AN EXPERIMENTAL STUDY OF THE COMPARATIVE EFFECTS OF SINGING SONGS WITH WORDS AND WITHOUT WORDS ON CHILDREN IN KINDERGARTEN AND FIRST GRADE

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An Experimental Study of the Comparative Effects of Singing Songs With Words and Without Words on Children in Kindergarten and First Grade

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CHAPTER ONE

INTRODUCTION AND PURPOSE OF THE STUDY

Traditionally, song instruction has been the core of the elementary school music curriculum. Music educators who were responsible for the development of the first music curriculum for public education were convinced of the practicability and necessity of teaching singing. "Teach sounds before signs; make the child sing before he learns the written notes or their names," stated Lowell Mason in his Manual of Instruction.[1] That principle is still valid. Music educators have deduced that a child's participation in music activities, such as singing, gives him insight into the elements of music which result in his greater understanding of music.[2]

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[1]Edward Bailey Birge, History of Public School Music in the United States (Washington, D.C.: Music Educators National Conference, 1966), p. 38.

[2]Thomas A. Regelski, Teaching General Music (New York: Schirmer Books, 1981), p. 354.

For a child to understand music, he must be able to audiate the basic elements of music.[3] When a child audiates, he is able to hear music for which the sound is not physically present.[4] Audiation is basic to all types of music thinking. Furthermore, it is the basis of valid music aptitude tests.[5,6,7]

To be able to audiate melody or rhythm, a child must be able to sing, because when he audiates melody or rhythm, he is singing silently.[8] The repertoire of songs that a child sings is made up of songs that he has created himself, songs that he sings spontaneously, and songs that have been taught to him by rote. The songs which a child sings spontaneously and the songs that a child creates are of particular interest to music educators and music psychologists. A child's performance of those songs may be

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[3]Edwin E. Gordon, Learning Sequences in Music, Skill, Content, and Patterns (Chicago: G.I.A., 1984), p. 2.

[4]Gordon, p. 2.

[5]Edwin E. Gordon, Musical Aptitude Profile (Boston: Houghton Mifflin Co., 1965).

[6]Edwin E. Gordon, Primary Measures of Music Audiation (Chicago: G.I.A. Publications, 1979).

[7]Edwin E. Gordon, Intermediate Measures of Music Audiation (Chicago: G.I.A. Publications, 1982).

[8]Gordon, p. 4.

the best indication of how well a child audiates and how he has taught himself to audiate. Moorhead and Pond observed that a child's spontaneous and created songs usually include a text made up of imaginative words, often not arranged in conventional speech form.[9] They concluded, therefore, that the music elements of a song are of primary importance to the child; the words of a song are of secondary importance to the child. That is, a young child is primarily interested in teaching himself music and not in expressing an idea. If the words of a song are of secondary importance to a child, then perhaps song instruction should include songs without words. Most, if not all, of the songs adults teach to young children, however, include words.

In an investigation of factors affecting accuracy in children's singing, Goetze concluded that children sing with more accurate pitch when they sing with a neutral syllable.[10] Moreover, in an investigation of young children's ability to sing songs with words and songs

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[9]Gladys Evelyn Moorhead and Donald Pond, Music of Young Children (Santa Barbara, California: Pillsbury Foundation for Advancement of Music Education, 1977), p. 41.

[10]Mary Goetze, "Factors Affecting Accuracy in Children's Singing" (unpublished Ph.D. diss., University of Colorado, 1985).

without words, the present writer concluded that young children can perform the melody of a rote song without words better than they can perform the melody of a rote song with words.[11] Furthermore, no relationship was found between young children's language development and their ability to sing the melody of a song either with or without words. Perhaps for young children to learn to sing a song with words, two mental processes are necessary: one for audiating the song and the other for learning the words of the song.

From the foregoing, it seems reasonable to suggest that the audiation process becomes restricted when a child sings songs with words. That is, perhaps a child cannot concentrate on more than a single element in a song at one time. It is conceivable, therefore, that the words of a song distract a child from the music elements of that song. If a child's audiation process becomes restricted as a result of song instruction comprising only songs with words, then his audiation process might be enhanced by song instruction comprising songs both with and without words. The purpose of this research was to investigate that possibility.

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[11]Lili Levinowitz, "An Investigation of Preschool Children's Comparative Capability to Sing Songs With and Without Words" (unpublished paper, Temple University, 1985).

Problems

The specific problems of this study were the following:

1) To determine the comparative effects of song instruction with and without words on levels of developmental music aptitudes of children in kindergarten and first grade.

2) To determine the comparative effects of song instruction with and without words on the singing achievement of children in kindergarten and first grade.

CHAPTER TWO

RELATED RESEARCH

Studies of Children's Ability to Sing With Words and Without Words

A recent investigative study was undertaken by Goetze to determine factors that affect accuracy in children's singing.[1] Of particular relevance to the present study is Goetze's examination of the comparative degree to which children's singing accuracy is affected when they sing a song with a neutral syllable and when they sing a song with a text.

From three schools in suburban Colorado, one-hundred sixty-five children in kindergarten, first grade, and third grade participated in the study. The children represented diverse ethnic groups and socio-economic levels.

On the day the data were collected, two melodic phrases were taught to all of the children. Both melodic phrases were in duple meter and they were two measures long. The phrases consisted of the same melodic intervals,

[1]Mary Goetze, "Factors Affecting Accuracy in Children's Singing" (unpublished Ph.D. Diss., University of Colorado, 1985).

and a melodic contour that descended to the cadence. One of the phrases was taught individually and the other phrase was taught in the context of a song in AABA form. Both phrases were sung with text and with the neutral syllable "loo."

