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# REDUCING A PERSEVERATION OF IMMATURE TIMING BETWEEN AN ACOUSTIC SPEECH SIGNAL AND ITS PERCEPTION

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An inscription on an ancient Oriental temple says: He who would straighten the end of a process must commence by making the beginning correct.

Consequently, in attempting to reduce the perseveration of immature timing between an acoustic speech signal and its perception it is necessary to re-view the process of speech development when a time lapse between the signal and its perception was normal. This occurs, as you know, in very young children. The acoustic signal enters receptive hearing areas, the attention is caught and held upon the vibrating signal until a translation of the signal into meaningful images takes place. Thus, the signal is perceived.

The time consumed by this process of translation when the child is still very inexperienced gradually diminishes through constant practice until the whole metamorphosis from symbolic signal to image, or perception, becomes instantaneous. That is, unless some physical or psychological barrier prevents maturation. Then, to reduce, or circumvent, the barrier, it is necessary to commence at the beginning and direct the practice of the complete learning process, step by step, into mature instantaneous perception.

Research has disclosed that the first receptors of sound in a young child are the cells of his body. Body-hearing receives and registers vibrations at a level above and below the audible threshold. This hearing is now being accepted as the basis on which future ear-hearing is built. It is also the basis for memory and the focused ability to listen well.

In early childhood there is direct stimulation to the body from clothing, bathing, pin pricks and such, therefore, to supply these same experiences to older children is often impossible. Yet, similar sensory experiences can be achieved with other materials as: rub sandpaper over the hands—the palms, the backs, between the fingers—then over the arms, neck, cheeks, tip of the nose and the lips. Close the eyes during these exercises to aid concentration. And follow one exercise with a contrast of experience, as, after sandpaper rub the same areas with cotton. Or walk barefoot over hot rocky surfaces, then splash in cool mud.

After each stimulating experience translate the memory of it onto a piece of paper with colored chalk. The result may be nothing more than a scribble or a few lines

but to *translate* the sensation into any kind of image commences the process of perceiving the speech signal in translated images, or meaningful concepts.

As progress is made, call attention to the right and left side of the body and determine which side received the stimulation the clearest, or which side distorted it. Encourage the expression of this difference in the translation on the paper. Begin encouraging any element of choice of discrimination, for each added attention-holder aids greater concentration, therefore more accurate memory. Concentrating on the likenesses and differences of the right and left side also develops balance and spatial concepts, as well as hand dominance and body image.

Explore thoroughly all possible facets of body stimulation with inaudible vibrations, then advance into audible sound. Use a vibrator and cover the same areas of the body stimulated before, or have the child lie prone on the floor, make a loud hum in his throat while the therapist pounds over his body with clenched fists. Lying prone over a piano while someone plays very loudly, or over an organ. Even a radio turned up very loud is good.

Next add taste and smell, again increasing the length of concentration, the skill of imagery in meaningful concepts and the speed of producing a result from stimulation to an image. All, of which, is bringing the time element under control to be readily resolved entirely.

While chewing, crunching, gulping, drinking and relishing all sorts of contrasting flavors and textures in foods, listen and feel intently. Determine the volume of food inside the mouth by the feel of it. Place the hands on either jaw and add the consciousness of the sound, the feel, the taste and smell and the muscle movement. Translated on paper, embryonic forms in the expression should be emerging.

Lastly introduce rhythm and visual perception. The rhythmic pattern of speech is the last for the young child, or the perseverator, to master. And rhythm is necessary to meaning.

Begin with simple hand clapping rhythms, advance to complex ones and add music, encouraging in listening the separation of the music melody and the beat. Add any element that inspires intent and discriminatory listening.

The translation can now be varied, using different mediums on paper or other interesting materials. Even colored lights are an excellent variation. Try movement of the body with music, the reproduction of pitch and volume by the voice to accompany the body and the music. This accomplished, augment the process toward complete and instantaneous timing with visual illustrations that tell a story applicable to the music or the body movement or the rhythm. Inspire the child to make the application of the visual segment to the whole.

Thus all of the senses are working together as a team. When they are brought together into an intense unified focus the perseveration of immature timing between an acoustic speech signal and its perception has disappeared.