
Introduction

- Meet me………………
  - Education
  - Clinical Expertise
  - Current Position

Statistics

- Voice disorders are the most common communication disorder.
  - 7.5 million people in the USA
    (NIDCD, 2014)
- Across the lifespan, @30% of people will experience a voice problem, far greater than for other communication disorders
  (Roy et al., 2004)

- By their sheer volume, voice disorders matter and deserve public attention.
- What's the best way to improve voice through voice therapy? What does the literature say?
Voice Rehabilitation Literature

- Voice production techniques for immediate improvement of vocal output.
  e.g., yawn-sigh (Boone & McFarland, 1993), twang (Estill, 2000; Lombard & Steinbauer, 2007), resonant voice (Stemple, 2000), increased airflow (Xu, Ikeda, & Komiyama, 1991), increased vocal fold adduction, loud voice, etc.)

Voice Rehabilitation Literature

- Clearly defined voice therapy models that are based on a specific voice production technique.
  e.g., LSVT (Ramig et al., 1994), accent method (Smith & Thyme, 1976), resonant voice therapy (Stemple, 2000), LMRVT (Verdolini-Abbott, 2008)

Voice Rehabilitation Literature

- What’s missing from the literature?
  - A model that promotes generalization and maintenance of the “new” voice to all spoken communication without relying on one specific voice production technique.
To Fill the Gap

- My Global Voice Therapy Model (GVTM)


Components of the GVTM

- Additional methods that augment and support the “new” voice
- Stimulability testing
- Treatment hierarchy
- “New” vs “old” voice
Additional Methods

- Vocal hygiene, vocal education, respiration exercises, vocal function exercises (Stemple et al., 1994), circumlaryngeal massage (Roy et al., 1997), etc.
- Anything that augments the target vocal output.

Stimulability Testing

- Have the client produce different techniques to see which one(s) facilitate the best vocal output.
- Grillo (2012) was the first and only study to address stimulability testing in voice.

Treatment Hierarchy

- Bottom-up from smallest unit of utterance up to the largest, while also increasing cognitive complexity.
  - LSVT, LMRVT, accent method, and Stemple’s resonant voice therapy all have a treatment hierarchy.
  - Articulation and Fluency literature also support the use of a bottom-up tx hierarchy. (Secord, 1989; Van Riper, 1978; Van Riper & Emerich, 1984)
“New” vs. “Old Voice

- Client produces “new” and “old” voice at all levels of the treatment hierarchy.
  - On command by SLP
  - Independently, SLP must guess the correct voice
- Grillo (2012) is the first and only study to address “new” and “old” voice.

Quiz

1) What are the components of the GVTM?
   a. additional methods that augment and support the new voice, stimulability testing, treatment hierarchy, and “new” vs. “old voice
   b. stimulability testing and “new” vs. "old" voice
   c. treatment hierarchy only
2) What are some examples of additional methods?
   a. vocal hygiene
   b. vocal education
   c. posture work
   d. relaxation exercises
   e. all of the above

3) Stimulability testing means that you always use one voice production technique for every client. For example, you use only resonant voice.
   a. true
   b. false

4) The treatment hierarchy begins at conversation.
   a. true
   b. false

5) When facilitating the "new" vs. "old" voice component, the client will produce both voices at each step of the treatment hierarchy.
   a. true
   b. false
Motor Learning Principles

Motor Learning Principles Applied to GVTM

- Basic skill is acquired before increasing to a more complex pattern (bottom-up Tx. hierarchy)
  
  (Schmidt, 1975, 1976, 2003; Schmidt & Lee, 1999)

Motor Learning Principles Applied to GVTM

- Treatment hierarchy is necessary to build from basic to complex utterances, while increasing cognitive load.
  - Sentences
  - Memorized speech acts
  - Specific spontaneous speech acts
    - slowly building instead of jumping from sentences to conversation.
Motor Learning Principles Applied to GVTM

- Negative practice of both old and new voice decreases likelihood that the person will return to the old pattern
  (Van Riper, 1978; Van Riper & Erickson, 1996)

- Negative practice. Self-awareness of both voices.