All children were tape-recorded individually and in groups of three. Then, the following was undertaken for each of the children's tape-recorded responses: 1) Each response was played into a device which displayed visually the melodic contour and pitch frequencies for each phrase. 2) Each tone was assigned a frequency in Hertz. 3) Those frequencies were transformed to cents and to natural logarithms for analysis.

An average of the frequencies for five randomly selected performances served as the model for two scores used in the analysis. One of the scores represented the child's pitch accuracy. The other score represented the child's contour accuracy. The measure of pitch level accuracy for a child's response was determined by averaging the cent deviation from the model on three selected tones of the phrases. The smaller the deviation, the more accurate the response. The measure of contour accuracy for a child's response was determined by calculating the standard deviation of the child's variation on all tones within the phrases, and then comparing that deviation to the model. The most accurate responses on the contour measure were those that had a standard deviation which

approached zero. Such a standard deviation indicated that the child sang nearly the same contour as the model, regardless of pitch level. Reliability coefficients for both measures ranged from .95 to .99. No empirical nor subjective validity data for either measure, however, were reported. For each student, the following four scores were derived for both pitch accuracy and contour accuracy: 1) A score for singing individually with the text. 2) A score for singing individually with "loo." 3) A score for singing individually in unison with the text. 4) A score for singing in unison with "loo."

To determine the overall effect on pitch accuracy between singing with text and singing with the neutral syllable "loo," a t-test was performed on the combined unison and individual singing scores. For the entire sample, the students sang more nearly at the pitch level when they sang with the neutral syllable "loo" than when they sang with the text. In contrast to the pitch accuracy finding, Goetze failed to find a difference in how well children approximated the melodic contour in singing with the neutral syllable "loo" as compared to their singing with the text. On the basis of the data gathered from that portion of the study, Goetze concluded that the use of the neutral syllable "loo" may help an inaccurate singer to approach the correct pitch level when he sings a song.

In the Levinowitz pilot study, preschool children's tonal accuracy and rhythm accuracy were investigated when

children sang a song with words and a song without words. Moreover, the relationship between preschool children's language development and their tonal and rhythm accuracy when they sang a song with words and a song without words was also researched.[2]

The thirty-five four-year-old and five-year-old children who participated in the study were from a suburban nursery school which is representative of a white, upper-socio-economic level population. For five months, all children received music instruction from the investigator once a week for thirty minutes. During any one music class, half the number of rote songs that were sung by the children were sung with words; the remaining half were sung on a neutral syllable, such as "bum" or an onomotopoetic sound such as "swish." Two criterion songs were taught to all children during the last month of instruction. One song was sung with words and the other song was sung on the neutral syllable "bum." Both songs had a similar melodic and rhythmic contour as well as a similar harmonic structure. Each child was tape-recorded individually singing the two criterion songs. Two five-point rating scales were constructed to assess the children's tonal achievement and rhythm achievement.

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[2]Lili Levinowitz, "An Investigation of Preschool Children's Comparative Capability to Sing Songs With and Without Words" (unpublished paper, Temple University, 1985).

Two judges used the rating scales to evaluate the children's tonal performances and rhythm performances of each criterion song. The interjudge reliabilities of the tonal rating scale ranged from .78 to .93. The interjudge reliabilities of the rhythm rating scale ranged from .84 to .94. Four singing achievement scores were derived from the combined ratings of the two judges. They are as follows: 1) A tonal achievement score for the criterion song with words. 2) A tonal achievement score for the criterion song without words. 3) A rhythm achievement score for the criterion song with words. 4) A rhythm achievement score for the criterion song without words. To assess the children's language development, the Peabody Picture Vocabulary Test was administered to all children during the last month of school. The standardized raw scores served as the language development scores.

To assess preschool children's rhythm accuracy when they sing a song with words and a song without words, their two rhythm achievement scores were combined and used in a one-dimensional design. When the correlated sample t-test was performed on the rhythm achievement data, no significant difference was found between the mean for the criterion song with words and the mean for the criterion song without words. Similarly, to assess preschool children's tonal accuracy when they sing a song with words and a song without words, their two tonal achievement

scores were combined and used in a one-dimensional design. When the correlated sample t-test was performed on the tonal achievement data, it was found that children performed the criterion song without words with better tonal accuracy than they did the criterion song with words. In addition, no relationship was found between preschool children's language development and their tonal and rhythm accuracy when they sang a song with words or a song without words. On the basis of the data obtained from the study, the investigator concluded that young children should receive singing instruction comprising songs both with and without words.

Comparison of the Goetze Study and the Pilot Study to the Present Study

The most outstanding difference between the present study and the aforementioned studies is the type of research undertaken. Both the Goetze study and the pilot study were investigative studies. They were designed to explore children's singing accuracy when performing songs with words and without words. The present study is an experimental study that was designed to garner objective information about the effects of song instruction with and without words on the developmental music aptitudes and singing achievement of young children.

Furthermore, Goetze did not take into account individual differences in developmental music aptitude when she investigated the singing accuracy of children in the primary grades. It seems reasonable to suggest that the singing accuracy of children who possess a low level of developmental music aptitude is different from the singing accuracy of children who possess a high level of developmental music aptitude. The administration of the Primary Measures of Music Audiation in the present study, therefore, adds clarity and precision to the results.

The measures for singing achievement in the present study are most like the measures for tonal and rhythm accuracy in the pilot study. That is, the measures used in the pilot study and the present study are rating scales designed by the investigator, rather than psycho-acoustical measures that were used in the Goetze study. The high reliabilities for both the rating scale measures and the psycho-acoustical measures indicate that those measures demonstrate objective validity. The investigator of the present study, however, found the content validity of the psycho-acoustical measure questionable.

In the Goetze study, the same song was performed two ways. That is, the same song was performed with words and on the neutral syllable "loo." Furthermore, Goetze tape-recorded the children singing the criterion songs the