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Lonergan’s GEM Model as a Tool to Foster Critical Thinking Skills.

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Disclosure Statement

- We have no relevant financial or nonfinancial relationship(s) with the products or services described, reviewed, evaluated or compared in this presentation.

- We were financially supported by our Universities to present here today.
Today’s goals

- Introduce Bernard Lonergan’s theory of cognition and human understanding – Generalized Empirical Method (GEM)
  - Can be used as a framework to understand how knowledge is gained and
  - How to evaluate whether what is known is “true”

- Discuss application to graduate education in speech-language pathology
Critical thinking skills

- Significant focus in higher education on development of critical thinking skills in students

- Development of critical thinking skills in health professionals can limit bias and serve the needs of our clients or patients in health care  
  (Perry, 2004)

- Critical thinking in graduate education in SLP:
  - students learn about the science of the profession and
  - apply theoretical frameworks to clinical practice
  - critical thinking infused at every level
Focus on EBP

- Consider the wishes, goal and beliefs of the patient
- Choose evidence-based interventions that are culturally sensitive
- Draw from clinical experience and knowledge

- Students often question their own judgment and say “Just tell me what to do”
As part of best practice, clinicians should not just do

- What they’ve been told
- What they’ve seen or heard
- What is new and exciting

They should actively question
The failure to question, to “go with the flow”, and failure to seek insight (understanding) can lead to confusion and failed judgments (Lonergan, 1992).

Examples – theories that are widely accepted and later proven false
- Vaccines cause autism
- Facilitated communication
Bernard Lonergan, S.J.

- A Canadian philosopher
- Proposed a cognitional theory of mental activities that activate when humans seek to know and understand truth
- Addressed interiority and self-appropriation
  - Asking questions
  - Exploring processes in our minds
  - A process of reflection on our consciousness of what we know (Cronin, 2001)
The GEM Model

- Concerns the development of knowing
- Involves a gradual process of understanding
- Occurs on four conscious levels:
  - Paying attention
  - Getting insights
  - Grasping the truth
  - Action based on the ‘truly valuable’

(Streeter, www.lonergan.concordia.edu)
GEM applied to all aspects of life

“Thoroughly understand what it is to understand, and not only will you understand the broad lines of all there is to be understood but also you will possess a fixed base, an invariant pattern, opening upon all further developments of understanding”

(Lonergan, 1992)

Self-appropriation has implications for:
- One’s self
- One’s academic discipline
- One’s teaching and learning

Self-appropriation can be applied to all disciplines
A WAY TO THINK ABOUT THINKING

- In Health Science disciplines, we combine:
  - Common sense knowing – what we observe with
  - Scientific knowing – theory, facts

- GEM provides a framework for SLPs to search for truth in their practice while integrating commonsense knowledge and scientific theory.
The GEM Model

- Introduces students to a model of human understanding – how we come to know what is “true”
- Systematically exposes students to the process of developing understanding and decision-making
- Leads to reflective insight about internal decision-making processes
- Goal – they form “unconditioned” judgments (Perry, 2004)
How we Know or Develop Insights (Knowledge)

- Experience – be attentive - DATA
- Understand - be intelligent – QUESTIONS FOR KNOWLEDGE
- Judgment – be reasonable – QUESTIONS FOR REFLECTION
- Decide – take action based on the truly valuable – QUESTIONS OF VALUE

At each level we ask questions….
Example – a case

- Experience
  - 2 year old child – nonverbal
  - Family history of language delay and learning disabilities
  - History of otitis media
  - Premature birth at 34 weeks
  - What testing has been done?

- Ask questions
Ask questions....

- Understand

- Ask more questions

- Child’s receptive and expressive language skills are moderately delayed

- Social-emotional development, motor skills, self-help skills are of concern

- Any bias present based on prior experience
Begin to make judgments

- Judgments
  - Child and family will benefit from intervention

- Additional referrals should be made:
  - Audiology
  - Developmental pediatrician
  - Genetic counseling

- Questions
  - Consider treatment options - EBP
Truth is emerging about this child

- Decide
- Questions will continue throughout the process...
- Team makes decisions about child’s diagnosis
- Child begins treatment
- SLP provides ongoing support to family
How we introduce *GEM* to students:

- Discuss the process of *Insight*
  - the universal process of knowing
  - of development of knowledge and understanding what is true

- Apply the principles of human knowing to the discipline of speech-language pathology

- Use case studies to integrate the model as a tool in assessment and intervention planning for persons with communication disorders
Implementation in the Classroom

- Describe GEM model and application to all disciplines
- Present learning activities for students to “think about their own thinking”
- Describe how they made judgments
Thinking about thinking…..

