Meeting Unique Student Needs Through Multi-Sensory Teaching

Winifred Schultz-Krohn PhD, OTR/L, BCP, SWC, FAOTA
Jerilyn “Gigi” Smith PhD, OTR/L, FAOTA
Lynne Andonian PhD, OTR/L
Objectives

- Compare traditional post-secondary instructional modes to multi-sensory instructional modes
- Identify three advantages of multi-sensory instruction
- Experience the difference between single sensory and multi-sensory instruction
Traditional Post-Secondary Instruction

- Highly verbal relying on visual and/or auditory format
- Dependent upon select regions of brain to remember and recall information
Multi-Sensory Education

- Sensory Modalities:
  - Visual
  - Auditory
  - Kinesthetic
  - Proprioceptive
  - Tactile
  - Vestibular - very select application
  - Gustatory/Olfactory - very select application
Advantages of Multi-Sensory Education

- Encoding information in multiple regions of the brain to foster access of information
- Creates a more complete experience of the content to foster greater mastery of content
- Foundation on Universal Design
  - Inclusive nature of instruction
  - The instruction can support a student who has unique needs
  - All students benefit from the enriched instructional mode
Examples of Multi-Sensory Education

- Instructor presents the concept, such as generating a community profile to inform program development, using auditory, visuals, and examples and gives 3 prompts.

- Students work in small groups to apply the information to a “real life” situation provided by faculty member (i.e. look at community data to inform community profile by examining google map, census data related to the neighborhood/county where they are currently doing a community practicum).

- Then students report back on what they found.

- Application to student who has unique learning - uses both auditory and visual along with interactive learning with peers and building on experiential learning- to develop solutions/responses.
Examples of Multi-Sensory Education

- Students read about a concept such as interviewing and assessment
- Instructor highlights critical points and shows brief video
- Students work in pairs to apply the information by role playing an interview assessment
  - Usually there's nerves and laughter
- Students record responses during interview
- Application to student who has unique learning needs
  - Uses both auditory/visual learning with interactive/kinesthetic learning.
  - Role playing provides immediate feedback as the student experience “both sides” of an interview
Environmental Factors in Multi-Sensory Education

- Environmental factors that can be controlled to enhance learning environment (auditory buzzing sounds, air-doors/windows open or closed, set up of chairs/desks when possible)

- Ask students to move during the class and stretch (20 minutes is the maximum of sitting still)

- Invite students to do what they need to do to feel alert and ready to learn-- (drinks, small unobtrusive snacks, gum, mints, sours, rub hands, ground feet on floor, stand at back and stretch) building on sensory modulation principles which will be covered in more detail

- Lighting variations and changes during the class period (blinds, curtains)
Examples of Multi-Sensory Education

Occupational Therapy

- **Foundation - Observe - Practice**
  - **Body Mechanics** for teaching a student how to transfer a client from a wheelchair to a toilet seat.
    - have student experience the body mechanics
  - Stand up from your chair
  - Lean back in the chair and stand up
  - Lean slightly forward with nose over knees, knees over toes to stand up
- **Application to teaching other content**
Examples of Multi-Sensory Education
Occupational Therapy

- Occupational therapists fabricate supportive splints for clients but need to custom mold the low temperature plastic materials to correctly support and fit the client
  - Students read about the need for clients to have a supportive hand splint after the person has sustained an injury or a stroke
  - Students watch a video about the steps required to fabricate the splint
  - Students then cut the materials and form fit the material to a fellow student
  - Students self-assess splint

- Application to teaching other content
Sensory Modulation Techniques

- Self-modulation techniques
  - Occupational therapists frequently provide “fidgets” for elementary classroom teachers to use with children to modulate level of alertness using tactile and kinesthetic sensory input
  - Simple deep pressure techniques such as “chair push-ups” (sitting is the new smoking!)
- Gustatory for chewing gum, increased focus with chewing gum
  - Hirano et al 2013 & 2015
- Lighting and alterations in level of lighting to foster attention
Sensory Modulation Techniques

- Use of breathing to modulate level of alertness
  - Before a test - students take three deep and slow breaths
  - Inhale through the nose and slowly exhale through pursed lips
  - Remind students to use their “back-up brain”
  - Assists those students who have recall issues and test anxiety

- Provide an array of sensory techniques

- Have the individual consider what sensory modalities produce alertness or calmness

- Self-assessed sensory preferences
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- Questions!

- Thank you!