Understanding Children who are Deafblind and/or have Multiple Disabilities through Child-guided Assessment Strategies

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Problems in assessment of individuals with deafblindness

- Tests that measure prior knowledge are not accurate measures of ability to learn
- Sensory and motor disabilities may invalidate or make assessment difficult
- Underestimate and overestimate what a child can do which creates uncertainty and anxiety and further undermines child performance

Problems in assessment

- Unfamiliar settings, materials, and people stress the child and lower performance
- Difficulties in communication or social relationship formation may lead to underestimation of child ability
- Existing scales may be deficit based and give information on what the child cannot do rather than what he/she can do
- Existing scales do not guide intervention

Assessment should:

- Address interdependent development
- Look at the environmental and biological influences on child development
- Take into account and accommodate for sensory or motor impairments
- Build from a secure base by beginning with what a child can do and is interested in
- New experiences should be appropriate to development and build incrementally

van Dijk Approach to Assessment:

- Addresses the underlying processes involved in learning including
  - state modulation
  - preferred learning channels
  - information processing
  - accommodation of new and existing experiences
  - memory
  - problem solving
  - social interaction

General Guidelines

- Prior to the Assessment
  - Talk to parents/caregivers to obtain information on child's interests, preferences, etc.
  - Observe child while talking to parents/caregivers
- Beginning the Assessment
  - Assess in an environment that is comfortable and/or familiar to child
  - Process is guided by the child's interests
  - Start by following the child's interests and movements
  - Adapt to child's level, interests, and emotions

General Guidelines (cont.)

- Establishing a Routine
  - Imitate what the child does in a turn-taking exchange to “start a conversation”
  - Use the turn-taking exchange to establish a pleasurable routine
  - Utilize “start-stop” form to elicit behavior from the child indicating a desire to continue the routine
  - Promptly reinforce any behavior from child indicating a desire to continue the routine
  - Pace the steps

General Guidelines (cont.)

