SPHSC 500
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Clinical Methods

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"Assess/Evaluate"

Assess/Evaluate - Diagnose

Decisions

- Is there a disorder
- Nature of the disorder
- Etiology
- Has there been change

Tools

- Static Assessment
  – Standardized (norm-referenced) Tests
  – Nonstandardized/ Formal (criterion-referenced) Instruments
  – Behavioral Observation (Structured..Naturalistic)
  – Interview

Assess/Evaluate - Recommendations

Decisions
- Level of performance
- Factors that influence performance
- Stimulability
- Client/family expectations
- Existing evidence

Tools
- Static
- Dynamic Assessment
- Existing Evidence

Conceptual Issues

- What is a disorder? Disability?
- Nature of disorder? Disability?
- Is intervention recommended, if so, what kind.

WHO Model – to guide the conceptual issues and decisions.

World Health Organization
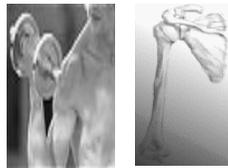### International Classification of Functioning

ICF

New Member in the
WHO Family of
International Classifications
www.who.int/classification/icf

evolving, moving target

ICF Components

Body Functions & Structures	Activities & Participation	Contextual Factors (personal & environmental)
Functions	*Capacity*	*Barriers*
Structures	*Performance*	*Facilitators*

Source: http://www3.who.int/icf/beginners/bg.pdf

Body Functions and Structures

Mental functions	**Structures of the nervous system**
Sensory functions and pain	**The eye, ear and related structures**
Voice and speech functions	**Structures involved in voice and speech**
Functions of the cardiovascular, haematological, immunological and respiratory systems	**Structures of the cardiovascular, immunological and respiratory systems**
Functions of the digestive, metabolic and endocrine systems	**Structures related to the digestive, metabolic and endocrine systems**
Genitourinary and reproductive functions	**Structures related to the genitourinary and reproductive systems**
Neuromusculoskeletal and movement-related functions	**Structures related to movement**
Functions of the skin and related structures	**Skin and related structures**

Source: http://www3.who.int/icf/beginners/bg.pdf

Conceptual Issues - Decisions

- Diagnosis – Communication Disorder
- Etiology – Cause
- Small group – describe the etiology
  - Hearing loss –
  - Language disorder -
  - Aphasia –
  - Motor Speech Disorder –
  - Voice –
  - Nonverbal –
  - Speech –

Conceptual Issues - Decisions

Describing the nature of the disorder

- Phonology
- Syntax
- Semantics
- Pragmatics

- Form
- Content
- Use

Activities and Participation

1 **Learning & Applying Knowledge**
2 **General Tasks and Demands**
3 **Communication**
4 **Movement**
5 **Self Care**
6 **Domestic Life Areas**
7 **Interpersonal Interactions**
8 **Major Life Areas**
9 **Community, Social & Civic Life**

Source: http://www3.who.int/icf/beginners/bg.pdf

Conceptual Issues - Decisions

- Functional Use of Language – Part of describing disorder
- In a small group – provide some examples of activities and participation limitations for the following impairment
  - Hearing loss – S/N loss
  - Language disorder - Neurological impairment; Fetal Alcohol Syndrome
  - Aphasia – Neurological impairment - Stroke
  - Motor Speech Disorder – Huntington's Disease
  - Voice – Multiple Sclerosis
  - Nonverbal – Cerebral Palsy
  - Speech – Apraxia

Personal Factors

Not Changeable:
1. Age
2. Gender
3. Coping
4. Social Background
5. Health Condition
6. Education
7. Profession
8. Character - style

Source: http://www3.who.int/icf/beginners/bg.pdf

Environmental Factors

1. Products and technology
2. Natural environment and human-made changes to the environment – barriers and facilitators
3. Support and relationships
4. Attitudes
5. Services, systems and policies

In-class activity

- In your small group – provide some examples of environmental factors that could be contributing to (or suffering from) the activity-participation limitations you have described.

