A STUDY OF THE KODALY APPROACH TO MUSIC TEACHING AND AN INVESTIGATION OF FOUR APPROACHES TO THE TEACHING OF SELECTED SKILLS IN FIRST GRADE MUSIC CLASSES

DISSERTATION

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By

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This study examined the Kodaly approach to music teaching and investigated four different approaches to teaching first-graders in elementary school to sing on pitch, echo (clap) rhythms, audiate tonal patterns, and audiate rhythm patterns.

The approaches were the Kodaly approach, the traditional approach, and two eclectic approaches. One emphasized some of the techniques of the Kodaly approach, and the other emphasized some of the techniques of the Orff approach.

The sample for this study consisted of one hundred twenty-one students in five classes from four different elementary schools.

Two instruments were utilized: the standardized Primary Measures of Music Audiation (PMMA) by Gordon and the Individual Performance Test (IPT) designed by the investigator.

The PMMA had two sections of forty examples each and measured the child's ability to audiate tonal and rhythmic patterns. This test was administered to the children as a group and they recorded their answers on an answer sheet.

The IPT was tape recorded and administered individually by the investigator and assistants. It had two sections,

rhythm and tonal. The children matched pitches and clapped the rhythms they heard. Responses were tape recorded and evaluated. Pretests were given shortly after the school year began and posttest were given eight weeks later.

A completely randomized analysis of covariance was used to analyze the data.

It was hypothesized that there would be no difference in the achievement of the children in the different classes to perform the selected skills.

Findings revealed that the approach to music teaching does make a difference in the musical achievement of first-graders and their abilities to echo rhythms, match pitches, and to audiate rhythm patterns. The approach to music teaching does not make a difference in the musical achievement of the subjects and their abilities to audiate tonal patterns.

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INTRODUCTION

Music can be a significant contribution to every child's social, emotional, intellectual, and aesthetic development. It would seem that music is an essential, almost magical element in the life of the young child (11, p. 5).

Because the child's world is filled with music and music experiences are an integral part of the child's school day (14, p. 374), it is an important part of the early childhood and elementary school curriculum (22, p. 374). Many school districts in the United States employ full- or part-time music specialists. Since the middle of the twentieth century, there have been differences in opinion about the most effective method to use in teaching music, the qualifications of the teachers, and appropriate goals and objectives to use as a basis for instruction in music.

One of the recent trends in music instruction has been to employ the ideas and methods of European musicians, such as the Hungarian composer, Zoltan Kodaly. Many teachers have incorporated his ideas into their music programs while others have preferred the principles and methods of the German composer, Carl Orff. It is common practice for

teachers to use a combination of the two methods, and many teachers incorporate the practices of both of these musicians into a music program. In addition, they draw from various contemporary sources, thus producing an eclectic curriculum (15).

Statement of the Problem

The problem of this study was to determine the achievement of groups of first grade children who have been taught music with four different approaches.

1. A sensory-motor approach based on the concepts and teachings of Zoltan Kodaly.

2. A traditional approach based on classroom methods taught to music specialists in the 1960s.

3. An eclectic approach which emphasizes some of the techniques of the Kodaly approach, broadens the song repertoire considerably, and teaches singing and reading with solfège.

4. An eclectic approach which emphasizes some of the techniques of the Orff approach (movement and instrumental playing). This approach uses solfège but is limited in the amount of folk songs in the repertoire.

Purposes of the Study

The purposes of this study were

1. to determine the effectiveness of four different approaches to teaching first grade children to sing on pitch,

2. to determine the effectiveness of four different approaches to teaching first grade children to echo rhythms,

3. to determine the effectiveness of four different approaches to teaching first grade children to audiate tonal patterns, and

4. to determine the effectiveness of four different approaches to teaching first grade children to audiate rhythm patterns.

Hypotheses

To fulfill the purposes of the study, the following hypotheses were tested.

1. There will be no significant differences in effectiveness of four different approaches to teaching first grade children to sing on pitch.

2. There will be no significant differences in effectiveness of four different approaches to teaching first grade children to echo rhythms.

3. There will be no significant differences in effectiveness of four different approaches to teaching first grade children to audiate tonal patterns.

4. There will be no significant differences in effectiveness of four different approaches to teaching first grade children to audiate rhythm patterns.

Definition of Terms

Audiation--The process which takes place when one hears music through recall or creativity, the sound not being physically present except when one is engaging in performance and derives musical meaning (9).

Beat--The steady recurring and progressive pulse of the music, and the rhythmic feeling in music which emits a physical response from the listener (11, p. 327).

Child's Sphere--The place in which he stands (17, p. 7).

Coordination--Synchronized functioning of muscles or groups of muscles in the execution of a complex task (17, p. 22).

Diatonic Scale--The natural scale consisting of five whole tones and two half-tones or steps as it is produced on the white keys of the keyboard (2).

Elemental Music--The rhythm and melody which are qualities inherent in man and therefore are needed by him and expressed in his language movements and language (17, p. 3).

Do--The first scale step; tonic; home tone.

Fixed Do--In solmization, one of the two methods of applying syllables to a scale degree. In fixed do, the syllables are applied to fixed notes, e.g., in C major scale, C = 1 or do (6, p. 22).

Movable Do--One of the two methods of applying syllables to scale degrees. In movable do, the first scale step, regardless of the key is always 1, or do (6, p. 22). (It is easier to read with movable do.)

Jazz Scale--A lowered seventh added to the pentatonic scale. For example, from a C pentatonic scale, one may go into the jazz idiom by adding B♭. Syncopation is encouraged.

CDE - GA becomes CDE - GAB♭

(16, p. 10-11).

Meter--Grouping of beats in the measure into strong and weak pulses (11, p. 328; 4, p. 57).

Meter Signature--An indication at the beginning of the music in the form of two Arabic numerals arranged vertically, immediately following the key signature. The top number indicates the number of counts per measure and the bottom number indicates the type of beat which is the unit of count (23, p. 63).

Kodaly method--An approach to teaching the skills of music literacy to young children. Its characteristics are

movable do system of solmization, rhythm duration syllables, and the Curwen hand signs. The materials of the method are authentic children's songs and folk song material, and the music of great composers (5, p. 23).

Monotone--One who speaks or sings on one level with no pitch variation. An unfortunate term which should never be used to label children (21, p. 176).

Out-of-tune singer--A singer who has not developed a sense of tonic; that is, he cannot anticipate on which pitch a piece of music might end (8, p. 58).

Pentatonic scale--A scale which contains only five tones. The pentatonic scale is ancient, and one of the most universal scales. One way to play the pentatonic scale is to start on $G^{\flat}$ and play all five black notes (24).

Pitch--The relative highness or lowness of a musical sound (10, p. 328).

Pitch discrimination--The capacity to hear pitch differences (19).

Solfège--The names which are applied to the scale degrees, based on the system by Guido d'Arezzo in the eleventh century. The syllables are do, re, mi, fa, so, la, ti (si), do (2).

Sol-fa--A synonym for solfège.

Solmization--Recitation of the syllables of solfège.

Syncopation--An interruption of the natural flow of the rhythm (4, p. 62).

Tone--A sound having pitch, duration, loudness, and tone color (10, p. 328).

Tonebar Instruments--Specially designed instruments with removable tonebars which can be easily played. They have true-tone tuning and encompass different textures (wood, metal, membrane, and others) and registers of sound (17, p. 8).

Tonality--Loyalty to a tonic (2, p. 855).

Tonic--Scale step number one; home tone (2).

Tonic sol-fa--A system of solfège in which the beginning note of the scale is always numbered "one" or tonic (6, p. 73).

Assumptions

For the purposes of this study, it was assumed that each of the teachers of the control group would adhere to the teaching method which he or she described, and that the teacher of the experimental group would adhere to the principles of the Kodaly method in a pure fashion. It was further assumed that all of the measures were tapping the skills to be measured accurately.

Significance of this Study

The peak of optimum achievement for musical reproductive abilities--their sensitive or critical period--lies in the fifth and sixth years of life. It is then that the possibility of particularly rapid and relatively early development of vocal and auditory abilities must be utilized (16). Therefore, it would be helpful if research would provide more information about the specific extrinsic influences that normally operate during maturation to effect improvement in music learning (20, p. 12). More musical tests are needed for children of pre-kindergarten age and primary grades and more studies are needed about the kinds of methods which promote musical learning (20).

Bacon writes that solutions to the problems which exist can be found but we must first support research, testing, and curriculum development (18). The curriculum for music in the elementary school continues to be based primarily on subjective, experimental judgments rather than on a foundation of empirical evidence (4, p. 215). For example, relatively few documented studies of the effects of the Kodaly method have been conducted (13). A survey of the literature reveals few research studies directly related to this topic (1, p. 215).

It is imperative that our failure to develop music and reading skills in our public schools be examined and that we find ways of helping students achieve a worthwhile level of

music literacy (3, p. 52). Since it has been demonstrated that children are capable of developing specific listening skills, increased emphasis on ear training during early childhood would be advisable. Such an emphasis would help assure children of optimal music learning during later years and would also aid in identifying musically gifted children at an early age (20, p. 14).

Herrenkohl recommends combining psychology and music education; and that support must be found for research, testing, and curriculum development (12, p. 4). He further states that finding one method superior over another is not the most important conclusion, but that it is possible to construct teaching strategies based on sets of interrelated variables which have a significant effect on the learner. Hopefully, the findings of this study will encourage research and development of methodology in music education and serve as a model for additional research.

Since the middle and late 1960s, much interest in music for the young child has arisen. For many years the controversy concerning the position of the arts in the classroom has continued. The question has produced healthy debate, compelling those who believe in the arts to re-examine them in relation to their purposes and to the teaching strategies involved. Some educators find the arts central to their concept of good education while others find them only peripheral to education.

A music student entering teaching today is faced with a plethora of curriculum choices. Not only are the methods being considered--Orff, Jacques-Dalcroze, Kodaly, and Comprehensive Musicianship--but also the related arts approach, the eclectic curriculum, the integrated curriculum and the generalist approach. Every music series purports either to be a method or to combine several methods. Teachers are encouraged to experiment with techniques from one or several approaches, without understanding the fundamental principles underlying any one of them. Choices are made for superficial reasons, and methods thus unknowledgeably employed are discarded when they do not produce instant success (7, p. 1).

There is obviously a need for method in the teaching of music in North America. But there is not necessarily a need for everyone to practice the same method. The teacher who has a clear idea of musical goals and an understanding of the underlying principles of each method will be more likely to choose the one method best suited to his or her own talents and teaching style (7, pp. 1-2).

This study should make a contribution to a field of knowledge in which empirical research has been scarce.

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CHAPTER II

BACKGROUND

Historically, music has played an important role in human development and has been an essential part of the human experience (5, p. 6; 26, p. 43). Music has been taught and learned for a wide variety of reasons, those reasons sometimes being peripheral to what musicians would consider its principal functions (9, p. 57).

Throughout the history of education in the United States, educators and musicians have based much of their work on the ideas of European educators and philosophers. Lowell Mason, who is credited with beginning public school music in the United States, based his ideas on the philosophy of a Swiss educator. Since 1838, when Mason began his experimental program in Boston, music has been a subject in the school curriculum in America (5).

Although the school music movement began with some experimental attempts in Hartford as early as 1830, the impetus really came from Mason. In 1836, the Boston School Committee had received many petitions from citizens asking that music be introduced into the schools. The pressure bore results in the form of a resolution that an experiment be conducted with four grammar schools, supervised by the

Boston Academy. Since there were no appropriations, the project was stalemated (85).

Mason, an excellent teacher with many years of experience, had traveled abroad to study teaching of music in Europe and was greatly impressed with the philosophy of Pestalozzi (5, 44, 51, 85). He offered to teach music free of charge in Boston during the school year 1837 to 1838 where he carried out the new philosophy explicitly with which he had become familiar in Europe. A public concert at the end of the year by Mason's students convinced the Board of Education of the worth of the music program and thus music became a part of the curriculum (85).

Mason had paved the way for school music, but a battle needed to be waged in order to offer music instruction to elementary school age children. Until 1857, music had been taught only in the grammar schools of Boston though there had been some consideration given to extending that instruction into the primary grades (85, p. 76). Elementary school music was offered officially in some cities in the 1850s but it was not until 1864 that music instruction was approved and financed in Boston's primary grades by Luther Whiting Mason (52, p. 4). At that time the Boston School Committee concluded that if music instruction was to attain the same degree of proficiency as other subject areas, it would have to begin in the elementary school (85, p. 76).

As primary music education was introduced in more schools, singing was emphasized (85) and publishing companies developed music courses aimed at teaching children to read music. Note reading was always an important consideration and toward the end of the nineteenth century, there was disagreement among music educators about the best way to teach note reading, forcing educators to ponder a methodology in teaching reading of music (44, p. 8).

Music retained a strong and secure place in the elementary school curriculum during the early twentieth century (44). During the first half of the century, music instruction and goals were contingent, to a great extent, on the ability of the individual instructor. The teachers of primary grades were allowed to use any music text they preferred, subject to approval by the school committee. The hope was that some unity of methods might result from this approach (85, p. 76).

When the child study movement was taking hold in this country, music educators did agree that music education could be justified only in terms of helping children enjoy music so that it would become an important part of their lives (44, p. 8). G. Stanley Hall, the undisputed leader of the new child study movement, stated that music was included in the public school curriculum to build character rather than to train musicians (85, p. 121). Emphasis was upon teacher training. One of the most important figures in

innovative elementary school music was Mrs. Satis Coleman, Teachers College, Columbia University (52, p. 5).

The structure of the music class was basically simple. For example, first grade music was oriented toward improving aural discrimination and understanding melodic direction, like and unlike phrases, and feeling for the tonic and melodic contour. Each day's lesson was to include singing, moving to music, playing rhythm instruments, listening, and later some emphasis was placed on creative activities.

The content and method of music remained relatively unchanged between 1930 and 1950. However, society was changing rapidly and radically and the changes in music education resulted through curriculum development. In order to teach children to perceive relationships, the core curriculum was developed. There was also a trend toward conceptual approaches, its chief goal being that children would be able to think inductively. The conceptual approach took precedence over the former methods of imparting a body of facts. Therefore, children were encouraged to think in new ways. The result was a somewhat fragmented approach to curriculum structure (44, p. 19).

The late 1950s and early 1960s were a time of conferences and seminars--beginning with the founding of the International Society for Music Education (ISME) in 1953 and the Woods Hole Conference in 1959. It was followed by the Seminar on Music Education, June, 1963

(known as the Yale Conference), and the Tanglewood Symposium convened by the Music Educators' National Conference in 1967 (82).

The contemporary period of music education began in 1957, the year of the first Ford grant to encourage analysis and introspection by music educators. This was the time when the profession found itself caught up in the wave of change which was affecting American education generally (44). There was a sense of urgency due to technological advances and the knowledge explosion in an era of acute need for self-realization and self-expression. The music educator was concerned with this urgency and was interested in methods with proven results.

In 1957 the Ford Foundation began to explore the relationship between the arts and American society, and it solicited suggestions from musicians across the United States. Norman Dello Joio, a composer, suggested that a union be formed between composers and public school music programs. His suggestion resulted in the founding of the Young Composers' Project in 1959. When young composers were placed in public schools to serve as composers-in-residence, they discovered that many music educators had been poorly prepared to deal with contemporary music and children were rarely exposed to it (44).

In 1962, the Young Composers' Project was elevated in status from a pilot project to one of major status when it

became the Contemporary Music Project for Creativity in Music Education (CMP). When the CMP ended in 1973, its purpose had been fulfilled--to give cohesion and relevance to the music in our society. It had given direction, provided challenges, developed methodology and materials, and had made the music education profession more open minded toward change and innovation (44).

The Yale Seminar recommended that music be learned through its structure if it was to be truly understood. This structure was done through studying musical elements and by performing, reacting to, and listening to music. The value of the Yale Seminar was in its contributions to the development of a climate conducive to change, in which the music education profession could be free of the restraints of the traditional curriculum so that serious consideration would be given to other modes of teaching (44, p. 35).

Some of the recommendations of the Seminar did come to fruition. Recognition by the profession of the need to place musicality at the heart of the music program was demonstrated by the wide-spread acceptance of new curricula, especially the techniques of Kodaly, Orff and Suzuki. Ever since the seminars described above, the repertoire in music education has expanded to encompass the various styles of music that had not been used earlier (44, p. 36).

From 1957 until 1967, the year of the Tanglewood Conference, there was a great deal of self-examination and new thinking in music education in general and by music educators as individuals. Those activities and the resulting Contemporary Music Project paved the way for sweeping changes which occurred in American music education in the elementary grades (8, p. 57). Some of these changes were a renewed acceptance of European influences, one of those being Zoltan Kodaly.

Miss Cynthia Jolly, British-born Viennese opera star, and one of the first foreign disciples of Kodaly, helped publicize the Hungarian music education concepts to the Western world. When she presented Kodaly's ideas to three English publishing companies, three publishers declined her request. However, much interest was aroused in Kodaly's ideas with the ISME Conferences in Vienna in 1958 and in Tokyo in 1963 where reports of the method were presented. In addition, at the 1964 Conference in Budapest where Zoltan Kodaly personally delivered an address and was elected honorary president, interest was heightened. It was the latter conference that seemed to cause the beginning of widespread international interest, since those educators attending could experience the results of the Kodaly system first hand (9, p. 11).

In addition to the practical and philosophical projects, seminars and symposium sessions which have

influenced music instruction in the American schools since the Woods Hole Conference, technological advances have also influenced and improved music teaching. The computer society of the 1980s has presented new challenges and opportunities for music educators at all levels of instruction (12, p. 23).

Zoltan Kodaly

The Man, The Philosophy

Zoltan Kodaly's vision of a musically sensitive and literate nation, as well as the means to achieve that vision, developed over the span of his long life (1882-1967). What began as a general concern for the quality of life in Hungary became, over the years, a philosophical and pedagogical framework on which the music education of the country was built, subsequently affecting music education in the United States (78, p. 6).

In order to study and evaluate the Kodaly concept in music properly, one must understand the link between Kodaly's ideas and music and the historical development of Hungary. In the nineteenth century there was a strong German influence in Hungarian culture due to the rule of the Austrian Hapsburgs. During this time education was compulsory, and music education was a required subject with the folk song listed as the foundation of music teaching in the schools (96, pp. 1, 3).

Although he was a good pianist, Kodaly's greatest skills were in the field of conducting. He was well-established as an excellent composition teacher at the Liszt Academy of Music in Budapest and eventually he became chairman of music theory at the academy (9, p. 14; 70, p. 14). His philosophy regarding music was fundamentally uncomplicated. He believed that music should be for everyone, and he determined to make music an intelligently understandable language for every Hungarian (92, p. 10). He labored in that effort to make music enjoyable to the masses because he realized this enjoyment was part of the basic heritage of every man and was necessary for man's development, and that music was meant to develop man's intellect, emotions, and entire personality (96, p. 10).

To Kodaly, if music was to influence the lives of all people, it had to be understandable and composed from material which man could comprehend. Kodaly proposed that musical culture, then, should stem from the national culture peculiar to each people of every land. He felt that only music of the highest artistic value should be used in teaching, in order to inculcate in the children an appreciation and regard for music of value (12, p. 71).

Singing was considered the foundation of musical culture and was to be unaccompanied. Since the human voice is the most natural instrument to man, the art of singing was considered the most logically natural musical activity

of man. Kodaly believed that singing aided emotional and intellectual development as well as serving as a means of musical expression (96, p. 12). He said, "singing has to be the basis of a good musician--that it is the best means for introducing the young child to the world of music" (96, p. 13). Kodaly felt that a country must begin with the musical mother tongue of that particular nation, and through it expand to reach an understanding of the music literature of the world. The musical mother tongue to which Kodaly referred was the folk song (96, p. 116). He felt it was more readily accepted by children than art music and he criticized educational music, which he described as milk and water and second-class writing which was both uninspired and uninspiring (68, p. 43). He regarded folk music as a rich heritage in which everyone has a share and he used it to develop the plan of the sequence the child would find most natural (95, p. 247; 17; 88).

He believed language and music fit together in a special way in folk songs. The natural stress patterns of a language are mirrored in melody and rhythm, so that the young child not only learns tunes and words, but also acquires greater fluency and understanding in his own language. Folk songs can give children a sense of cultural identity and continuity with the past (12, p. 71).

