From Multisensory Activities to Musical Knowledge

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Have you ever had to justify “playing” singing games in music class? Have you ever been asked, When are you going to stop playing games and teach music? Perhaps a more thorough understanding of how children learn and the multisensory nature of singing games could lead to an understanding of how such activities can be effective and enjoyable tools in leading a greater number of children to musical knowledge.

The multisensory nature of singing games makes them invaluable in helping children, who have a variety of sensory learning style preferences, to develop musical knowledge. While volumes of literature and research exist regarding learning styles and implications for teaching, let us concentrate on (a) literature and research relative to perceptual learning modalities, i.e. auditory, visual, and kinesthetic; and (b) recent research as it relates to perceptual learning modalities and music learning. Finally, a relationship will be made to the multisensory nature of several commonly used singing games.

One dimension of learning style is concerned with how learners receive and retain information, also referred to as reception styles. The most notable of the reception styles is the perceptual modality preference, which is the “preferred reliance on one of the sensory modes for understanding experience” (Keefe, 1987, p. 8). The three basic perceptual modes are (1) kinesthetic, which is doing or direct experience through handling or performing with large muscle movements, small muscle movements, and the sense of touch; (2) auditory, which is the use of hearing as the means of receiving information; and (3) visual, which is the use of reading and viewing.

Barbe and Milone (1981) estimate that 30% of the learning population prefers the visual modality, about 25% prefers auditory, 15% prefers kinesthetic, and 30% have mixed modality strength. According to Keefe (1987), modality preferences seem to evolve across childhood years from kinesthetic to visual and eventually to verbal, with all students ultimately needing to learn to use all modality preferences change with age and evolve from the kinesthetic to the visual and eventually to verbal has been corroborated by a number of researchers.

Music is multisensory or multi-modal in nature. It is perceived as a series of sound patterns which are heard (auditory), and responded to by reading musical symbols (visual), and/or responded to with movement or physical performance of some kind (kinesthetic). Recent research regarding modality-based teaching and learning in music supports this premise.

While research has been plentiful for some time, regarding individuals' modality preferences for learning subjects such as mathematics and language arts, music educators have more recently begun to study the influences of learning modalities on music learning. Music teachers advocate presenting music lessons to children in a variety of modalities. For example, in research regarding children's performance of rhythm patterns, Persellin (1990,1992) found some music educators advocate the auditory introduction of patterns by singing or playing recorded examples. Some teachers recommend seeing the patterns via the use of charts, books, the chalkboard, or other visual aids, some advocate seeing and hearing the patterns by having children play or clap the patterns before reading notation. Kinesthetic music teachers enjoy physical involvement and advocate engaging students in games, dances, playing instruments, and hands-on-experiences.

In one of the more recent studies Persellin (1992) sought to find answers to the following questions:

Which presentation modality allows children to recall rhythm patterns the best? Does the most effective modality or combination of modalities remain constant from the first grade through fifth grade? Do children have better short-term recall when presented with a rhythm pattern through a single modality or through multimodalities? Do multimodality presentations confuse younger children more than they confuse older children? (p.307)

The children were not pretested in this study to determine their learning modality preference because most music teachers do not have this option. It is up to the music teacher to teach effectively to all children, regardless of learning modality preferences. The first grade, third grade, and fifth grade children were examined to determine their ability to recall rhythm patterns when presented through auditory, visual, and kinesthetic modalities. Persellin (1992) reports on the role of maturity as the score of first graders was less than the third graders, which was less than the fifth graders. The test scores indicated that students who were presented rhythm patterns using a multimodality presentation were not confused by the multisensory input. The findings of this study suggest that incorporation of learning modalities into music teaching methods could result in more efficient learning of rhythm patterns. Persellin (1992) concludes, "Children learn music skills through a variety of teaching methods. These methods include learning modalities. If teachers incorporate multiple learning modalities into their teaching style, it is possible that music education could be more effective." (p.314).