Motor Learning Principles Applied to GVTM

- Need for both blocked and random practice schedules
  (Lai & Shea, 1998; Lai et al., 2000; Shea et al., 2001; Wong et al., 2013)

Motor Learning Principles Applied to GVTM

- Blocked and random practice schedules
  - Blocked practice: “ma” 10 times in a row in the new voice, “me” 10 times in a row in the new voice
  - Random practice: “new” and “old” voice at each step
  - Do the blocked practice first. Client performs independently with 90% accuracy, then add random practice with old and new voice at the same level before advancing.
Motor Learning Principles Applied to GVTM

- Blocked: Say 10 words in new voice
  Client independently meets goal at 90% accuracy.
- Random: Same 10 words, but now client produces them in either old or new voice
  - 1) First on command by SLP &
  - 2) Then independently and the SLP has to guess the voice.
    Client independently meets goal at 90% accuracy.

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Motor Learning Principles Applied to GVTM

- Move up a step to phrases.
- Blocked: Say 10 phrases in new voice
  Client independently meets goal at 90% accuracy.
- Random: Same 10 phrases, but now client produces them in either old or new voice
  - 1) First on command by SLP &
  - 2) Then independently and the SLP has to guess the voice.
    Client independently meets goal at 90% accuracy.

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Motor Learning Principles Applied to GVTM

- Blocked practice allows for faster acquisition of a new skill.
- Random practice promotes better generalization and maintenance to untrained items
  (Schmidt & Lee, 1999; Knock et al., 2000)
- The GVTM has both practice schedules.
  (Wong et al., 2013)
Motor Learning Principles Applied to GVTM

- Move up a step, etc. and so on

Motor Learning Principles Applied to GVTM

- Varying feedback depending upon the practice schedule. Blocked less often. Random more often
  (Wulf, 1991, 1992; Wulf & Schmidt, 1996)

Motor Learning Principles Applied to the GVTM

- Frequency of Feedback
  - In blocked practice schedules, feedback after the 10th word.
  - In random practice schedules, feedback after every 2 or 3 words. This increased amount of feedback is necessary when first arriving at a step. As work proceeds at a step, amount of feedback may decrease.
  - Make every effort to ask what they think first to develop their self-awareness skills. Consider recorded feedback. Play it back and ask what they think before offering your two cents.
Motor Learning Principles Applied to the GVTM

- Pay attention to the effects of the mvt. rather than the individual body parts that form the movement.
  
  (Freedman et al., 2007; Lisman & Sadagopan, 2013; Wulf & Prinz, 2001)

Quiz

1) What are the two steps in the treatment hierarchy that are unique to the GVTM?
   a. memorized speech acts and specific spontaneous speech acts
   b. phrases and sentences
   c. monologue and conversation
Quiz

2) What is an example of a specific spontaneous speech act?
a. tell me what you did over summer vacation
b. describe the outside of your house
c. recite the Pledge of Allegiance

Quiz

3) Producing the "new" voice at word level across 10 trials is an example of blocked practice.
a. true
b. false

4) Producing "new" and "old" voice at the word level is an example of random practice.
a. true
b. false

Quiz

5) It is recommended to do what practice first to ensure acquisition of the new skill.
a. blocked
b. random

6) It is recommended to do what practice schedule after the new skill has been acquired at a certain step of the treatment hierarchy.
a. blocked
b. random
Quiz

7) In blocked practice, you should provide more or less feedback.
   a. more
   b. less
8) In random practice, you should provide more or less feedback.
   a. more
   b. less

Quiz

9) When training the “new” voice, you should focus on effects of the voice (e.g., what the new voice sounds like, what it feels like), rather than on the individual body parts that form the movement.
   a. true
   b. false

Research
Supporting the GVTM
Learner Objectives

- You have met two of the Learner Objectives,
  1. Describe the components of the GVTM.
  2. Explain the motor learning principles applied to the GVTM

- Well done!
  Let's move on........