Conceptual Issue: Recommendations

- Treatment target
  - Can you change the etiology? (Body Function and Structures?)
  - Can you change functional behaviors? (Activities and Participation)
  - Can you change environmental factors?

Conceptual Issues for Assess/Evaluate Decisions - Summary

- Is there a disorder/disability?
- What is the nature of the disorder?
- What might be appropriate to recommend for treatment?

Tools for Data Collection

- Static Assessment
  - Standardized (norm-referenced) Tests
  - Nonstandardized/
  Formal (criterion-referenced) Instruments
  - Behavioral Observation (Structured..Naturalistic)
  - Interview
  - Existing data (literature)

Tools for Data Collection

Organization for the next section
- Kinds of data
- Definition/explanation of tools and their use for assessment/evaluation (diagnosis and recommendations)

Kinds of Data

- Quantitative
- Qualitative

What's the difference?

What's the essence of each?

What does each provide?

Kinds of Data

- Quantitative – Analytic
  - Examining "behaviors", isolating, defining and measuring behaviors out of context—or at least controlling context
  - "The highly discrete behaviors that observers are trained to discriminate from the ongoing flow of events"
  - Observable, countable

Kinds of Data – Quantitative Tools

- Quantitative
  - Standardized tests
  - Nonstandardized/formal instruments
  - Dynamic assessment (can be)
  - Behavioral Observation (can be)
  - Existing Data (research)

Kinds of Data

- Qualitative – Systemic
  - Systemic—behaviors viewed as part of system!
  - Measures do not address specific behavior per se, but rather behaviors meshed in the context—for example, quality of life.
  - Interest is on more broadly defined functional performance—e.g., life-style change, adaptive behaviors
  - The assumption—the behavior can not be separated from context.

Kinds of Data – Qualitative Tools

1. Behavioral Observation – Fieldnotes
2. Interview
3. Personal Documents – 1st person narratives
4. Official Documents – e.g. school records; what they reveal about the people who keep the records.
5. Photographs
6. Existing data

See also Olswang & Bain, 1994, Appendices
And Bogdan and Biklen, 1992

Tools - Definition and Application

- Will now discuss different tools for data collection
  - Define each
  - Application for assessment/evaluation
    - Diagnosis
    - Recommendations

Standardized Tests

- Standardized Tests
  - Standardization procedures
  - Validity
  - Reliability
  - Descriptive Statistics/Test Norms and Scores
  Examples:
- How do standardized tests help you with these decisions:
  - Diagnosis
  - Recommendations

Nonstandardized Instruments

- Nonstandardized/Formal (criterion-referenced) Instruments
  - Structured, formal
  - Well sampled
  - Usually some cut off - %
  Examples:
- How do nonstandardized procedures help you with these decisions:
  - Diagnosis
  - Recommendations

Behavioral Observation

- Behavioral Observation
  - Observing behavior in context
  - Whole array of ways to observe behavior
  - Naturalistic to structured/contrived
  - Both quantitative and qualitative data

Behavioral Observation: Consider Conditions of Data Collection on a Continuum:

Naturalistic   Contrived

Manner
Setting/Situation
Individuals/Participants
Client Awareness

Behavioral Observation

– Manner of Data Collection Continuum
– Naturalistic End
  - most naturalistic-ethnographic observation-no cueing, no prompting
  - habitual use
  - E.g., free play, natural conversation
– Contrived End
  - most contrived-imitation; reminder about behavior
  - E.g., naming tasks
– Middle
  - elicited with prompts and cues
  - E.g., story generation with pictures, cloze procedures

Behavioral Observation

– Setting and Situation Continuum
– Naturalistic End
  - most naturalistic – applied setting
  - E.g., school – group work, work - meeting, home – meal time
– Contrived End
  - most contrived
  - E.g., clinic room – treatment task or treatment-like task
– Middle
  - E.g., waiting room – talking with mother or clinician