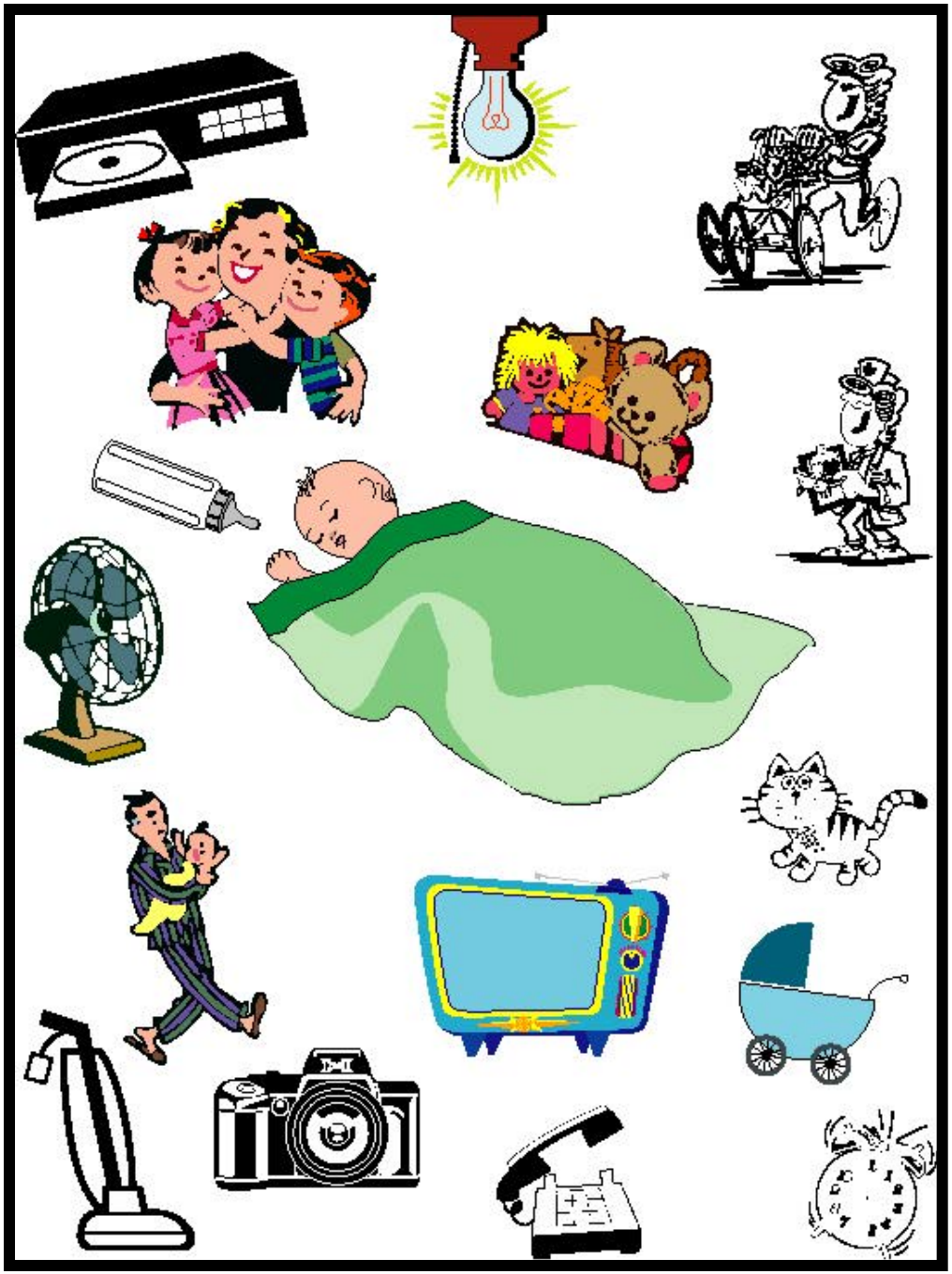
- Modifying a Routine After it's Established
  - Add another step (only one sensory modality at a time) to see if child will imitate the step
  - Insert a "mismatch" to observe the child's ability to anticipate the routine and discern changes
  - Assess problem solving by
    - Delaying your response to the child's request for continuation of routine
    - Adding a dilemma that must be solved in order for routine to continue (e.g, a tissue covering a switch)
  - Discontinue the routine for a short time and then re-engage the child in the routine to see if child remembers and anticipate steps

Videos

- Hannah one and two
- Michael

Recognition/Memory Tasks: Hierarchy of Responding

- Arousal
- Orienting Response
- Encode Information
- Compare to existing schemes
- Inhibit responses to irrelevant stimuli
- Habituation/decrement of response
- Dishabituation in response to change of stimulus features



Arousal and biobehavioral state

- Arousal is produced in response to sensory stimulation and the inner needs of the child
- In response to unneeded or unwanted stimulation, child may have heightened arousal (agitation) or lowered arousal (sleep)
- Children with compromised central nervous systems have differences in state regulation

Arousal and biobehavioral state

- State assessment may show how well a child copes with stimulation and can be used to determine the impact of the environment on state (Richards & Richards, 1997)
- State may be modulated internally or externally

Biobehavioral states

- Quiet sleep: Generally unresponsive, smooth regular respirations, occasional startles, lack of body activity, facial and eye movements
- Active Sleep:(REM) More body activity, irregular respiration, movements of eyes and face, more responsive)
- Drowsy: Variable activity, irregular respiration, delayed responsiveness, eyes glazed, heavy lidded look
- Quiet Alert: Minimal body activity, regular respiration, bright, shiny face, most attentive to stimuli

Biobehavioral States

- Active Alert: Much body activity, irregular respirations, facial movements, fussy, sensitive to stimuli, transitional state
- Crying/Agitated: Irregular respiration, facial grimace, crying, color changes, variable sensitivity to stimuli

Biobehavioral state

- What is the individual's current state?
- Is the individual able to control or modulate his/her state?
- How much time does the individual spend in an alert state?
- What range of state does the individual show and what is the transition pattern between states?
- What variables affect the individual's state?

