## Framework: Manipulatives, Visuals, Text, and Technology

A person may experience one or more of the features of autism to a greater or lesser degree. An altered developmental trajectory may result. The unique cognitive, linguistic, and social skills that come about can often obstruct learning and social interaction that occurs with most children. These features of autism may be very resistant to intervention and remain throughout life. Interventions that target missing or delayed milestones seek to right the path. It may be a long and incremental process. Support can be provided as treatment proceeds. It may ease the struggle that can be experienced in daily activities and create an atmosphere more favorable for treatment. Effort can be made to engineer the environment prior to and during a problem activity. These supports may include control of sensory stimuli, reduced oral communication, lower task complexity, added physical/visual/oral prompts, monitoring and personal assistance when needed, and helpful and accommodating peers.

# Manipulatives, Visuals, Text, and Technology:

## Manipulatives:

- Manipulatives often provide meaning where speech, text, and images fall short. They can be used to make requests as well.
- They should require little manual dexterity unless that is the targeted skill.
- They should be durable, water proof, colorful, and iconic.
- Often velcro is attached to manipulatives to reduce unwanted movement.
- At times a manipulative will hold a person's attention to the exclusion of all else. Repetitive, nonpurposeful movements may begin.
- Caregivers and staff should consider any possible sensory sensitivities.

#### Visuals:

- Visuals may serve as a primary avenue for communication to compensate for language and reading difficulties.
- A task can be prepared with visual images that will tell a complete story with a sequence of events.
- An event can be presented in a picture and it's parts can be identified. Items and people, embedded in the context of an event, can be included in the image.
- Story structure can be identified with images of characters, places, and events.
- Images of the events in a story can be ordered to display the sequence.
- Temporal concepts can be displayed.
- Grouping items into categories can be accomplished with picture cards.
- Figurative language can be depicted with images to clarify the ambiguity.
- Two images can be displayed and compared to assist in developing cognitive flexibility.

### Text:

- Text can be adjusted to convey meaning more effectively to a person with limited language competence.
- A more basic vocabulary can be used.
- Basic syntax can replace compound and complex sentence structures.
- Reduced length of utterance and reduced number of connected utterances may be helpful.
- Printed materials can have uncluttered format, large print, and be matched with images.
- Dialogue in text can be presented cartoon style with text and thought bubbles.
- Graphic novels may assist comprehension by reducing the amount of text and matching it to images that tell the story.

## **Technology:**

- Technology can offer significant assistance with many forms of communication and learning.
- A computer screen reduces distractions and simplifies ideas and messages. A person with features of autism will often choose computer use as a preferred activity.
- With the addition of touch screens and hand-held devices many learning activities and social interactions are conducted on digital screens and keyboards. Often persons with features of autism become adept at operation of these devices and use their social media capabilities.

- Texting, email, and image exchange allow a person to send and receive messages without audio or video elements. A person with features of autism may find these messages easier to process and then to formulate a response.
- In learning activities on screen devices the complexity of the imagery can be controlled as well as the formatting of text and the inclusion or deletion of audio.
- Storage capacity on digital devices offers access to a large volume of visual and audio materials.
- Drag and drop capabilities with a mouse and touch screen actions allow considerable success with simulation of object manipulation. Active engagement can occur in well designed learning activities.
- Applications are available that augment communication or offer alternative methods of message formulation and delivery. Speech output can be achieved with many devices. Please see the section on Assistive Technology at http://www.pageproarts.com/story/language-autism/theory/framework-assisttech.html.

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