

Phase I - "How" to Communicate

Terminal Objective: Upon seeing a "highly preferred" item, the student will pick up a picture of the item, reach toward the communicative partner, and release the picture into the trainer's hand.

Rationale: Typically developing children

learn the "nature" of communication as early as 6 months of age when they begin interactive routines with Mom or Dad. These routines do not involve actual words, but, rather involve an *approach* (the infant gets Mom's or Dad's attention), an *action* directed to the audience (the vocalization, babbling, or pointing), and an *outcome* (Mom and Dad laugh, smile, give the baby something, or repeat the vocalizations). Because the outcomes involve items or events the child likes (i.e., these are reinforcers), then he will likely repeat this behavior. The approach is controlled by the potential "listeners." The baby learns that the action he engages in results in a desired outcome only through this audience. The action the baby engages in is controlled by something in the environment (a train whistle) or by some need (hunger).

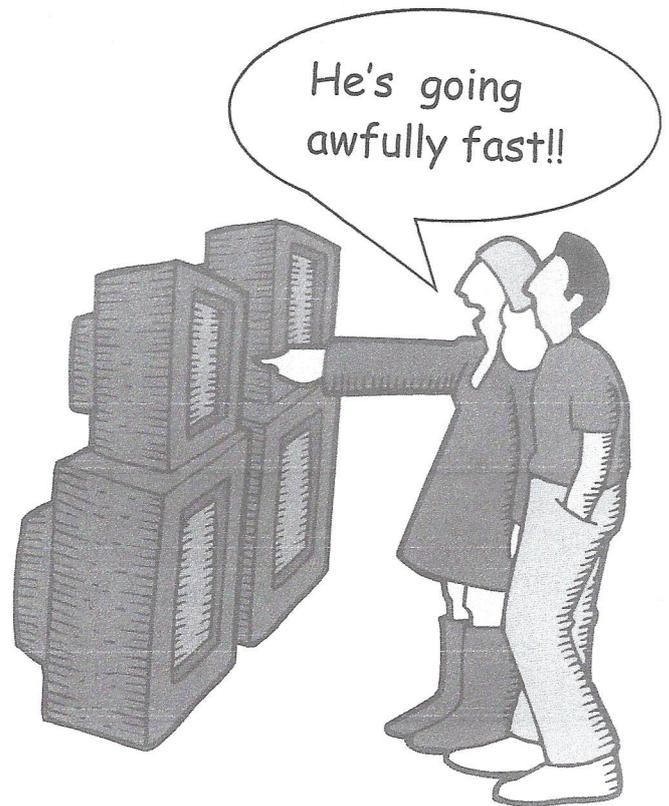
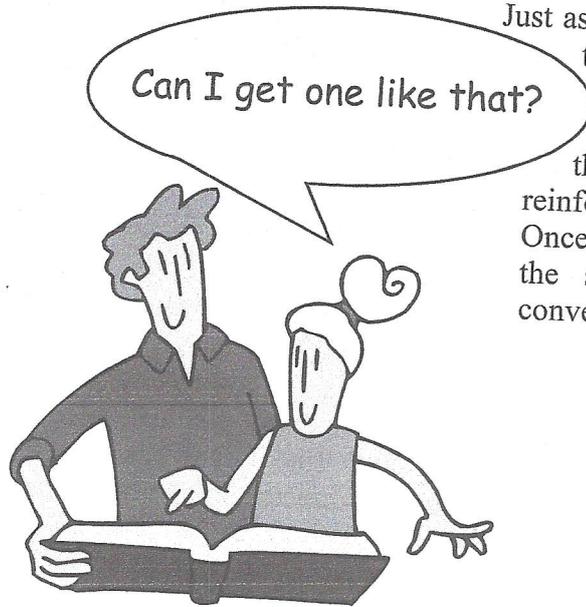
For example, parents often report that at a very early age, their baby began getting their attention by making a loud noise, crying, or (if mobile) crawling to them. They report that the baby would differentially cry—they recognized that their baby cried in a specific manner when hungry and a different manner when he wanted to play. Many parents also report that, before his first birthday, their child "babbed" with realistic intonation patterns and that he took turns "conversing" with his parents.

In Phase I the student is taught the "nature" of communication—he will learn to approach another person (reach toward), direct an action (give a picture), and receive a desired outcome, i.e., the item requested. Just as typically developing children do not use actual words during this early learning period, PECS students also will

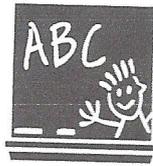


not yet choose a specific picture. Instead, he uses the single picture that is provided for him by the teacher. A child does not have to have mastered discrimination between symbols or pictures before learning the basic elements of communication.