Question

- Will the GVTM facilitate an improvement in voice related measures (i.e., acoustic, aerodynamic, perceptual, and QOL) for 4 adult clients with voice disorders?
  (Grillo, 2012)
Methods

- 4 participants (i.e., 1 male and 3 females)
- 3 singers and 1 non-singer
- Diagnosed voice disorders; MTD, VF paresis, lesions (cyst and polyp)
- Voice therapy with me using GVTM once a week
  - Sessions were 40-50 minutes
  - Total number of sessions ranged from 4-5

Measures

- Pre- and post-treatment data collected
  - Acoustic ($F_0$, perturbation measures)
  - Aerodynamic (LR, $P_v$, airflow, MPT, s/z ratio)
  - Self rating scales of vocal quality and vocal fatigue
  - VHI

Results

- Graph showing Pre- and Post-Treatment $F_0$ data for sustained [a] and [i] phrasing.
Results

![Graph showing Mean HR before and after treatment with two lines, one for sustained and one for sustained flow.]

Results

![Bar chart showing Mean VHI scores before and after treatment.]

Results

![Bar chart showing Mean MPT scores before and after treatment.]

Results
Summary

- QOL improved post-tx as compared to pre-tx (VHI)
- Voice was more forward, facial, clear (increased \(F_0\) and decreased NHR at post)
- Less effort with better movement of air (MPT and flow increased at post)
- Pre- and post video as example
  - #2 pre (:48-1:23)
  - #2 post (:55-2:20)

Summary Continued

- By 2\(^{nd}\) session, even non-singer using “new” voice in connected speech.
- Why so fast?
- New versus old at each step?
- Did I answer my question?
Future Directions

- Investigate why the fast result?
  - Is it new versus old?
- Larger participant number with varied types of voice disorders
- Introduce more control through a control group or single-subject design with multiple baselines.
- Involve other clinicians to assess generality of the GVTM
- Compare GVTM to other Tx models

Prevention

- Prevention arm of Global Voice: Global Voice Prevention Model
- Same components
- Focused right now on teachers, physical education and vocal music student teachers.
  - Past work (Grillo & Fugowski, 2011)
  - Recent survey (Grillo, 2013)
  - Pilot study of GVPM (Grillo, 2013)

Survey

- Participants: 74 PE undergraduate seniors
  - 29 women, 45 men (average age 23 years)
- Administered during the 12th week (i.e., November) of the fall semester 2012.
  - 42 participants were student teaching
  - 32 participants were finishing academic courses and had plans to begin student teaching spring semester 2013.
Survey

- There appears to be a disconnect of understanding
  - Almost half said that teaching negatively effects voice, almost a third said they may develop a voice problem due to teaching, and only 17% thought a voice course/seminar was needed to learn strategies to prevent a problem.

- Why?

Pilot Study

- They need vocal education, hygiene, and training presented through a voice disorders prevention model.

- Thus, the GVPM

Pilot Study

- Two participants (one male and one female) completed the GVPM over 6 weekly 45-minute sessions.
  - 2 sessions recorded pre- and post-data collection measures.
  - Therefore, 4 sessions were dedicated to the GVPM.
Pilot Study

- Self-rating Scales
  - Female
    - Pre=Voice feels fatigued before talking for the day (mild problem)
    - Pre=Overall, my voice is better after talking all day.

- Self-rating Scales
  - Female
    - Post=No reports of fatigue
    - Post=Overall, my voice is better now than before doing the GVPM.

- Self-rating Scales
  - Male
    - Pre, overall, no problems with quality, strain or fatigue
    - Post, overall no problems with quality, strain or fatigue
    - Overall, my voice is better now than before doing the GVPM
Pilot Study: Summary

- Participants reported using his/her new voice during the week prior to the post-GVPM data collection
  - @85-90% of the time (female).
  - @98-100% of the time (male).
- Male commented that he has less strain in his voice when talking over background noise at a bar or restaurant.
- Male’s girlfriend noticed a positive change in his voice by the end of the GVPM.

