Pre-Symbolic Communication

Key Elements of Individualized Instruction

- MOTIVATION: What are reinforcing topics and settings for the learner to communicate about?
- POTENTIAL RESPONSES: How will the learner express himself/herself?
- GAINING ATTENTION: How will the learner initiate communication with others?
- REINSTATEMENT: How will the learner indicate to another person that s/he would like to continue an interaction?
- REQUESTING/CHOICEMAKING: How will the learner indicate his/her preference between two or more objects?
- PROMOTING PROGRESS: How do you design instruction to promote steady progress?

Level I Learner

- **Currently:** Spontaneous reflexive/reactive behavior

Partner perceived communication; assigns meaning

- **Issues:** lack of goal directed/purposeful behavior; lack of awareness of self, others and world around him
- **Focus of intervention:** to establish purposeful behavior by creating highly responsive environments
- **Goals:**
  - **Sender** maintain increase alert state for learning (emotional regulation)
  - Increase sender awareness of attention to **topics** in interactions with **receiver**
  - Demonstrate detectable and doable **means**
  - **Sender** demonstrate contingency awareness (cause-effect)

Arousal State Tracking

(adapted from the SLK 2005 by M. Smith)

- **States:** (descriptions of states from Brazelton et al 1977; Snell and Brown, 2002 as presented in SLK)
- **Asleep:** Eyes closed, rhythmic breathing and/or little or no movement. No evident response to sensory stimuli.
- **Drowsy:** Heavy eyelids, repeated opening/closing of the eyes, unfocused stare, intermittent orientation to sensory events in the environment for a short time.
• Quiet Alert: Open eyes. Focused attention on some sensory event in the environment; attention may be visual, tactile or auditory.

• Active Alert: Observable interaction with the object or person stimulating attention, some voluntary intentional movement.

• Fussy: Mild distress and inability to maintain orientation/attention.

• Crying/Agitated: frown, cry, irregular breathing, increased tension /body tone, engage in self-injurious behavior.

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Arousal State Tracking

(adapted from the SLK 2005 by M. Smith)

Child:

Observer:

Date:

Time Interval:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>State*</th>
<th>Position (how was the child positioned at that moment)</th>
<th>Specific stimuli available (what was available to the child? e.g. music, food, vestibular at that moment)</th>
<th>Ambient conditions (describe the physical environment e.g. hot, noisy, overhead lighting at that moment)</th>
<th>Social Conditions (Who was interacting with the child do not count if person present but not engaged w/ child at that moment)</th>
</tr>
</thead>
</table>

*States; (descriptions of states from Brazelton et al 1977; Snell and Brown, 2002 as presented in SLK)

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• Active Alert: Observable interaction with the object or person stimulating attention some voluntary intentional movement

• Fussy: Mild distress and inability to maintain orientation/attention

• Crying/Agitated frown cry irregular breathing increased tension /body tone engage in self injurious behavior
### "LIKES" INFORMATION

<table>
<thead>
<tr>
<th>STAGE</th>
<th>SOUNDS</th>
<th>TOUCH</th>
<th>TOUCH</th>
<th>MOVEMENT</th>
<th>VIBRATION</th>
<th>SIGHTS</th>
<th>SOUNDS</th>
</tr>
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<tbody>
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<td>声学</td>
<td>听到</td>
<td>感觉</td>
<td>物理</td>
<td>动作</td>
<td>振动</td>
<td>视觉</td>
<td>声音</td>
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<table>
<thead>
<tr>
<th>STAGE</th>
<th>PHYSICAL</th>
<th>PEOPLE</th>
<th>PLACES</th>
<th>ACTIVITIES</th>
<th>TOYS</th>
<th>SELF-STIMULATION</th>
<th>OTHER</th>
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</thead>
<tbody>
<tr>
<td>声学</td>
<td>物理</td>
<td>人</td>
<td>地点</td>
<td>活动</td>
<td>玩具</td>
<td>自我刺激</td>
<td>其他</td>
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**DISLIKES** INFORMATION

<table>
<thead>
<tr>
<th>Object</th>
<th>Smells</th>
<th>Touch</th>
<th>Movement</th>
<th>Vibration</th>
<th>Sounds</th>
<th>Sensory</th>
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<tbody>
<tr>
<td>Food</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Muscles</th>
<th>People</th>
<th>Places</th>
<th>Activities</th>
<th>Toys</th>
<th>Self-Stimulation Behaviors</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>push, pull, lower weight</td>
<td></td>
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</tbody>
</table>

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Videotape Coding Form

Student:

Observer:
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Level II Learner

- **Currently:** Spontaneous purposeful/goal directed behavior

Partner perceived communication; assigns meaning

- **Issues:** Learner does not yet demonstrate coordinated behavior to both partner and topic

- **Focus of intervention:** Respond to potentially communicative behaviors so that learner becomes aware of their communicative purposes

- **Goals:**
  - Expand means of responding that serve to attract attention and reinstate desired interactions
  - Demonstrate preference of topics that are familiar to him/her
  - Reinstate desired interactions initiated by partner
  - Sender increases attention to partners and topics (joint attention)

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Expand Means of Expression

Communication Signal Inventory (Blackstone, 1991)

- Signal (What the communicator does)
- What it means (what the partner thinks the signal means)
- What do you do/say? (How the partner should consistently react)

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Reinstatement

Helps to establish a relationship with the child

- A reason to want to gain your attention

Helps child link his behavior to his environment

- May lead to development of detectable and doable behaviors
Helps to provide an access to the environment

- Familiarity with different topics
- Preferences for certain topics

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"Let's Do It Again" Interaction Tracking Form

**Child:**

Partner Initiates interaction with child.

