Implementing Tangible Symbols for Every day Communication
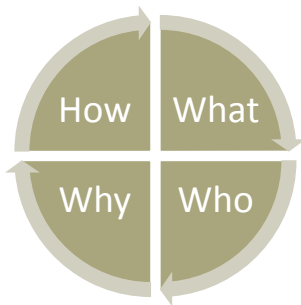
Anne M. Kuhlmeier, M.A., CCC/SLP, ATP
annekuhlmeier@cableone.net

Tangible Symbols

How | What
Why | Who

WHAT: Tangible Symbols

- Rowland & Schwigert coined the term "tangible symbols" in 1989
- Finding gestures alone not always sufficient for acquisition of abstract symbolic communication
- Cognitive demands might be too high for some individuals with impairments with memory and representational abilities
- Offer a lower demand on memory requiring recognition versus recall
- Require simple motor responses which allows for adaption

Characteristics of Tangible Symbols

permanent

manipulable

obvious

Tangible Symbol Examples

2D   **3D**

music

Symbolic Representation

Partial or Associated   **Created Association**

Sunday   Mon

Developing Symbols*

Level of Representation	Referent	Symbol
Identical object	Raisins	A few raisins glued to a piece of cardboard
Partial or associated object	Bolt	A bolt is shrink-wrapped onto cardboard backing
	Shoe	Shoelace
	Bicycle	Handle grip
	Car/out	Car key
1 or 2 shared features	Pretzel	Thermoform (thin plastic impression) of pretzel (shares shape and size with referent)
Created association	Work table	Ribbed rubber mat attached to actual work table; a small piece of mat serves as symbol
	Cafeteria	Wooden apple attached to cafeteria door; a similar apple shape serves as the symbol

*adapted from Rowland & Schweigert, 2000

Tips on Symbol Selection

- Use symbols based on motivating activities
- Symbols must be salient to the child
- Symbols can be identical, real-objects (slinky, cup, spoon) or partial object (piece of a therapy ball, top to a sippy cup)
- Label symbols for consistent use by partners across settings
- Logical associations with its referents
- Consider what is salient and meaningful to the child

SYMBOL	Referent
zipper	coat
X (raised)	no
O (raised)	yes
Keys /seat belt buckle	Car ride
Spinner	go
Sand paper	stop
Piece of rope or chain	Swing
Towel material	Bath time
Shoe lace	shoes
book	Story/read
Puzzle piece	game
Rattle (or bells)	Music/sing
Bubble wand	Bubbles
Star	Twinkle, twinkle
Straw hat/overalls	Farm/old macdonald
Cotton ball	sheep
Velvety fabric	horse
Leather/horn/tail	cow
feather	Bird/duck

WHO benefits?

- Blind/low vision/CVI
- Multiple developmental disabilities
- Cognitive impairments
- Those having difficulty understanding 2D symbols

Why?: Requesting

➤ Gaining and maintaining access to preferred items and activities
➤ Rejecting, escaping or avoid non-preferred tasks

➤ Requires motivation to gain access to object/activity
➤ A communication partner who will assist in gaining access

Steps Needed for Purpose of Requesting

- Identify Routine
- Identify object/activity
- Identify acceptable behavior
- Identify symbol

Routines (SHAPE)

Identify	→	Reasons	→	Examples

- Existing situations
- Routines
- Environment

- Familiar
- Occur frequently
- Provide motivation
- Occur in typical environments

- Meal times
- Toileting
- Grooming
- Bedtime
- Play
- Positioning

Acceptable Communication Behaviors

- Adults respond to only 7-15% of behaviors intentionally used to gain attention by children with severe disabilities
- Behavior used must be ones that can be
  - Easily learned
  - Produced reliably
- Behavior must be functional which can become the communicative request
- Behavior must be clear to the partner

Daily School Routines

- Hanging up your backpack/coat
  - Start with getting child off the bus (or our of car) with a symbol denoting the bus (or car) while modeling "You just rode on the bus/car (touch symbol, help child to touch symbol). Now we are walking into school and headed to our classroom (show symbol of classroom – could be concrete like a piece of the wall in the that room or something you always do in your classroom or abstract symbol that denotes this classroom from other classrooms). Depending on the child's sensory strengths its important to provide appropriate feedback.
  - Daily repetition of symbol modeling is necessary to build language understanding and eventual expressive communication