In 1896, Kodaly became aware of the research of Bèla Vikar, a Hungarian folklorist and translator who used

Edison's phonograph in his research when he went to Budapest to view an exhibition commemorating the millenium of Hungary. There he heard some of the folk songs which Vikar had recorded. He was fascinated since he had already been frustrated because the works being published as folk songs were not like the ones he had heard as a child. This chance incident paved the way to a new musical world for Kodaly; it served as the culminating inspiration and energy in all facets of his life as scholar, musicologist, composer, teacher, scientist, and creative artist (95, pp. 6, 7).

Kodaly came to the realization that music education for children must begin when children start making their own music, that is in the nursery (69, p. 43). He stated the belief many times that we must begin at a very young age, and when asked to pinpoint the age, he replied, "nine months before the child is born." Later he changed that to "nine months before the mother is born" (96, p. 36).

The impetus for developing his method of teaching music came one day when Kodaly was wandering through the fields near a Hungarian village. He heard students being trained to be teachers, practicing children's songs and he felt that the songs were of poor quality and the singing was uninteresting. He was already aware that most Hungarians knew little of their native folk music since most of the educated musicians had a Germanic background, so he determined to improve the situation (9, p. 140).

Kodaly and Bèla Bartok, another Hungarian pianist-composer, joined forces and made regular field trips to study and record the folk songs of their homeland, accumulating vast numbers of songs. The real folk music is not the songs of the gypsies, so often equated with Hungarian music. The genuine folk songs discovered by Bartok and Kodaly contained idiomatic intervals and rhythms. Every section of Hungary had its own distinctive songs and this storehouse of native melody provided a great incentive to the two musicians. A natural outgrowth of their research was the development of a national art music based on folk music and most importantly, a system of music education which used folk music as its basis and which has actually transformed the musical life and culture of Hungary (96, p. 7).

The Method

Kodaly's principles are usually referred to as a "method." What is known in North America today as the "Kodaly Method" was developed in Hungary in the 1940s and 1950s by Kodaly, his colleagues and his students, as a comprehensive system of music education. It was not invented by Kodaly, but rather it evolved in the Hungarian schools under his inspiration and guidance. The title, method, was first used in Tokyo in 1963 at the ISME Conference, again in Denmark in 1958, and in America for the first time in 1961 (96, p. 21; 9, p. 11). None of the

practices associated with Kodaly originated with him. The goals, the philosophy and the principles were Kodaly's; the pedagogy, the means through which to achieve these goals, was not (12, p. 70).

Professor Szonyi emphasized that this name "was not given to our method of teaching by ourselves, but by foreigners" (9, p. 21). She ventured the opinion that because the teaching material, methodology, and textbooks fit with Kodaly's concept of music education, visitors concluded it was the Kodaly "method." Eventually the term was applied to music education in Hungary.

Richard Kapp, the distinguished composer and conductor said of Kodaly's teaching that is it not a concept, but rather a context, a space in which things occur (35, p. 5). In an interview, Helga Szabo said the term "method" is unfortunate, that the word "system" was a better choice (18). Laszlo Dobsay added, "Mr. Kodaly has not worked out a systematic educational theory; there is, however a Kodaly outlook or approach but no Kodaly method as such exists." Russell-Smith states that Kodaly resisted all blandishments to delineate his method exactly in some great pedagogical tome. Thus most of his own directions had to be gleaned from public speeches and articles (68).

Kodaly himself did not consider it important to write his method, but he influenced and helped to develop a revolutionary type of musical education. In 1944 he

encouraged Jeno Adam and cooperated with him to prepare the first series of books for public schools based on the relative sol-fa system with materials related to folk songs. It is a teaching guide for primary schools, grades one through eight (10, p. 18). Katalin Forrai adapted the ideas to nursery school and kindergarten, and Elizabeth Szonyi wrote a graded series of books for drill on solfège. For young children, Kodaly wrote a series of exercises of graded difficulty--short one-, two-, and three-part musical pieces offering training in intervals, rhythm, harmony, and form variations.

It is unlikely that Kodaly ever considered what was taking place in the Singing Schools of Hungary as the Kodaly "method," according to Choksy. He knew too well the numbers of musicians, teachers and ethnomusicologists who were involved in its creation and ongoing development to take credit for himself (9, p. 14).

Kodaly did what was more important. He left his life, his writings, his pedagogical compositions, and his unique children's choirs for musical posterity. In his writings--for the very young and for the most advanced artists--he suggested a general direction for teaching. He showed the direction in meticulous detail. From his materials, the teachers had to make daily plans and adaptations, and formulate their teaching according to their own limitations and personal styles. Always in interaction with the

children, the flexibility made it possible to build a music education program suitable to the varying social circumstances of our country (19).

Choksy elaborates that while the method came from the joint efforts of many people, it was without doubt, Kodaly's vision that gave it breath. All musicians who worked with him speak of him even today as a continuing influence in their lives and professions. The Kodaly Method has become to Hungarians and to many others a living monument to the man who inspired it (10, p. 15). Method is further defined as a teaching approach which has an identifiable underlying philosophy with a specific set of principles, a unified body of pedagogy unique to it with a body of well-defined practice, goals and objectives worthy of pursuit, and integrity--artistic goals rather than commercial ones (12, p. 2).

Regardless of nomenclature, the Hungarian system of music education proves to be of paramount interest in many areas of music education (19). What evolved in Hungary under Kodaly's guidance, in actuality, is not a method but a life-permeating philosophy of education of which only the pedagogical principles may be said to have "method" (10).

Kodaly's principles of music education were based on what is referred to today as a sequence of child development rather than a subject-oriented sequence (44, p. 92; 96, p. 29). The music in Kodaly's program was arranged into

patterns that follow the normal development of the abilities of a child at various stages of growth (35).

The curriculum which resulted from Kodaly's conception of music education is based on four principles.

> 1. Content should be generated by the music, initially by the folk music of the people and later by the folk music of other peoples and the finest examples of composed music.
>
> 2. Experience of musical elements, primarily through singing, should precede cognitive understanding.
>
> 3. Learning should be sequentially ordered proceeding from simple to complex.
>
> 4. The sequence should be determined by the cognitive and psychomotor development of the children being taught (78, p. 6).

A fundamental premise of Kodaly's philosophy was that music and singing should be taught to provide pleasurable experiences rather than drudgery. Music was taught as something understandable and necessary for the development of every man (96, p. 23).

The Music

Kodaly was most definitive about how he would teach various aspects of music. He felt that music should be at the heart of the curriculum (12, p. 72). In Hungary, the pure form of his teaching would include rhythm, reading with solfege and hand signs, and singing.

Rhythm is considered the most important element and is learned with the melody. The meter of the young children's

movements--walking, running, skipping, swaying, bouncing--is duple; since triple meter is extremely uncommon as a natural expression among young children in English-speaking cultures. Based on child developmental characteristics, the earliest rhythmic teaching material in a Kodaly approach is duple. Triple meters are included later when a firm foundation in duple has been established (12, p. 73). Incorporated into the program is a system of rhythm syllables derived from the way of voicing rhythm invented by Abbé Aimé of Paris and similar to one used by Jacques Chevé of Paris in the 1800s (12, p. 75). Each rhythm symbol is introduced in a pattern which is representative of the basic beat. The learning of these patterns progresses slowly and methodically from the extremely simple to the very difficult over a period of three or four years. The patterns are always experienced through songs.

The quarter note is ta and the eighth note is ti. These syllables are not names but expressions of duration. They are voiced and are never written as words. The advantage of these syllables is that they are representatives of the duration of the sound. Basically the rhythm duration syllables are

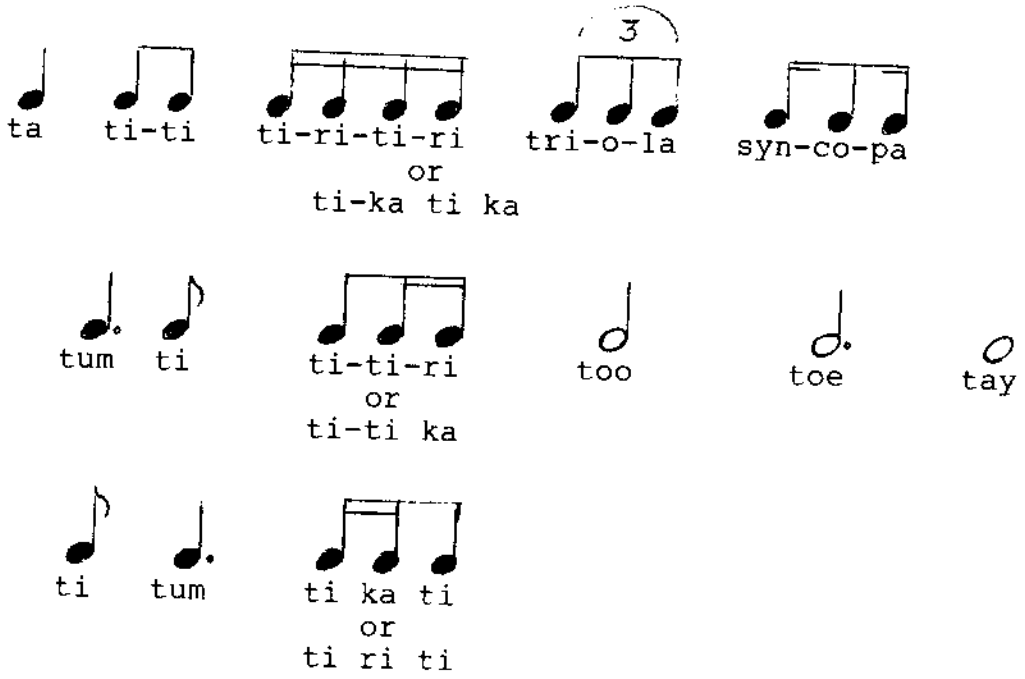


Fig. 1--Rhythm duration syllables

Rests are beats of silence. As children begin their rhythm reading, pictures are used; next, the stems of the notes are used. The body (head) of the note is not necessary except for half notes (𝅗𝅥) and whole notes (𝅝) (Appendix A).

The children are led to recognize the pulse of a familiar song by reproducing it through movement. The child's whole body is used in active movement with the rhythms which helps to keep the music period interesting for even the usually inattentive child.

Kodaly had studied the work of Jacques-Dalcroze of Switzerland and incorporated many of his ideas of musical movement into teaching music to children. However, where Dalcroze used the piano and movement to music that is heard, Kodaly based his work on the singing voice, using movement to music that the children made themselves through their voices and their bodies (31).

Emphasis in Kodaly's method is on sight singing. Dictation is achieved through a careful study of the structural elements of music, including rhythm, melody, texture, and form. Improvisation becomes an important aspect throughout (85, p. 247).

Music reading is taught with sol-fa syllables reinforced and preceded with hand signs derived from the system of hand signals developed by the Englishman John Curwen in 1870 and adapted for use in the Hungarian schools (12, p. 74). It uses movable _do_. For each tone of the scale there is a specific physical position. Moving from one position to the next involves the child's body in feeling the relationship of the tones to each other. Pitch notation is taught from the very beginning placing the sol-fa syllables graphically on a three-line staff. At first, songs are limited to the pitches _sol_ and _mi_, the falling minor third. Eventually new pitches are introduced which expand the child's vocabulary.

The hand signs begin in rote singing and then the children are introduced to the pentatonic scale tones with movable do. In this way the standard five-line staff is gradually introduced with each new syllable.

It is believed that the hand signs give the child a feeling for the pitch and improves tonality. If solfa is an aid to tonal memory, solfa combined with a system of hand signs appears to make that tonal memory both more quickly accomplished and more secure (12, p. 74). Their reading of intervals is believed to be better than by another reading method. Only one hand should be used by the child--his or her writing hand, the dominant hand. No skill is accomplished as well with both hands as with the dominant hand. The right-handed child who learns hand-singing first with the right hand acquires tonal patterns more quickly and more securely than the child who uses both hands.

The teacher, however, can and should use both hands to show two different pitches. By showing a sustained do with the left hand and a do-so-do with the right, for example, the teacher can lead two halves of the class through practice in intervals and work on intonation. Later still the teacher can lead a class or choir through chord changes via hand signs. They are an invaluable teaching technique (12). The hand signs of Kodaly are shown in Figure 2. Accidentals are shown in Appendix B.

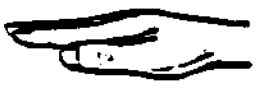
Upper Do'  Closed fist even with the forehead. (') indicates upper do.

Ti  Closed fist slightly below forehead with first finger pointing up.

La  A relaxed, hanging position of the hand. Wrist higher than the hand, fingers slightly open.

So  A flat hand with palm turned toward your face. Closed thumb. Hand should be even with your mouth.

Fa  Closed fist with thumb pointing down.

Mi  Straight, horizontal hand with closed fingers.

Re  Open hand, straight closed fingers pointing upwards.

Do  Closed fist, at waist level.

(2)

Accidentals are shown in Appendix B.

Fig. 2--Hand signs of Kodaly

The Kodaly system was not regarded as a program of instruction about which keys to depress but one which could stimulate "noises in the head." It was felt that the ear could develop only if the first notions of sound came from the voice (68).

Three-note songs and chants (la, so, mi), tetratonic (so-mi-re-do) songs comprise most, but not all of the earliest melodic teaching material. Tunes without minor seconds are used. As voices mature, musical abilities increase. Musical materials are extended to include more songs in diatonic major and minor keys, modes, and altered scales (12, p. 73).

As new pitches are learned, the student is encouraged to invent his own melodies. Reading with syllables is given great and continual emphasis and is one of the most important features of the Kodaly system. The philosophy behind their use is that they can convey music meanings and can help them visualize images which need to be realized in music. Such symbols cannot indicate the melody to the same extent as the standard notation, but they have an advantage in that they relate visual to aural perception (32).

The material is highly structured and sequenced with well-defined skills and concept hierarchies in every element of music based on the natural progression of the child's development (12, pp. 72, 83, 87-88; Appendix C). Duple meter is taught before triple; and minor thirds and major

seconds before minor seconds. These are decisions based upon what young children can do. The broad outlines of the Kodaly sequence are designed to suit the maturity levels, but the small sequences within the overall sequence are based upon the frequency of occurrence of a particular rhythmic figure or melodic turn in the song material being used for teaching (76).

Kodaly insisted that education should develop children's ability to read and notate in order that they be more musically literate and that they should learn to read music when they learn to read words (23). A Hungarian child who does not learn to read music is likely to be considered illiterate. Kodaly deplored the idea that only instrumentalists needed notational skills and that music culture could be acquired solely through instrumental performance (96, p. 12). He was not averse to instrumental training, rather he believed that singing should precede and accompany instrumental instruction, and that a child should be given an instrument only when he could sing (96).

Music in Hungarian Schools

Today Hungarian children generally receive their first musical impressions from their own families. Since Hungary is a communist state, mothers go to work when their baby is three months old. At that time, the baby is placed in a state nursery (62). Hungarian children begin school at the

age of three in nursery schools or day-care centers. These centers provide a form of organized pre-school education suited to the ages and needs of the children.

The two types of nursery schools are general and music schools. In the general nursery schools, three-, four-, and five-year old children have singing experiences taught by the regular nursery school teachers. The experiences are scattered throughout the day for periods of ten to fifteen minutes each. The majority of Hungarian children attend this type of regular nursery school.

In the music nursery schools, three-, four-, and five-year-old children receive two thirty-minute formal singing lessons per week, taught by a music specialist. These music nursery schools, located near the singing primary school, provide a more total musical environment (96, p. 31).

Primary classes are organized in the same fashion. All children receive music and the Kodaly system is used exclusively. There are three types of music in the schools. Students in normal elementary schools have two hours of music instruction a week. There are 130 special elementary schools in the country and they are open to musically gifted children. In these schools, the students have a singing class every day and participate in the school choir. If students wish to study instrumental music, they may attend

classes after regular school hours in separate music schools which have their own curriculum and faculty.

First grade children in the singing schools have music five to six times a week. They learn most of their many songs by rote but some children learn with hand signs. By the end of the year, some children read the notation. Therefore, nursery school concepts are reinforced in the first grade.

Kodaly influenced the development of music primary schools and the number of schools has increased. In the spring, parents are invited to bring their children to apply for admission to the Singing Primary Schools. Space in the program is at a premium. Each school decides its own criteria for the auditions, but generally the child is asked to sing and exhibit signs of rhythmic accuracy and the ability to match pitch. A special effort is made to choose not only gifted children, but also children who do not perform well in the entrance examination. Such children honor Kodaly's idea that music is for everyone (96, p. 10). Truly, every child in Hungary is a pupil of Kodaly (63).

Kodaly in American Schools

Kodaly ideas are practiced in the United States and Canada. They have become North American as surely as if they had originated here. The Kodaly method in North America has, of necessity, a different sequence (Appendix C)

and different music materials are used in North American than in Hungarian schools (12, p. 2).

Kodaly's ideas first caught the interest of American music educators in 1964 when Mary Helen Richards published her American adaptation, Threshold to Music (65). Her unexpected success led to a demand for publications. Opinions of musicians were varied. Choksy felt that many of the new publications were nothing more than attempts to benefit from the Kodaly name with little attention to any of his philosophical ideas except the hand signs (9, p. 57).

It seems that the use of Kodaly's ideas has gradually become more widespread. In 1978, Palatoi stated that the Kodaly method for classroom music teaching showed signs of great staying power (55). Hoffer reported that about one-half of all music specialists had made an attempt to become informed about the method and that there was more of a tendency for teachers with five to ten years of experience to use the method. Of the teachers he surveyed in 1979, thirty percent had received Kodaly training, most of it in the form of workshops (30). The disagreement about the correct term for the systematic use of Kodaly's pedagogical principles has not inhibited the growth of these principles (28, p. 20).

The growth of the Kodaly method from 1960 to the present time has been such that musical authorities have presented their various views of the Kodaly program at various conferences.

The teaching of music which is accomplished in the nursery schools of Hungary must be done in the first grade in America. Goals for the music curriculum include in-tune singing, feeling for beat and accent in duple meter, ability to identify rhythm patterns of familiar songs, and step and clap rhythms and beat, as well as the understanding of the concepts of high-low, loud-soft, and fast-slow. The children build a large repertoire of songs and singing games.

Various schools and institutes in the United States help train teachers in the method. The Kodaly Musical Training Institute in Hungary was formed with the help of the Ford Foundation and is governed by a small board of directors and staff. Its activities are done in cooperation with the Ministry of Education, the Liszt Academy, and Zoltan Kodaly School in Keskemet, and Mrs. Zoltan Kodaly.

Many music educators feel that the principles of Kodaly adapt well to American children and schools. Some teachers are excited about the Kodaly method because some of the results are immediate (55). Some teachers find the large colorful charts which Mary Helen Richards created very helpful. They progress gradually from extremely simple ideas through 107 charts to complete presentation of the diatonic scale (Appendix D). Hoffer surveyed teachers using the Richards charts and found that the more active teachers were more likely to use the charts (30, p. 47; 64).

Scheduling of the class is important. It is more important to have more frequent, short lessons than longer lessons scheduled less frequently. The responsibility of the music specialist is to provide the lessons in music class. The classroom teacher can help by reinforcing the concepts taught in the music lesson.

The Kodaly method is criticized in both Hungary and the United States. A frequent criticism in Hungary is that too much time is spent on music (63, p. 28). Palatoi reports that participants in a 1972 radio panel discussion in Hungary shared some of their doubts about the program. Professors of the prestigious Liszt Music Academy in Budapest and many other professionals in music voiced their criticisms. One criticism was the objection to the technical perfectionism as an objective of music teaching. Drilling solfège, they felt, had replaced a careful cultivation of music sensitivity (63). In 1981, Choksy stated that desired results cannot be accomplished simply by reading charts or by memorizing syllable names of numbers, and that music reading does not consist of knowing musical jargon (10). In 1986, her opinion was that tonic solfa is without equal as a way to train the musical ear, since it focuses the attention initially on pitch relationships and pitch functions within a tonal system rather than on a specific pitch (12, p. 14). For example, after it is learned, do to so in any key immediately brings to mind

the sound of the perfect fifth. Darazas, a leading authority on Kodaly states that some music educators consider the movable do signs to be excellent gestures. He considers them symbols for important musical effects and states that there is no logical reason why these symbols could not be used in today's music classes. Although hand signs are merely a device and not an end in themselves, they do have a place in today's music curricula (48, p. 71).

One of the most frequent comments concerns the almost exclusive use of folk songs. Many children do not hear only folk music all their lives but they are exposed to many types of music (55, p. 11). Palatoi feels that the Kodaly ideas could be based on all types of music and that it will not be desecrated if popular tunes are learned together with themes from sonatas, symphonies, and operas (56).

