AN INVESTIGATION OF SOME MUSICAL CAPABILITIES OF ELEMENTARY SCHOOL STUDENTS

by

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The primary problems of this study were to investigate: (1) whether different melodic, rhythmic, and harmonic capabilities were manifest in the average student at different grade levels, (2) whether there appeared to be logical sequence in the development of these musical capabilities, and (3) whether capability levels were related to musical aptitude.

Twenty-nine students enrolled in each of grades one through six at University Elementary School at the University of Iowa served as subjects in this investigation. One week was devoted to the investigation of each of twelve musical capabilities. These were: melodic--the ability to sing in major mode, minor mode, Dorian mode, and atonality; rhythmic--the ability to chant rhythm in duple, triple, unusual, and mixed meter; and harmonic--the ability to sing a round, a countermelody, two-part music, and three-part music.

Twelve songs were selected for evaluative purposes. Each song was taught to students in all six grades during their regular music periods on four consecutive days. On the fifth day of each week, individual performances of the song learned during the previous four days were tape recorded. These individual performances were evaluated by two judges through the use of a seven-point scale.

Students in each grade were divided into three musical aptitude groups (upper, middle, and lower) according to their composite standard scores on the Musical Aptitude Profile. Then, judges' composite ratings of students' individual performances of each of the twelve songs were tabulated according to the students' musical aptitude level and by their

school grade. Separate treatments by levels statistical designs were used to investigate the significance of mean differences among school grades and aptitude levels for the twelve criteria capabilities.

The evidence suggests that the following musical capabilities are well-developed in the average student at the designated grade level: first grade--minor mode, duple meter, and triple meter; second grade--major mode, Dorian mode, mixed meter, round, and counter-melody; and third grade--unusual meter and two-part music. No definite conclusions can be advanced concerning non-tonal and three-part music because results for these aspects of the study were not consistent.

Further, logical sequence does appear in the development of the musical capabilities investigated. For melody, the sequence is: first, the ability to sing in minor mode; next, the abilities to sing in major and Dorian modes; and last, the ability to sing non-tonal music. For rhythm, the sequence is: first, the abilities to perform in duple and triple meters; next, the ability to perform mixed meter; and last, the ability to perform unusual meter. For harmony, the sequence is: first, the abilities to sing a round and a counter-melody; next, the ability to perform two-part music; and last, the ability to perform three-part music.

Students with high or average musical aptitude evidence a higher level capability for performing all the musical tasks investigated except non-tonal and three-part music than do students with low musical aptitude. For these latter two capabilities, no consistent trends were found among students at the three levels of aptitude.

A secondary problem of the study was to investigate whether significant growth occurred from grade to grade in the ability of students to correctly perform each of sixty-four specific melodic or rhythmic patterns which were included in the twelve songs. The results found for this investigation were consistent with the results presented for each of the songs from which the patterns were extracted.

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Chapter I

PURPOSE OF THE STUDY

Introduction

The manner in which children learn music is a recurrent topic in philosophical writings and research studies. Authors generally discuss theories regarding curriculum content in music education but only few are concerned with the specific musical capabilities of elementary school students upon which such a curriculum might be based.

In discussing educational theory as it applies to the music curriculum, Broudy states:

> The study of /italics are in the original/ music shares some of its problems with other subjects. For one thing, it uses a symbolism that is as essential to musicality as reading and writing are to ordinary literacy. On some theories, at least, the musical phrase and the musical paragraph are more than figures of speech. There is also a kind of musical grammar, punctuation, and syntax--a body of rules for using the musical language.[1]

Although this statement could be interpreted as a plea for instructors to teach music skills, Broudy is not that specific. He stresses only that the teacher be concerned with the teaching "of," and not "about," music.

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1. Harry S. Broudy, "Educational Theory and the Music Curriculum," Perspectives in Music Education--Source Book III, ed. Bonnie C. Kowall (Washington D. C.: Music Educators National Conference, 1966), 181.

More precise is the following statement which was published by the Council of Chief State School Officers in 1958.

> The learning of music, aural comprehension, notation and music reading per se is not so much the learning of a body of content as it is the development of a skill. It is not something someone talks about, it is something someone performs.[2]

If music is to be taught by means of such a performance or skills approach, how is this to be achieved? Mursell suggests:

> What our understanding of growth and development clearly seems to imply is a cyclical /italics are in the original/ sequence or order of topics. In a cyclical sequence, the various items that need to be presented do not occur once for all at some predetermined time. They appear again and again, always in a new setting always with added meanings.[3]

Mursell is supported in this description of concept development by such persons as Hebb[4] in the field of psychology, and Révész,[5] House,[6] and Hartshorn[7] in the area of music education. Conflicts

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2. Council of Chief State School Officers, Standards for Materials and Equipment for the Improvement of Instruction (Washington D. C.: Council of Chief State School Officers, 1958), 10.