Communication Book Samples

Visual Schedule for Classrooms

- Develop tangible symbols (have both 2D and 3D available) for each activity
- Voice output buttons and written labels can provide feedback for child and staff
- Use sturdy backboards or frames to hold symbols – Plexiglas or boards for your 3D symbols last longer
- Create a holder for your symbols, mounting them to the wall or placing them in an open container, for easy access by staff and student
- Multiple message static displays

Activity Based Communication

- Add symbols to activities that refer to the labels of the objects, actions involved, pronouns, adjectives, negatives
- Keep those symbols placed with the activity/toy for easy access in covered bins, bags, etc
- If they aren't accessible within 5 seconds it won't happen
- MODEL, MODEL, MODEL
- Use pictures for every word you speak
- Comment…. Don't question
- Model some more!

Mr Potato Head

- Tub with Mr Potato Head and all the parts
- Photo or symbols (like Boardmaker) laminated and separated with velcro in approx 2" size (*better to go too large than too small!)
- Include tangible symbols using broken/old parts mounted on plexiglas/board
- Use a talking photo album with pre-recorded pages to request the different parts of the body
- One page with symbols for those children who can point but don't do well with laminated removable pictures
- Overhead transparency with different symbols for those who can't touch pictures

Giving Baby a Bath

Choicing to begin an activity

Continuing the activity…..

- Go
- Out/in
- Up/down
- Open
- Blow
- I
- You
- Big/little
- WOW!!

Making Cookies/Smoothies

- Picture recipe that diagrams the steps involved in making cookies – stick drawings, photographs, symbol software
- Include symbols for every object needed to complete the recipe (fruit, chocolate chips, milk, eggs, flour, sugar, etc.
- Separate symbols for actions involved in making recipe
- Switches/powerlink for electric mixer or blender so children with motor limitations can participate.
- Place symbols in kitchen area where easily accessible

Picture Recipe Sample using Boardmaker

Book Reading/Literacy

- Identify book(s) that can be adapted by adding symbols to the pages
- Using Google Images (works best for popular characters), photograph or copy characters in the book
- Create symbols by cutting out the character and placing on a background that highlights the character
- Try to keep all your symbols relatively the same size
- Either attach characters with velcro to the inside of the book (on the pages works well or beginning page) or place on a separate sheet and keep with the book. I often take books apart, laminate the pages and place in 3 ring binders for ease of keeping symbols together
- Resources for storage: http://www.1plus1plus1equals1.net/2012/03/behind-the-scenes-storing-printables/ or http://www.augresources.com/vindex.html

Beginning Book reading

Reading A Story

Implementation

- ➢ Consistent routines and language
- ➢ As part of the whole communication system
- ➢ Pair symbols with referent as you verbally label
- ➢ Comment – Don't Question!
- ➢ Encourage participation

Tips for Using Symbols in the Real World

- Communication supports using t-shirt transfers on placemats, pillowcases, shirt to wear to the pool, kickboards or balls at the pools
- Adhere by using waterproof glue, plumber's glue, aquarium glue
- Garden kneel pads make great symbol boards for pool, outside use
- Magnets on the fridge with printed symbols to request items from the fridge
- Strips for symbols outside the pantry, storage cupboards, toy cabinet, book/video shelves for visual schedule or requesting

Continued Tips....

- Symbols and mounting surface need to be individualized for child – most need to be sturdy
  - -plexiglass or plywood, velcro, plastic ties
- Pair with verbal output if possible, portable voice output buttons (go talk button, Clip on talker, Brix Communicator buttons

- Build in/Teach a Confirmation Response
- Rowland and Schweigert recommend a comprehension check to determine true understanding of symbol selection. Acquisition is met when child selects appropriate symbol from array of at least 3 with 80% accuracy across 2 consecutive sessions.

Resources

- Tangible Symbol Systems by C. Rowland and P Schweigert, 2000; http://www.ohsu.edu/xd/research/centers-institutes/institute-on-development-and-disability/design-to-learn
- Banajee, M. Dicarlo, C., & Stricklin, SB, (2003). Core Vocabulary determination for toddlers, Augmentative & Alternative Communication, 19, 67-73.
- Bruce, S., & Conlon, K (2005). Colby's daily journal: A School-based effort to promote communication development. TEACHING Exceptional Children Plus, 2(1).
- Rowland, C., & Schweigert, P., (2000). Tangible symbols, tangibile outcomes, AAC: Augmentative & Alternative Communication, 16(2), 61-78.
- http://www.designtolearn.com/pages/ts.html