



# Strategies for Developing Speech, Language and Auditory Perception

## **Body Movements**

The Hearing and Speech Foundation

Maryville, TN

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## **Body Movements**

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## Part II: The Physical Qualities of Body Movements

*“The quality of the movement must be equal to the quality of a particular sound, which means that they must correspond in their parameters of time, intensity and tension.”*

Professor Vesna Pintar, 1991

### Introduction

The following sections provide a brief description of the factors, or physical qualities that are inherent in the movement of the body. These factors are also components of the structural unit necessary for speech production. The *naturally occurring qualities of whole body movements* and *phonetic movements* used in training motor skills, speech parameters and specific speech sounds are:

- **Space and Direction**-----arm or leg placement or movement in relation to the body’s core, or the position of the whole body in space; the general direction of whole or partial (limbs) body movement, sometimes referred to as direction of tension. It may also be described as the “melody” of movement, having the characteristics of intonation ( Pintar and Sakic, 1991).
- **Intensity**-----strength or “weight” of the movement
- **Time**-----duration and speed; basis for rhythm
- **Tension**-----variations from relaxed to very tense, evident in all parts of the body.

A Verbotonal teacher is trained to understand the characteristics of the physical qualities inherent to movement (listed above) and the parameters of speech that these movements train in the speech of hearing-impaired children. One must

remember, however, that not all qualities or factors of speech are physical qualities of a body movement. It is important to point out the acoustic parameters that are *not* inherent physical qualities of a body movement. One example of this is the parameter of *intonation*. Intonation is a quality of speech – one hears it in the speech pattern of others and one produces and controls it himself, mostly through auditory input. However, intonation is not a component or physical factor of the whole body movement itself, even though there is direction and height of a movement as there is with intonation. It is the body's *tension*, demonstrated by the *intensity, timing, and direction (or position) of movement*, that can affect the perception and production of intonation in a child with significant hearing loss. It is through imitating the teacher's timing, intensity and effort of movement as teacher and child both speak and move that creates the necessary amount of tension in the child's body and articulators, enabling him to auditorily and kinesthetically perceive and produce intonation changes in his vocalizations.

*Frequency*, or the perception of the *pitch (tonality)* of a sound, is another example of an acoustic parameter of speech that is not inherent in whole body movement, but it is trained by using a combination of the physical qualities of body movement to make that parameter more “perceivable” by the hearing-impaired child. For example, when stimulating the /ah/ sound with voice, phonetic movement and appropriate amplification, a teacher's initial movement portrays the *relaxed tension* and the *open position* of a normally produced /ah/ (short o sound). If the /ah/ is vocalized with a downward intonation change, the body movement also goes down in direction, which should decrease tension while maintaining a natural voice quality.

Compare this /ah/ that is :

- low-tonality (perception of frequency)

- low-tension (physical quality of tension)
- open (physical position of arms and mouth)



- to another vowel such as an /ē/, that is high-tonality (perception of frequency)
- more tense (physical quality of tension)
- more closed (position/ placement of body and articulators)

The hearing-impaired or deaf child uses his residual hearing to



distinguish the tonality of these vowels, and he can also be trained to discern the differences in the physical qualities of each tonality sound through movement. Therefore, in addition to auditory input, it is the *variation in the physical quality of*

*/ah/ and /ē/ that helps define the tonality* differences of both sounds and affects the eventual auditory perception of both vowels.

In essence, *all roads lead to tension*. Tension is affected by intensity, timing, and position/direction of movement. In turn, tension affects intonation, tonality and voice quality. Timing (speed and duration) affects tension and is a component of rhythm. Rhythm is affected by pause, which is a parameter that also builds tension. Thus, it is easy to see how the physical qualities of whole body movement work simultaneously as an intertwined unit to affect the speech parameters that are portrayed via the articulators. Keeping in mind this continuous effect of the physical qualities of movement upon sound production, the primary goal must *always* be to enhance auditory perception and production of normal rhythm, intonation and phonemes within the context of meaningful speech and language.

### **Space and Direction of Movement**

The factors of position and direction are inherent in whole body movements. There can be position with *no* movement, i.e., someone sitting perfectly still, but there *cannot be a movement without position*, a place in space. In this brief discussion of the body movement qualities of space and direction, the terms used will be simple and commonly understood. For example, a beginning or ending position of a movement can be “high”, “low” or “mid-range”. This can refer to the position of the entire body sitting vs. standing, or to the position of the arms reaching up or down. A movement position can begin or end “open” or “closed” or somewhere in between, as in the position of arms and legs in relation to each other and to the body’s core. As the body movement changes its position, it follows a direct or indirect path, *thereby maintaining, increasing or decreasing tension*.

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