3. James L. Mursell, "Growth Processes in Music Education," Basic Concepts in Music Education, ed. Nelson B. Henry (Chicago: University of Chicago Press, 1958), 157.

4. Donald Olding Hebb, A Textbook of Psychology (Philadelphia: W. B. Saunders Company, 1958).

5. G. Révész, Introduction to the Psychology of Music, trans. G. I. C. de Courcy (Norman: University of Oklahoma Press, 1954).

6. Robert House, "Curriculum Construction in Music Education," Basic Concepts in Music Education, ed. Nelson B. Henry (Chicago: University of Chicago Press, 1958).

7. William C. Hartshorn, "The Teaching of Music," Perspectives in Music Education--Source Book III, ed. Bonnie C. Kowall (Washington D. C.: Music Educators National Conference, 1966).

develop, however, when the specific ways in which these concepts are to be taught are discussed.

Although Mursell says, ". . . it is the musical content of the program that determines the presentation of musical concepts," he also believes that, ". . . music is chosen for its own intrinsic worth, not for the sake of illustrating or teaching the so-called fundamentals."[8] The latter statement suggests that a music program should not be based upon the sequential development of musical capabilities of students, but upon musical examples that hopefully provide the necessary experience for becoming more familiar with elements such as melody, rhythm, and harmony.

An opposing point of view is offered by House. He states that although concept development is cyclical, ". . . the experiences themselves /italics are in the original/ do occur in a natural sequence which can establish an effective working pattern."[9] It is unfortunate that he suggests no sequence for the provision of such musical experiences.

Even the Music Educators National Conference, the official organization of the profession, avoids assigning specific musical experiences to particular grade levels or suggesting a developmental sequence for musical capabilities in their recommendations for a sound music education program. Only a very general classification of skills

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8. Mursell, op. cit., 159.

9. House, op. cit., 248.

by grade levels is offered and such concepts as tonal and rhythmic comprehension are ignored.[10]

A more specific approach to the teaching of music to young children is provided by Hissem in her recommendation that music be presented in tonal and rhythmic patterns.[11] Similar advice is offered by Lundin in the statement that: "Memory span for music which is meaningful is greater than for purely unrelated tones, and this memory span for tones decreases as the complexity of the tonal relationships increases for both rhythm and melody."[12] Although both of these recommendations are more refined in their understanding of children's musical capabilities, they are still too general to be used as a basis for curriculum development.

Music curriculums usually are based on teacher observations of student capabilities or they follow whatever organization of materials is found in the basic music text series. In this connection, it would seem fair to state that the philosophy presented in the basic series is largely determined by both the teaching experience of the editors employed by publishing companies and the demands of the teaching profession. Observations of student behavior and research which embraces only generalities concerning how children learn music can not adequately

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10. Music Educators National Conference, Outline of a Program for Music Education (Washington D. C.: Music Educators National Conference, 1951).

11. Irene Hissem, "A New Approach to Music for Young Children," Child Development, IV (1933), 317.

12. Robert W. Lundin, An Objective Psychology of Music (New York: The Ronald Press Company, 1953), 118.

solve the basic problems of curriculum planning. Information relevant to the development of musical capabilities and the sequence in which a majority of children best develop these capabilities at given ages is needed.

Thus, individual differences notwithstanding, it appears that the most intelligent process by which an elementary school music curriculum could be constructed is to first determine the musical capabilities of the typical child at various ages and then investigate the sequence in which these musical capabilities most commonly develop. If such a sequence is suggested by research findings, then intensive, well-controlled investigations of the development of specific aspects of musical concepts could clarify further the sequence.

Purpose of the Study

It is apparent that it is important to know, for purposes of curriculum development, at what age the average child is capable of forming concepts which allow him to perform various elements of melody, rhythm, and harmony. For example, is it possible that the ability to perform in major tonality usually precedes the ability to perform in minor tonality or atonality? Is it necessary for the typical student to perform duple or triple meter before he is introduced to mixed or unusual meter? When is the proper time to teach two-part singing? It is with questions of this nature that this exploratory study was concerned. The primary purpose of this study was to determine if there is a temporal consistency in the development of children's musical capabilities which can guide those responsible for the musical

curriculum and whether there is any apparent sequence in the development of these capabilities.

Problems of the Study

The primary problem of this study was to investigate, through the use of well-defined measures, the nature of children's specific musical capabilities at different grade levels in a school which has a well-structured music program. After this information was gathered, it was used to gain evidence which might suggest:

1. whether different melodic, rhythmic, and harmonic capabilities were manifest in students at different grade levels,
2. whether there appeared to be logical sequence in the development of these musical capabilities, and
3. whether capability levels and developmental sequences were related to musical aptitude.