Appropriate material is another difficult problem. Bidner states that adaptations of the Kodaly method are available but most of them lack sufficient song material for teaching and reinforcing the concepts in their proper sequence. Songs should contain sequential material. This means we should research our American folk heritage (4). Richards believes that our songs should adapt well to the Kodaly approach since many of our Western; and pioneer Indian, Negro and white spirituals are constructed on the five-tone scale (64, p. 28). Portola Valley schools implemented the program and reported that concepts found within

the American folk songs very closely parallel the structure units of the Hungarian method. Also the major change is in the syncopated pattern which is common in Hungary (63).

Choksy believes that the value of Kodaly's approach is in the fact that its developmental approach to music reading can show us the way to improved music education in our schools. Children should be taught to read music. They should be taught to listen intelligently, to respond rhythmically and to be helped in acquiring the tools with which to create music. But music reading must fit into a total music program and at all times, must be relevant to the musical experience taking place and to the needs of the child being taught (9, p. 59).

Other Approaches

The Process of Carl Orff

Carl Orff developed an approach to the music education of children which has given new life to music experiences of many children. Today Orff is best known as a teacher and originator of the Orff-Schulwerk for children (95). But Orff did not originally set out to develop a program for the musical education of young children (92).

Orff was born in Munich, Germany in 1895 and died in 1982. He studied at the Munich Academy of Music and he later served as a conductor in Munich, Mannheim, and Darnstadt. In 1920, he returned to Munich to study with Heinrich Kaminski (95, p. 24).

In the 1920s young people were captivated by a new feeling for the body, for sport, gymnastics and dance. It was a time when numerous schools for dance and gymnastics were being established, most of those being patterned after the Dalcroze model. Jacques-Dalcroze had been largely instrumental in preparing the groundwork for this interest in dance with his Institution for Music and Rhythm at Hellerau. Rudolph Laban and Mary Signan were at the height of their careers. Laban was an outstanding teacher and choreographer and his book on the dance was considered one of the best. Mary Wignan, a student of Dalcroze and admirer of Laban, was a great artist and enjoyed a wide following (95, p. 25). Other notables such as Isadora Duncan and Ruth St. Denis were also a part of the "new dance wave" (12, p. 92). Orff made the acquaintance of several famous dancers and he was quite intrigued by their improvisational skills (92).

Orff became involved with music education when his friend and colleague, Dorothée Günther, began to use his works in the training of dancers and gymnasts in her classes (92). Together they established the Guenther Schule (Güntherschule) in Munich in 1924. There, the primary emphasis was on rhythmic education (95, p. 25). Orff and Günther based the activities in the school on what Orff referred to as the elemental style, in which music and dance were experienced in their simplest component parts. These

parts were mastered through performance. Orff composed the music to be used in classes and performances. The basic courses combined music and movement and were the forerunners of the process to be used in the Orff-Schulwerk (92).

The reputation of the school spread quickly because of the quality of the work produced there (12, p. 93). A unique feature of the school was that xylophones and other mallet instruments were developed to supply the music along with a variety of small non-tonal rhythm instruments. Orff recognized early that the piano was unsuited for this purpose and together with Karl Haendler, a piano and harpsichord maunfacturer, designed a whole new family of instruments to be played by the students. With the addition of recorders, gambas, and small kettledrums, the "Orff ensemble" was complete. The bass part of the ensemble was supplied by kettledrums, low xylophones and bowed strings such as guitars and lutes. The melodic portion of the music was supplied by recorders and small glockenspiels while ostinati were played on middle range mallet instruments (95, p. 25).

Gunild Keetman, a student at the Güntherschule, became an invaluable assistant to Orff. She translated Orff's ideas into techniques for playing the new instruments and composed pieces for those instruments (12, p. 93). Some music was created and composed from folk music but the majority was improvised. Notated melodies were not used and

music reading was seldom done. All ensemble parts were learned by imitation and played from memory. Later in the development of the music for the dance, the dancers themselves played the instruments. Music and movement became one and the same (95, p. 25).

In 1930, Orff and Keetman began writing a series entitled Schülwerke, which included a large body of music. This series was intended as an anthology of musical pedagogical ideas and not as a text for student use (95, p. 25). Later, Orff and Keetman collaborated in creation of the Music For Children (53), the many volumes of music instruction which have served as a guide to the instruction of music based on Orff ideas. Keetman also wrote the Elementaria as a guide to accompany the teachers' first steps into the "varied landscape of the Orff Schulwerke" (36, p. 13) and as a preface and preparation for the first volume of Music For Children.

The Orff-Schülwerk is a self-motivating, creative musical development process which incorporates the active participation of students in singing, rhythm, movement, and playing the specially designed musical instruments (95, p. 26). Orff believed that feeling precedes intellectual understanding and the activities were physical, non-intellectual background for musical imagination and creativity (92). The foundation of his process was rhythm with a strong encouragement for the student to improvise.

Movement was a vital part of his music (44). He used the speech and movement natural to the child, urging the child to participate actively in all experiences and encouraging the idea that speech, movement, play, and song were one (92).

Orff believed that music education should be patterned after the evolutionary stages of mankind. Children needed to experience the same development as music did in order to develop musically within themselves (44). Gillespie says that the keys to the Orff process are exploration and experience. Through experience the elements of music are explored, refined, and elevated. Children move through these stages by exploring and experiencing. The musical elements are first explored, and gradually experienced through subsequent levels of complexity (12, p. 96).

By starting at the simplest level, the child is led gradually from natural speech rhythms to rhythmic activities, to melodies and ostinati growing out of rhythm patterns, and to simple harmony (95, p. 27).

Some of the devices unique to his process are use of speech patterns, proverbs, and children's rhymes and jingles. These devices are the basis for developing a feeling for basic note values, meter, phrase, clarification of rhythmic problems, and use of rhythmic and melodic ostinatos as an accompaniment to moving, singing and playing (92).

Orff used natural childhood chants as the basis for developing melodic feeling (45). The first melody introduced is the falling minor third, three descending half-steps. Gradually other notes of the pentatonic scale are added. This melodic starting point is gradually expanded until the children are singing accurately in the pentatonic scale. Spoken nursery rhymes, nonsense speech, children's names, and similar materials are imitated by stamping, clapping, patting, and snapping, and on rhythm and melodic instruments. The whole process moves from the imitation of speech, rhythm, or melodic material accompanied by physical movement to the use of this material in creative improvisation. As the program unfolds, the material gradually increases in complexity while the overall process remains the same. The emphasis is always on listening, feeling, (moving in response to the music), and creativity (95, p. 27).

During World War II, the Güntherschule was completely destroyed by bombing. All of the Orff instruments were destroyed also. It was not until 1949 that Orff was asked to recreate his ensemble for use by children on the Bavarian radio. With this broadcast series, Orff-Schulwerk was reborn with one important change. Previously the Guenther Schule and Schulwerk materials had been addressed to adults and older children, and this time materials and instruments were made for use to small children.

With the assistance of Klaus Becker, a former student of Haendler, instruments were again built for use in the ensembles. (Becker later started his own company known as Studio 49.) In 1949, Keetman joined the staff of the Mozarteum in Salzburg to teach courses in Schulwerk. As interest in the system spread, it began to find its way into other nations. Doreen Hall introduced it into Canada, Daniel Hellden to Sweden, Mina Lange to Denmark, and others to Europe, United States, Latin America, Israel, and Japan (95). Dr. Arnold Walker of the Royal Conservatory of Music in Toronto and Professor Naohiro Fukui, director of the Jusashino Music Academy in Tokyo saw a demonstration of Orff's work by a group of children in 1953. The impression was strong enough to start what was to be the international spread of the Orff-Schulwerk Music for Children (12, p. 96). The series Music For Children, successor to the original Schulwerk, was also translated into numerous languages for use throughout the world (95, p. 25).

Publications which have helped make the Orff pedagogical ideas more understandable are Wuytack's Musica Viva: An Introduction to Active Musical Education (94), and Keller's Introduction to Music For Children (37). Both include the music of Orff with many practical and detailed suggestions on use. Each contains comments on the philosophy of his pedagogy.

Orff in American Schools

There have been many important leaders of the Orff movement in the United States, including Arnold Burkhart, Isabel Carley, Nancy Ferguson, Ruth Hamm, Konnie Saliba, Elizabeth Nichols, Jacobeth Postl, Martha Wampler, Lillian Yaross, and a host of others. Overall direction is now provided by the American Orff-Schulwerk Association (AOSA) and its publications (95).

One of the pioneers of the Orff method in the United States was Grace C. Nash. Through her activities as clinician, consultant, teacher and author, she has probably done more toward spreading the principles of Orff in this country than any other single person. A significant contribution has been her series entitled Music with Children. This series consists of music, materials, and suggestions for teaching and collectively constitutes the primary source of practical materials available to music teachers in the United States.

Mrs. Nash has expanded the Orff method to include ideas which use movements of the body even more extensively than did Orff. The result is a way to teach music based on an approach to child development through the components of music combined with language and movement. This approach uses the elements of music, namely rhythm and melody, expressed in different textures (timbres) and registers, together with language and movement according to the child's

world. The purpose and concern is for the total growth of the child. The process is one of building an ensemble from a small idea or sound into extensions and complexities through contributions, cooperation, and collaboration with others. Collaborators include Herbert Zipper, musician and educator at UCLA, Carl Orff, Zoltan Kodaly, and Rudolf Laban, founder of the Laban School of Dance (49, p. 2).

These ideas about movement are based on the work of the late Rudolf Laban of England. Movement is considered not only essential to man, it is also one of his most powerful means of self-expression and an outlet for well-being. Laban believed that what a child expresses in direction and movement he can express and translate into other media.

Laban's long-range goals were to guide children's natural urges to perform dance-like movements into a linear flow of movement from an understanding of the principle governing movement, to preserve their spontaniety into adult life, and to encourage their creative expression and combine it with intellectual knowledge (49).

Rhythm, one of the basic elements of this approach, is categorized in various ways. It is described as a repeating pulsation which is a vertical element that can be a regressive force if not phrased into a linear flow with rhythm. Language, melody, and movement make the phrasing that provide rhythm's linear flow. Rhythm permeates the entire fabric of music; it draws all the musical elements

together, into a whole. Flexibility, as opposed to metronomic time, is the desirable quality (49).

This approach also utilizes the elements and techniques of play and its reliance on the unconscious mind. It is built around rhythm activities and makes elaborate use of the child's acquisition of language. Repetition is an important technique of teaching and ostinati are common (49).

Specifics and boundaries are considered essential for the well-being of the young student. Just as in play, the child imposes specifics and boundaries on himself. These boundaries are essential to the development of peripheral sensory functioning, the key to total awareness (49, p. 6).

Essential to the child's growth in movement is finding out how, what, and where he moves, first in his own sphere and then taking his space to a new place. Laban theorizes that leading the entire movement with one part of the body, usually a small muscle, gives a specific focus to the movement. The child himself is an instrument of vast scope in sound possibilities. The Kodaly hand signs are used along with solfege (49).

A core of elemental music is the basis for the child's way of improvising music. With his rhythms and chants which he uses in play, he makes his ensemble which grows in its complexities as he grows in language, coordination, and

exploration of sound textures. He is listening, exploring, manipulating, and experiencing (49, p. 4).

Tonebar instruments are used by the children, and they are indispensable to this philosophy. These instruments promote use of the pentatonic scale, the jazz scale, and the whole tone scale. Rock music, too, can be played on the instruments. It can be played from a basic hard rock beat against improvised pentatonic melody or a similar ostinato against a diatonic melody played in parallel thirds. Harmonic progressions in fifths rather than triads can be practiced in different combinations.

Rhythmic coordination begins with a simple framework of rhythmic speech with muscular sounds, for example, space clapping with a heritage rhyme (Pease Porridge Hot).

The next step is to coordinate large movements with the speech text. Patschen combines with hand clapping and speaking. As the steps become more complex one rhythmic pattern is combined with a contrasting text. For example, the student executes a four sound pattern while walking (clap, patschen left, patschen right, snap). Triplets and duplets are combined with the beat. To create awareness of the beat and afterbeat, the two muscular sounds are separated into a stamp-clap action (49).

As complexity increases, rhythmic patterns with patschen are alternated and accents are placed with number sets. Two against three is clapped with patschen, three

rhythmic lines, coordinating voice and hands and feet (49, p. 30).

In order to promote understanding of today's music, the diatonic modes are explored and the structure of each is made more clear by the use of solfège. Hand signs and movable do syllables bring to life a picture and sound relationship of each mode and show the location of the half-steps. Me to fa and ti to do are always half-steps wherever they occur (49, p. 12).

Harmonic structure is introduced with familiar songs that have two chords and chord changes are practiced with body movements. Art form classics, small chamber works and small pieces can be performed on the tonebar instruments. Electronic music can be simulated and music from other cultures is explored (49).

Notation is regarded as an intellectual statement of the experience and is introduced through many ways. Speaking, moving, and playing prepares the child for the abstract symbols. Hand signs help make the transition to the notation symbols. Cuisenaire rods, popsickle sticks, and rhythm sticks help make the first symbols (49).

The Eclectic Approach

The combination of several methods of teaching music has become common in the music classes of elementary schools in the United States (5). There are even those schools

which include parts of many methods, thus producing an eclectic curriculum (5, 56).

Many aspects of the methods of Carl Orff and Zoltan Kodaly are similar (95). Both of the methods assign verbal and hand sign symbols to melody and rhythm, both methods teach melody using the same intervals, both methods begin with the pentatonic scale, and both methods emphasize the use of folk songs (89).

Palatoi feels that the combination of Kodaly and Orff in one music program is advantageous (56). Bacon, who has presented many seminars, written articles, and conducted much research on Kodaly, believes that if the two methods are to be combined, they should be taught in a parallel fashion, using alternating methods, and that Kodaly should precede Orff (3). Stone concurs, stating that while the two methods are similar in philosophy, the objectives, and use of many musical techniques; they differ in emphasis on certain musical procedures (83). Mark believes that it definitely has not been proven that the two methods combine well (44, p. 105).

Young states that few music programs adhere strictly to one category to the total exclusion of others. Most programs are a combination of those types which the teacher feels are best or that are dictated by particular requirements of the schools. A large number of programs have obtained success through a combination of the Orff-Schulwerk

philosophy of creative musicianship, the Kodaly concept of teaching music literacy, and a liberal sprinkling of traditional American ideas (95).

Traditional Method

The so-called "traditional" method of teaching music has its roots in the manner in which music was taught in the 1950s and 1960s. For the purposes of this study it will encompass the ways that music is taught without use of, or reference to, the ideas of Kodaly, Orff, Grace Nash, Laban, or Dalcroze.

Stephens describes a traditional approach as one which emphasizes drill, is teacher-centered, uses rhythm (number) names to teach music reading, and presents many rules to be learned (82).

During the early years, every activity centered around musical orientation. Through rote singing, rhythm bands, listening, creative activities, ear-training, free rhythmic movement and improvement of the singing voice, the child could find stimulation in exploring the whole field of music. (85, p. 229).

The teaching of music notation was presented in each basal music series. Each had its own approach and its own organization. Nye felt that it was the responsibility of each teacher to study and understand that approach and to apply it to each situation (52).

Most first-grade books emphasized creation of an emotionally satisfying environment and concept formation. Concepts included high-low, fast-slow, loud-soft, feelings for the home tone, mood, fundamental movements, accent, and rhythm patterns. Notation was prefaced by increasing understanding of pitch levels by acting out melody lines, and a general association with those melodies. Notation was presented incidentally, not directly (49, p. 167).

The method which is used today and is classified as the traditional way to teach music is basically the same method as that of the 1950s. In addition to rote singing activities, new songs are usually sung by the teacher, and the children imitate what they hear. Rhythm is experienced through the use of rhythm instruments and rhythmic games, dances, and arm movements. Listening activities are usually associated with recordings. The piano is used frequently. Melody instruments are used as aids to the reading of notation. Creativity is considered to be an aspect apart from the other areas of music (52).

Research

Research with Children

Because of the increasing attention devoted to early childhood after 1960, the amount of research in early childhood has increased rapidly (52, p. 1). From a single study reported in 1960, the number of studies reported

annually steadily increased to ninety-nine in 1975. This research ranges from prenatal conditioning to studies of complete music curricula (76, p. 7). Zimmerman states that the last twenty-five years has seen an increased interest in the systematic study of musical development coinciding with the systematic study of child development (98).

It has been observed that even infants and small children have a predisposition to music (32, 41, 27, 45, 47). Infants respond in an overt way to various kinds of vocal and instrumental music (77) and even six-month-old infants differentiate between tones.

Recent research by Ostwald suggests that the requisite structure for pitch and tonal perception is available to infants much earlier than our present practices indicate (54). Kessen, Levine and Wendrich's report on ability of infants in their first six months to imitate pitches states that a sequence can be determined that moves from vocalizing, to consciously varying pitches, to imitating (39).

By monitoring changes in the heart rate, Chang and Trehub showed that infants can discriminate between the transposition of a familiar melody and a new melody, and between two different rhythm patterns (8). Nelson and McCall achieved similar results in 1973 (51) as did Summers in 1984 (84).

The home environment and the child's early exposure to musical sound have been studied, and most researchers have found them to have a positive effect on musical ability (45, 47, 89). The research further indicates that the way in which parents use music with their children, even during infancy, affects responses and feelings about music. Parents who show pleasurable reaction to music and encourage the children, enhance their child's capacity for becoming a musical person (76, p. 10). Greenberg agrees with the statement above that the child's innate capacity to respond musically must be triggered by his environment, and that although all children have certain inborn capacities to respond musically, the environment acts upon each child to change these capacities. This change is called "learning" (26, p. 46).

Relatively few research studies have been done in music about kindergarten and first and second graders since it is a common belief among music educators that the musical aptitude of a child is not measurably stabilized until he is about nine years of age or in the fourth grade (23, p. 4; 58, p. 1). There are numerous music tests for children from the fourth grade and older and a few tests for young children. Most investigators working with children ages seven years or younger find it necessary to design their own tests (76, p. 20).

Ability to Hear Tones, Match Pitches, and Sing

One common area for research among primary grade children is that of matching the pitch of a given tone because the ability to do so is an important behavioral teaching goal of music educators (79, p. 227). Seashore described the ability to match a pitch as the fundamental capacity in musical talent upon which rests most of the powers of appreciation and expression in music (73). Although the ability to discriminate between pitches is not an absolute given trait (72), it has been observed that many infants do have that ability (32, 41, 27, 45, 47). Furthermore, research indicates that young children, including children of preschool age, are capable of aural discriminations more advanced than those normally expected or thought (76, p. 13). If one is to examine the total aspect of pitch production, it is first necessary to examine how a child perceives sound and how accurately he audiates the sound which he hears.

Some discussion has taken place on the role that maturation plays in auditory perception (99). Pflederer and Sechrest reported in 1974 that auditory perception appeared to be a function of maturation (59). Scott and others believed it was a function of related experience which can be influenced by short-term instruction (72, 20, 7, 21, 45). Kessen, Levine, and Wendrich reported in 1979 that

children's minds come equipped with highly efficient neural arrangements that predispose us to make certain kinds of sense of our experiences and to use them in that distinctively human activity called thinking (39).

Petzold has reported that the greatest development of auditory perception occurs in grades one and two and that perception increases with grade levels (58). Laverty, too, found that development of a child's concept of pitch, duration, and loudness are relevant to grade level (40). Ramsey found that children do perceive contour and interval aspects of melody (61).

Serafine has suggested that musical cognition entails two components; the structure of the musical object and the processes by which the human subject clarifies the object. She, too, believes that listeners engage in a process of hierarchic structuring as they organize the musical sounds they hear around a central structural element in the music. A determination of the elements that are essential to children's understandings of music and the sequence by which they are processed would be beneficial in planning musical experiences and activities (74).

Aural perception and usually aural conception take place when one listens to music actually being performed by others, the sound being physically present. In order to perceive and conceive music aurally in a meaningful manner,

one must audiate music for referential and comparative purposes heard at a previous time (23, p. 7).

An important aspect of musical perception is memory. Musical memory is also inseparably related to intelligence, according to Zimmerman. Memory can be viewed as that store of information encoded by assimilation and which in turn becomes the raw material for building and incorporating new knowledge. It is the anvil on which present and future musical learnings are fashioned. Everything a child does with music, whether listening, performing, or improvising is within the context of remembered experience (98).

Learning objectives of practically all music curricula include aural identification of various musical phenomena because the development of aural discrimination ability is fundamental to meaningful perception of and response to music (76, p. 14).