Samples

- Pre-Post Videos
  - Subject 1 voice attitudes (0:00-0:50) pre
  - Subject 1 E Final Interview (0:00-1:35) post
  - Subject 2 voice attitudes (0:00-0:30) pre
  - Subject 2 Final Interview (0:00-1:45) post
- New vs Old Voice
  - Session 3 (22:13-26:27)
- Healthy Yelling Training
  - Session 4 (20:00-21:46)

Quiz

Test Your Knowledge
Quiz

1) Was the GVTM successful in improving voice related measures of four participants?
   a. true
   b. false

2) What were the results?
   a. VHI scores decreased at post-therapy
   b. F0 increased at post-therapy
   c. participants reported better movement of air at post-therapy
   d. all of the above

Application of the GVTM

Learner Objective

- You have met one of the Learner Objectives,
  3. Understand the research supporting the GVTM.

- Well done!
  Let's move on....
Learner Objectives

4. Apply the GVTM to clinical practice.

Goals

- We will apply each component of the GVTM through goals with client examples.
  - Long-term goal (medical setting) = Goal (educational setting)
  - Short-term goal (medical setting) = Objective (educational setting)

Long-Term Goal

Client will return the voice to a level of adequacy that can be realistically achieved and that will satisfy the client’s occupational and social needs in all spoken communication with 90% accuracy.

- FYI, you can substitute “occupational” with “educational” for children.

This goal should be achieved in 4-6 weekly sessions.
Short-Term Goal #1

- Vocal Education Goal

Client will demonstrate an understanding of the 3 interactive structures for voice production by "verbal explanation to clinician with 90% accuracy." (5 minutes in first session)
- OR "by answering 9/10 questions correctly."

Short-term Goal #1

- Rationale……

- Where would you put this goal in my GVTM?

Fundamentals of Voice Therapy

Examples:
#4 1:00-2:32,
#2 00-2:49,
Put it all together

● Describe how you will achieve a better voice based on power, source, and filter interactions.
  ◆ For example, atrophy vs. nodules

Short-Term Goal #2

● Vocal hygiene goal
Client will utilize vocal hygiene strategies throughout his or her day in 9 out of 10 opportunities. (5-10 minutes first session)

OR

Client will demonstrate understanding of vocal hygiene strategies by answering 9/10 questions correctly.

● Rationale……..
  ◆ Hydration matters (Titze, 1988; Verdolini-Marston, Sandage, & Titze, 1994; Verdolini, Titze, & Fennel, 1994).
  ◆ Need to create the best possible environment for phonation.

Short-term Goal #2

● Tailor vocal hygiene strategies to meet the needs of the client.
● Where would you put this goal in my GVTM?
Introduce Vocal Hygiene

- Based on disorder
- May be different for hyper versus hypofunctional
  - 60-80 oz. of water a day
  - Don't clear throat (silent cough)
  - Decrease talking in loud background noise
  - Use other methods to get someone’s attention instead of yelling
  - Take reflux meds., elevate HOB
  - Last meal, three hours before you lay down

Introduce Vocal Hygiene

- Continued
  - Stop smoking (decrease exposure)
  - Good posture
  - Minimize caffeine
  - Use microphone when teaching
  - Use headset if on the telephone a lot
  - Relax!!!
  - Warm-ups and cool-downs
  - Healthy Yelling Strategies

Vocal Hygiene for Performers

- Warm-up your voice before singing, acting
- Limit alcohol before performing
- If in a smoky bar, have tons of water with you.
- Monitor speakers for singer in a band
- Don’t have milk or chocolate before performing
- The day of your performance, save your voice.
How will the client monitor vocal hygiene?

- A diary or self-monitoring schedule
- How many times a day are you filling up your water bottle?
- A rubber band on wrist for throat clearing.
- Decrease smoking this week by half a pack.
- For every cup of caffeine, have a cup of water.