Orienting Response

- Direction of attention that may be seen in focusing of the eyes, attention to sound, and interest in textures or smells. Head, eyes, ears and/or nose directed toward a stimulus
- Prepares the organism for organized behavior
- Allows maximum information gathering to occur
- Tends to occur in alert states of arousal

Orienting Response

- What factors elicit an orienting response?
- How does the individual exhibit an orienting response?
- What channels appear to be associated with the orienting response ?

Learning Channels

- How does the individual take in information?
- How does the individual react to sound?
- How does the individual react to vision?
- How does the individual react to touch
- Does the individual use more than one sense at a time?
- Does the individual engage or disengage in response to particular stimuli?

Approach-Withdrawal

- What are the individual's engagement cues?
- What are the individual's disengagement cues?
- What appears to motivate the individual?
- What does the individual turn away from?

Habituation

- Stopping of unnecessary responding to a stimulus that has been interpreted or recognized as neutral or familiar.
- When stimulus features change, dishabituation or a coming back to attention should occur
- Habituation is a learning and memory process

Habituation and stimulus function

- It allows cognitive attention to switch to an incoming stimulus or to a stimulus with signaling or reinforcing value
- Functions of stimuli include:
  - Attention eliciting
  - signaling
  - reinforcing

Scheme Development

- Visual, auditory, tactual stimuli are integrated and associated with experiences
- Schemes are developed and each new stimulus and experience is compared with existing schemes as new networks of schemes are built
- Synapses are built based on experiences and schemes

Learning Sequences

- Associate a preceding event with one that follows
- Anticipate the next step and activate previously learned schemes
- React to mismatch of expectations and adjust behavior accordingly
- Learn a new task or routine
- Remember the routine after a short break
- Accommodate added tasks

Memory and Learning

- Does the individual habituate to familiar stimuli?
- How long, how how many presentation are necessary before response decreases?
- Does the individual attend again if stimulus features change?
- Are reactions differentiated?
- Does the individual react differently to familiar and unfamiliar people?

Memory and Learning

- Does the individual appear to have object permanence?
- Does the the individual associate a preceding event with one that follows?
- Does the individual appear to anticipate an upcoming event?
- Does the individual react when there is a mismatch with expectations?

Memory and Learning

- Does the individual demonstrate functional use of objects?
- In the individual able to learn a simple routine?
- Is the learned routine remembered?

Interactions

- Does the individual orient to a person?
- Does the individual exhibit secure attachment with important individuals in his/her life?
- Does the individual engage in turn-taking when he/she begins the interaction?
- How many turns are taken before disengagement?
- Does the individual add to the turn-taking?

Communication

- Does the individual demonstrate communicative intent through the use of signals, vocalizations, gestures, etc.?
- Describe the communications used?
- Are signals used with consistency?
- Does the individual use differentiated communications? Describe the communications and their probable meanings?

Communication

- When given options, does the individual make choices?
- Does the individual use conventional gestures?
- Can the individual use one item or symbol to stand for an activity or object?
- Does the individual demonstrate understanding of communication symbols?
- Does the individual use symbolic communication? Describe.

Problem Solving

- Does the individual demonstrate cause and effect?
- Does the individual demonstrate understanding of means/ends?
- Does the individual demonstrate understanding of the function of common objects?
- How does the individual approach a problem?

Problem Solving

- Does the individual maintain attention and persist?

Fidelity and Reliability Study

- Nelson, C., Janssen, M., Oster, T., & Jayaraman, G. (2010). Reliability of the van Dijk assessment for children with deaf-blindness. *AER Journal,* 3(3) 71-80.

Data

- N = 18
- Range of Fidelity (Observer 1): 35-100
- Range of Fidelity (Observer 2): 39-100
- Mean Fidelity (Observer 1): 90.1%
- Mean Fidelity (Observer 2): 89.6%

Data Reliability

- Range of Reliability:72-96
- Mean of Reliability: 85.5%
- Agreement with comparison of score: 97%