Edwin Gordon at Temple University has been studying audiation for nearly ten years, since the word itself has been coined. It is used with increasing frequency in the professional literature. Audiation is the hearing of music in one's mind when the sound is not physically present. One may audiate in recalling music or in composing music. In contrast, aural perception takes place when one hears music when the sound is physically present. Although the term "aural imagery" rather than aural perception is sometimes

used to describe the audiation process, it is not recommended, because the word "image" is associated with the visual and not in the aural sense. To use the term "imagery" is to suggest the audiation of music which is seen in notation form. The term "notational audiation" is more appropriate than aural imagery, and further, the distinction between audiation and notational audiation is clear. Notational audiation takes place when one hears music seen in notation when the sound is not physically present. One may notationally audiate by reading music, by writing music, or by composing music (24).

Although audiation is necessary for remembering music, audiation is more complex than memory. There are seven types of audiation and five stages of audiation. The seven types are found when one is 1) listening to familiar or unfamiliar music, 2) reading familiar or unfamiliar music, 3) writing familiar or unfamiliar music from dictation, 4) recalling familiar music silently or performing it vocally or on an instrument, 5) writing familiar music from recall, 6) creating or improvising music silently or performing it vocally or on an instrument, and 7) writing music that is being improvised or created (24).

The seven types of audiation are obvious. The five stages and the process of audiation within each stage are more difficult to discern. The five stages of audiation appear to be hierarchical, though they probably occur

concurrently. It is reasonable to assume that all stages of audiation are not found in every type of audiation. The five stages of audiation are discussed below as they function in the first type of audiation, when one is listening to familiar or unfamiliar music (24).

Feierabend studied children's aural discrimination abilities under the guidance of Gordon. Since children's singing and aural abilities have been found to be unrelated, he studied the effects of teaching tonal patterns that are either easy to sing, easy to aurally discriminate, or both easy to sing and easy to aurally discriminate on the aural discrimination abilities of children in first grade.

Children in four classes were taught to echo tonic and dominant patterns in a major key on a neutral syllable for five minutes daily for seven weeks. The PMMA test was administered as pretest and posttest. No significant treatment effect was found, but there were observed differences between the pretests and posttests (18).

Saunders made a similar study at Temple University, also under the guidance of Gordon. Saunders studied the relationship between the abilities of children in kindergarten and first grade to recognize their own voices, and to sing tonal patterns and chant rhythm patterns. The PMMA was administered as pretest and posttest. The training period was five weeks. No relationship between the abilities of the children was found (71).

Numerous studies have been done of children of various ages concerning the capability to match and retain a correct pitch. It was found that early exposure to musical sounds has a positive effect on such ability. Wendrich tested twenty-three infants, three to six-months old, and retested them three years later. Many children had lost the ability to retain the pitch unless they were from musically active homes (91). Although pre-school children are capable of forming concepts of pitch, register, melodic contour, and interval size, it is estimated that fifty percent of a first-grade class will not be able to sing in tune (25).

Training does affect ability, since the ability to discriminate pitches is not an absolute given trait and the concept of tonality is a learned concept (89). Roberts and Davies compared two types of remedial training and found that all improved in a similar experiment (66). In an effort to define exactly how a child perceives sound, Lenz found that it was easier for children to identify low pitches than higher ones (41).

Research shows that age improves the ability to match pitches (87). In-tuneness is related to tone quality, self-concept, pitch discrimination, tonal memory, and intelligence in sixth graders (80). Gender was also found to be a factor in sixth grade with girls consistently scoring higher than boys (57). There is a difference of opinion about whether it was detrimental to a child's

ability to match pitch by having him imitate the voice of a male teacher. Lenz attempted to determine which pitches are easier for a child to match, whether male or female voices, but the results were inconclusive (41).

There is some question whether monotonism really exists (81). Among those educators who feel that it does exist is Joyner, who found that monotones are apparently caused by the inability to produce singing tones normally and by deficiencies in pitch discrimination, tonal memory, and voice production (34). Several studies have been done to determine the effect that training has on monotones. The results were contradictory. Some researchers found that training improves ability to sing in tune (45), while another study found no improvement (79).

The applicability of Piaget's theories of mental growth and development to music education have been substantiated by the research findings of Pflederer and Jones (59, 33). In particular, his conservation theory has been applied to tonal memory (13, 21, 90, 98, 91, 86).

Use of Solfège

As early as 1921 Jacques-Dalcroze wrote "the study of solfège awakens the sense of pitch and tone relations and the faculty of distinguishing tone qualities. It teaches the pupil to hear, to reproduce mentally melodies in all keys. . .and every kind and combination of harmony; to read

and improvise vocally; to write down and use the material for constructing music himself" (31).

In 1953, Blethen felt that a solfege approach to teaching music was unmusical and did nothing to foster the love of music (6). However with the spread of Kodaly, there has been renewed interest in the use of solfege.

In the Kodaly system, solfege is augmented by the use of hand signals. Recently, there has been an interest in the use of visual representation of pitch levels. Palatoi criticizes the usage of such representations by stating that the downfall of the Kodaly method in the lower classes was due to the rigid enforcement of the use of solfege (55). Since it is argued that the Kodaly-Curwen hand signs are an effective way to teach reading, some relevant studies have been done.

In a longitudinal study, Moog found a natural relationship between music and movement (46). Jones found improvement when hand signs were used for spacial reinforcement (33). She taught identical songs to ninety-four seven-year-olds in an effort to discover if pitch would improve. The children were encouraged to use Curwen hand signs as they sang, but there was no significant difference. Some believe that non-verbal, performance-based response modes are the most natural way for a young child to react to pitch direction without substantial training (90). However, Ramsey states that there is no conclusive evidence

that experience with pitched instruments enhances the child's perceptual ability (61).

Choksy states that a possible limitation of the movable-do approach is that it is not useful for studying music that is not tonal in character. This limitation includes the music of some non-Western societies and some music of the twentieth century. She further states that solfa in the Kodaly approach is not used in isolation. Children are begun with relative do, but once they are secure in the easier way of singing, reading, and writing music, letter names for the notes are introduced (usually about third grade) and are then sung interchangeably with solfa until they too are secure (12, p. 74).

Rhythmic Abilities

Research studies on children's rhythmic abilities have shown that environment also affects rhythmic ability (47) and skills increase with chronological age. Rhythmic development does follow a sequential Piagetian pattern (22, 14, 86).

In a longitudinal study, Rainbow found that three-year-olds can perceive and duplicate rhythm patterns if a proper method of response is used (60). Another finding was that girls perform better than boys (22). De Yarmon investigated kindergarten children and first graders and concluded that it is important that children be taught in

mixed and unusual meters, not just duple and triple meters (16). When reading rhythms, those related to mathematics were more accurate (1, 86).

Orff, Kodaly, and the Eclectic Approach

Demarea made a study on the effects of Orff's music on preacademic skills and the effects of rhythmic speech and body movements. Exercises were based on Orff and she found no significant difference in auditory comprehension and visual-motor integration (15).

Few empirical studies have been done which compare either the Kodaly or Orff method with other methods or which compare the Orff and Kodaly methods (75). Zemke compared the effects of a Kodaly-adapted sequence with a more traditional sequence of auditory musical achievement and constructed a sequence for use in school (97). McDaniel compared the Kodaly-based program with the more traditional program. Results were inclusive after eighteen music classes (43).

Serious researchers have concluded that the academic records of children who have been taught with the Hungarian system of music education are better than those of children who have not been taught with the Hungarian system. They point out that music can educate and that learned faculties can be used to master all other branches of knowledge (17). Bacon states that research by Klokas has proved that

children who are trained in the Kodaly method have higher achievement in almost every other field, especially in reading and mathematics (3). There is a belief that the daily music period also has had an effect on character and personality development as well as on other behavioral traits (17).

Leonhard believes that Orff and Kodaly offer a relatively simple systemization of instruction which appeals to music teachers who are unsure about their objectives and their methodology. He states that the worth of Orff and Kodaly lies in their emphasis on the use of actual music in instruction and their reliance on providing experiences designed to clarify tonal and rhythmic relationships found in that music (42, p. 3).

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CHAPTER III

PROCEDURES FOR COLLECTION OF DATA

The Population

The population for this study was boys and girls in the first grade of an Independent School District (ISD) of a city in Central Texas with a population of 50,000. The students were six and seven years old.

The Sample

The sample for this study consisted of students in five classrooms from four different elementary schools in the school district. Since only one teacher in the school district taught the pure Kodaly method, her classroom was selected for the study. In addition, she taught another class in the same school using the traditional approach, the approach she had used for many years prior to changing to the Kodaly approach. The class of the one other teacher in the district, who taught music using the traditional approach, was also selected for the study. The backgrounds of the children from these two schools were similar in socioeconomic status (SES).

All other music teachers at schools in the district taught music using the eclectic approach. One classroom from each of these schools was selected to participate in

the study, one classroom with emphasis on Orff-type activities and the other one with emphasis on Kodaly-type activities. The Kodaly class was the control group and the other four classes were the experimental groups.

The choral music director of the school district described the programs of each of the music teachers. He made recommendations about the types of approaches and the SES of the students in each of the schools. Each of the four schools have some children from the lower SES and some children whose families are in the highest SES. The schools in the district have been under a court order from the Federal government to equalize their schools racially, and a great effort has been made by the school district to equalize the quality of the schools. One of the schools is in a poverty neighborhood, but it is a magnet school and draws students from the entire city.

Three female teachers and one male teacher were involved in this research project. There were similarities in the characteristics of these four teachers (Appendix Q). Each of the teachers is an experienced musician and teacher, having taught in an elementary school more than ten years. Each one is a singer and a capable pianist. Each of them has used other approaches to teaching public school music and is convinced that his present teaching method is the most effective one for both teacher and students.

None of the four teachers is impressed with the MacMillan Series (6) that was selected by the district textbook committee, and each teacher has purchased another series either as a supplement or as a replacement for the adopted text. In most instances, the Silver Burdett (5) text is used as the supplementary resource. The classes were twenty to twenty-five minutes long. Each class had music on Monday, Wednesday and Friday of one week and Tuesday and Thursday of the next week.

Each of the teachers in this study was interviewed by the investigator. They were asked the following questions about their programs of music and their teaching philosophies.

What are the goals of your first grade music program?

Do you use a specific method, and/or by what process do you achieve your goals?

If you do use a specific method, which aspects of that method do you use?

Describe the music lesson as to length, procedures, and schedule. (Appendix R)

The Teachers and Their Approaches to Teaching Music

The Kodaly Approach: Teacher A

The ultimate goals of this program are that the children learn to enjoy and appreciate music. The teacher hopes that the children will acquire the skills to sing in tune and develop a keen rhythmic sense of the beat.

About eight years ago, Teacher A became convinced that the Kodaly method was especially effective for teaching in

the areas of rhythm and tonal accuracy. She has concentrated her teaching activities using the Kodaly approach. She uses each type of musical activity frequently described in Kodaly programs. These types are song repertoire based on folk songs both American and European, rhythm syllables taught with the charts developed by Mary Helen Richards (7), and solfège, accompanied by hand signs.

The children's acquisition of a song repertoire is an important goal for this program, so the classes do a great deal of singing in the first four or five music lessons. They may begin with familiar songs and then are guided into learning new songs. After the initial singing experiences, they are introduced to the first solfège name, so. They sing about "Little Johnny One-Note" and gradually that is expanded to "Little Johnny Two-Notes," so and mi. Next the pitch la is added and before the end of six weeks, do is added. The next syllables to be added are re and high do. Because the teacher believes the hand signs are an aid to concentration for the children, the pitch is introduced with hand signs.

About two weeks after the children have begun their reading and reciting of solfège, the teacher introduces rhythmic notation. First, children are instructed to follow a visual symbol of the beat. The Richards' charts (7) are used and the beginning exercises are simple. The beat may be represented by an object, such as a feather, ball, or

doll; and the children keep the beat by pointing to each object as they sing. Pictures of hands representing each beat on which they are to clap may be used for a visual representation of the beat. Absences of beats or rests, are indicated by spaces in the pictures. The syllables for beats are used in rhythmic reading. During the first six weeks of school, first-graders learn the syllable ta for a quarter note (♩), ti for an eighth note (♪) and say the word rest for a quarter rest (𝄽).

The primary resource is Silver Burdett (5) with the MacMillan series used as a supplement (6). The philosophy of this teacher is that music does a great deal for children. It teaches vocabulary while giving pleasure, provides a performing medium and a chance for individuality, and an opportunity to be "special" later in their lives as their skills increase. She believes that there are social advantages--that music teaches good manners to children and enhances their consideration for others.

Traditional Approach to Music Teaching: Teacher A

For many years, Teacher A used the traditional approach to music teaching. She taught this class the way she learned to teach in methods classes in college thirty years ago.

The goals were the same as those of her Kodaly class: that the children learn to enjoy and appreciate music, and

that they acquire the skills to sing in tune and to have a keen rhythmic feeling for the beat.

At the beginning of the school year, emphasis is on singing and the children sing songs which are familiar to them. They are taught songs in which they can learn to match pitches, and echo the words which the teacher has them sing. The teacher works with children in groups of twos and threes in order to improve the quality of matching pitch. The teacher uses many sources for the songs but one source most frequently used is Garlid and Olson's Songs For Our Small World (2). The concepts high-low are introduced and songs are sung which will enhance their understanding of the concept.

Before the first month of school has passed, the children will have been introduced to moving to the beat. They are asked to clap or march to the beat, and gradually they are given rhythm sticks and other percussion-type instruments to play to the beat. The instruments are issued a few at a time, and everyone has an opportunity to play to the beat. As the second month of school begins, the children are shown a quarter note () and told that it receives one beat. When they learn the name of a half note, they learn that it receives two beats. They play games which require that they move to the music and listen to recordings which relate to concepts that they are learning.

Traditional Approach to Music Teaching: Teacher B

The teacher who uses a traditional approach to music instruction feels that the goals of her first grade music program are to teach the children to match pitches, to obtain a strong rhythmic feeling for the beat, and to help the children develop musical concepts. She describes her approach as traditional in that basically she has taught the same approach for twenty years, and she does not use solfege or rhythm syllables.

During the first six weeks of the school year, the children are involved in many activities. They are taught the beginning of matching pitches by learning to imitate the interval of a falling minor third. They are taught to be "copy-cats" by echoing appropriate words or sayings such as "hello," "good morning," and "my name is Susie." Concepts such as high-low are taught in pairs and they refer to those sounds in learning individual pitches. The MacMillan (6) series is the basis for the lessons but the teacher uses many supplemental resources. Following the curriculum guide of the MacMillan series (6), the teacher introduces letter names of the notes on the staff. As the children become secure in the concepts of high-low, they are shown the pitches represented on the treble clef staff. Games are used to make learning more enjoyable.

To inculcate a feeling for the beat the children are first guided in listening to records which are highly

rhythmic. The students are introduced to the quarter note (♩) first, but the name is not used until after the first six weeks.

The children experience many types of activities--moving to music, playing rhythm instruments, creating chants and ostinati patterns, and accompanying the pitches they sing with tone bells. The teacher believes that it is important that the children enjoy music and that their experiences with music are pleasurable ones. If this goal is achieved, the children will be aided in their social development. The teacher regards music as a possible future avocation for each of the children--one that has the potential to enrich their lives.

The Eclectic Approach with Emphasis on Orff Techniques: Teacher C

The teacher who uses an eclectic approach with Orff emphasis considers her music classes as "readiness" experiences--both for rhythm and for singing. The goals which she sets for first graders during the first year of their music classes are the children's acquisition of the ability to match pitches and to sing in tune to make them secure, independent singers, and the ability to move to the beat with steady, even movements. The teacher describes herself as eclectic because she draws from various approaches to teaching music, notably the solfège of Kodaly and Orff, and the hand signs of Kodaly.

During the first six weeks, the teacher works diligently to help the children find their head voices, those sounds of a light quality produced in the head rather than in the throat. The children experiment with sound, especially the sounds which are characteristic of various instruments. A large amount of time is spent on concept formation. These concepts are introduced in pairs and frequently are opposites: high-low, up-down, and loud-soft. When she introduces solfège, both hands are used for the hand signs associated with the pitches. So is introduced first, then mi, and gradually the range is extended to five pitches.

Rhythmic chants of Orff are introduced at the same time. The guide for these activities is Richards' Let's Do It Again (7). Beginning the first day, the children move to music with large, overt body movements. Gradually they are introduced to the rhythmic speech canons characteristic of Orff. They use the Orff instruments to provide accompaniment to the chants.

Listening is important to this teacher and she uses short classical recorded excerpts to guide the children in their listening experiences.

The teacher of these children emphasizes the point that she is not trying to create performers of these children, nor does she expect perfect results from them. She wants the children to become lovers of music and to be able to

participate in music activities well enough so that their self-images will be enhanced. She views music as an excellent means of self-expression.

The Eclectic Approach with Emphasis on Kodaly Techniques: Teacher D

Music has been a meaningful part of the life of Teacher D and he wants his students to be diligent and serious in their study of music. He regards music as a language which can and will enrich life if there is an understanding of all its complexities. He wants the students to learn enough so they can enjoy being active participants in music activities. He says there can be true artistic communication only after all types of music are explored, experienced, and comprehended.

Teacher D does not use one method exclusively. He describes his way of teaching as eclectic and says that although he uses some aspects of various approaches, he uses more of the techniques and activities of Kodaly. To facilitate sightreading of tonal patterns and rhythms, he uses hand signs, solfège, and rhythm syllables. Activities of other approaches that he uses are rhythm chants using patschen and body movements and playing of Orff instruments.

In the first six weeks of school, Teacher D emphasizes singing. He uses traditional devices to help the students match pitches and to sing in tune. These devices are imitated by the children--sounds like sirens, wind, and

computer sounds. The teacher drills the students who need help, both individually and in pairs. He sings in a falsetto register so that he will be in the same range as the students and he rarely uses a piano.

During the second six weeks, rhythm syllables are introduced to the students. The rhythm syllables are shown on charts. During this time the teacher uses some examples of notes with only the stems, and some with the noteheads. Later the students learn quarter notes, eighth notes, half notes, and their corresponding rests.

It is the goal of the teacher to teach the children to sing in tune, and to clap and move to a steady beat by the end of the school year.

The Research Design

An experimental design was selected as the quantitative method for this study. For the purpose of this study, the instruments which were administered as a pretest and posttest consisted of two types, a standardized test and a test designed by the investigator. The standardized test was administered to the children as a group, and the test designed by the investigator was administered individually to each child.

The pretest was administered between September 8 and 22, 1986, and the posttest was administered eight weeks later, between November 10 and 20, 1986.

The Instruments

Primary Measures of Music Audiation

The Primary Measures of Music Audiation (PMMA) by Edwin Gordon (Appendix E, F) is a musical test designed to serve as an objective aid to teachers and parents of music students in kindergarten and grades one, two, and three. It was first published by G.I.A. Publications in Chicago, Illinois in 1971, and it has been revised three times since then. The tests are named tests of musical audiation rather than tests of musical aptitude (3).

Aural perception, represented by intuitive, immediate responses, and usually aural conception which involves memory, take place when one listens to music being performed live by others, with the sound physically present. In order to perceive and conceive music aurally in a meaningful manner, one must audiate music for referential and comparative purposes, heard at a previous time. The quality of a subject's formal achievement in long-term and short-term music memory is dependent upon how well he can derive immediate impressions and make intuitive responses in the audiation process (3, p. 7).

Although audiation functions in long- and short-term memory, the tests in the PMMA require neither long-term nor short-term memory. In the PMMA, the listener reacts to immediate impressions with intuitive responses to what is

aurally perceived. Such responses represent, at most, only informal music achievement, possibly in terms of simple aural conception. A phrase is heard and is immediately reinforced or not reinforced in audiation (3).

The two sections of the test are tonal and rhythmic audiation. The instructions state that the tonal test should be administered first. Each part contains forty questions. The questions are recorded on one reel of high-quality, low-noise 1.5 millimeter tape, and each section is twenty minutes in length. A test manual provides specific instructions for administration, scoring, and interpretation of results. Answer sheets (Appendix E) and profile cards are provided for each child.