Solve a puzzle

- While you are doing this, study your thought process

- Let’s talk about what that was like…..
Solve these jumbles and math problems

- VIPTO
- HSAA
- HTIGINS
- EERNVD

- What’s the next number?
  - 5,15,25,.....
  - 7,3,-1,.....
Application to SLP

- Case studies were used to explore the ideas of: judgment, bias and knowledge
- Students were asked to question what they knew as they moved towards developing insight
- Students wrote reflections on their thought processes as they made judgments related to clinical practice
Example – case study

- Students given a case
- Answered questions about speech, language and communication and any related issues (e.g. motor, attention, social-emotional development, family supports, academic issues, etc.)
- In parallel, used GEM to inspect their thought processes and what they “know”
Classroom assignment...

- Students describe their impressions of the case, using the GEM model as a framework to describe their thought process. Address each of the four levels:
  - Experience
  - Understand
  - Judge
  - Decide
In their description of what they learned about the case, through observation and interaction, they write about the questions you had at each phase.

Example: discuss initial impressions (what was observed); describe questions that arose and how they are answered (through questioning, or through deeper observation).
Students work through the four levels of the GEM model, ending with the decisions made about the case and also what questions remain.

Answered the question

- What do you not yet know about the case that would be important to learn?
Assessment

- Implemented **GEM** in three graduate courses in SLP
- Students were asked a series of questions about their experience with **GEM**
- Quantitative and qualitative feedback collected
### Assessment

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<thead>
<tr>
<th>Questions</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Found model to be helpful in exploring own decision-making processes</td>
<td>47/ 61</td>
<td>77%</td>
</tr>
<tr>
<td>Will apply the GEM model in clinical work</td>
<td>58/61</td>
<td>95%</td>
</tr>
<tr>
<td>Interested in more resources to help apply the model</td>
<td>35/61</td>
<td>57%</td>
</tr>
</tbody>
</table>
Qualitative feedback

- Content analysis of comments

- Themes emerged:
  - Process of asking questions was helpful in making judgments
  - Model assisted students in thinking critically
  - Components were hard to understand
  - More instructional time needed to integrate into decision-making
  - Time consuming for use in clinical practice
  - Helpful to study their own thinking process
Sample Quotes

- “It’s a simple concept but complicated to use”
- “It gave me a good platform for decision-making in all aspects of communication disorders”
- “Applying the model will help me reach the core of the dilemma, if there is one, and how to go about finding solutions”
What are the best features of the GEM model?

- “Helped me use more critical thinking”
- “Helped me think before making decisions”
- “Helped me better understand my decision-making process”
- “Helps you open your eyes to your clinical and work experience”
- “Interesting to truly think about the thinking process”
What are the challenges of the model?

- “There can be endless solutions”
- “Decision aspect is most difficult”
- “Leaving your bias behind”
- “It can be hard to understand”
- “Takes a lot of time”
- “Hard to apply”
- “Need more examples to really understand”
Conclusions

- Students find model to be helpful to apply in clinical decision-making scenarios
- Application of model is challenging and time-consuming
- Thinking about thinking – metacognition – was a new concept for most students
- Talking about thinking was somewhat familiar – e.g., prior experience with ethical decision-making model, but not widely applied
Limitations

- May work well in a problem-based learning environment – hard to implement in just one course
- Difficult to spend the time needed to dive deep into metacognition
- Easier to implement in smaller classes
Plan

- Use more case studies throughout semester
- Build alternate scenarios into cases
- Introduce readings about the model from other disciplines
- Introduce pre- and post-critical thinking measures
- Explore strategies on how to implement across the curriculum
References