

BARRIER COMMUNICATION GAMES : Including Students with Disabilities!

Dr. Caroline Ramsey Musselwhite
www.aacintervention.com

One powerful approach for communication training is sending or receiving information across a barrier, through a variation of a "referential communication game" (Dixon, 1977; Glucksberg & Weisberg, 1966; Musselwhite, 1986; Robinson & Robinson, 1976). Children get to practice decoding messages (in listening or reading) and coding messages (in speaking and writing). These messages are authentic, as the partner truly does not know the message in advance. As in everyday conversations, small omissions or mis-statements can cause breakdowns in communication. Barrie-Blackley (1978) suggests six steps to follow in setting up a communication game as summarized below.

1. Facilitator determines the type of information to be included .

The game should be meaningful, and should be related to the person's life. For example, following a doll play activity, the game could deal with activities such as feeding, washing, or dressing dolls or animals. Detail and sequence categories depend on the child's developmental level, and the targets of intervention. Ex: color, shape, space (above/in), material (plastic/wood), physical qualities (little/heavy) and number.

2. Facilitator controls the difficulty level by specifying the units of information.

An information unit refers to a single action carried out on a single object. Do you want to include one unit (e.g., wash baby) or two (wash baby and put her bib on). Also, the number of details used will change the difficulty. For developmentally young children, it is best to use fewer details (one doll, one color washcloth), while details can be added to increase the complexity. Ex: if there are yellow, blue, and red washcloths, when instructed "get the washcloth," the student must ask "which one?"

3. Create a barrier between the message sender(s) and the message receiver(s).

This may be a physical barrier or simply positioning of materials. The sender and receiver should not see the materials of their communication partner, to preclude simple pointing.

4. Message sender should first perform the action, then tell the receiver what to do.

This makes the message "real" to the sender. Ex: sender first gets her dog paper doll, then sends message.

5. Message receiver should respond to the message, by acknowledging it or expressing misunderstanding.

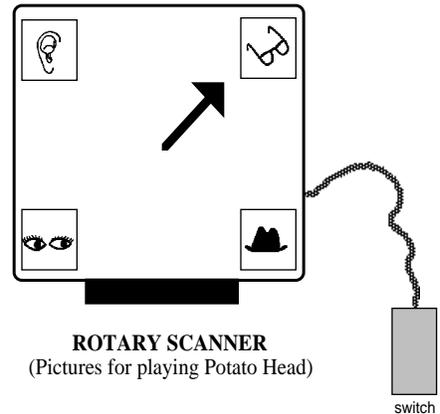
This can take the form of acknowledging the message ("O.K., I got my yellow crayon") or expressing misunderstanding ("What? I don't have a little one.") At first, this will need to be modeled ("Matt, tell her to say it again." "Katie, tell him he's talking too fast." This allows opportunities for practicing conversational control phrases or sentences.

6. Continue only after the message receiver has confirmed receiving the message.

This teaches the message sender and receiver to fine tune their communication, so that each partner can understand and use the information provided.

ACCOMODATIONS FOR STUDENTS WITH DISABILITIES

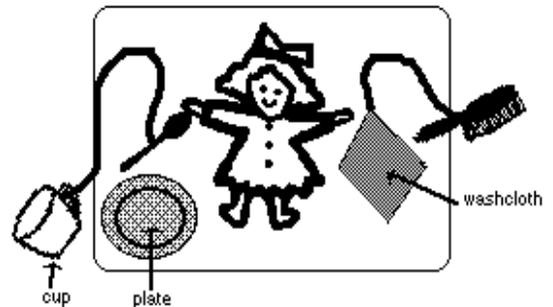
For students who use augmentative communication, a joint communication board is extremely helpful. For example, two partners with switches can use a rotary scan device, or one can eye gaze and one can use a switch with a clear rotary device. Barrier games are also excellent opportunities to practice device use with the device used by the target student(s). Physical adaptations can allow access to materials for these activities, as suggested in the sample tasks. For example, objects can be affixed to a playboard that is secured to a slantboard (see Musselwhite, 1986 for specifics). The slantboard (available from Fred Sammons B-OK) can thus serve as both a support and a barrier between partners.