Technical Aspects of the PMMA

Description of the norms sample.--In the original sample in the tests for grades kindergarten through three, there were 873 children. The norms sample was especially selected to serve two fundamental needs in the use of this test, to offer evidence of the statistical properties of the test and to provide for the objective evaluation of test scores when local norms were not available (3, p. 64). It was felt that local norms would be superior for comparing children's relative standings on the PMMA and for comparing each child's relative standing on the two tests in the battery. Correlation between scores on the PMMA and the

Musical Aptitude Profile are .47 (tonal composite) and .63 (rhythm composite). Overall the composite correlation is .71. In deriving the composite score, raw scores were not weighted through the use of standard scores. The standard deviation of the tonal and rhythm tests differs approximately no more than one point and one half for kindergarten, to as little as one quarter of a point for grade two (3, p. 65).

Reliability of the Tests.--Two types of reliability coefficients and the standard error of measurement are reported for the PMMA. The tonal test and rhythm test reliability coefficients, both split halves, and the test-retest are comparable within each grade except for kindergarten. The measures for grade one are shown on Table I.

TABLE I

RELIABILITY COEFFICIENT OF PMMA FOR FIRST-GRADE CHILDREN

	Split Halves	Test-retest	Standard Error of Measurement
Tonal	.89	.70	1.5
Rhythm	.85	.66	1.7
Composite	.92	.75	2.5

Gordon, author of the test, believes that the lower rhythm test reliability for kindergarten children is due to a variety of factors. Among them is that young children lack experience in moving eurhythmically and as a result it is difficult for them to audiate rhythm patterns. Because most young children engage in some type of singing at one time or another, they can more easily and reliably audiate tonal patterns. Also, when young children find it difficult to audiate a rhythm pattern, they tend to try to count notes in the pattern as a solution. Since nearly all the examples in the rhythm section have the same number of notes, this creates a problem (3).

Validity of the Tests.--Content validity is the most important type of subjective validity. Until there is additional research that parallels the tonal and rhythm pattern taxonomic research, only the tonal and rhythm dimensions of developmental music aptitude can be measured with confidence (3, p. 72). From a practical point of view in terms of time required for administration of the test and children's attention span, these two dimensions covered by the two sub-tests seemed adequate.

The psychological constructs which have influenced the content of the PMMA can be supported directly and indirectly with objective information. In the initial experimental research with tonal and rhythm patterns, the majority of tonal patterns designated as easy were in either major or

minor tonality. Patterns in dorian, phrygian, lydian, mixolydian, and aeolian tonality which were designated as easy, were similar to major and minor patterns. The characteristic tone or tones of each of these tonalities were rarely included in the patterns. Only those tonal patterns which were designated as easy to audiate are included in the PMMA. In regard to rhythm patterns, those designated as easy in the research were found in every meter. Only those rhythm patterns which were designated as easy to audiate were included in the PMMA.

Evidence which bears directly on the content of the PMMA is the intercorrelation among the test items. Given the number of kindergarten children who participated in the research, the intercorrelation of any two items is significant at the one percent level of confidence if the coefficient is .23. To account for practical significance as well as statistical significance, only pairs of items within each subtest that have intercorrelation coefficients of at least .30, positive and negative, were identified (3).

Congruent validity refers to the correlation of two tests which are designed to measure the same factor. Those correlations are listed in Table II.

TABLE II

CORRELATIONS BETWEEN SCORES ON THE PRIMARY MEASURES OF MUSIC AUDIATION SUBTESTS AND THE MUSIC APTITUDE PROFILE

PMMA Subtests	Correlation
Tonal	.47
Rhythm	.63
Composite	.71

Each item on the test is represented by two pairs of smiling faces. One pair is exactly the same while the other pair is noticeably different. To help the child identify each new question on the test, a picture of a familiar object is beside each pair of faces. The test questions are recorded on a Moog Sonic Six Synthesizer and Moog Rhythm Programmer. The tonal test has no rhythm and the rhythm test has no variations in tone. For each question, there is one phrase. All figures are in the same tempo and in the same key, either C Major or C Minor. At least one phrase in each group contains the tonic key (3, p. 11).

Individual Performance Test

Since there is a paucity of testing materials in music for children under seven years of age, the Individual Performance Test (IPT) was constructed by the investigator

and was styled similar to the rhythm matching and pitch matching sections of the Individual Performance Test by Aranoff (1) and adapted by Jenkins (4) (see sample in Appendix F).

The test is divided into two sections--a rhythm and a tonal section. The rhythm section measures the child's ability to clap back and to echo a rhythm which he hears. The tonal section measures the child's ability to match a given pitch.

Pilot Study

A pilot study was given to first-graders in an elementary school in central Texas in January 1986. Thirty children were enrolled in the class in the same school which was later used in the study.

Validity of the Tests

To establish validity, correlations were computed between the IPT subtest scores and a ranking of the children based on their teacher's perception of their musical aptitude. The ranking was done by the teacher without knowledge of the IPT scores. A negative correlation meant that children who were ranked higher (lower numbers) tended to score higher on tests.

Reliability of the Tests

Based on N=30, thirty students, the coefficient was .5043 for the rhythm test and .8608 for the tonal test. The

data were analyzed to establish reliability and to determine which items could be deleted. The deletion was necessary to decrease the time required for administering the test. Items were to be removed if they had very low or very high means (less than .11 or greater than .90), if their item-total correlations were low, or if the Coefficient Alpha was substantially higher if they were removed. If the test was improved without them, they were removed.

Of the sixty original questions (Appendix F), it was established that thirty-one questions could be deleted, with twelve questions remaining in the tonal test and seventeen questions remaining in the rhythm test (Appendix G). After the first group of items was deleted, the Alpha, average of all split-half reliabilities, was .8587 for the rhythm test and .8679 for the tonal test.

The test items were recorded on Sony cassette tape, clapped and sung by the investigator. The initial pitch was obtained by the investigator from a Steinway grand piano which had been tuned just prior to the recording to concert "a," 440 vibrations per second. As a compromise between the need for randomization and practical considerations of cost, effort, and time, the following order of test items was used for the ten tapes. Numbers in the sequence of rhythm and tonal items were the numbers on the original tests and were selected randomly (Table III).

TABLE III

SEQUENCE OF ITEMS ON IPT RHYTHM TEST

1	2	3	4	5	6	7	8	9	10
1	27	16	3	11	17	16	19	2	15
16	24	11	4	15	12	7	24	17	14
28	11	7	28	17	1	24	16	20	17
24	28	28	27	23	7	27	12	3	19
4	23	14	14	1	3	1	17	25	27
7	20	12	1	25	23	4	14	24	20
17	3	1	19	20	20	15	20	7	12
12	7	3	24	19	19	23	25	23	24
15	2	4	20	2	14	11	27	12	11
23	15	23	11	7	16	2	3	19	4
14	17	27	17	4	24	19	15	28	25
27	19	17	23	16	27	25	28	11	2
11	4	19	12	24	28	17	2	15	3
20	14	24	16	27	25	14	11	4	7
19	1	25	2	14	2	20	7	27	1
25	25	20	7	28	15	3	23	1	28
2	12	15	15	3	11	12	4	16	23

TABLE III--Continued

SEQUENCE OF ITEMS ON IPT TONAL TEST

1	2	3	4	5	6	7	8	9	10
4	5	7	6	7	4	7	9	12	6
8	8	4	11	6	2	4	10	7	5
10	7	1	3	5	8	11	3	3	2
5	3	8	4	4	3	10	4	1	7
6	11	10	12	12	11	12	12	2	10
1	1	12	2	3	9	1	5	6	11
12	9	9	1	10	10	8	1	8	1
2	4	5	5	2	12	9	6	9	4
3	2	6	8	1	1	6	2	10	8
7	12	3	9	8	6	3	7	5	9
11	10	11	10	9	5	5	8	4	12
9	6	2	7	11	7	2	11	11	3

The rhythm test consists of rhythm patterns which are clapped and are imitated by the child. The test begins with simple patterns in 4/4 meter signature and one measure in length. The speed of the beat is the same for the entire test, although the rhythm patterns become progressively more complex. Toward the end of the rhythm test, there are dotted rhythms and syncopation.

The tonal test also progresses from simple to complex patterns. A phrase is sung with the last word repeated. The child then echoes the last word, making a total of three

times that the word is sung. In the beginning, the examples are one measure long and they gradually progress to two measures toward the end of the test. The rhythm is simple and is as similar to the normal flow of the words as possible. In the first examples, the key is strongly established, even though the tonal range is only five notes. Most of the first examples end on the tonic note. As the examples progress, toward the end of the test, tonality becomes more vague. Melodic leaps are wider and there is more chromaticism.

In conjunction with the IPT, a scoring sheet was used for scoring correct (+) and incorrect (-) answers (Appendix J). The child had to match the pitch on the tape accurately. The answer was incorrect if the child's pitch was flat or sharp as much as a quarter-tone.

Collection of Data

Preparation for Administration of the Tests.--A letter of explanation and a form of assent by the parents, was sent home with each child to be tested (Appendix K). The letters of consent were collected by the classroom teachers.

Two women, former public school music teachers, helped administer the Individual Performance Test in the schools. The day preceding the administration of the first test, the investigator met with the women who were to help and played the tapes for them. Each was equipped with the same tape

1. Greet the child in a cordial, relaxed manner.

2. Ask the name of the child and record it on paper which was to record the order of children as they appeared on the tape.

3. Explain that the child is to listen to the tape and sing (clap) exactly as the person who was singing (clapping) on the tape. Explain that you will point to the child when it is time for him to begin.

4. Ask if the child understands. If the answer is "no," explain again; if the answer is "yes," begin the test. (The first example on the tape is for practice.)

The music teacher of the students explained to the experimental and control first-grade classes during their last music class before the tests, that they would be playing a musical game with the investigator during their next class.

Administration of the Tests.--Tests were administered on three successive class days in the following order: tonal PMMA, rhythm PMMA, the IPT tonal and IPT rhythm. The tests were given during the regularly scheduled music classes. The investigator administered the PMMA. The investigator and the two assistants administered the IPT.

The Primary Measures of Music Audiation.--The following procedures were used to test the entire classroom on the PMMA.

1. The answer sheets and pencils had been placed on the desk before each child came into the room. The tape recorder was set up and ready to play.

2. The music teacher reminded the children that they were going to play a game and introduced the investigator.

3. The investigator then showed a marker-board with four faces similar to the ones on their answer sheets. There was a discussion about the faces in each box and whether the pairs were the same or different.

4. The test was administered according to the explicit instructions in the test manual (Appendix L).

5. The investigator explained to the children at the end of the rhythm test that they would be singing and clapping with her during the next game. An example of the tonal and rhythmic tests was presented.

The Individual Performance Test.--The aid of the music teachers of the classes was solicited in locating three places in the building for individual administration of the IPT. The place was to be relatively noise free and free from visual distraction. The chairs were to be an appropriate size and comfortable. The two tape recorders were set up so that one recorder played tapes of the test while the other one recorded the responses. Initially, two children were taken from the music room by each examiner. As one child finished, he returned to the music room and the music teacher sent another child to be tested.

The Posttest

The same procedure as described for the pretest was followed for the posttest.

Treatment of Data

After the collection of data from the IPT, the investigator and two teachers rated the taped musical responses to assess accuracy. One rater was a college instructor who has perfect pitch and the other one was a public school music teacher. Each group of answers was scored on an individual scoring form (Appendix J). A composite grade was recorded. The raters agreed on the accuracy of each item.

Procedures for Analysis of Data

An analysis of co-variance was used to determine whether the groups differed in their musical skills.

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CHAPTER IV

ANALYSES OF DATA

For analytical purposes the data for this study were divided into three categories based on the teaching approach used--Kodaly, eclectic, and traditional approaches. The scores of the posttest were used for computation. A statistical test was selected for analytical usage, the assumptions necessary to do the analysis were checked, and the analysis was made.

The one large class of the traditional approach of Teacher B had been divided into two sections based on the mathematics skills of the students during the first week of school. Scores for these students were recorded separately, but they were grouped together as a class for analysis of the data.

Selection of the Appropriate Test

A completely randomized analysis of covariance (CRAC) was tentatively selected as the statistical test for analysis of data subject to the requirement that the necessary assumptions be met (16). A scatterplot was constructed for each variable which established that the relationship between the dependent variable and the covariate was linear (Appendix M). Tests for parallel

slopes were done to test the assumption that the regression lines for each individual group (eclectic, Kodaly, and traditional) were equal to each other. Tests were done for the four dependent variables, the types of tests given to the children. The tests were PMMA-tonal, PMMA-rhythm, IPT-tonal, and IPT-rhythm.

Within each of three of the dependent variables, the PMMA-rhythm, the IPT-tonal, and the IPT-rhythm, the three between-group regression line slopes were found to be equal. The null hypotheses were retained. Since these regression lines were parallel, it was concluded that the CRAC analyses would be appropriate.

For the PMMA-tonal, the parallelism hypothesis was rejected. The lack of parallelism meant that a single regression line could not be used to describe the relationship between the covariate and the dependent variable. The coefficients for the slopes of the lines for the Kodaly (.35) and the eclectic (.39) approaches were similar, but the coefficients for the slopes of the lines for the traditional group was dissimilar (.76). The CRAC analysis was rejected as inappropriate. To determine which lines were not parallel, a test for parallelism between each pair of lines was constructed. The pairs of lines represented the eclectic and Kodaly, Kodaly and traditional, and eclectic and traditional approaches (25).

A t-test was used to test each hypothesis that the two slopes were equal (17). In the Kodaly-eclectic test, the t-value was -.94 (61 degrees of freedom, $p > .05$). Since the value was small and the conclusion was that the two lines were parallel, the null hypothesis was retained. The Kodaly and the traditional approaches were tested in the same manner. The t-value was -7.57 (74 degrees of freedom, $p < .001$), a value large enough to reject the null hypothesis that the lines were parallel. The test between the eclectic and the traditional approaches resulted in a t-value of -16.21 (95 degrees of freedom, $p < .001$). The null hypothesis was rejected, which led to the conclusion that a single line could describe the slopes for the Kodaly and the eclectic approaches but not the traditional approach (Table IV).

TABLE IV

T-TEST FOR PARALLELISM HYPOTHESIS

Groups	t-value	Degrees of Freedom	P value
Kodaly-Traditional	-7.57	74	$< .001$
Eclectic-Traditional	-16.21	95	$< .001$
Kodaly-Eclectic	-.94	61	$> .05$

Table V shows the data that were used to check for homogeniety of adjusted variances, another assumption associated with a completely randomized design (16). The assumption that the variance for each of the levels of treatment were equal, was tenable.

TABLE V

ADJUSTED TREATMENT STATISTICS*

Approach	Kodaly	Eclectic	Traditional	Test
Number	22	43	56	
Means	7.96	5.78	5.92	IPT Rhythm
Standard Deviation	2.68	2.54	2.85	
Means	7.27	5.32	6.17	IPT Tonal
Standard Deviation	2.53	2.65	2.17	
Means	30.96	29.28	31.03	PMMA Rhythm
Standard Deviation	3.70	2.92	3.67	

*Unadjusted treatment statistics in Appendix N

The analyses for the three variables, IPT-tonal, IPT-rhythm, and PMMA-rhythm was then begun using the CRAC analysis based on the fact that the relationship between the

dependent variable and the covariate was linear, that the regression lines were equal in slope, and that the adjusted variances were the same. These analyses were followed using Duncan tests (27).

Hypothesis 1.--There is a difference in the effectiveness of three different approaches to teaching first grade children to echo rhythms. The hypothesis was rejected as stated based on the following data (Table VI) which yielded a P-value of less than .01.

TABLE VI

ANCOVA TABLE FOR F-TEST ON IPT RHYTHM

Source of Variance	Sum of Squares	Degrees of Freedom	Means Squared	F
IPT Rhythm	74.41	2	37.37	5.04
Within-Groups	842.38	114	7.38	x
Total	916.79	116	x	x

A Duncan follow-up test was used to determine if any two of the means were different. Based on the following data (Table VII), the conclusion was that the Kodaly approach did differ from both the traditional and eclectic

approaches, but that the traditional and eclectic approaches did not differ from each other (Appendix O).

TABLE VII

ADJUSTED MEANS GROUPED ACCORDING TO DUNCAN TEST ON IPT RHYTHM TEST

Grouping	Means	N	Approach
A	8.50	22	Kodaly
B	5.81	56	Traditional
B	5.65	43	Eclectic

Groups with the same letter name did not have significantly different means. A residual scatterplot was also constructed which supported the choice of statistical analysis.

Hypothesis 2.--There is a difference in the effectiveness of three different approaches to teaching first grade children to sing on pitch. The hypothesis was rejected based on the following data (Table VIII) which yielded a p-value of less than .05.

TABLE VIII

ANCOVA TABLE FOR F-TEST ON IPT TONAL TEST

Source	Sum of Squares	Degrees of Freedom	Means Squared	Value of F
IPT Tonal	55.93	2	27.96	4.71
Within groups	676.54	114	5.93	x
Total	732.47	116		

A Duncan follow-up test was used to determine if any two of the means were different from the other means. Based on the following data (Table IX), the conclusion was that none of the approaches differed from the others (Appendix O).

TABLE IX

ADJUSTED MEANS GROUPED ACCORDING TO DUNCAN TEST ON IPT TONAL TEST

Grouping	Means	N	Approach
A A	6.59	22	Kodaly
A A	6.39	53	Traditional
A	5.39	43	Eclectic

Groups with the same letter name did not have significantly different means. A residual scatterplot was also constructed which supported the choice of statistical analysis.

Hypothesis 3.--There is a difference in the effectiveness of three different approaches in teaching first grade children to audiate rhythm patterns. The hypothesis was rejected based on the following data (Table X) which yielded a p-value of .03.

TABLE X

ANCOVA TABLE FOR F-TEST ON PMMA RHYTHM TEST

Source	Sum of Squares	Degrees of Freedom	Means Squared	Value of F
PMMA Rhythm	85.61	2	42.6	3.61
Within groups	1386.69	117	11.85	x
Total	1472.30	119		

A Duncan follow-up test was used to determine if any two of the means were different from the others. Based on the following data, the conclusion was that none of the approaches differed from each other (Appendix O).

TABLE XI

ADJUSTED MEANS GROUPED ACCORDING TO DUNCAN TEST ON PMMA RHYTHM TEST

Grouping	Means	Number	Approach
A A	31.40	22	Kodaly
A A	30.55	56	Traditional
A	29.69	43	Eclectic

Groups with the same letter name did not have significantly different means. A residual scatterplot was also constructed which supported the choice of statistical analysis.

Hypothesis 4.--There is no difference between the effectiveness of three different approaches to teaching first grade children to audiate tonal patterns. The hypothesis was retained.

Preliminary tests suggested that the analysis of covariance was not an appropriate test for hypothesis four. Huitema suggests that it should be determined which groups are different with pair-wise t-tests as a follow-up when the parallel assumption is not met for an analysis of covariance (1). The t-test was used and it led to the conclusion that two pairs of the lines were different, between the traditional and Kodaly, and traditional and eclectic

approaches. Huitema formulas were then applied to find the area where there was no difference. It was found that the region which would lead to the conclusion of no difference covered the whole range of scores. There was no place within the range of the area of data (scores of 18 to 40) where the type of treatment made a difference. It was concluded that there was no difference due to the type of treatment (11).

Examination of the data culminated in the following findings.

1. The approach to music teaching in first grade does make a difference, although not significant, in the ability of the children to echo rhythms. The children who had been taught using the Kodaly approach scored slightly higher.

2. The approach to music teaching in first grade does make a difference, although not significant, in the ability of the children to sing on pitch. The children who had been taught using the Kodaly approach scored slightly higher.

3. The approach to music teaching in first grade does make a difference in the ability of the children to audiate rhythm patterns. The children who had been taught using the Kodaly approach scored significantly higher.

4. The approach to music teaching in first grade does not make a difference in the ability of the children to audiate tonal patterns.

Discussion and Observations

A number of factors deserve consideration in addition to the statistical analyses employed for examination of the hypotheses. The following facts are based on data derived from the test scores of the five classes at the four elementary schools: the Kodaly class taught by teacher A, the traditional class taught by teacher A, the traditional class taught by teacher B, the eclectic class with emphasis on Orff taught by teacher C, and the eclectic class with emphasis on Kodaly taught by teacher D (Appendix P).

Observation 1.--Only 1 child out of 121 had a perfect score (40) on the PMMA-tonal pretest. He was in the eclectic (Orff) group of teacher C. None of the 121 children scored a perfect score on the PMMA-rhythm test. This suggests that perhaps the level of difficulty of the tests is appropriate for use with first grade children.