Limitations of the Study

The scope of this study was limited to gathering information which might provide evidence to suggest the manner in which musical capabilities of students develop. Since the topic was so broad and complex, only general insights and not conclusive results were sought.

The school system selected for this study was the elementary division of the University Schools at the University of Iowa, Iowa City, Iowa. This choice was made with the realization that the student population of this school probably was not a representative sample of all students in the United States who are enrolled in grades one through

six. However, the structured music program of this school provided the precision and control which were essential for interpreting the results of the study. Other limitations of the investigation were: 1. only four aspects of each of three musical elements of melody, rhythm, and harmony were investigated, 2. the criterion of a single song, to which students were exposed for only one week, was used for each investigation of each of the three musical elements, and 3. the various influences of different teachers upon student learning patterns could not be investigated because the research was conducted by only one person, the investigator.

To achieve more conclusive results concerning the developmental nature of these musical capabilities, many studies, perhaps quite different from the present study, will be needed. They must involve a variety of student populations and many music teachers. The present exploratory study was chosen as a first attempt to determine if more extensive research, patterned after this model, can be expected to yield fruitful results.

Chapter II

REVIEW OF RELATED STUDIES

Introduction

Studies conducted by Moorhead and Pond,[1] Andrews and Deihl,[2] and Pflederer and Sechrest[3] are closely related to the present study because they are concerned with the investigation of the musical capabilities of young children. The first study consists of general observations of music created by young children and the last two studies are concerned primarily with specific musical concepts which are developed by elementary school children.

The Moorhead and Pond Study

From 1937 through 1944, Moorhead and Pond[4] investigated the spontaneous musical performances of young children at the Pillsbury

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1. Gladys Evelyn Moorhead and Donald Pond, Music of Young Children, 3 vols. (Santa Barbara: Pillsbury Foundation for Advancement of Music Education, 1941-1944).

2. Frances M. Andrews and Ned C. Deihl, Development of a Technique for Identifying Elementary School Children's Musical Concepts (University Park, Pennsylvania: Pennsylvania State University, 1967).

3. Marilyn Pflederer and Lee Sechrest, How Children Conceptually Organize Musical Sounds (Evanston, Illinois: Northwestern University, 1967).

4. Moorhead and Pond, op. cit.

Foundation School in Santa Barbara, California. The purposes of their study were to identify children's natural forms of musical expression and then to determine methods for developing these capabilities. The school enrollment, which consisted of students ranging in age from one and one-half to eight and one-half years, was fairly stable during each year, but it fluctuated from totals of twelve to twenty-seven children during the seven years of the study.

The authors placed the children in an unstructured environment and then observed and subjectively evaluated their spontaneous musical activities. There were no formal music periods. The only organized periods in the school day were lunch, a rest period, and a short session devoted to instruction of the older children in reading and written expression. "Emphasis was placed upon freedom for the children and upon development of social understandings and responsibility which would give them power to maintain their own activities and organizations with the minimum of adult intervention."[5]

It was discovered that the children created two different types of music which the authors classified as "song" and "chant." "Songs" were characterized by flexible and unstructured rhythm, the use of a wide range of tones, imaginative words, and a quiet and introspective mood. According to the authors, a song was essentially the musical expression of a child's inner thoughts. "Chants," however, were rigid and symmetrical in rhythm, narrow in pitch range, repetitive,

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5. Ibid., I, 4.

and closely associated with physical movement. Generally, they were constructed on a repeated recitation tone with melodic inflections used for verbal emphasis. Melodic intervals common to chant were a descending minor third and an ascending perfect fourth. The greatest number of chants was created by individuals who were involved in group activities. Large physical movements such as walking, running, or jumping usually accompanied the chants. Thus, the authors concluded that ". . . physical activity was closely related to, if not the cause of, rhythmic chants."[6]

The investigators also identified several musical characteristics which were common in both song and chant. These were: 1. frequent alternations between duple and triple meter, 2. a presence of tonality,[7] 3. frequent augmentation or diminution of melodic rhythms, 4. frequent changes from simple to complex melodic interval structures, and 5. melodic and rhythmic sequence.

Seven of the children, who were either five or six years of age, received instruction in reading and writing musical notation during a five month period of daily one-half hour sessions. Rhythmic notation was taught first, independent of melody, in the following sequence: 1. the children learned that symbols can represent ordered

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6. Ibid., I, 5.

7. The investigators stated that the children's music possessed tonality but that it did not conform to the structures of the major, minor, or pentatonic scales. It is assumed that their definition of tonality refers to the fact that the children's freely created music most often was centered around a recurring pitch or "recitation tone."