Sample Barriers and Materials

Barriers:

- Cardboard barrier, slantboard, or lidless box set on its side
- For children who sign: sender at top of slide with box of toys, receiver at bottom of slide).
- Cardboard barrier with small length of wrapping paper tube inserted (talk and send materials through tube);
- Cardboard barrier with round hole cut out, and foam "plug" inserted.
- Play houses "opened up" so Student A cannot see into the house of Student B.
- For students with severe disabilities, consider using "game cards" with a card rack and students sharing info via a joint display



Materials:

Duplicate sets of materials such as:

- Race Car tracks.
- Snacks to be assembled on toothpicks (olives, cheese).
- Peel & Stick Sets (Uniset House, Farm, Zoo sets, The Speech Bin, 8 Beechtree Lane, Plainsboro, NJ 08536).
- Transformers, battery toys + adaptive switches.
- Computer software (e.g., coloring book from IntelliTools, Bailey's Book House, Story Maker)
- Flip books, such as fractured fairy tales.



More Opportunities for Adapted Barrier Communication

Musselwhite (1986, pp. 130-132) suggests sample play-based communication games appropriate for developmentally young children. Other opportunities include:

- science experiments
 - games such as "Guess Who"
 - instruction chains
 - construction art activities
 - story construction using flip books

Interactive Play and Barrier Communication: Paper Doll Task

Materials and Set-Up: Standard barrier with hole that can be plugged. Matching sets (ex: My First Paper Dolls - Golden). On each side, set up: boy, girl, dog, cat, hat, two dresses, two suits

Goals: *Content:* clothing items, descriptive terms, dressing topic
Form: Prepositional phrase used as modifier (dress with flower)
Use: Command, request information, describe, acknowledge

Sample Conversation:

S: Informs (I have the girl); Commands (get your girl)

R: Acknowledges (I got my girl)

S: Commands (Find the dress)

R: Requests information (which one?)

S: Describes (The dress with the rainbow on the front)

Note: When dolls are dress, remove plug so partners can view them

Modifications:

To Reduce Difficulty Level: For children with moderate physical impairment, tape paper dolls to metal slant board, then add stickyback magnetic tape to clothing items. For children with severe impairment, let child direct "dresser," using: symbols, head lights, chinsticks, etc. to indicate selections. Include only boy and girl dolls. Substitute clothing items that can be described more simply (red/ yellow / purple dress).

To Increase Difficulty Level: Add additional clothing items, requiring more complex descriptions (e.g., the yellow dress with the blue band around the bottom).

Cooking and Barrier Communication

Cooking is also a wonderful opportunity to engage in barrier communication. A case example illustrates adaptations to a cooking situation.

Two small teams of children are seated on opposite sides of a table. Each team has access to the same cooking materials (paper towel, sugar cookies, decorating materials, plastic knife). The children are seated across a barrier, so that the teams cannot see the materials of the other team. Kelly, the teacher, has limited the game to the following details: spreading **ingredients** (peanut butter, chocolate icing, or vanilla icing), **colors** of candies (green, blue, yellow), and **size** of candies (big, small). This morning, Kelly served as sender, giving verbal directions to Team A members across a barrier. Next, Team A will serve as the message senders. Team A completes each step in decorating their cookie, then verbally (via speech or voice output device) instructs Team B to match their decoration. Sample directions: "Get your paper towel. Put your cookie on the paper towel. Open the can of chocolate frosting. Get a blue candy. . . what? oh — a big one" etc. Various adaptations are used for children with disabilities, including use of an electric can opener + control unit + switch to open the can of frosting. Kelly monitors the activity to make sure that receivers (Team B) acknowledge messages, and that senders (Team A) do not continue until the message receipt has been confirmed. After practicing this model for several weeks, Kelly will have students begin to use printed models for message sending.



Barrier communication opportunities.

Other Activities and Barrier Communication

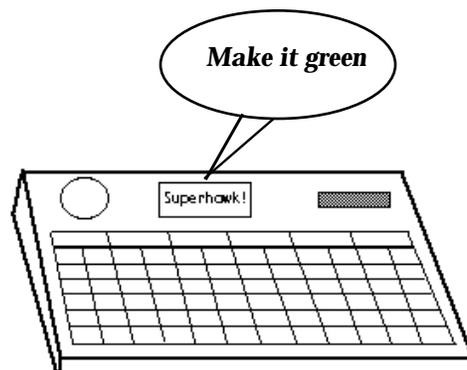
Instruction Chains: Involves receiving verbal information and transmitting it through augmented mode(s).

