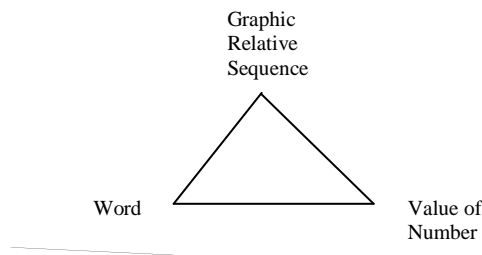


Math Training Tips and Tricks

In order for an individual to successfully negotiate mathematics they have to be able to understand the graphic representation of the numbers and their relative sequence, the word representation of numbers and the value representation of numbers.



A break in any one of these abilities can cause you to reach a block wall in training. If this occurs, use the follow sequence of events to isolate the problem and then to train to that problem.

Identify the difficulty:

You will need to create 10 index cards with the numbers 1-10 individually written on each card.

1. Using the number cards, hold up each card and have the patient name the number. If the patient cannot name the number held up, one break down is in the language system.
2. Next, using the number cards, hold up a card and have the patient hold up the number of fingers represented by the card. BE SURE TO TELL THE PATIENT NOT TO SAY THE NUMBER AND STRESS TO RESPOND QUICKLY. Note whether the patient has to count out on their fingers or if they can rapidly put up the representative fingers. Also note if they are using placements like 5's or 2's. If the patient cannot do this task, then there is a break down in the knowledge of the value represented by a written number.
3. Finally, place the cards in a random order on the table in front of the patient. Ask the patient to place the numbers in order. Note if the patient is counting and reaching for the cards as they count. Note any errors. If the patient is doing either of the things mentioned, you probably have a break down in the relative sequence portion of the connections.

Training with patients who have a break down:

1. Training the Value of the Number

You will need to create number cards that look like dominos. Use standard index cards that are oriented horizontally. Use a felt tip marker to place dots on the left half of the cards to represent numbers 1-5. The cards should be set up as follows:

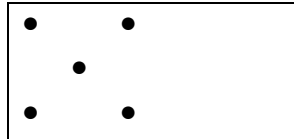
1 = Dot in top left hand corner.

2 = Dots in the top left and right corners of the left half.

3 = Dots in the top left and right corners, and the bottom left corner of the left half.

4 = Dots in the top left and right corners, and the bottom left and right corners of the left half.

5 = Dots in the top left and right corners, and the bottom left and right corners, and a dot in the center.



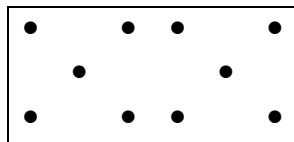
6 = Five dots in the left half and a dot in top left hand corner of the right half.

7 = Five dots in the left half and dots in the top left and right corners of the right half.

8 = Five dots in the left half and dots in the top left and right corners, and the bottom left corner of the right half.

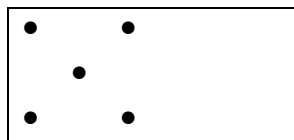
9 = Five dots in the left half and dots in the top left and right corners, and the bottom left and right corners of the right half.

10 = Five dots in the left half and dots in the top left and right corners, and the bottom left and right corners, and a dot in the center.



First train 1 – 5. Train the patient to the dots with verbal responses. For instance, a dot located in the top left corner represents “1”, when a dot is added to the top right corner it represent “2”, when a dot is added to the bottom left corner it represents “3”, when a dot is added to the bottom right corner it represents “4” and finally, when a dot is added to the middle it represents “5.” This way the patient will know that when they see a dot in the middle, the number is automatically 5 and they do not need to count each dot. Once the patient is able to quickly name the dots up to 5, move to the next level.

Now train 6 – 10. Show the patient the card with 5 dots. Instruct the patient to look at the dot in the middle on the left side of the card and then to use that to determine what the new number would be if the dots on the right were there. Then show the cards with 6-10 dots.



Have the patient respond verbally to the cards. Once the patient is able to name the cards quickly, go on to the next level.

Now use the cards with the written numbers and create a number line that is not in order. Have the patient point to the written number, without using words, as you flash each of the domino cards. Once the patient is able to do this quickly, move to the next level.

Using the dot cards, hold up two dot cards and have the student identify which one is greater. Once the patient can do this without error, move on.

Using the dot cards and the number cards, hold up one dot card and one number card and have the patient tell you which card is greater.

Once you have followed this training sequence, you are ready to move on to the Basic Skills section of the program.

Additional Tips and Tricks

Have the patient work on Spatial Number Visualization which will help with the mental visualization of the number line.

Have the patient practice counting by two's

Have the patient practice counting by three's

Adjust the speed of the metronome working up to the level required to pass.