Just as with typically developing children, learning to use a specific word or symbol will come later. Typically developing children learn both to request and to comment at virtually the same time because tangible and social reinforcement are equally effective for them. Once developed, commenting and requesting are the skills that serve as the foundation for conversation throughout life!



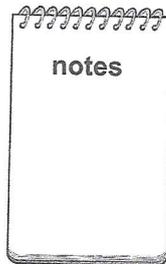
Whereas typical communication development involves outcomes that are either tangible or social, children learning PECS first will learn to communicate for tangible outcomes (foods, toys, etc.) because these are the most effective reinforcers. So when we begin the protocol, we teach requesting. We will discuss later how to teach commenting and other types of communication that result in social outcomes.



The Structured Training Environment

Setting

The student and two trainers are in a common area, often seated, though not necessarily so. One trainer (the communicative partner) is in front of the student. The other trainer (the physical prompter) is in back of the student. A "highly preferred" item is held by the communicative partner out of reach of the student. The picture of the item is on the table (floor, etc.) between the student and the communicative partner.



1. Two trainers are required to teach initiation.
2. No verbal prompts are used during this phase.
3. Present one picture at a time.
4. Do not conduct all training in a single session—arrange for at least 30-40 opportunities throughout the day for the student to request.
5. Use different types of reinforcers—food, toys, etc.
6. Modify the symbol/picture to match motor skills of the student.

Teaching Strategy

Backward Chaining: This strategy teaches a chain, or sequence, of behaviors by reinforcing mastery of the last step, then the next-to-the last step and so on (Sulzer-Azaroff and Mayer, 1991.) The behavior engaged in closest in time to receiving the reinforcer is the most easily learned step. The trainer prompts the student through the initial steps of the chain, and assistance to complete the chain is faded first at the "back end" of the chain. The student initially masters the final step, then the final two steps, then the final three steps, and so on.

Teaching Strategy

Two-Person Prompting: To facilitate rapid fading of prompts, prompting is provided from outside the social interaction. This strategy requires two trainers. The first trainer, the communicative partner, interacts with the child. The second trainer, the physical prompter, prompts the student from behind (or next to) and does not interact in any social manner with the student such as by providing reinforcement. The physical prompter steadily fades all prompts via backward chaining so that the student performs the desired behavior independently.

Communicative Partner's responsibilities:

- Entice the student
- Reinforce the student's exchange (with the item) within 1/2 second
- Pair social praise with the tangible reinforcement
- Time the open hand appropriately

Physical Prompter's responsibilities:

- Wait for the student's initiation
- Physically prompt the student to exchange the picture
- Systematically fade prompts

TARGET SEQUENCE: Pick up → Reach → Release

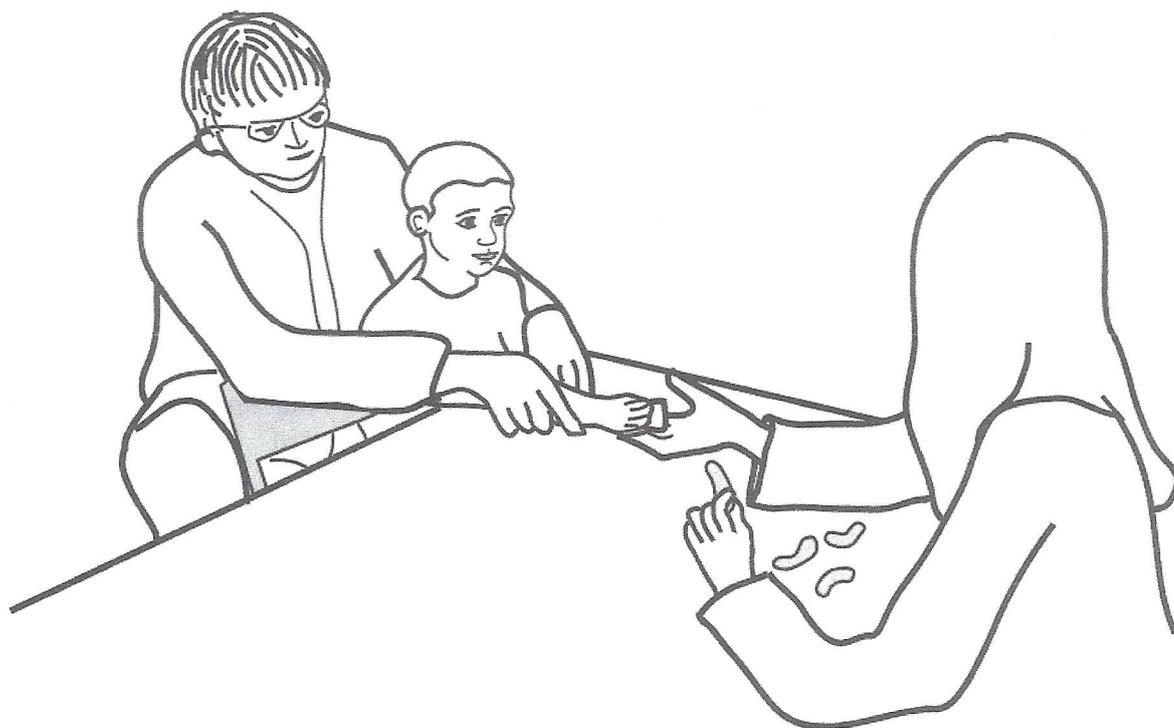
Teaching Spontaneity. As we described earlier, a limitation of many traditional training protocols is that the students do not learn spontaneity. This is not a failing of the student or a symptom or characteristic of a particular disability. Rather, it is the logical result of a "teacher-led" training strategy. Spontaneity involves "going first."