Facilitator tells user, who tells directions to a third person.

Example: Woman with ALS receives, then transmits instructions for managing the week's laundry to her spouse.

Facilitator tells user, who gives message to a peer.

Example: Give instruction for making slime to user, who gives instructions to typically abled peer, via his VOCA.

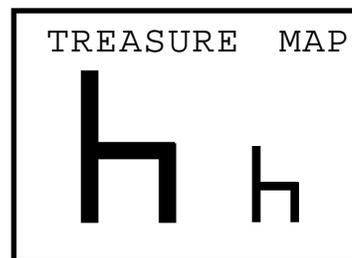


Treasure Hunt: Involves roles such as hiders, tellers, mapmakers, and hunters.

Excellent game for inclusion setting.

Example: Able-bodied peer hides surprise, then gives verbal clues to augmented communicator, who tells the clues to another student, who draws a map from the directions. The map is given to the hunters, who try to locate the surprise. The chain can be reversed when clarification is needed.

"N-o-t-e under chair."
"Which one?"
"Little chair"



Simulations: These involve taking the role of communicating with specific partners, gaining practice in adapting communication to fit various needs.

Example: Blind person being guided through a task, such as locating the lunchroom.

Example: Directions to a young child on where to find the user's glasses.



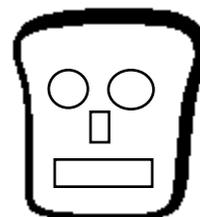
Food Preparation: Partner prepares food according to directions given by user.

This is a useful task for a sheltered workshop setting or culinary arts class.

Example: One partner makes a hot dog and gives instructions for fixing a matching hot dog.

Example: Use sequenced picture cookbooks (e.g., *Kinder Crunchies* from Discovery Toys, *Book Cooks* from Creative Teaching Press, *Shape and Cook* from Mary Bee Creations).

"Make eyes big... Use red"



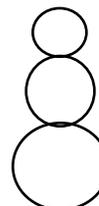
Monster Toast

Arts and Crafts: Partner prepares activity based on directions given by user.

Example: Create a puppet, then tell a partner how to create a "twin" - animate them using the Puppet Stand (AssistTech).

Example: Use matching backgrounds, and develop matching construction art projects such as: decorating a tree, pumpkin faces, spring scene.

"Put the small circle above the middle-sized circle"



(Some of these ideas are from Tattershall & Creaghead, 1985)

Barrier Communication at the Computer

Construction Art at the Computer: Many software programs can be used to create art at the computer. Advantages are:

- *Highly Motivating:* drawing at the computer can be a treat for students with disabilities, as well as their typical peers;
- *Minimal Setup:* teacher planning is minimal, as there is no need to prepare shapes in advance;
- *Addition of Movement / Sound Effects / Fun Graphics:* computer drawing programs often have 'bells and whistles' that are hard to reproduce by hand!;
- *Reproducible Product:* computer-generated drawings can be printed as many times as needed, so each student has a record

Using Software as Barrier Games: To make this an actual barrier game, a partner will work with the AAC user to create a drawing, modeling use of language on the device (GET SHEEP. PUT IT IN LK. GET RABBIT. TURN IT. PUT IN TREE. Then print that drawing, and the AAC user will use it as a guideline for sending a message to the receiver, who will try to recreate the drawing.



