Writing Program Objectives Part 2a

Program Development¹

The fundamental goal of any intervention program should be to improve the quality of life of the individual with disabilities.

¹ Sternberg et al. (1994). Individuals with Profound Disabilities: Instructional and Assistive Strategies. (3rd ed. pp. 303-311). Austin, TX: PRO-ED.

What does the process look like?

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Select instructional strategies (cognitive, physical, alertness, behavioral, sensory, mobility, medical and age characteristics must be taken into consideration) \rightarrow select the appropriate data collection system.

What do the regulations² say?

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Each written training program designed to implement the objectives in the individual program plan must specify:

• W234: The methods to be used;

The training program provides clear directions to any staff person working with the individual on how to implement the teaching strategies. • W235: The schedule for use of the method;

The training program provides clear directions to any staff person working with the individual about when the strategies are to be implemented. • W236: The person responsible for the program;

The person who will monitor the program and ensure it is being implemented appropriately, is clearly identified on the written training program. This may or may not be the same person who implements the program. • Additionally, the Interpretive Guidance at W237 states "The training program provides clear directions to any staff person working with the individual about the type of data to record, and the frequency which data is to be recorded."

In order to write a good program, keep in mind the following nine instructional components:

1. An understanding of learning theory (principals of reinforcement) and the relationship of instruction to the levels of learning or response competence (acquisition, fluency, and generalization). 2. All individuals with disabilities should be taught to participate at least partially in a wide range of activities and environments, resulting in the individual being perceived as a valuable and contributing member of society. 3. Instruction that requires the active engagement and interactions of individuals, rather than passive receipt of instruction and care.

4. Planning that coordinates the scheduling of individual and group instruction, and the scheduling of the various professionals considered part of the essential team.

5. Assurance that, to the maximum extent possible, instructional materials and tasks are functional, age-appropriate, and socially validated.

The following slide includes examples of a task being functional and nonfunctional, depending upon materials and activities.

Domain	Functional Task	Nonfunctional Task	Nonfunctional Task
		Because of Material	Because of Activity
Self-Help	Individual puts arms through coat held by a staff person prior to community-based instruction	Individual puts arms through holes in sleeveless practice vest	Individual identifies pictures of children putting on coats
Leisure	Individual uses switch- activated tape player	Individual plays with switch-activated dancing bear	Individual is guided in putting pegs in a pegboard
Community	Individual takes items from store shelves and puts them in the shopping cart	Individual bags toy "food" in vocational area	Individual watches video of appropriate bus-riding behavior
Vocational	Individual tears plastic off bagged items in stockroom of department store 5/2013 B	Individual sorts plastic toy nuts and bolts into slots on a foam board ureau of Facility Standards	Individual "listens" to a story about community helper

Examples of nonfunctional materials and activities:

6. Selection of appropriate community settings for generalized learning.

7. Consistency of instruction and contingencies across various instructional personnel, including parents/legal guardians.

8. Instructional grouping such that there is a mix of levels of functioning and physical disability.

9. The ongoing use of an accurate and useful system of documenting learning. Is your data telling you what you want to know?

General Instructional Formatting

The precision of trial management is incorporated within various methodological formats.

 One set of formats is used for instructing single step behaviors, such as labeling functional objects or learning which restroom to use.

 Another set is used for learning multiple-step behaviors, such as self help activities.

Formats for single-step behaviors

Formats for single-step behaviors include at least the following procedures:

- Match-to-sample
- Sort-to-sample
- Simple discrimination learning
- Shaping

Match-to-sample

• The match-to-sample format is used to teach the ability to select, from a variety of items, one that matches a sample item. The teacher is in effect saying, "Here is one of these; find another."

The teacher provides a model or "instance" of the item (correct choice) and an array consisting of an instance and one or more "non-instances" (incorrect choices) from which to select one similar to the model. The ability to match an item to a given sample is a useful skill in a number of settings, including home (selecting utensils for eating), leisure (choosing an item with which to play), and community (selecting items in a grocery store) settings.

Sort-to-sample

• The sort-to-sample format is used to teach a learner to sort an array of items into categories when two models are presented.

The first step is sorting by dimensions in which the learner sorts by the "likeness" of dimensional features, such as color, size, and shape. Initially, the determination is based on a single-dimensional difference. For example, socks or cups identical in all respects except color might be sorted. The next step is sorting with multipledimensional differences.