Observation 2.--The group which made the most progress on the PMMA-tonal test was the Kodaly group of teacher A with an average gain of 5.6 points for those children who did make progress. The low-mathematics section of the traditional class of teacher B made more progress, but for the purposes of the test, all of the students at that school were averaged together as one class. Some of the scores of the Kodaly group were low in the pretest; most of the low

scores were in the 20s and 30s out of a possible 40, but they increased as much as thirteen points. Only three of the children scored lower on the posttest than on the pretest and only three students made the same score on the pretest and posttest. The implication is that perhaps the Kodaly approach is appropriate for children who score low on tonal audiation.

Observation 3.--The group(s) that made the least progress from the pretest to posttest in tonal audiation were the eclectic groups. The eclectic (Kodaly) group of teacher D had an average improvement of 4.4 points gained and the eclectic (Orff) group of teacher C had an average improvement of 4.3 points.

Observation 4.--The group that made the most progress in the PMMA-rhythm test was the traditional group of teacher B which averaged 5.12 points gained per student who progressed. The high-mathematics section of the class helped boost their score with 6.25 points per person gained. This group, too, regressed the smallest number of points. It would seem that these students are doing well with the traditional approach.

The groups that made the least progress on the PMMA-rhythm test were the two eclectic groups, with the students of teacher D progressing 3.4 points and the students of teacher C progressing 3.2 points.

Observation 5.--The groups progressing the most from the IPT-tonal pretest to the posttest were the students of teacher A who taught using the traditional approach with an average gain of 3.4 points per student and the eclectic group with Kodaly emphasis of teacher D with exactly the same gain, 3.4 points.

Observation 6.--The Kodaly group of teacher A and the eclectic (Orff) group of teacher C made the greatest number of gains on the IPT-rhythm test. Each group gained 3.0 points. The scores of three students from each group decreased between the pretest and the posttest. Teacher A's Kodaly class had twenty-two students who made progress and teacher C's eclectic (Orff) class had fifteen students who progressed. The group which made the most progress was the students of the high-mathematics section of teacher B's traditional class.

Observation 7.--Some of the students in the Kodaly group of teacher A who scored the lowest on the pretest, seemed to respond to the Kodaly approach and showed more improvement on the posttests than did the students who were taught using the other approaches.

Observation 8.--It would seem that there is some correlation, although small, between the ability to audiate rhythms well and to reproduce rhythms which are heard

through clapping. It would also seem that there is a similar, although small, correlation between the ability to audiate tonal patterns well and to match pitches. Examination of individual scores revealed that the highest correlation was more likely to be from those students who made extremely high scores (39, 40) rather than students who made moderately high scores, between 33 and 38. The implication is that students who hear the pitches and rhythms most accurately are more likely to reproduce rhythms and match pitches correctly, than the ones who make good but lower scores.

Observation 9.--There seems to be a correlation between mathematics skills and the ability to reproduce and imitate rhythms, and between reading skills and the ability to audiate tonal patterns and match pitches. The investigator was asked by classroom teachers of those students tested, why certain students who had scored relatively well in the rhythmic reproduction (IPT-rhythm) were also good mathematics students. In each case, the student had scored low on tonal tests. The evidence would suggest that since students who do well in mathematics, also do well in reproduction of rhythm, and that there is a correlation between the mathematics skills and rhythmic skills. This evidence suggests that there may be a correlation between

reading skills and tonal ability, and the ability to match pitches.

Observation 10.--Students who made the highest grades on the pretest frequently scored lower on the posttest, especially on the PMMA. Fifty-nine percent of those children who scored between 36 and 40 on the pretest made a lower score on the posttest. This regression toward the mean might be explained in two ways. It is easier to increase a low score than it is to raise a higher score. There is a much broader range for improvement by a student who has a low score in the pretest. The student who scored high on the pretest may have felt challenged and enthusiastic about taking the test for the first time, while being bored with the same test two months later. He may have lost enthusiasm.

Observation 11.--It would seem that the aspect of the Kodaly approach which produces more positive results than the other two approaches, is the rhythm component. Based on the Duncan test on the IPT rhythm component, the Kodaly group had a significantly different and higher means than the other two approaches. It could be inferred that the rhythm syllables produce a mental image which aids in rhythmic audiation.

Observation 12.--Six students who took the tests had received instruction during the previous year in musical

awareness classes for children four to six years old, a class offered by a local church. In each case, the students scored considerably higher than their classmates. The implication could be that students who have had early musical experiences score higher. The conclusion is that the benefit gained from such experiences influenced the children to have a better musical background and their abilities to audiate the tonal patterns and match pitches, and to audiate rhythm patterns and reproduce rhythms were enhanced.

Many studies have been done on rhythmic and tonal perception and reproduction of pitches and rhythms. But no research, that this investigator could locate, has approached the subject in the same way as in this study.

Studies have been made to determine how children's musical abilities are affected by the home environment (19, 21, 29, 35, 38), at what age children evidence musical response (3, 10, 12, 14, 18, 20, 22, 31) and how age and maturation affect children's musical abilities (15, 23, 34, 39). Musical perception has been divided into various components and studied (8, 9, 29, 40).

Music instruction has been scrutinized--the effectiveness of instruction (1, 2, 5, 6, 19, 26, 28, 32, 33, 36), what kind of teachers' voices are best for children to imitate (7, 18, 23), and whether solfège and hand signs

are beneficial in learning to sing correct pitches (4, 13, 21, 22, 24, 37).

One study which is similar in nature to this investigation is that of Petzold (23). He believed the greatest amount of auditory perception occurs in children who are in first grade and that perception increases with grade levels. No other study has investigated the learning that takes place immediately after children begin first grade.

A few other studies have been made which are similar. Zemke (39) and McDaniel (19) both compared the Kodaly approach with more traditional approaches. The results in both studies were inconclusive. The positive findings of this study should make a relevant statement and add to the research on a topic in which research has been limited.

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CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Summary

The purposes of this study were to determine the achievement of five groups of first grade children who had been taught music using four different approaches. Two approaches were a sensory-motor approach based on the concepts and teachings of Zoltan Kodaly and a traditional approach based on classroom methods taught to music specialists in the 1960s. The other two approaches were eclectic. One emphasized some of the techniques of the Kodaly approach which broadens the song repertoire considerably and teaching singing and reading without the use of solfège. The other eclectic approach emphasized reading rhythms and instrumental playing based on the musical ideas of Carl Orff.

The data were divided into three groups to facilitate statistical analysis, based on the approach used--Kodaly, eclectic and traditional. Classes in the public schools were selected for the study based on the type of instruction in music and similarities in socioeconomic status. Recommendations were made by the director of music of an

Independent School District in Central Texas. There were 121 subjects: 56 children in the two classrooms using the traditional approach, 43 children in the two classrooms using the eclectic approach, and 22 children in the one classroom using the Kodaly approach. All the children were in the first grade and each class had a twenty-minute music lesson every other day.

Two instruments were utilized in this study: the standardized Primary Measures of Music Audiation (PMMA) by Gordon (1) and the Individual Performance Test (IPT) designed by the investigator. A pilot study was conducted for the IPT in January, 1986.

The PMMA has two sections and measures the child's ability to audiate tonal and rhythmic patterns. Forty examples are recorded on each tape, and the children listen to ascertain whether the two short excerpts on each example are the same or different. This test was administered to the children as a group and they recorded their answers on an answer sheet with pairs of same and different smiley faces.

The IPT was administered individually by the investigator and two assistants. It has two sections, rhythm and tonal. The children respond to a tape by matching pitches and clapping the rhythms they hear. Responses were tape recorded and evaluated by the investigator and two other evaluators. The pretests were

administered ten days after school began in September, 1986, and the identical tests were administered eight weeks later as a posttest.

After the data were collected, a completely randomized analysis of covariance was tentatively selected as the statistical test for analysis. A test for parallelism was made to check the appropriateness of the test, and it was concluded that it was the appropriate test for the IPT-rhythm, the IPT-tonal, and the PMMA-rhythm. More tests revealed that it would be necessary to analyze the PMMA-tonal with a mathematical formula based on Huitema (2).

F-tests were done to test the first three hypotheses and Duncan tests were done as a follow-up.

Findings

Hypothesis 1 predicted that there would be no difference between the effectiveness of three different approaches to teaching first grade-children to echo rhythms. The data from the IPT-rhythm test yielded a P-value of less than .01. The null hypothesis was rejected. It was concluded that the teaching approach does make a difference in teaching first-grade children to echo rhythms.

Hypothesis 2 predicted that there would be no difference between the effectiveness of three different approaches to teaching first-grade children to sing on pitch. The data from the IPT-tonal test yielded a P-value

of less than .05. The null hypothesis was rejected. It was concluded that the teaching approach does make a difference in teaching first-grade children to sing on pitch.

Hypothesis 3 predicted that there would be no difference between the effectiveness of three different approaches to teaching first-grade children to audiate rhythm patterns. The data from the PMMA-rhythm test yielded a P-value of less than .03. The null hypothesis was rejected. It was concluded that teaching approach does make a difference in teaching first-grade children to audiate rhythms.

Hypothesis 4 predicted that there would be no difference between the effectiveness of three different approaches to teaching first-grade children to audiate tonal patterns. Since it was determined that the CRAC was inappropriate for the PMMA-tonal test, the data were analyzed with a formula as suggested by Huitema (2). The null hypothesis was retained. It was concluded that the teaching approach does not make a difference in teaching first-grade children to audiate tonal patterns.

Conclusions

The following conclusions are based on the data from this study of first grade children from a small city in central Texas. The findings are limited to the subjects in this study.

1. The music skills of first grade children improve during the first eight weeks of school.

2. The approach to music teaching does make a difference in the musical achievement of first graders and their abilities to echo rhythms which they hear, sing the tonal patterns and pitches they hear, and to audiate rhythm patterns they hear.

3. The approach to music teaching does not make a difference in the musical achievement of first graders and their abilities to audiate tonal patterns.

Implications

Music teachers and supervisors should be made more aware of the strengths of the Kodaly approach and the correct way to teach it, especially in the area of rhythm instruction.

Music educators, classroom teachers, and school administrators should be made aware that first graders can achieve a number of music skills during the first eight weeks of the school year.

Recommendations

Based on the findings of this study, the following recommendations for further study are made.

1. A longitudinal study should be conducted of the acquisition of music skills and achievement of the children

as they progress from first grade through fifth grade. The test given at the beginning of the school year would give information about each child's musical ability which would be helpful to the music specialist and the classroom teacher. The children's progress could be charted from year to year. Of special interest would be whether high scores are maintained and the kind of progress children make who have low scores on the pretest.

2. The relationship between children's mathematical abilities and their abilities to audiate and reproduce rhythms should be investigated.

3. The relationship between children's abilities to read well and their abilities to audiate tonal patterns and to match pitches correctly should be investigated.

4. The relationship between children's abilities to audiate tonal patterns and their ability to match pitches and sing in tune should be investigated.

5. The relationship between children's abilities to audiate rhythm patterns correctly and their ability to reproduce rhythms should be investigated.

6. More studies should be conducted of the Kodaly approach.

7. A compilation of research which has been conducted on the Kodaly approach and its results should be made. Robert Perinchief, Executive Secretary of Organization of American Kodaly Educators stated in 1986, "As long-time

executive secretary of OAKE, I am unaware of any publications or compilation under cover of the research accomplished in the Kodaly Concept in the nearly twenty years of the movement in this country."(3)

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APPENDICES

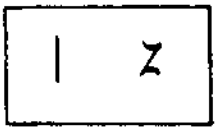
APPENDIX A

RHYTHM SYLLABLES OF KODALY

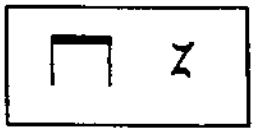
1. 
ta ta

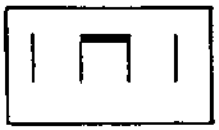
2. 
ta ti-ti

3. 
ti-ti ta

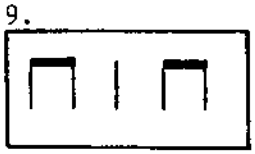
4. 
ta rest

5. 
ti-ti ti-ti

6. 
ti-ti rest

7. 
ta ti-ti ta

8. 
ti-ti ta ta

9. 
ti-ti ta ti-ti

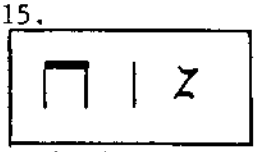
10. 
ti-ti rest ta

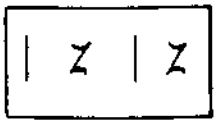
11. 
ta ti-ti rest

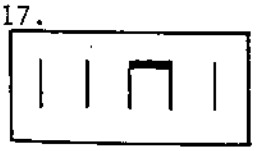
12. 
ta ta ti-ti

13. 
ti-ti ti-ti ta

14. 
ti-ti ta ta

15. 
ti-ti ta rest

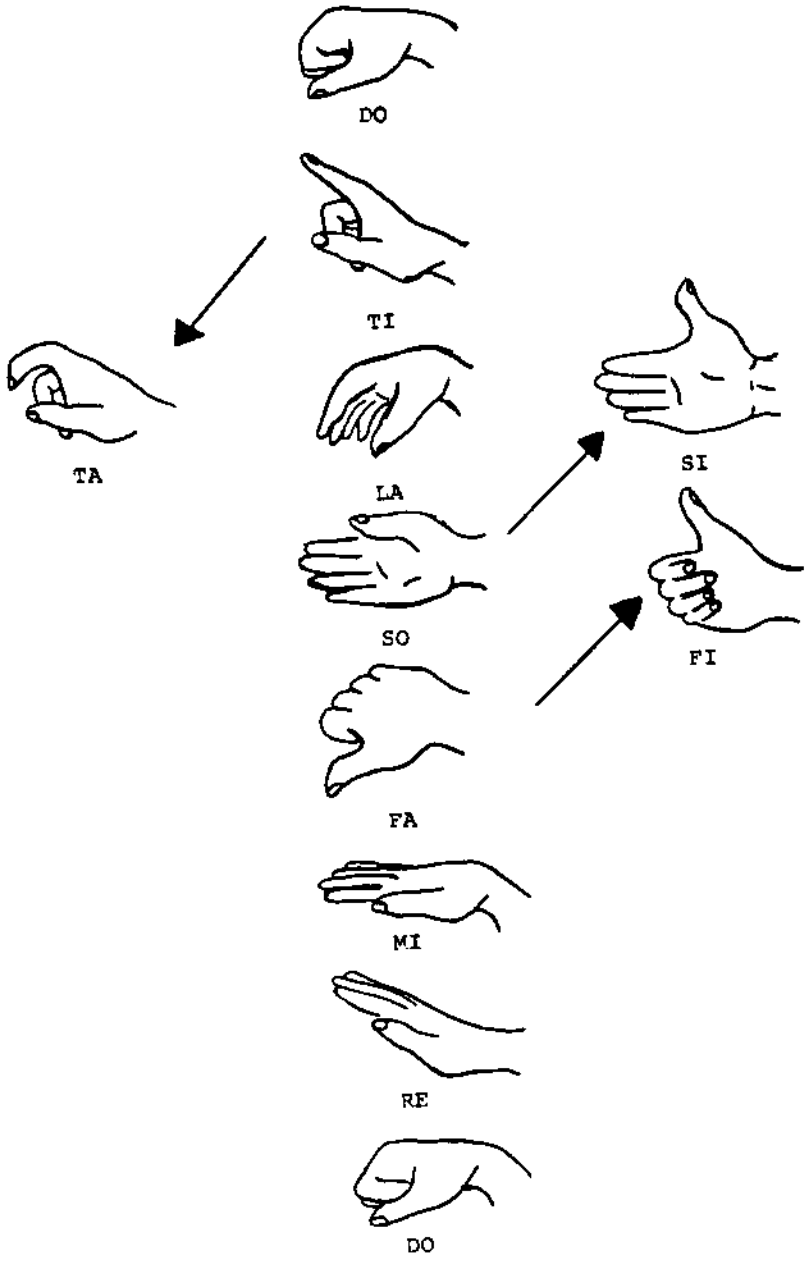
16. 
ta rest ta rest

17. 
ta ta ti-ti ta

18. 
ti-ti ta ta ti-ti

APPENDIX B

ACCIDENTALS USED IN MOVABLE DO SOLFÈGE



APPENDIX C

KODALY SEQUENCES, BEAT AND RHYTHM

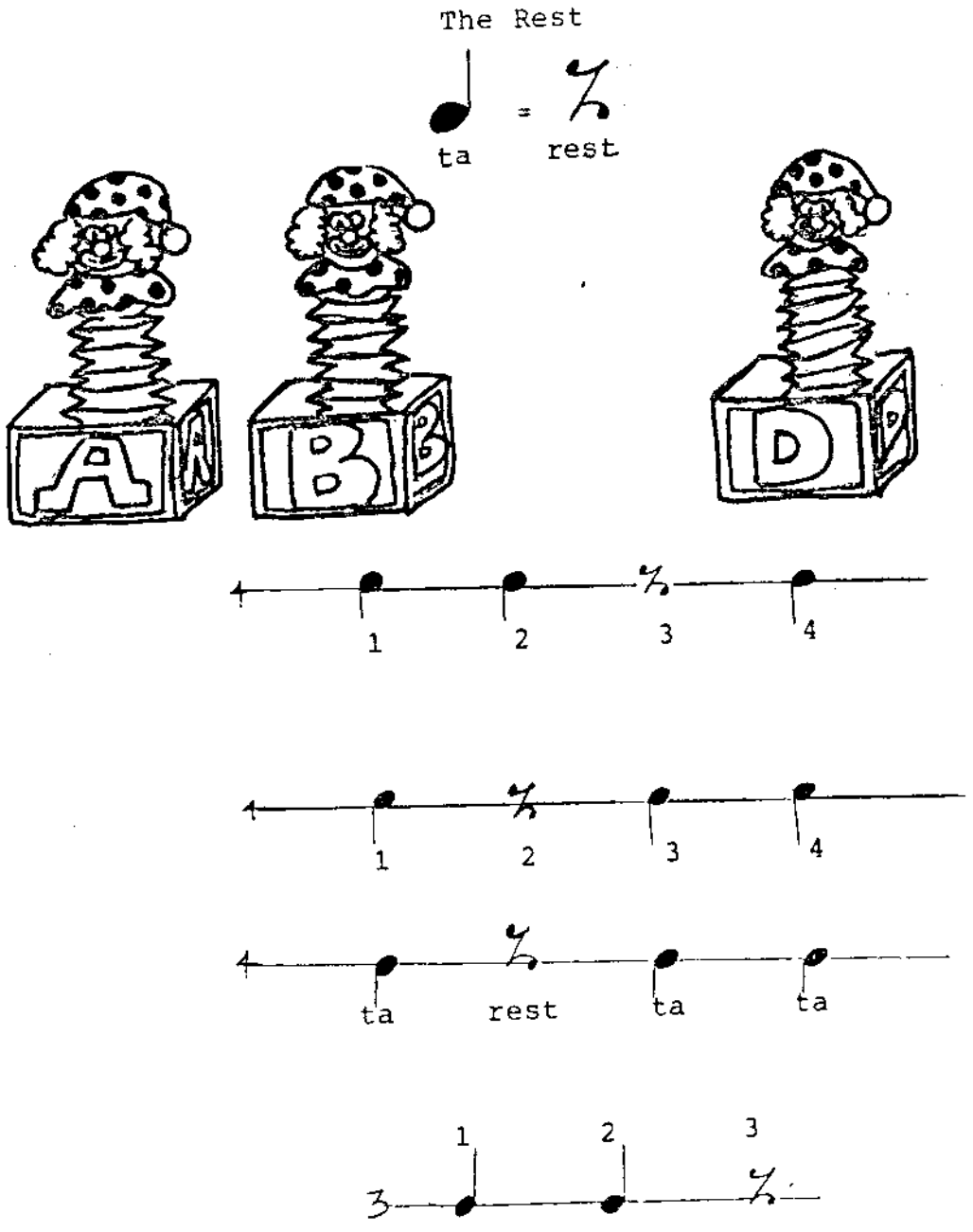
1. Music moves to a steady beat.
2. Some beats have a feeling of stress or accent.
3. Music moves in groups of beats defined by accented beats. This is known as meter.
4. All music moves in twos or in threes or in combinations of twos and threes.
5. Over the beat, music moves in longer and shorter sounds and silences. This is known as rhythm.
6. There can be one sound on a beat, two sounds on a beat, or more sounds on a beat.
7. Some sounds last longer than one beat.
8. Sounds over beats can be evenly or unevenly arranged.
9. Longer and shorter sounds and silences may be grouped into patterns.

KODALY SEQUENCES, MELODY

1. The pitches may move from higher to lower.
2. The pitches may move from lower to higher.
3. The pitches may be repeated.
4. The pitches may move by step, skip, or leap.