Behavioral Observation

- Individuals/participants Continuum
- Client, clinician, consumers, others
  - Continuum
  - Naturalistic End
    - least related to treatment
    - E.g., co-worker, teachers, peers
  - Contrived End
    - most related to treatment
    - E.g., clinician
  - Middle
    - E.g., parent, supervisor

Behavioral Observation

- Client awareness -Obtrusiveness continuum
  - Continuum
  - Naturalistic End
    - unobtrusive, covert measures
    - E.g., voice activated recorders
  - Contrived End
    - Obtrusive
    - E.g., client instructed on how to perform
  - Middle
    - E.g., "break"

Behavioral Observation

- Kinds of Data
- Quantitative
    - ■ Event recording (frequency, % occurrence or correct)
    - ■ Duration recording
    - ■ Interval recording
    - (Note: includes physiological measures e.g. EEG)

Hand out adapted from Sulzer-Azaroff & Mayer, 1977

Behavioral Observation

- Kinds of Data
- Qualitative – Field Notes
    - – Step 1: Statement of Focus
    - Forming question(s) that guide your observation
    - – Step 2: Observation
        - ■ Collecting field notes
    - – Step 3: Interpretation
        - ■ Examining behaviors for patterns
    - – Step 4: Conclusion
        - ■ Summarizing patterns to answer your question(s)

Behavioral Observation

- Behavioral Observation for diagnosis
  - How would you structure (consider the continuum)
- Behavioral Observation for making recommendations
  - How would you structure (consider the continuum)

In-class Activity

- Client 1: 80 year old woman who lives with her caregiver. The woman has three married children and many grandchildren. One family (daughter, husband and three children) live within the same city; the other families (second daughter, son, spouses and children) live in other cities. The client has had several strokes, and has been diagnosed with multi-infarc dementia. The degree of her impairment in language and memory is sufficient that she can no longer live alone nor clearly communicate. You wish to determine how her impairment is interfering with her ability to communicate with her caregiver about her family and about activities of daily living.

In-class activity

1) the behaviors you hope to observe –that is the focus of the observation – include why you want to observe these behaviors,
2) the situation/setting,
3) the materials you will use to elicit the behaviors – include how they will be set up,
4) the participants,
5) the manner in which you will sample the behavior - what will you or the participants actually do (if you are not actively involved in sampling the behavior – what will you be doing?

6) What will you count?

Interview

- Phenomenological Interview
- Opportunity to learn about person's beliefs, values, expectations, that goes beyond observation
- Insider's view of a phenomenon
- Emphasizes the human experience and meaning

Interview

(A technique commonly applied to Phenomenology)

Start Open-ended—Become More Specific

- "Grand Tour" questions – open ended questions
  - What is it like to live with Huntington's Disease?
- Follow-up Questions – discrete questions
  - Tell me about your family.
  - How have your relationships changed?

Interview

- Transcribe what is said—objective
  - Note: the order of the questions allows you to follow the interviewee's perspective (insider's perspective) – starting with his/her own words. As you become discrete in your questioning, your perspective emerges
- Interpret the comments-look for themes (similar to ethnography)
- Reach conclusions about the phenomenon

Interview

- Interview for diagnosis
  - What data does this tool provide for diagnosis
- Interview for making recommendations
  - What data does this tool provide for making recommendations

In-class Activity

- For the 80 year old client, who would you interview? What interview questions would you wish to ask?

Dynamic Assessment

- Dynamic Assessment
  - Examining performance in context – where context is systematically manipulated to determine how performance changes

Dynamic Assessment
(Reading: Hasson & Joffe, 2007)

- History (learning through interactions with a more experienced or informed guide)
  - Vygotsky
  - Feuerstein
- Theoretical underpinning
  - Zone of proximal (zone – describes difference in performance of individual without and with guidance)
- **Stimulability (Trial Therapy) (Diagnostic Therapy) (Evaluative Management)**

What is the Zone of Proximal Development?