Multiple-dimension sorting involves such items as toys and articles of clothing. Sorting may then progress to categories such as function of objects (e.g., sorting objects one wears vs. things one eats; or things found in the kitchen vs. things found in the bathroom). For both match-to-sample and sort-to-sample tasks, one begins with real objects before using pictures or some other form of representation.

Klein and Stafford (1978) stated that classification competence is enhanced by experience with concrete, familiar materials before the use of symbolic materials.

Simple discrimination learning

• Simple discrimination learning is used to teach differential selection of two items without an exemplar, such as correctly selecting a fork when requested or when needed.

On another level, discrimination learning is said to occur when a learner can tell whether two objects (e.g., socks and cups) are the same or different.

During initial stages of discrimination learning, the relevant dimension should vary while the irrelevant dimensions remain constant (Zeaman & House, 1979). In a case such as discriminating forks and spoons, or cups and bowls, the relevant feature that varies is form.

Therefore, when teaching the spoon-fork or cupbowl discrimination, only form should vary while all other dimensions, such as size and color, should not. Progress to higher level learning occurs when sets of items can be correctly identified even though they vary in multiple dimensions, such as size, color, and position (Gagne & Briggs, 1979). The learner has learned that a cup is a cup despite variations in color and/or size.

Shaping

Shaping is instruction of a behavior by reinforcing successive approximations of the target behavior.

It is assumed that the learner has made or is capable of making some attempt at performing the behavior.

Shaping molds a change or extension of the attempted topography of the response.

By accepting small incremental steps, and assuring mastery of each approximation before moving on to the next, each step becomes the foundation upon which a more sophisticated response is established. Many skills are acquired through shaping.

Walking, imitation, reaching, and grasping are examples of complex skills that started from simpler, easier forms of behavior that were built upon until more extensive, complex performances developed. For typical children, certain skills, such as learning to walk, are learned through accidental or natural selection of the successive approximations.

Shaping, as an instructional procedure with individuals with disabilities, must be thoughtfully planned.

Shaping is a linear procedure. It always moves from current capability toward the target behavior.

Performance criteria are shifted so as to drive this advancing capability.

Criteria for step advancement may be qualitative (e.g., improved use of gestures) or quantitative (e.g., working for increasing periods of time or at a faster rate).

As the steps move from easier to harder, one never progresses to a harder requirement until the easier has been mastered. Shaping is a systematic procedure. The steps for shaping for a teaching procedure include:

- 1. Identifying the objective;
- 2. Identifying the incremental steps;
- 3. Determining the learner's current level of ability;

4. Teaching to the first criterion, providing the learner with reinforcement and correction until mastery of the initial targeted step;

5. Teaching each successive step until the learner can successfully perform the total objective; and

6. Terminating reinforcement of previous accomplishments once the learner has moved to succeeding steps.

When employing the shaping procedure, one must bear in mind that, if the approximations are too small, the procedure may be needlessly time consuming, inefficient, and boring to the learner. If approximations are too large, instruction will be just as frustrating to the learner as if he or she had been initially presented with the requirement of performing the original objective. If the teacher finds that some of the steps are indeed too large, he or she should return to the step of the learner's last successful performance and advance again, but at smaller increments.

Formats for Multiple-Step Behaviors

Formats for multiple-step behaviors include three variations of chaining.

Much of what we teach learners makes use of skills or behaviors in various combinations or series to achieve new ends.

These skills are related by their usefulness in obtaining new objectives. When sequenced, these related skills are known as chains.

Chains may allow a complex behavior, such as tooth brushing, or a series of activities, such as moving from the classroom to the bathroom and back again.

Teaching how to form and make use of chains of behaviors is known as chaining.

The components of a chain may be individual behaviors already in a learner's repertoire, or a combination of established and new behaviors.

The various steps or components of a chain of a complex behavior are taught in a sequence.

The variations in sequencing are known as forward chaining, backward chaining, and total task or whole task programming.

One way of approaching the teaching of a chained performance is to teach the first link in the chain and then each step in its natural order of succession.

This is known as forward chaining.

If the objective is to teach a learner how to put on a sock, the teacher begins by identifying the sequential steps in putting on a sock as follows:

(1) pick up sock, (2) lift foot, (3) insert thumbs at opening, (4) separate and open hole, (5) insert toe, (6) pull to heel, and (7) pull over heel and up to ankle.