Vocal Hygiene STG

Example (#4 2:32-7:10) 1st session

Quiz

Test Your Knowledge
Quiz

1) This is an appropriate long-term goal for your client. "The client will use the "new" voice in words with 90% accuracy."
   a. true
   b. false

2) In writing a long-term voice goal for a child in a school setting, it is important to think about what?
   a. academic/educational impact
   b. occupational impact

Quiz

3) This is an appropriate vocal hygiene short-term goal. "The client will use vocal hygiene strategies."
   a. true
   b. false

Quiz

4) Vocal hygiene could include the following:
   a. Hydration
   b. stop or decrease smoking
   c. treatment for reflux issues
   d. strategies to conserve the voice throughout the day
   e. vocal warm ups
   f. all of the above
**Quiz**

5) This is an appropriate vocal education short-term goal. "The client will understand how the voice works."
   a. true
   b. false

6) Vocal education could include the following EXCEPT:
   a. hydration
   b. how the "new" voice is produced
   c. how the "old" voice is produced

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**Short-Term Goal #3**

- Stimulability Goal

Client will participate in a stimulability exercise to achieve the best possible voice given the client’s anatomic, physiologic, and psychological capabilities. (5-10 minutes in first session)

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**Short-term Goal #3**

- Rationale……

- Where would you put this goal in the GVTM?
What techniques should we use?

- Try different techniques. What makes the voice sound the best???
- Try techniques based on the client's baseline phonation pattern.
  - Resonant voice, twang, increased vocal fold adduction, increased airflow, pitch variability, etc.
  - Stimulability example
    Disc 2 (1 of 2) 7:00-10:18

Voice Therapy Techniques

- Head or facial resonance
- Chest Resonance
- Twang
- Resistance (aka glottal attacks)
- Loud voice
- Increased airflow or yawn-sigh
- Chanting or sing-song
- Increased pitch variability

Voice Therapy Techniques

- Coughing and throat clearing
- Estill's work
- Just to name a few, the list could go on……
Combination of techniques

- Some of the techniques are usually combined in treatment.
- For example, resonant voice with increased pitch variability and chanting.

Head or Facial Resonant Voice

- Used with most hyperfunctional voice disorders
- Increase airflow and decrease muscle
- Usually forward focus.
- Decrease tension (laryngeal massage)
- Minimizes vocal fold impact
- Barely ab/adducted VFs
  (Berry et al., 2001; Verdolini et al., 1998)
- Minimum respiratory effort for phonation

Head or Facial Resonant Voice

- Hummmmm….. (bring voice forward)
  - Feel buzz on lips
  - Feel sinuses vibrate
  - Can use singing to facilitate
- When Humming, your VFs are getting a massage
- “youuuuuuuu”
  - Buzz on palate moves to lips and mouth.
Head or Facial Resonant Voice

- Humming into me, me, me,
  - More, more, more
  - Maybe Monday
  - Is the client able to carry-over the new voice into these words?
- Do you like the voice quality the client is achieving?
- Resonant voice will combine with chanting or sing-song and pitch variability.
- Can the client discriminate the old from the new voice?

Pitch variability and chanting or sing-song

- Pitch variability: opposite of monotone.
- Why is this important for the health of the VFs?
- Sing-song: opposite of hard glottal attacks
- Words are connected to one another.
- It is easier to maintain resonance with pitch variability and a sing-song quality.

Head or Facial Resonant Voice

- Demonstration
Chest Resonance

- Same benefits from Head or Facial Resonance, just not placed high in face.
- Placed in chest, while still maintaining a forward focus.
- Combine with pitch variability and sing-song.
- Use /h/ initial words, hello, how are you?
- Use humming
- Can the client carry-over the new voice into single-words?
- Can the client discriminate between the old and new voice?
- Do you like the voice quality with the new voice?

Twang

- Extreme form of oral or nasal resonance
- Most successful with paralysis or paresis clients. I have used it with VF scar and cyst.
- Creates a pocket of resonance above the vocal folds by A-P squeeze. (Lombard & Steinhauer, 2007)
- Ask your client to cackle like a witch, tease like a kid
- Place your voice in your mouth. Slam it against the back part of your face or mouth
  - More and more….Maybe Monday
Twang

● Can the client transfer the voice to other words?
● Can the client distinguish between the old and the new voice?
● Do you like the voice quality?
● Demonstration

Resistance Therapy (aka glottal attacks)
(developed by Lori Lombard, Ph.D.)