In SongWorks I: Singing in the Education of Children, Bennett and Bartholomew (1997) describe the multi-modal nature of song activities which are frequently used in teaching music to children in the elementary grades. They explain,

Song activities generally involve varying degrees of movement, language, social interaction, and intellectual stimulation. Because learners are engaged in so many different ways as they play and sing, maximum involvement of the whole child or the whole being can occur. Opportunities for, and practice of, sensory integration and coordination can occur through multiple turns of a singing game or through playing various games. As they play Ring Around the Rosy, students sing, listen, and watch as they walk or skip in a circle. When the cadence "all fall down" is sung, students coordinate what they are singing and hearing with how they are moving and what they are seeing as they fall to the floor. Notice how the visual (seeing), auditory (hearing), and kinesthetic (movement) modes are operating and coming in as children play this and other singing games. (p.11).

The example cited above brings to mind other examples of typical music class activities. Only a few will be related here so that the reader can begin to relate many other similar multisensory experiences.

1. Sing Old MacDonald and invite children to suggest animals and body movements or body sounds to substitute for animal sounds in the song. It is difficult to maintain musicality while singing sounds such as "quack, quack," or meow, meow," or "oink, oink," and the body movements seem to eliminate that problem. Multisensory engagement: Singing and listening (auditory) for a place in the song to use body sound or movement (kinesthetic)/ Watch the leader (visual) and follow the movements (kinesthetic).

2. Focus on "E-I-E-I-O" patterns in Old MacDonald by pointing to body parts to represent the relationship of the tones being sung on those syllables. Example given by teacher, point to shoulder on first "E-I," point to elbow on next "E-I," and point to wrist on "O". Children are asked to suggest other body parts to point to on the three tones as they sing the "E-I-E-I-O's." Multisensory engagement: Listening for "E-I-E-I-O" patterns in the song (auditory) and pointing to body parts (kinesthetic) while singing the song. Watching leader and imitating the pointing movement (visual and kinesthetic).

3. With a finger in the air, follow the prepared map of Old MacDonald. Focus on the "E-I-E-I-O" (MMRRD) pattern while following the map with fingers and using hand signs on the "E-I-E-I-O's."

Multisensory engagement: Following the map with fingers (visual/kinesthetic) and listening for the "E-I-E-I-O" (MMRRD) pattern (auditory).

4. Sing Scotland's Burning with accompanying hand/arm signals. Because students may not have had a previous introduction to hand/arm signals discuss, "Which phrases have movements that are the same?" "Why?" "What is the relationship of the movements to the song?" etc.

Multisensory engagement: Accompanying movements with song's phrases (auditory, visual, and kinesthetic).

Since Persellin's (1992) research indicates that incorporating multiple learning modalities into teaching can make music education more effective, it seems important to plan lessons which are multisensory, i.e., use the auditory, visual, and kinesthetic modes of learning.

Bibliography

Barbe, W.B., & Milone, M.N. Jr. (1981). What we know about modality strengths. Educational Leadership, 38(5), 378-380.

Bennett, P., & Bartholomew, D. (1997). SongWorks I: Singing in the education of children. Belmont, CA: Wadsworth Publishing Co.

Keefe, J.W. (1987). Learning style theory and practice. Reston, VA: National Association of Secondary School Principals

Persellin, D.C. (1990). The relationship between three learning modalities and children's recall and performance of rhythm patterns. In T. Tunks (Ed.),

Texas Music Education Research 1990 (pp.35-39). Austin, TX: Texas Music Education Association.

Persellin, D. C. (1992, March). The effect of kinesthetic and visual aids on the tonal accuracy of children's singing of a learned song. Paper presented at the Biennial Inservice Meeting of the Music Educators Conference, New Orleans, LA

Persellin, D. C. (1992). Responses to rhythm patterns when presented to children through auditory, visual and kinesthetic modalities. Journal of Research in Music Education, 40(4),306-315.

Stover, M. L. (1993). A multisensory approach for teaching the essential elements of music: A model for training teachers who teach music in kindergarten through grade six. A Record of Study, Texas A&M University, College Station, TX.