In forward chaining, the teacher instructs the learner how to do Step 1 until the learner demonstrates acquisition.

The learner then is instructed in the performance of Step 2 (with Step 1 expected to occur). Once acquisition of Step 2 is demonstrated, the teacher moves on to Step 3 (with Steps 1 and 2 expected to occur). This progression continues in succession until the learner can perform all the steps in a coordinated series resulting in the ultimate objective of putting on the sock. As a rule, steps beyond those focused on for instruction should be "walked through" with the learner.

This gives the learner an opportunity to continuously view the targeted behavior in its entirety.

This process has been referred to as "progressive chaining" (Sternberg et al, 1986).

An alternate choice is backward chaining.

In this case, instruction begins with the last step in the chain and proceeds in reverse order until the learner can perform all the steps in succession. In the case of teaching the learner to put on a sock, the teacher first performs Steps 1 through 6 and requires the learner to perform only Step 7, the last step. Instruction proceeds on Step 7.

Once the learner demonstrates acquisition of Step 7, the teacher performs Steps 1 through 5 and requires learner performance of Steps 7 and 6 (with instruction of Step 6 only, and expectation of performance on Step 7).

The teacher continues in this reverse order until the learner shows acquisition of the entire chain. Such instruction continues in reverse order until the learner is finally presented with only the sock and must independently perform all the necessary steps. A final variation of chaining is total task programming.

In this approach, the learner begins with the first step, but every step in the sequence is trained on every trial until the learner performs the whole task to a predetermined criterion (Bellamy et al, 1979; Gold, 1976). A trial is defined as an opportunity to perform the entire chain, not only a single step or subset of steps of the chain.

At the beginning of each trial, the learner is given the instructional cue for performance of the entire chain.

As the learner begins with the first step, he or she is encouraged to continue with the succeeding steps.

As the learner confronts a step he or she cannot perform, the teacher provides assistance through that step. For each trial, the teacher records the number of steps the learner performed independently and the number that required assistance.

Bellamy et al. (1979) suggested that difficult steps be taught in isolation until an accuracy rate of 80% is achieved, at which point the responses may be chained together.

This approach seems to include a reasonable use of massed trials for difficult steps.

In a review of various chaining options, Spooner and Spooner (1984) concluded, "In the final analysis, it may be that different learners do better with different procedures, and that when different tasks are used (e.g., dressing vs. vocational) different results are obtainable."

Alternative Instruction

Some individuals with profound disabilities have primary needs that require alternative instruction. There are four primary needs:

1. Organic Health Care: This refers to nutritional, respiratory, gastrointestinal, seizure and medication, cardiac, and body temperature control needs.

2. Structural Needs: This refers to positioning needs in order to prevent further bone, joint, muscle and skin deterioration.

Correct positioning is important in order to facilitate both voluntary motor control and sensory input.

3. Social-Emotional needs: Some individuals with profound disabilities require large amounts of caregiving time due to their health and structural needs (respiratory distress, gastrointestinal disturbance, physical discomfort, etc).

This may elicit and typically requires caregiving behavior from staff, such as holding, rocking, touching, and calming vocalizations.

4. Cognitive, Sensory, and Communication Development: This refers to an attempt to increase an individual's alertness to the environment, and their interaction with people and objects.

Prompt Systems

First instances of a new behavior can be effected by teacher assistance known as prompting.

For more information, refer to the "Prompt Systems" presentation.

Reinforcement

Reinforcement is the underpinning of the instructional interaction between a teacher and a learner.

For more information, refer to the "Reinforcement" presentation.

Be creative!

When possible, all activities except personal or private hygiene should be done in multiple environments, including in the community.

Remember:

Locations and interactions should be determined by the individual's health, physical state, and behavioral responses to those people and settings, rather than preset by staff beliefs.

What comes after program development?

See the presentation on Data Collection for the answer!

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References

¹ Sternberg et al. (1994). Individuals with Profound Disabilities: Instructional and Assistive Strategies. (3rd ed. pp. 303-311). Austin, TX: PRO-ED.

² State Operations Manual Appendix J - Guidance to Surveyors: Intermediate Care Facilities for Persons With Mental Retardation. Retrieved from http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/som107a p_j_intermcare.pdf

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