● Used with hypofunctional voice disorders
● Decrease airflow and increase muscle
● Focus is back bottom of throat
  ● Uh, uh, uh, uh: Try and limit to just VF's
● Cue client to relax tongue, drop jaw
● Facilitator phrases are ones with hard onsets (over and over, on and on, up and down, always and always)
● Can use throat clear or cough

Resistance Therapy

● Can the client carry-over the new voice to other phrases?
● Again, new versus old voice?
● Do you like the new voice quality?
● Demonstration
Loud Voice

- Loud Voice is the technique used in LSVT. Developed for people with Parkinson's Disease (PD) (Ramig et al., 1994).
- Think LOUD
- Daily variables practiced 3 times a day.
- Repetition and calibration are the most important aspect of LSVT.
- Use Loud Voice as a technique, but apply to the GVTM.
- I have used loud voice with PD and other types of neurological disorders.
- Demonstration

Increased Airflow or Yawn-Sigh

- Used with Hyper-Functional
- Drops larynx and widens the glottal opening during voice
  (Boone & McFarland, 1993)
- Incorporate this into resonant voice therapy or relaxation therapy

Chanting or Sing-song

- Eliminates hard glottal attacks, reduces vocal fold impact stress
- Try on one pitch at first, then move to varying the pitch
- Used with hyper-functional voice
Increased pitch variability

- Incorporate with other techniques
- Helps client to stay out of glottal fry zone
- ROM for the VFs

Coughing and Throat Clearing

- Used for hypo-function, specifically puberphonia, psychogenic (MTA).
- Facilitate a cough into a vowel
- Facilitate a cough into a lip trill
- Lip trill on a pitch (will get voice)

Estill's work

1) Head or facial resonance facilitates what
   a. barely ab/adducted vocal folds
   b. hard glottal attacks
   c. more muscle effort and less airflow
2) Resistance therapy (aka glottal attacks) facilitates what?
   a. more muscle, less airflow
   b. better vocal fold adduction during phonation
   c. all of the above
3) Twang facilitates what?
   a. better resonance by narrowing the epilarynx in an anterior-posterior configuration
   b. better respiratory support for phonation
Quiz

4) When choosing the techniques for stimulability, you must have an understanding of the physiology of the client's baseline phonation pattern and how the "new" voice technique will improve upon that pattern.
   a. true
   b. false

Something works, now what?

Short-Term Goal #4
Client will produce the new voice in syllables, words, phrases, sentences, memorized speech acts, specific spontaneous speech acts, monologue, and conversation with 90% accuracy. (the rest of the first session and into the 2nd, 3rd, and 4th sessions)

- Rationale........
  - Blocked practice
Short-Term Goal #4

- Where does this goal fit in my GVTM?
  - Example: #4 25:27-26:05 1st session
  - Disc3 3 of 6 (0:00 – 3:25)

Short-Term Goal #5

Client will produce the new and the old voice in syllables, words, phrases, sentences, memorized speech acts, specific spontaneous speech acts, monologue, and conversation with 90% accuracy. (the rest of the first session and into the 2nd, 3rd, and 4th sessions)

Rationale: Negative practice may facilitate faster generalization and maintenance, which allows for quick movement through the hierarchy.
- Random practice
- How? Because self-awareness of voice is happening through auditory & kinesthetic feedback. And it offers random practice (Grillo et al., 2010)

- Where does this goal fit in my GVTM?
  - Example: (#4 32:53-36:20) 1st session
  - Disc3 4 of 6 (whole track 3:50)
Methods for spontaneous speech

- Self-monitoring schedule, taped conversations
- Think about the new voice before you pick up the phone, sign on desk
- Role play on phone and in conference hall
- Role play with children in therapy room, but move out to other settings in school or home
- Observe child in classroom, hallways, lunch, etc.

Short-Term Goal #6

Client will maintain the new voice over a 2-week break period from voice therapy with 90% accuracy.
- Rationale: Let’s see how they do away from you for 2 weeks before cutting the cord.
- If not good, then keep them.
- If good, then client met Long-Term Goal
  - No further concerns, d/c from Tx.