- Area between actual and potential level of performance

Potential – with guidance

ZPD

Actual – without guidance
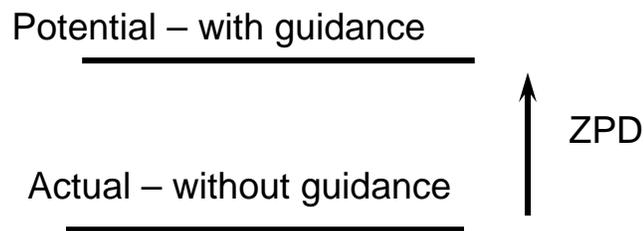
Actual Level of Performance

- Individual's habitual performance -- current level of functioning
- Individual's performance without prompts and cues
- Individual's performance without support of more knowledgeable person

Potential Level of Performance

- Individual's skills/behaviors that need to be learned

ALSO

- Individual's performance with prompts and cues
- Individual's performance with support of more knowledgeable person

ZPD - Stimulability

- What's the meaning?

Challenge of teaching; readiness for change

- Big ZPD
  - Lots to learn --- prompts and cues do not easily reduce distance between actual and potential
- Small ZPD
  - Learning should be quite feasible. Smaller the zone, the easier the learning task

How do you determine the ZPD

- Graduated Prompting
- Test-Teach/Mediate-Retest

Graduated Prompting

- Systematic addition of cues to enhance performance
  - Start – no cues/prompts – actual level of performance
  - Systematically add cues (minimum to maximum) in a hierarchy of help until client performs successfully

Graduated Prompting (Olswang & Bain, 1996)

General Statement: materials + "oh look"

Elicitation Question: materials + "what's happening" (or appropriate question)

Sentence Completion: materials + "here the boy is walking and here _____"

Indirect Model: materials + "Oh look, the boy's walking home"

Direct Model: materials + "boy walk"

Direct Model plus Elicitation: materials + "Tell me boy walk"

Shaping: materials + "Tell me boy" wait "tell me walk" "boy walk"

Interpretation

- Provides some good evidence regarding "readiness" -- Goldilocks
  - "too ready" -- responds to the very first cues, easy to stimulate -- will change on his/her own
  - "not ready" – doesn't respond to any cues, perhaps wrong target possibility – consider precursors
  - "just right" -- responds to some cues, but has to work; relies on the guidance of the adult

Some Issues

- Cues are rigid…might want something more naturalistic and client specific
- Structured – but efficient
- Doesn't provide information about the nature of the intervention – in that sense, not a trial therapy

Test-Teach/Mediate-Test

Pena and colleagues

- Test 1 – actual level
- Teach/Mediate – using a variety client driven methods to teach
- Test 2 – repeat of Test 1 to see what the effects of teaching have been

This method has been used with vocabulary primarily

Dynamic Assessment

- Dynamic Assessment for diagnosis and recommendations
  - Phonologic Disorder or Apraxia of Speech – to determine effects of sensory motor manipulation

Dynamic Assessment Examples

- Dysarthria - Velopharyngeal Incompetence/Insufficiency (VPI) – to determine behavioral compensations before exploring prosthetic/surgical options for treatment
- Aphasia – to determine if linguistic behaviors can change versus need for compensatory strategies (for behavior or environmental change) when planning treatment

Dynamic Assessment Examples

- Voice – to determine when a "lump" might be a cyst vs. a nodule (i.e., the nodule should respond to trial treatment vs. the cyst which probably won't) to assist with diagnosis and treatment planning
- Voice – to determine if a client has muscle tension dysphonia (MTD) or spasmodic dysphonia (SD) for diagnosis and treatment planning.   (MTD will respond to trial treatment whereas SD won't).

Existing Data

- Existing data lead us to the discussion of Evidence-Based Practice