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THE EFFECTS OF SPECIFIC TONAL PATTERN TRAINING ON SINGING AND AURAL DISCRIMINATION ABILITIES OF FIRST GRADE CHILDREN

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THE EFFECTS OF SPECIFIC TONAL PATTERN TRAINING ON SINGING AND AURAL DISCRIMINATION ABILITIES OF FIRST GRADE CHILDREN

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CHAPTER ONE

PURPOSE OF THE STUDY

Introduction

When developing a music curriculum for children, it would seem reasonable to develop an instructional sequence which is based upon the difficulty of the materials to be presented. The assumption should not be made, however, that children acquire musical understanding in the same manner as adults. Instructional sequences therefore should be carefully derived from an examination of children's abilities. Only through the investigation of children's music development can appropriate difficulty levels be determined for the music content used to instruct children. The better a teacher understands how children develop musically, the more effective a teacher's music instruction may become.

Music psychologist Edwin Gordon[1] and pedagogues working under the guidance of Zoltan Kodaly[2] have developed music curricula based on children's capabilities. Both have derived tonal pattern sequences as part of their

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[1]Edwin Gordon, Learning Sequences in Music: Skill, Content, and Patterns (Chicago: G.I.A. Publications, 1980).

[2]Katinka Scipiades Daniel, Curriculum Guide for use with the Kodaly Approach (Manitowoc: Silver Lake College, 1962).

total music curriculum and both advocate the development of tonal pattern comprehension through aural and oral experiences. Gordon developed his taxonomy of tonal patterns through investigative research in which children were tested for aural perception.[3] The Kodaly sequence of melodic content was derived from naturalistic observation of children's singing ability and through an analysis of children's folksong.[4] Gordon and Kodaly appear to have assumed that aural and oral skills develop concurrently, yet both have derived different sequences of tonal patterns within their taxonomies. The differences between Gordon's taxonomy and Kodaly's taxonomy may be an indication that aural skills and oral skills develop independently.

Past research has rarely dealt with the relationship of listening skills to singing ability. Authors of related research most often refer to the investigation of singing ability independent of aural ability. Specifically,

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[3]Edwin Gordon, "Toward the Development of a Taxonomy of Tonal Patterns and Rhythm Patterns: Evidence of Difficulty Level and Growth Rate," Experimental Research in the Psychology of Music: Studies in the Psychology of Music, 9 (1974), pp. 39-232; Edwin Gordon, Tonal and Rhythm Patterns: An Objective Analysis (Albany: State University of New York Press, 1976); Edwin E. Gordon, A Factor Analytic Description of Tonal and Rhythm Patterns and Objective Evidence of Pattern Difficulty Level and Growth Rate (Chicago: G.I.A. Publications, 1978).

[4]Lois Choksy, The Kodaly Method (Englewood Cliffs: Prentice Hall, Inc., 1974), pp. 16-18.

researchers have examined the effects of training and maturation on singing ability.[5] In addition, aural preferences and the development of aural ability have been investigated.[6]

In a preliminary investigation by the writer, it was found that there was little relationship between the ability of first grade children to aurally discriminate between pairs of tonal patterns and the ability to vocally reproduce individual tonal patterns.[7] Hence aural and oral abilities might not develop concurrently.

Gordon has suggested that oral and aural skills are best developed by singing patterns in order of increasing

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[5]For example, see E.N. Drexler, "A Study of the Ability to Carry a Melody at the Pre-School Level," Child Development, 9 (1938), p. 332; Arthur Jersild and Sylvia Bienstock, "The Influence of Training on the Vocal Ability of Three Year Old Children," Child Development, 2 (1931), pp. 272-291; Arthur Jersild and Sylvia Bienstock, "A Study of the Development of Children's Ability to Sing," Journal of Educational Psychology, 25 (1934), pp. 481-503: Robert Smith, "The Effects of Group Vocal Training on the Singing Ability of Nursery School Children," Journal of Research in Music Education, 11 (1963), p. 141; H.M. Williams, "The Measurement of Music Development," University of Iowa Studies in Child Welfare, 8 (1938), No. 1, p. 107.

[6]For example, see Dorothea Blyer, "The Song Choice of Children in the Elementary Grades," Journal of Research in Music Education, 8 (1960), p. 14; David R. Joyner, "The Monotone Problem," Journal of Research in Music Education, 17 (Spring, 1969), pp. 115-124.

[7]John M. Feierabend, "The Relationship Between Musical Aural and Oral Abilities in First, Second, and Third Grade Students." Unpublished study, Temple University, 1981.

aural difficulty. In the Kodaly Method, oral and aural skills are best developed through singing tonal patterns in order of increasing oral difficulty. Some patterns which Gordon has determined to be easy patterns to hear are difficult for first grade children to sing. Some patterns which Kodaly has determined to be easy patterns to sing have been found to be more difficult for first grade children to aurally perceive. No research has been designed to determine which sequential emphasis would most efficiently develop both singing and listening skills. Perhaps a combination of the two approaches would be optimal.

Finally, children's aural perception of "sameness" and "difference" have been explored by Gordon.[8] The results of that research indicate that children seem to perceive aurally and to identify verbally tonal patterns that are the same more readily than tonal patterns that are different. No investigation has been undertaken to examine the relationship of singing ability to aural recognition of "sameness" and "difference."

Problem

The problem of this study is to determine the relative effects of training based on tonal patterns which are

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[8]Edwin E. Gordon, The Manifestation of Developmental Music Aptitude in the Audiation of "Same" and "Different" as Sound in Music (Chicago: G.I.A., 1981).

easy to sing, training based on tonal patterns which are easy to aurally discriminate, or training based on tonal patterns which are both easy to sing and easy to aurally discriminate, on the development of singing and aural discrimination skills of first-grade children.