To teach spontaneity in Phase I, we must ensure that the student "goes first." Initially, we elicit this behavior by identifying a powerful reinforcer, withholding it for awhile, and then presenting or showing it to the student. The student's most likely response is to try to get the item or to *reach for* it. This reach is the student's "going first" behavior.

It initially is not communicative because the student is directing this behavior to the reinforcer, not the communicative partner. The physical prompter waits for this reach, though, and over successive trials uses physical prompts to shape this behavior into picking up a picture, reaching to the communicative partner, and releasing the picture into the communicative partner's hand. As the communicative partner systematically reinforces this behavior by providing the tangible item, this "reaching" behavior becomes communicative when the student reaches to the communicative partner with a picture.

"First One's Free"

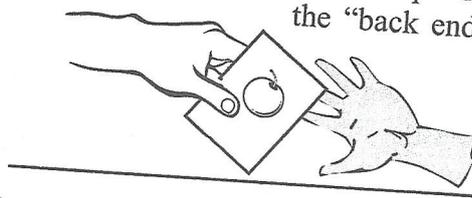
To begin training, ensure that the item you are using is still reinforcing. Even if you just completed the formal reinforcer assessment, your student's interests might have changed. We use a "First One's Free" strategy to quickly assess the current value of the item. Offer a bit or let him play with the item for a few seconds—if he does so, then assume the item is still reinforcing. The communicative partner "entices" the student by showing him the powerful reinforcer. Both trainers must wait for the student to reach for the item—this is the student's **initiation**!. As the student reaches for the item, the physical prompter immediately physically assists the student to pick up the picture, reach to the communicative partner, and release the picture into the communicative partner's open hand. The communicative partner opens her hand to receive the



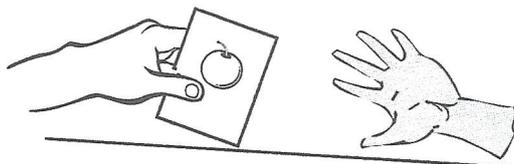
picture ONLY AFTER the student has reached. The moment the student releases the picture into the communicative partner's open hand, she immediately gives the student the reinforcer and praises ("Cheesie!!!").

If the student is requesting a toy, allow him to play with it for 15-20 seconds before calmly taking it back and beginning the next trial.

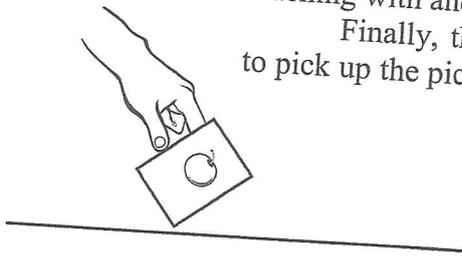
While the student is eating, drinking, or playing with the item, the two trainers get ready for the next trial—put the picture back in front of the student and get another bit of food or drink ready. If the student is requesting a “non-consumable” item (one that doesn't disappear such as a ball, etc.), calmly take the item from the student. Entice the student again, wait for the initiation (the reach), and repeat the physical guidance again.