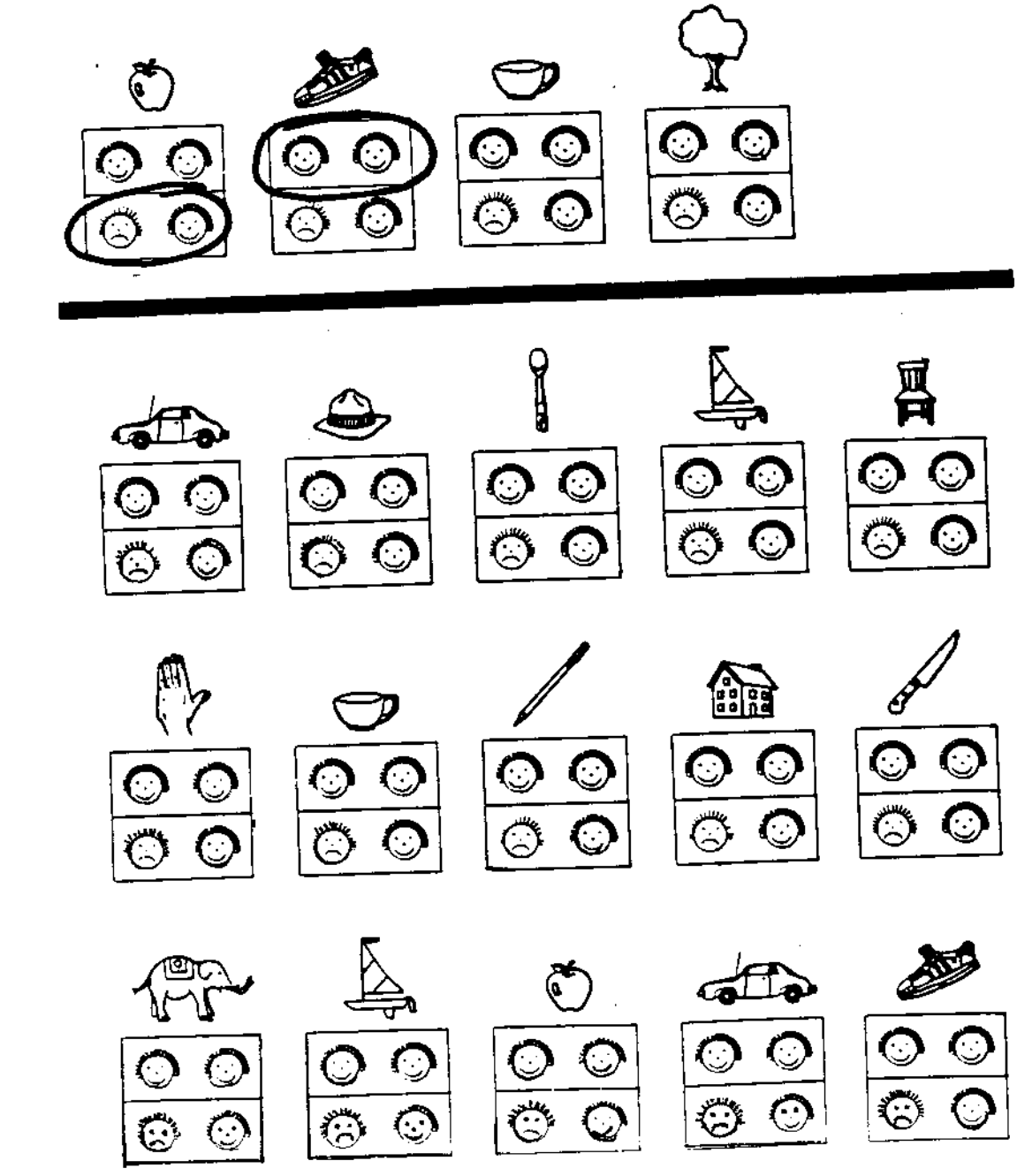
APPENDIX D

FIGURES SIMILAR TO THOSE ON RICHARDS' CHARTS



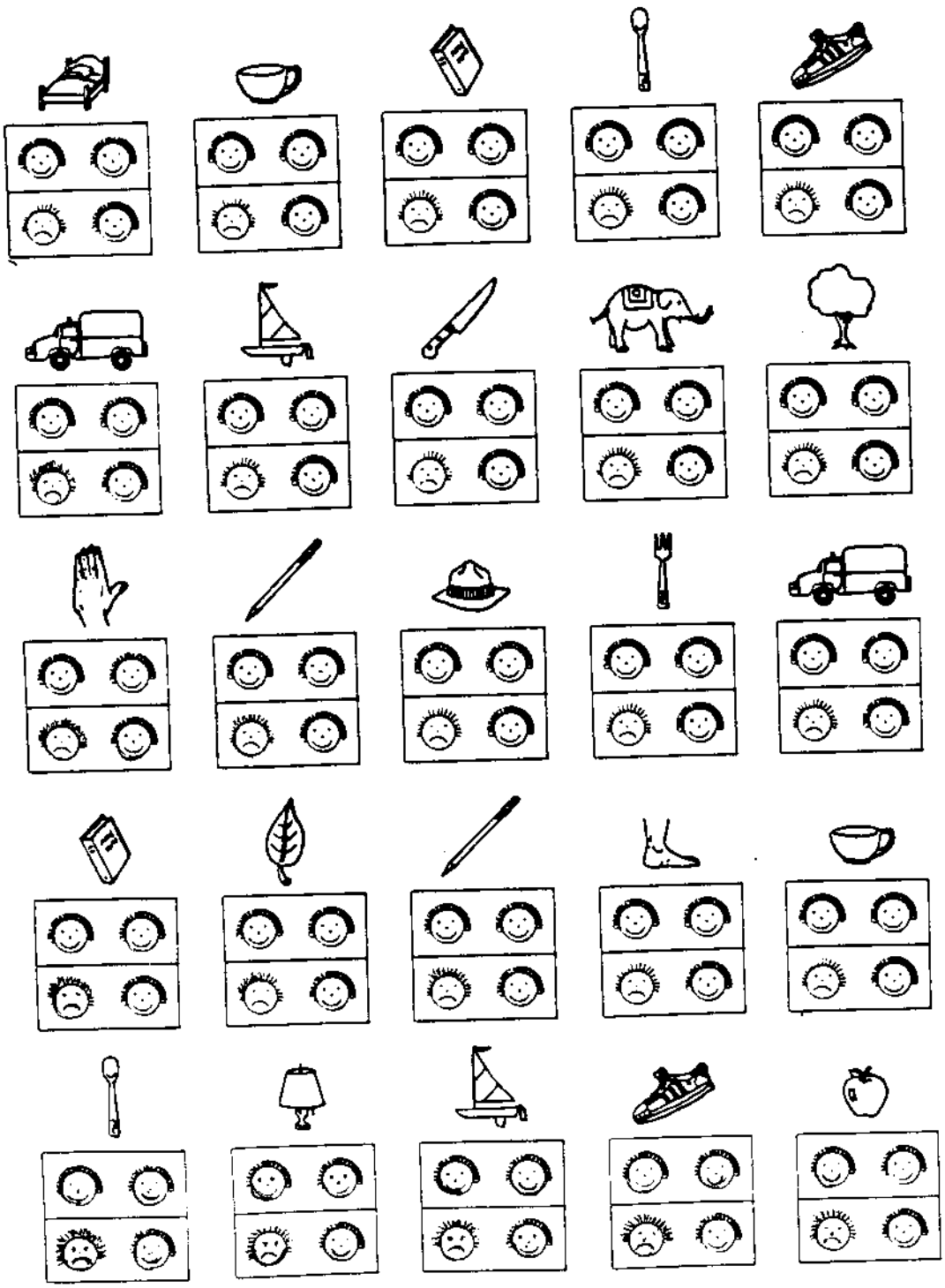
APPENDIX E

ANSWER SHEET TO PMMA TONAL TEST--FRONT PAGE



APPENDIX E--Continued

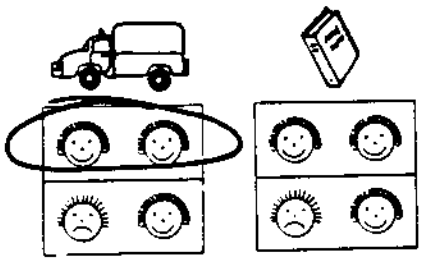
ANSWER SHEET TO PMMA TONAL TEST--BACK PAGE