- Pause briefly (10 seconds or depending on child; the time it takes for a child to respond may differ from child to child and may change as he/she becomes more familiar with the interaction)
- Observe for child's attempt to start or get you to start activity again

Child response (ex; partner bounces child on ball and pauses...child moves up and down like she is trying to bounce herself)

- Note: if this is a new interaction, it may be necessary to repeat it several times before the child develops an idea of what its about and is able to respond

Record the following:

- What did you do to interact with the child (date)
- What did the child do to tell you, "lets do it again"

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Level III-IV Learner

- Currently: *Intentional pre-symbolic communication*

*Learner directs his/her behavior to a receiver with an identifiable message*

- Issues: Learner’s communication is currently restricted to topics and receivers that are present in that moment and his/her efforts to engage his/her partner may be restricted
- Focus of intervention: Shape non-conventional gestures into conventional gestures and/or target symbol use
- Goals:
  - Increase *sender* initiations and responses to interactions with receiver to make requests/choices and reinstate desired topics from array that is accessible (rate and fluency [e.g. decreased latency])
  - Increase *sender* strategies for establishing and maintaining joint attention with *receiver* around identifiable message/topic
  - Expand *means* of expression to use of more detectable (conventional or symbolic) forms
  - Demonstrate 1:1 correspondence between symbol *means* and referent
  - Discriminate between increased *topic* array of objects or symbols
  - Increase number of *partners* and *topics*

Expand communicative intents
Level V-VII Learner

- Currently: *concrete or abstract communication*

*Learner directs his/her behavior to a receiver with an identifiable message using symbols*

- Issues: Learner’s communication is currently restricted to topics and receivers who are present in that moment. Learner may use symbols for limited functions or in single “word” utterances
- Focus of intervention: Increase symbolic communication and expand communicative intents
- Goals:
  - (Increase) sender initiations and responses to interactions with a receiver to make requests/choices and reinstate desired topics from symbol array (referents may not be present)
  - Combine symbolic means to expand mean length of utterance
  - Increase learner access to communication system/means
  - Move to more abstract symbolic means
  - Discriminate between increased array of symbols
  - Increase number of receivers and topics
  - Expand communicative intents

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**Types of Tangible Symbols**

<table>
<thead>
<tr>
<th>Levels of Representation</th>
<th>Referent</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Identical Object</strong></td>
<td>Raisins; bolt</td>
<td>A few raisins glued to a piece of cardboard; a bolt is shrink-wrapped onto cardboard backing</td>
</tr>
<tr>
<td><strong>Partial or Associated Object</strong></td>
<td>Shoe; bicycle; car/out; eating</td>
<td>Shoelace; handle grip; car key; spoon</td>
</tr>
<tr>
<td><strong>One or Two Shared Features</strong></td>
<td>Pretzel; multicolored vinyl; therapy ball</td>
<td>Thermoform of pretzel (shares shape &amp; size with referent); wood block covered with multicolored vinyl; shared texture and color with referent (for blind individuals only one feature, texture, is shared)</td>
</tr>
<tr>
<td><strong>Artificial Association</strong></td>
<td>Work table; cafeteria</td>
<td>Ribbed rubber mat is attached to table, a small piece of the mat serves as the symbol; wooden apple shape is attached to cafeteria door, a similar shape serves as the symbol</td>
</tr>
<tr>
<td>Photographs</td>
<td>Self explanatory</td>
<td>Self explanatory</td>
</tr>
<tr>
<td>Line drawings</td>
<td>Self explanatory</td>
<td>Self explanatory</td>
</tr>
</tbody>
</table>

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"tangible" Means...

- Physically Tangible
- Conceptually Tangible- to the INDIVIDUAL USER (eye of the beholder)
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Tangible Symbols Instruction Key Elements

- Readiness
- Motivation
- Indicating Response
- Comprehension
- Promoting Progress

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Comprehension

When the child indicates a symbol he/she should also be asked to show/indicate what the symbol means (1:1 correspondence)

When the data clearly indicates that the child understands what the symbol stands for then it may be no longer necessary to require the comprehension check

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Promoting Progress

- How do you help the child to keep learning?
- Expand vocabulary
- Increase size of symbol array
- Generalize the use of symbols to other situations and with other people
• Teach new functions
• Multi-symbol utterances
• Portability
• Change symbol type