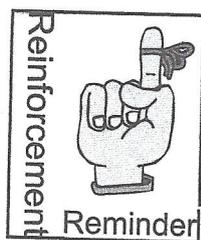
Using backward chaining over successive trials, the physical prompter fades the amount of physical guidance from the “back end” of the prompting sequence (the pick up, reach and release) over a series of trials. In other words, the physical prompter is going to continue to **WAIT** for the student to initiate, and then provide assistance to pick up and reach, but will fade assistance to release the picture. Once the student has released the picture into the trainer's hand, the communicative partner immediately gives the student the requested item and simultaneously praises him.



Once the student independently releases the picture into the communicative partner's hand, the physical prompter begins fading physical assistance to reach toward the trainer's hand. The communicative partner continues to show the student her open hand only when the student reaches for either the item or the picture. Over successive opportunities, the physical prompter continues to help the student pick up the picture, but provides less and less physical prompting to reach until the student independently is reaching with and releasing the picture.



Finally, the physical prompter begins to fade assistance to pick up the picture. Continue this step until the student, upon seeing the desired item, independently picks up the picture, reaches toward the trainer, and releases the picture into the trainer's open hand. The communicative partner continues to immediately give the student the item and provides verbal praise. Remember that your verbal praise should be enthusiastic but not overbearing!



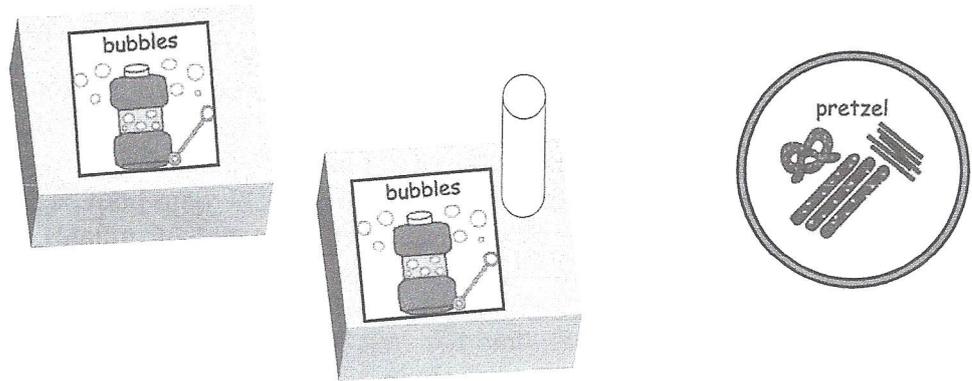
The new behavior being reinforced is releasing the picture into the communicative partner's open hand. The reinforcement must be immediate, so make sure you are prepared by having the appropriate items on hand and immediately accessible. If you delay the reinforcement by more than a half-second, the student will not quickly learn what behavior is being reinforced. During your delay, he might have scratched his nose or wiggled in his seat. If this happens, the student might incorrectly conclude that it is nose scratching and wiggling that is critical in getting access to the desired item, and these actions might occur again.

The effective reinforcement is the item being requested. We pair this reinforcement with social reinforcement, typically in the form of praise, a pat, a tickle, a hair tousling. The form of your praise is dependent upon what the student can understand and tolerate. At a minimum, name the item ("Book!"). You can elaborate on this by saying, "I want book," "You want a book!" or similar phrases. If your student imitates actions, sounds, or words, avoid saying, "You want..." as this is the phrase the student most likely will imitate.

"What happens if..."

1. ...the student does not reach for the reinforcer on the first trial? If the student does not reach for the item, reconfirm that it is a highly desired item. Give the student a "free sample" and observe his reaction. If he plays with it or consumes it, then try using the item again. If he does not play with or consume it, or if he overtly rejects it, find a new item! Many students' preferences change quickly!
2. ...the student "gets tired of" the item after a couple of trials? If the student quits reaching for the item or for the picture of the item, you have two options: You can end the session. Or, you can offer another reinforcer. Remember, continue using one reinforcer and one picture at a time!
3. ...the student has difficulty picking up the picture? Sometimes during Phase I, the student has physical difficulty picking up the picture or holding onto it. If this appears to be the case, consult with an occupational or physical therapist to determine what, if any, modifications can be made to the symbol. For example, if the student has difficulty picking up the picture, make it thicker. You can do

this by printing it on thicker paper, mounting it on a block of wood, etc. We save the lids from frozen juice containers or baby food jars and mount pictures on them—they are rigid and virtually indestructible! Another strategy is to put some sort of “handle” on the symbol. Again, mount it on a thick piece of wood and screw a dowel into the wood to act as a handle (similar to puzzles with knobs).