Quiz

Test Your Knowledge
Quiz

1) This is an appropriate short-term goal for blocked practice in the treatment hierarchy. "The client will produce "new" and "old" voice in memorized speech acts with 90% accuracy."
   a. true
   b. false

Quiz

2) What are the steps in the treatment hierarchy?
   a. technique level, words, phrases
   b. technique level, words, phrases, sentences
   c. technique level, words, phrases, sentences, memorized speech acts, specific spontaneous speech acts, monologue, and conversation

Quiz

3) This is an appropriate short-term goal for the "new" vs. "old" voice component with random practice. "Client will produce "new" and "old" voice in words with 90% accuracy."
   a. true
   b. false
Quiz

4) What component has blocked practice built in?
   a. treatment hierarchy
   b. “new” vs. “old” voice

5) What component has random practice built in?
   a. treatment hierarchy
   b. “new” vs. "old" voice

Client Examples and Self-practice

Learner Objective

- You have met one of the Learner Objectives,
  4. Apply the GVTM to clinical practice.

- Well done!
  One more to go………. 
Learner Objective

5. Identify appropriate use of the GVTM in client examples and self-practice.

Case #1,

- What’s the long-term goal?
- What are the short-term goals?
- What techniques will you try?
  - Disc 1, Track 12 of 12 (0:00-1:40)
  - 2nd session Disc 3 1 of 6, (0:00-4:10) This is what he sounded like when he walked in to the 2nd session. What do you think?

Self-Practice

- From the STGs that you will address in that first session, what types of methods will you use to target the goal?
  - Vocal hygiene methods for children and adults. How will you ensure mastery or use of the methods?
  - Vocal education methods for children and adults. How will you ensure mastery?
Self-Practice

• By the way, in what component of the GVTM can we find vocal hygiene and education?

Self-Practice

• Stimulability Exercise

• In what component of the GVTM can you find stimulability?

• Your turn.
  • Pick a partner and try different voice production techniques, resonant voice, yawn-sigh, glottal attacks, loud voice, twang, etc.
  • Can you get carry-over of the “new” voice into phrases?

Self-Practice

• Now, that you found a technique that you want to use, let’s do treatment hierarchy and “new” vs. “old” voice.

• Your turn……..
Case Studies

- What goals am I addressing and why?
  - Disc 1 5of12 (4:00 to the end)
  - Disc 1 6of12 (0:00 to 5:10)
- Your client: Disc 1 1of12 (0:00-1:10) (old voice)
  - What would you do for stimulability?
  - This is the new voice Disc 1 2of12 (3:40-to the end)

Your client

- Sally, 40 y/o female, has been diagnosed with a vocal fold paresis. Her average airflow is 300 ml/sec. She complains that she can’t project her voice and it is too breathy.
- What are you going to do? Use the GVTM. State your goals and why.
  - What techniques for stimulability?

Your client

- Michael is a 12 y/o male. In school, kids are teasing him because of his voice. His pitch is too high. Teachers are having trouble hearing or understanding him because of his voice. Michael is not participating in class because he is ashamed of his voice. His parents took him to a laryngologist and she diagnosed puberphonia. Voice therapy was recommended.
- What are you going to do? Use the GVTM. State your goals and why.
  - What techniques for stimulability?
Your client

- Mary, 40 y/o female, with bilateral vocal fold nodules. She is a teacher. Her voice is hoarse, runs out on her by the end of the day.
- What are you going to do? Use the GVTM. State your goals and why.
  - What techniques for stimulability?

Your client

- Jessica, 6 y/o female, in 1st grade. Voice is negatively affecting her academic performance. Teachers can't understand her when she talks because of hoarseness. Kids are teasing her. She speaks less and less during school. Diagnosed with bilateral vocal fold cysts. Parents reported that she has always sounded like this. Mom sounds the same.
- What are you going to do? Use the GVTM. State your goals and why.
  - What techniques for stimulability?

Learner Objective

- Congratulations! You met the final Learner Objective:
  5. Identify appropriate use of the GVTM in client examples and self-practice.
To Recap......

- Look at all that you achieved! You can now:
  1. Describe the components of the GVTM.
  2. Explain the motor learning principles applied to the GVTM.
  3. Understand the research supporting the GVTM.
  4. Apply the GVTM to clinical practice.
  5. Identify appropriate use of the GVTM in client examples and self-practice.

Thank You for Your Participation!

References


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