CHAPTER TWO

RELATED STUDIES

Aural Discrimination

Most of the research undertaken by Edwin Gordon has focused on, or been related to, aural discrimination. Among that research are three consecutive research studies from which difficulty levels for a taxonomy of tonal and rhythm patterns were determined.[1]

In those studies, over 10,000 fourth, fifth, and sixth grade students were tested in 48 separate school systems. Students listened to tape recorded patterns which had been performed on a synthesizer. Those patterns were performed in pairs and students were asked to determine if the two patterns were the same or not the same. Only the responses given to the pairs of patterns which were the same were used for the analysis. Matched pairs

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[1]Edwin Gordon, "Toward the Development of a Taxonomy of Tonal Patterns and Rhythm Patterns: Evidence of Difficulty Level and Growth Rate," Experimental Research in the Psychology of Music: Studies in the Psychology of Music, 9 (1974), pp. 39-232; Edwin Gordon, Tonal and Rhythm Patterns: An Objective Analysis (Albany: State University of New York Press, 1976); Edwin E. Gordon, A Factor Analytic Description of Tonal and Rhythm Patterns and Objective Evidence of Pattern Difficulty Level and Growth Rate (Chicago: G.I.A. Publications, 1978).

which were most frequently identified as the same were considered the easiest. Matched pairs which were least often identified as being the same were considered to be the most difficult. In other words, the difficulty of patterns was determined according to the frequency of correct responses. The determined sequence of patterns based on aural difficulty levels is presented in Learning Sequences in Music; Skill, Content, and Patterns.[2]

Aural Perception of Sameness and Difference

Using patterns which were easy to aurally recognize as being the same by fourth grade students, Gordon constructed a music aptitude test for use with students in kindergarten through third grade; The Primary Measures of Music Audiation (PMMA).[3] The tonal portion of that test consists of forty pairs of tonal patterns. Students aurally discriminate between each pair of tonal patterns and decide whether the two patterns are the same or different.

To better understand what children were aurally perceiving, Gordon performed a factor analysis on

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[2]Edwin E. Gordon, Learning Sequences in Music: Skill, Content, and Patterns (Chicago: G.I.A., 1980), pp. 142-160.

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

results from the tonal and rhythm subtests of PMMA.[4] In that study, five factors were derived for the forty tonal test items. Two factors consisted chiefly of items that were correctly answered as "same" (matched pairs) on the tonal subtest and three factors consisted primarily of items that were correctly answered as "different" (unmatched pairs) on the tonal subtest. Those results indicate that young children's aural discrimination of sameness is unrelated to their aural discrimination of difference.

In a study by Holahan, the effects of four conditions of "same" and "different" instruction on the aural discrimination abilities of kindergarten children were investigated.[5] Four kindergarten classes from two public schools in Allentown, Pennsylvania received music instruction for a twenty minute period once a week for eight weeks. At each music lesson during the first four weeks, students echoed tonal patterns using a neutral syllable. During the second four weeks all students continued to echo tonal patterns as well as to receive verbal instruction about aural "sameness" or "difference."

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[4]Edwin E. Gordon, The Manifestation of Developmental Music Aptitude in the Audiation of "Same" and "Different" as Sound in Music (Chicago: G.I.A., 1981).

[5]John M. Holahan, "The Effects of Four Conditions of 'Same" and 'Different' Instruction on the Developmental Music Aptitudes of Kindergarten Children Receiving Tonal Pattern Training," (Ph.D. dissertation, Temple University, 1983).

Group One heard the teacher sing matched pairs of patterns and were told the patterns were the same. Group Two heard the teacher sing unmatched pairs of patterns and were told the patterns were different. Group Three heard some pairs that were matched and some pairs of patterns that were unmatched and were told which pairs were the same and which pairs were different. Group Four served as a control group and continued to echo patterns without specific instruction.

No significant differences were found among the treatment groups on total test scores, scores on those pairs that were the same, or scores on those pairs that were different. In other words, verbal instruction on "sameness" and "difference" did not significantly affect kindergarten children's ability to aurally discriminate between pairs of patterns that were the same or different.

Singing Ability and Development

Many investigations have been undertaken to examine the singing abilities of young children. In the first of two studies by Arthur T. Jersild and Sylvia F. Bienstock, forty-eight children from thirty-one months to forty-eight months old were tested for individual pitch proficiency and interval reproduction.[6] For the pitch

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[6]Arthur T. Jersild and Sylvia Bienstock, "The Influence of Training on the Vocal Ability of Three Year Old Children," Child Development, 2 (1931), pp. 272-291.

test, children were asked to listen while the tester played a tone on the xylophone or on a pitch pipe and then sang the tone. Children were asked to sing the given tone. Tones presented began at middle c and extended upward diatonically ten pitches. The range from d^1 to a^1 was found to be the pitch range most children were capable of using accurately.[7]

The vocal reproduction of intervals was also investigated in the first study. During a pretest, children were asked to echo major and minor seconds and thirds, and perfect fourths and fifths. The results from the pretest indicated that closer intervals were easier to sing than wider intervals. Following the pretest, forty training periods, two each week for six months, were given to the experimental group. During the training sessions eight songs were presented and specific attention was given to accurate tone matching in the upper register. As the training sessions continued it became apparent that singing proficiency had improved to the extent that a ceiling effect was imminent in the forthcoming posttest. Hence, the tones g, a, and b were added below middle c, and four higher tones were added to the original pitch test which extended the range to c^3.

Posttest results indicated a significant improvement in both the number of pitches and proficiency in reproducing intervals in the experimental group. Of eighteen

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[7]Standard octave designation.