4. ...the student seems to be waiting for some signal that it's okay to pick up the picture? The communicative partner should entice silently and minimize use of “attentional cues”, e.g., calling the student's name, noting what is available by saying, “I have pretzels,” etc., as students might begin to wait for this announcement. These attentional cues used “ritualistically” can become a prompt for the student to communicate. Do not use direct prompts such as “Give me the picture,” or “What do you want?” Be sure that the student is not waiting for the communicative partner to show her open hand. If this happens, it is because the communicative partner has been sloppy about when to open her hand to the student. The open hand is an informational cue to the student—it signals where to put the picture and should not prompt the exchange. Begin to fade the open hand by waiting increasingly longer to show your open hand. The child should pick up the picture and begin reaching to you before you open your hand. Allow the student access to the item and continue to provide simultaneous praise.
5. ...the student gets very upset when I try to take the non-

consumable item from him in order to begin another trial? If you anticipate before beginning training that this might be a problem, begin with a less-desired item. Go back to your reinforcer hierarchy and begin with item #4 or #5. Then while the student is playing with that item, entice with a slightly more reinforcing item. The student's likely response upon seeing something that he wants more than the item he is holding is to drop it and reach for the new item. This is the next initiation! Continue "moving up" the reinforcer hierarchy. Alternatively, offer additional samples of the desired item. What's better than one toy car? Two, or three, or four! Remember, if the student protests when you take the item from him, treat this protest as the next initiation. The physical prompter must quickly prompt the next exchange—before the student reacts so strongly that he loses his attention to the available reinforcer. If the student has a tantrum, etc., end the session rather than trying to get him to request in the midst of a tantrum. When you begin training again, use a less powerful item.

During Phase I of training, the student learns the physical exchange in order to gain access to a variety of items.



REMEMBER!

Therefore, the trainer must switch between reinforcers during training while continuing to present one picture at a time!!! It may not be crucial for you to switch pictures as you switch reinforcers because the student is not yet expected to look at the picture itself or to "know" what the picture means. He really needs only to look closely enough to locate the picture card on the table. However, we have found that some children do begin looking at the picture itself and, if they can discriminate between pictures, become confused when we do not switch pictures. For this reason, if possible, switch pictures as you switch reinforcers.

Occasionally the student is attracted to some aspect of the picture itself—the shape, the sharp corners, a reflection or glare on the lamination, etc. Sometimes the student waves the picture in front of his eyes, plays with the corners, crushes the picture, etc. If this behavior is allowed to occur over a few trials, it can become a ritualistic part of the exchange. If the student picks up the picture and does anything except *reach* to the communicative partner, the physical prompter should interrupt this behavior. If the physical prompter doesn't prevent the behavior or interrupt it immediately, the Backstep procedure (See next box) should be used so that the inappropriate use of

the picture is not reinforced. The physical prompter should put the picture back down, and the exchange should begin again. If the student is particularly attracted to some aspect of the picture, make sure that the reinforcer you are offering is more desired than playing with the picture. Alternatively, you can modify the aspect of the picture that attracts the student. Use non-glare contact paper to cover the picture if the student likes the glare. Make the pictures circular if he likes the corners. Mount the pictures on a firm material if he crushes or crumples the pictures (juice lids work well for this!).

Pay careful attention to your student so that you know when he is tiring of a particular item. The success of Phase I is directly related to the student's interest in the items being offered, so switch items as frequently as necessary. End your session before the student is no longer interested in available items (or when you are out of time). **END WITH SUCCESS!**

Error Correction

The two-person prompting strategy essentially is an errorless learning strategy. If the physical prompter systematically fades prompts and the communicative partner entices with items that are reinforcing, errors should not occur. Occasionally, though, the student will not perform on a particular trial as expected. For example, the child might pick up the picture, begin reaching, and then drop the picture before completing the exchange. This error takes place within a sequential lesson, so the appropriate error correction strategy would be the **Backstep**: the physical prompter takes the child back in the sequence to the last step completed correctly and then provides extra assistance to complete the sequence. In this example, the physical prompter would pick up the picture (do not make the student pick it up from the floor!), put it back on the table, and the sequence would begin again with the communicative partner enticing. Once the student picks up the picture, the physical prompter would provide more physical assistance than on the previous trial by physically prompting the child to reach to the communicative partner. Once the student reaches the communicative partner and gives the picture, the communicative partner differentially reinforces the exchange.