Stories and More: These software sets include many activities that can be used for barrier communication games. The drawing on the left is from an activity for Owl and the Moon, in which the student places stickers on a scene. Students can tell a partner where to place critters, then print the scene and have a partner reproduce it. PUT WOLF IN TREE . . . GET OWL, etc. www.attainment.com

Kid Pix Studio / Deluxe: This common kid-pleaser can be a fun format for giving directions for making a drawing. Features include: stamps / stickers / sound effects / animations, etc. You may find that an older version of Kid Pix is more representational, and easier for students with visual perceptual problems. www.broderbund.com



BuildAbility: Mom and Sam made a drawing together - Mom did the drawing and Sam narrated. Now that drawing can be used to guide someone else into making a duplicate! Sample language: YELLOW CIRCLE . . . A SUN . . . GREEN . . . IT'S A SNAKE . . . GIVE SNAKE EYE . . . AND MOUTH . . . NO - RED MOUTH . . . MAKE GRASS . . . YELLOW . . . MORE GRASS . . . MAKE IT GREEN . . . BIG GRASS . . . WHITE CLD . . . TWO EYES . . . A MOUTH . . . COOL!
www.attainment.com

IntelliPics Studio 3 / Classroom Suite: This document is from 'Barrier Desert Crit.xst', an IntelliPics Studio 3 activity on the AAC in the Desert 04 CD. It provides a simple setup with background (classroom) and stickers (Desert Critters) to create a scene, then write about it. The activity can also be used as a barrier game. Sample vocabulary: GET PIG . . . PUT UNDER DESK . . . FIND RABBIT . . . PUT ON GIRL IN WHEELCHAIR. . . LIZARD ON HEAD . . . TEACHER . . .
www.intellitools.com



Core Vocabulary is the Key!!!

The ultimate goal of teaching is to help students use core vocabulary, all the time! Using changeable communication displays can be frustrating, as students learn a set of vocabulary, only to have it 'removed' once the activity is completed! Make sure that students have permanent, not temporary access to vocabulary!

Barrier Communication: 'Core Language'

verbs: get / put / find / take /
is / do you have

adjectives: big / little / long /
short/ colors, etc.

prepositions: on / under / beside

Using Barrier Games to Support Multiple Communication Skills

• **Linguistic Skills** include receptive and expressive skills in the native language spoken by the family and broader social community. Examples include teaching vocabulary, icon sequences, navigating dictionaries, past tense. Barrier Communication examples:

- practicing vocabulary, icon sequences, etc.
- practicing negation (not blue)

• **Operational Skills** refer to the technical skills required to use the AAC system(s) accurately, efficiently, and appropriately. Barrier Communication examples:

- switch practice, using Step by Step to send messages for direction giving.
- targeting practice using picture clings on the communication device

• **Social Skills** refer to knowledge, judgment, and skills in the social rules of interaction. Included are skills to initiate, maintain, develop, and terminate interactions; skills to develop positive relationships and interactions with others; and skills to express a full range of communicative functions. Barrier ex:

- pausing while partner responds
- asking for clarification

• **Strategic Skills** refer to compensatory strategies that may be utilized by individuals who use AAC to overcome functional limitations that restrict their effectiveness as communicators. An example is providing new partners with information about how to communicate with them. Barrier comm ex:

- changing communication strategy following a communication breakdown
- using notebooks, etc. to pre-program messages

References

- Barrie-Blackley, S. (1978). Barrier communication as a learning strategy. A workshop presented in Chapel Hill, NC.
- Dixon, B. (1977). *Message sending games*. Madison Metropolitan School District, 545 W. Dayton St, Madison, WI.
- Glucksbert, S. & Weisbert, R. (1966). Referential communication in nursery school children. *Journal of Experimental Child Psychology*, 3, 333-342.
- Musselwhite, C. (1986). *Adaptive play for special needs children*. Austin, TX: Pro Ed.
- Musselwhite, C. & King-DeBaun, P. (1997). *Emergent literacy success*. Park City, UT: Creative Communicat-ing/Birmingham, AL: Southeast Augmentative Communication Conference Publications.
- Robinson, #. & Robinson, P. (1976). The young child's understanding of communication. *Developmental Psychology*, 12, 328-333.
- Tattershall, S. & Creaghead, N. (1985). Assessing and remediating referential communication. ASHA Conference.

Barrier Communication Planning Form

(Musselwhite, 2006)

Activity:

Materials:

Goals:

Linguistic Skills:

Operational Skills:

Social Skills:

Strategic Skills:

To Reduce Difficulty:

To Increase Difficulty:

Schematic of Communication Display:

Note: definitions for Linguistic, Operational, Social, and Strategic skills are from:
Light, J. & Binger, C. (1998). *Building Communicative Competence*. Baltimore: Paul H. Brookes