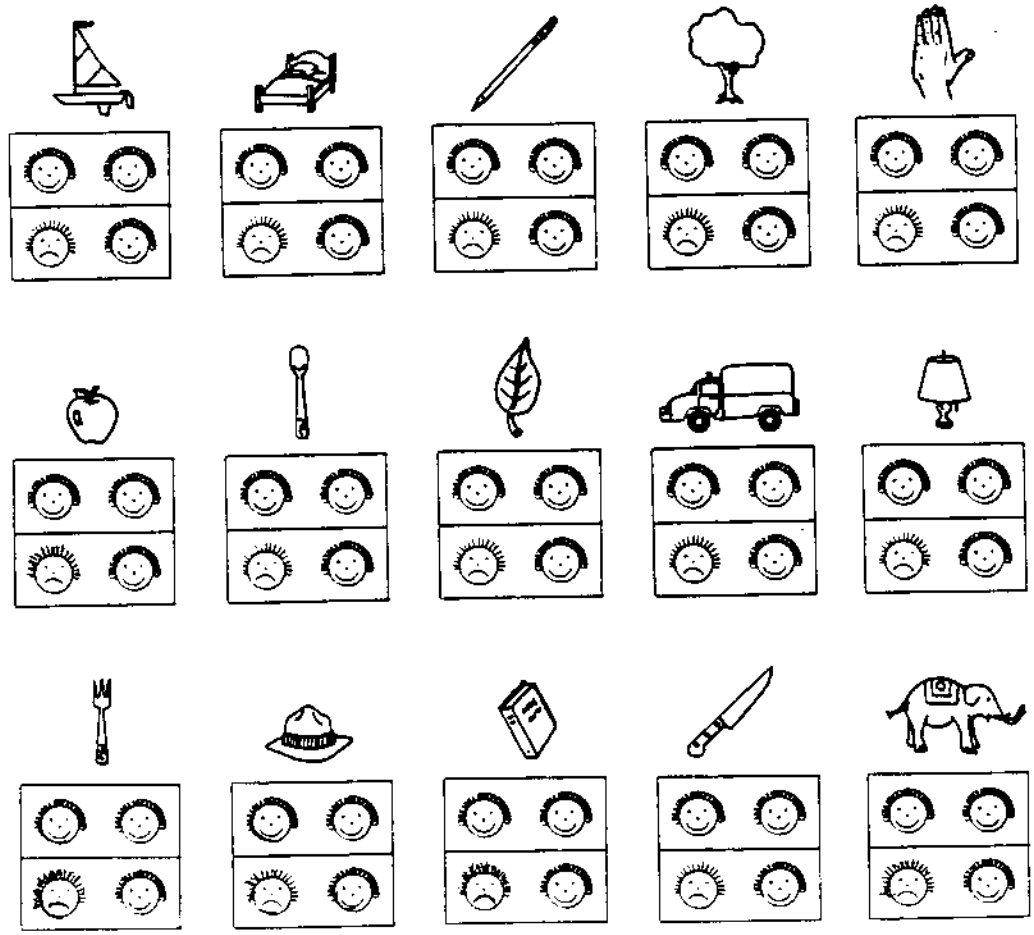


APPENDIX E--Continued

ANSWER SHEET TO PMMA RHYTHM TEST--FRONT PAGE

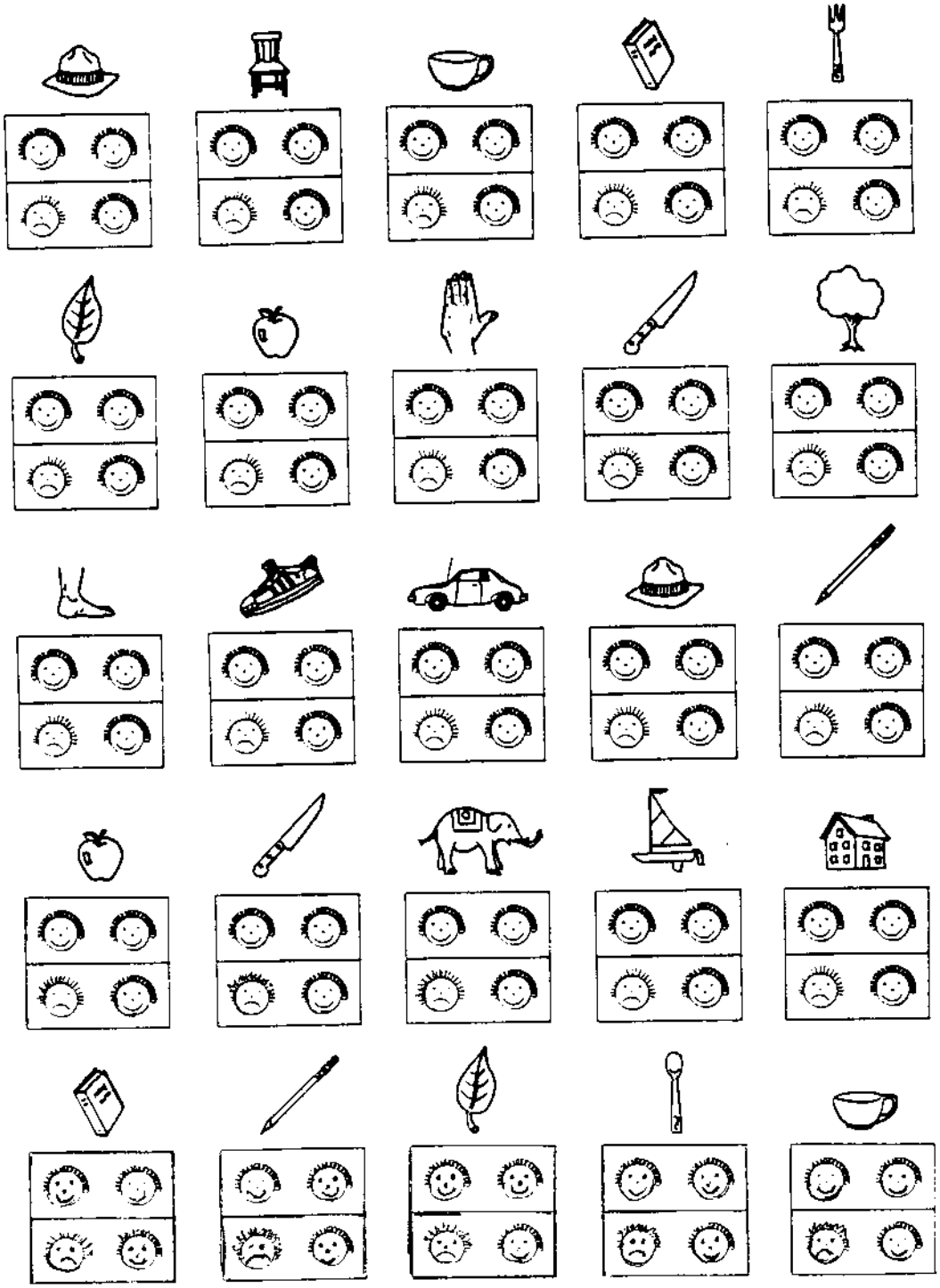
R





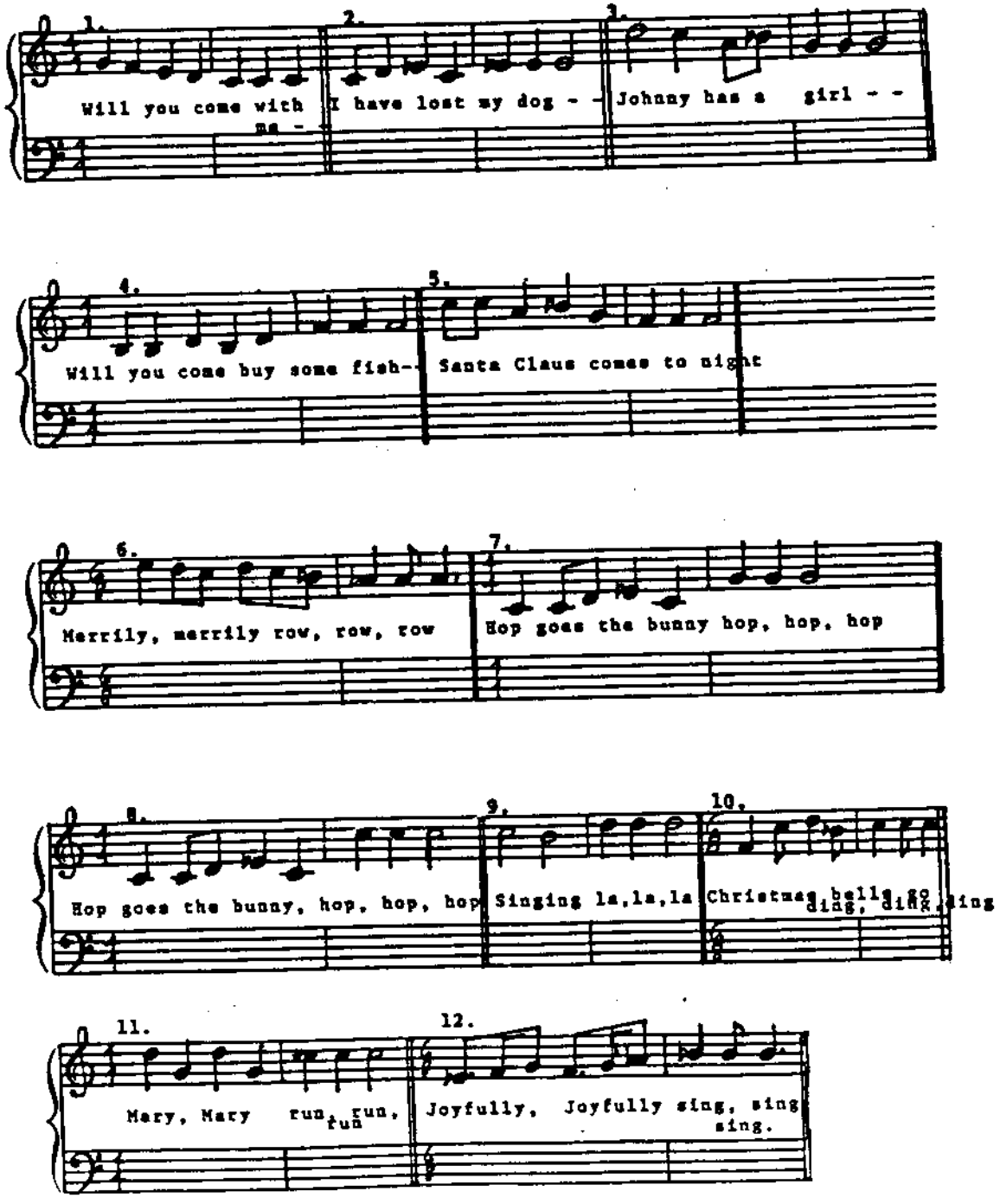
APPENDIX E--Continued

ANSWER SHEET TO PMMA RHYTHM TEST--BACK PAGE

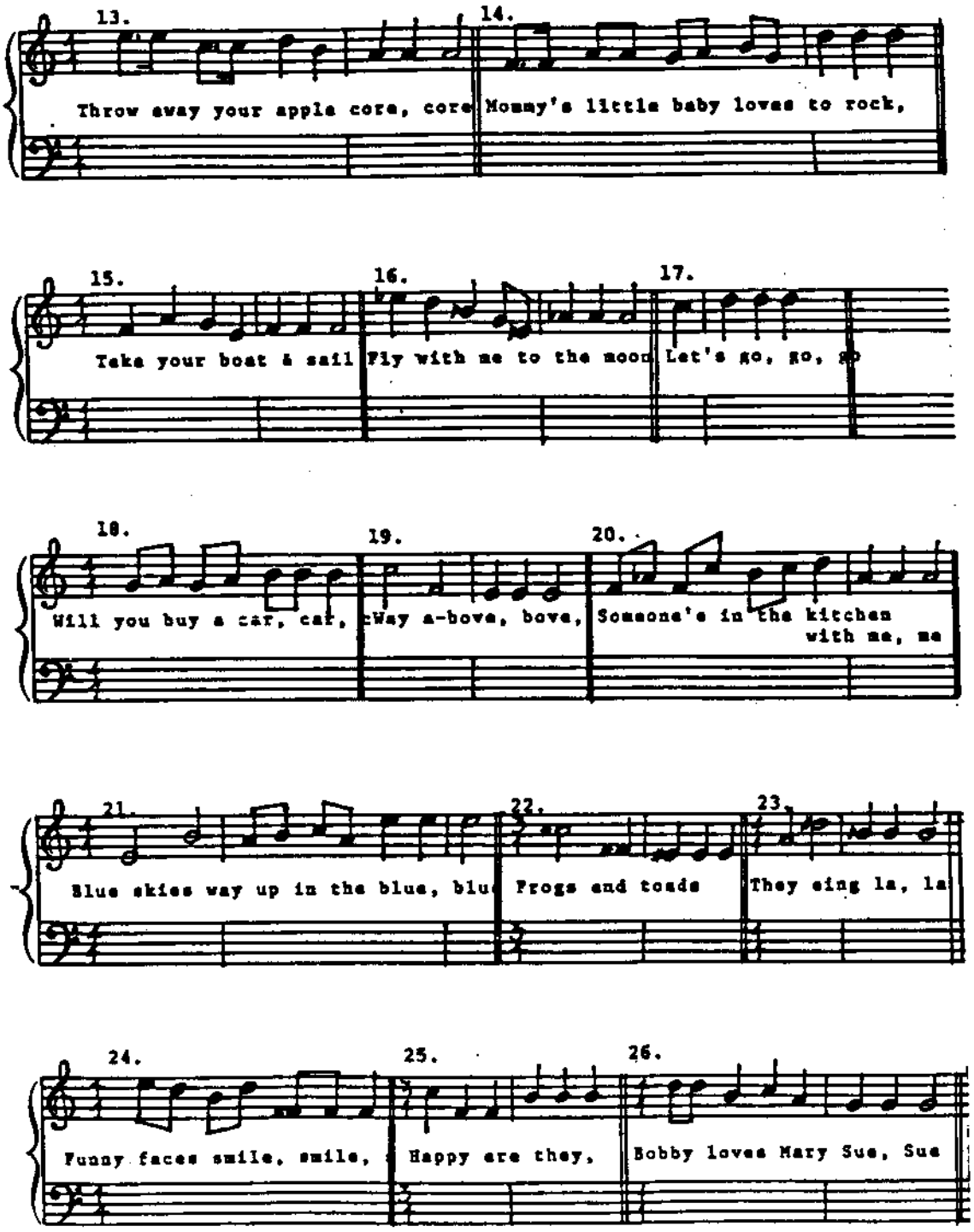


APPENDIX F

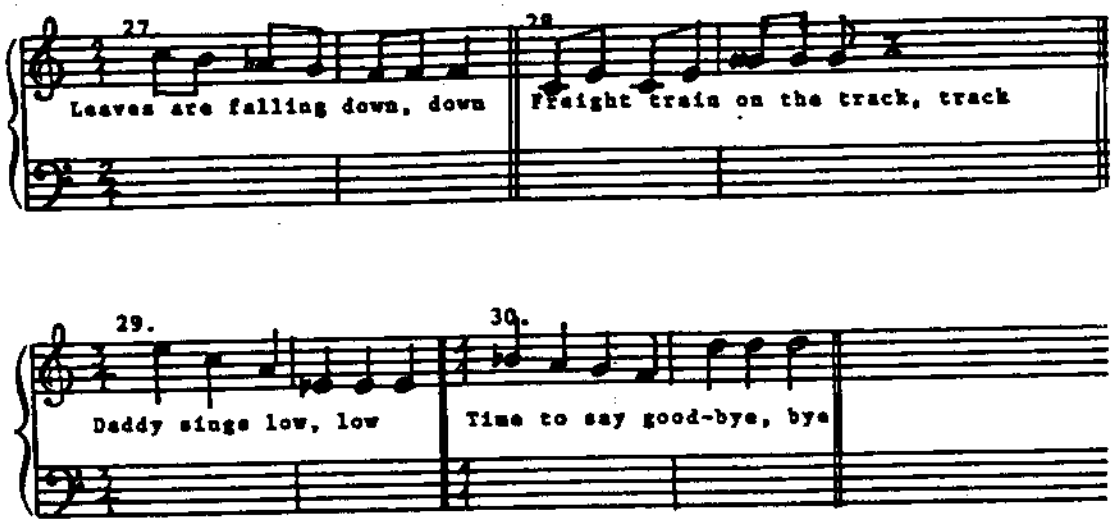
INDIVIDUAL PERFORMANCE TEST--ORIGINAL: TONAL TEST



APPENDIX F--Continued

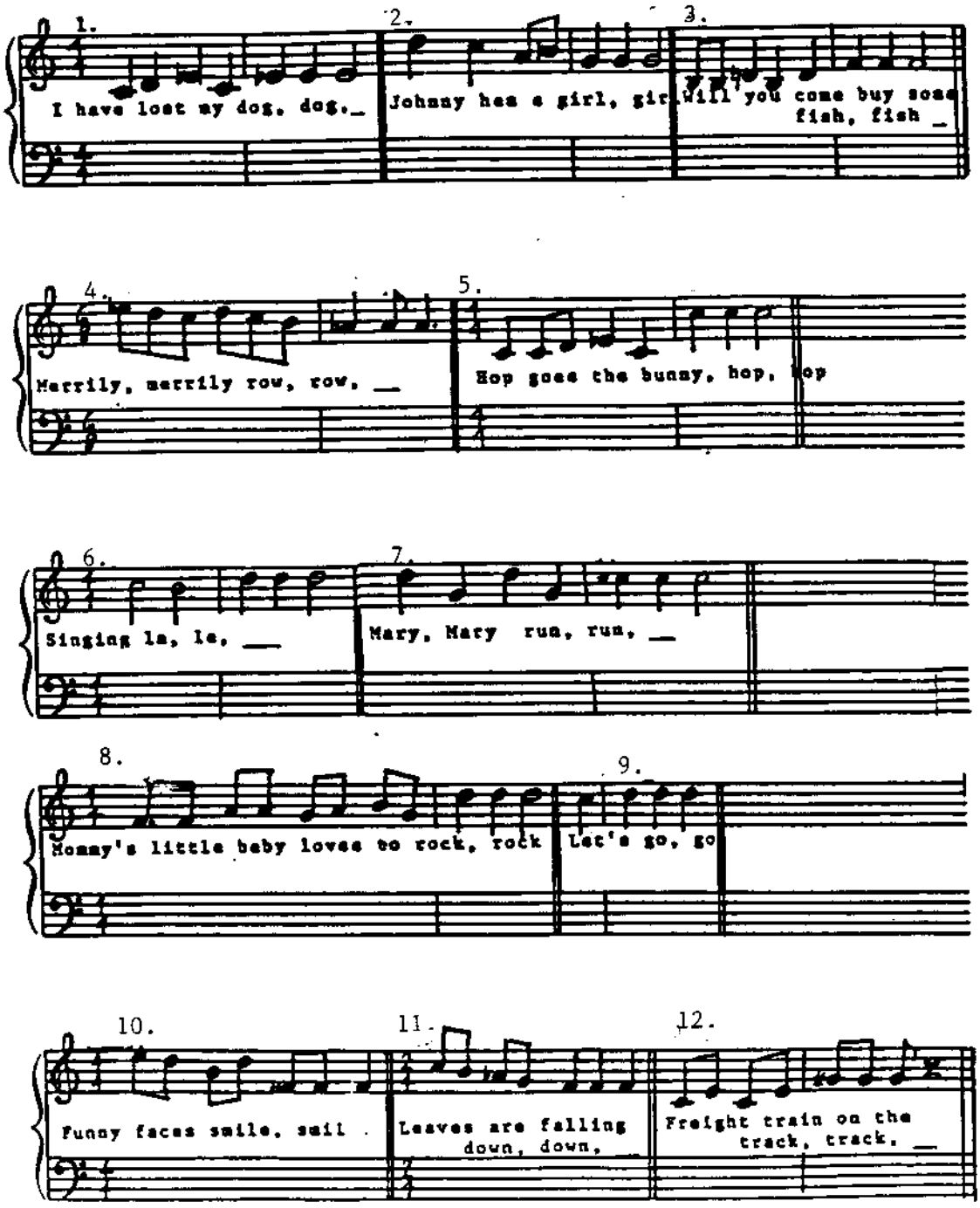


APPENDIX F--Continued



APPENDIX G

INDIVIDUAL PERFORMANCE TEST--REVISED: TONAL TEST



APPENDIX H

INDIVIDUAL PERFORMANCE TEST--ORIGINAL

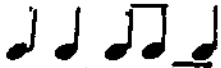
Rhythm test--Echo clapping

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 
11. 
12. 
13. 
14. 
15. 
16. 
17. 
18. 
19. 
20. 
21. 
22. 
23. 
24. 
25. 
26. 
27. 
28. 
29 
30. 

APPENDIX I

INDIVIDUAL PERFORMANCE TEST--REVISED

Rhythm test--Echo clapping

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 
11. 
12. 
13. 
14. 
15. 
16.
17.

APPENDIX J

SCORING SHEET FOR CORRECT AND INCORRECT ANSWERS ON IPT

Class _____

Tonal Test

	Correct (+)		Incorrect (-)	
Child's Name	Item No.	Listener 1	Listener 2	Listener 3

APPENDIX K

LETTER OF EXPLANATION SENT TO PARENTS OF SUBJECTS

September 3, 1986

Route 1, Box 161
Troy, Texas 76579

Dear Parents:

I am a graduate student at North Texas State University working toward the degree Ph.D. in Early Childhood Education. As part of my dissertation, I am conducting research on four different ways to teach music to first-graders, and I would like for your child to be included in that study.

The study will be concerned with how children listen to sounds and match pitches (tones), and how they respond to and clap back rhythms that they hear. There will be two types of tests--both in the forms of music games. Both are tape-recorded: the children listen as a group to the first test, and mark their responses on sheets of "smiley faces." The second test is given individually--the child will respond to that which he hears, and his responses are taped.

The results will be studied to determine the effectiveness of each way of teaching music. There will be no publication of results, no names will be used. There will be no comparison of children. Due to the game-type situation, your child should feel completely at ease, and even enjoy the experience.

You as a parent are free to withdraw your child from the test at any point. You may also ask that the results of the test not be included in their permanent files, should you desire to do so.

Thank you for your cooperation,

Cecilia Knox Hudgens

Cecilia Knox Hudgens

APPENDIX K--Continued

FORM RETURNED BY SUBJECTS

USE OF HUMAN SUBJECTS

Informed Consent

CHILD"S NAME:_____

1. I hereby give consent to Cecilia Knox Hudgens to perform the following investigational procedures:

   Primary Measures of Music Audiation (test)
   Individual Performance Test

2. I have read the explanation, and understand the nature and procedure of the above tests. I understand that this is a game-type activity, and there is no discomfort or any risks involved. I understand the benefits to be gained, and also that I may withdraw my child at any time from the activity itself, or his name and test results may be withdrawn after the initial study. With my understanding of the above, and understanding that I may ask any questions which are pertinent to this study, I give my consent for my child to take part in this doctoral research.

Date_____

Parent_____

APPENDIX L

Specific Directions for Administering the Tonal Test

"LISTEN TO THE TWO PARTS OF THIS SONG AND THEN I WILL ASK YOU IF THE TWO PARTS SOUND THE SAME OR IF THE TWO PARTS SOUND DIFFERENT."

(Start the tape. Listen for the word first and the first part of the song, and for the word second and the second part of the song. Stop the tape after the second part of the song.)

"RAISE YOUR HAND IF YOU THINK THAT THE TWO PARTS OF THE SONG SOUND THE SAME." (Stop to look for hands.) "RAISE YOUR HAND IF YOU THINK THAT THE TWO PARTS OF THE SONG SOUND DIFFERENT." (Stop to look for hands.) "THE TWO PARTS SOUND DIFFERENT."

(Offer help only as needed about up and down, and high and low, in the music, and about the words first and second and about how to know when each part is played on the tape. Do not replay any part of the song.)

"NOW LISTEN TO THE TWO PARTS OF THIS SONG AND THEN I WILL ASK YOU IF THE TWO PARTS SOUND THE SAME OR IF THE TWO PARTS SOUND DIFFERENT."

(Start the tape, listen for the words and parts, and stop the tape.)

"RAISE YOUR HAND IF YOU THINK THAT THE TWO PARTS OF THE SONG SOUND THE SAME." (Stop to look for hands.) "RAISE YOUR HAND IF YOU THINK THAT THE TWO PARTS OF THE SONG SOUND DIFFERENT." (Stop to look for hands.) "THIS TIME THE TWO PARTS SOUND THE SAME."

(Offer help again as needed. If some children are singing as they listen to the tape, persuade them not to sing out loud because they may disturb other children. Suggest to the children that they might sing silently, to themselves, as they listen to the tape.)

APPENDIX L--Continued

"NOW LOOK AT YOUR PAPER. FIND THE APPLE AT THE TOP OF YOUR PAPER AND PUT YOUR FINGER ON IT."

(Offer help as needed to those children who are not pointing to the correct place on the paper.)

"THERE ARE TWO BOXES UNDER THE APPLE. THE BOX ON TOP HAS TWO FACES THAT ARE THE SAME BECAUSE BOTH FACES ARE HAPPY. PUT YOUR FINGER ON THAT BOX."

(Offer help again as needed.)

"CAN YOU GUESS WHY THERE IS A CIRCLE DRAWN AROUND THE BOX ON THE BOTTOM? LISTEN AND I WILL TELL YOU WHY. I WILL PLAY THE SONG THAT GOES WITH THE APPLE BOXES. YOU WILL HEAR THE WORD APPLE; THEN, AS BEFORE, YOU WILL HEAR THE WORD FIRST AND THE FIRST PART OF THE SONG, AND THEN YOU WILL HEAR THE WORD SECOND AND THE SECOND PART OF THE SONG."

(Start the tape, listen for the words and parts, and stop the tape.)

"THERE IS A CIRCLE DRAWN AROUND THE BOX WITH THE TWO FACES THAT ARE DIFFERENT BECAUSE THE TWO PARTS OF THE SONG SOUND DIFFERENT."

(Offer help as needed about why the circle is drawn around the box, or about the relationship of the two faces that are different to the two parts of the song that sound different.)

"NOW FIND THE SHOE AT THE TOP OF YOUR PAPER AND PUT YOUR FINGER ON IT."

(Offer help again as needed.)

"THIS TIME THE CIRCLE IS DRAWN AROUND THE BOX WITH THE TWO FACES THAT ARE THE SAME. DO YOU KNOW WHY? LISTEN TO THE SONG THAT GOES WITH THE SHOE BOXES. YOU WILL HEAR THE WORD SHOE; THEN, AS BEFORE, YOU WILL HEAR THE WORD FIRST AND THE FIRST PART OF THE SONG, AND THEN YOU WILL HEAR THE WORD SECOND AND THE SECOND PART OF THE SONG."

(Start the tape, listen for the words and parts, and stop the tape.)

"YES, THE CIRCLE IS DRAWN AROUND THE BOX WITH THE TWO FACES THAT ARE THE SAME BECAUSE THE TWO PARTS OF THE SONG SOUND THE SAME."

APPENDIX L--Continued

(Offer help as needed about the relationship of the two faces that are the same to the two parts of the song that sound the same.)

"NOW YOU MAY BEGIN TO DRAW THE CIRCLES. FIND THE CUP AND THE BOXES THAT GO WITH THE CUP SONG."

(Offer help again as needed.)

"IF THE TWO PARTS OF THE CUP SONG SOUND THE SAME, DRAW A CIRCLE AROUND THE BOX WITH THE TWO FACES THAT ARE THE SAME. IF THE TWO PARTS OF THE CUP SONG SOUND DIFFERENT, DRAW A CIRCLE AROUND THE BOX WITH THE TWO FACES THAT ARE DIFFERENT. PICK UP YOUR PENCIL, LISTEN TO THE CUP SONG, AND THEN DRAW YOUR CIRCLE."

(Start the tape, listen for the words and parts, and stop the tape. Allow approximately five seconds for the children to draw the circle.)

"DID YOU DRAW A CIRCLE AROUND THE BOX WITH THE TWO FACES THAT ARE DIFFERENT? THAT IS RIGHT."

(Offer help again as needed.)

"LET'S PRACTICE ONCE MORE. FIND THE BOXES THAT GO WITH THE TREE SONG. NOW LISTEN TO THE TREE SONG AND DRAW YOUR CIRCLE."

(Start the tape, listen for the words and parts, and stop the tape. Again allow approximately five seconds for the children to draw the circle.)

"AGAIN, DID YOU DRAW A CIRCLE AROUND THE BOX WITH THE TWO FACES THAT ARE DIFFERENT? THAT IS RIGHT."

(Offer help again as needed.)

"SEE THE BIG LINE ON YOUR PAPER. UNDER THE LINE IS A CAR. FIND THE CAR AND THE BOXES THAT GO WITH THE CAR SONG."

(Offer help again as needed.)

"LISTEN TO THE CAR SONG AND DRAW YOUR CIRCLE. REMEMBER, IF THE TWO PARTS OF THE SONG SOUND THE SAME, DRAW A CIRCLE AROUND THE BOX WITH THE TWO FACES THAT ARE THE SAME. IF THE TWO PARTS OF THE SONG SOUND DIFFERENT, DRAW A CIRCLE AROUND THE BOX WITH THE TWO FACES THAT ARE DIFFERENT."

APPENDIX L--Continued

(Start the tape, listen for the words and parts, and stop the tape. The test has begun. Depending upon the age and needs of the children, you may continue to stop the tape between songs to allow the children to draw each circle or you may let the tape run continuously. The tape is timed to allow the children five seconds to draw each circle. Perhaps you might let the tape run continuously after the children have drawn a few circles. Do not give any more answers or replay any part of a song. If a child cannot answer a question, be sure that the reason is not that he does not know how to use the answer sheet. When a child does not know whether the parts of a song sound the same or different, do not force him to answer the question. Try to encourage him and suggest that he make his best guess. Without embarrassing him, help him to position his pencil so that he will be ready to listen to the next song; it may be easier for him. A child may either erase or cross out a circle he wishes to change.)

"FIND THE HAT AND THE BOXES THAT GO WITH THE HAT SONG. LISTEN TO THE HAT SONG AND DRAW YOUR CIRCLE."

(Start the tape and follow your procedure. Supervise as much as possible to be sure that the children are circling the box under the correct picture. Whether the tape runs continuously or is stopped between questions, always give the name of the picture before the children hear it on the tape. At the end of each row of answers, explain how to find the next row and offer help as needed. Also, tell the children when they should turn over their papers. When the test is completed, instruct each child to print his complete name and grade on the line at the top of the front side unless other arrangements have been made. Then collect the papers.)

Specific Directions for
Administering the
Rhythm Test

"LISTEN TO THE TWO PARTS OF THIS SONG AND THEN I WILL ASK YOU IF THE TWO PARTS SOUND THE SAME OR IF THE TWO PARTS SOUND DIFFERENT."

(Start the tape. Listen for the word first and the first part of the song, and for the word second and the second part of the song. Stop the tape after the second part of the song.)

"RAISE YOUR HAND IF YOU THINK THAT THE TWO PARTS OF THE SONG SOUND THE SAME." (Stop to look for hands.) "RAISE YOUR HAND IF YOU THINK THAT THE TWO PARTS OF THE SONG SOUND DIFFERENT." (Stop to look for hands.) "THE TWO PARTS SOUND THE SAME."

(Offer help only as needed about long and short, and even and uneven, in the music, and about the words first and second and about how to know when each part is played on the tape. Do not replay any part of the song.)

"NOW LISTEN TO THE TWO PARTS OF THIS SONG AND THEN I WILL ASK YOU IF THE TWO PARTS SOUND THE SAME OR IF THE TWO PARTS SOUND DIFFERENT."

(Start the tape, listen for the words and parts, and stop the tape.)

"RAISE YOUR HAND IF YOU THINK THAT THE TWO PARTS OF THE SONG SOUND THE SAME." (Stop to look for hands.) "RAISE YOUR HAND IF YOU THINK THAT THE TWO PARTS OF THE SONG SOUND DIFFERENT." (Stop to look for hands.) "THIS TIME THE TWO PARTS SOUND DIFFERENT."

(Offer help again as needed. If some children are making noise by tapping rhythm as they listen to the tape, persuade them not to do so because they may disturb other children. Suggest to them that they might move silently or tap their pencils in the palms of their hands as they listen to the tape.)

"NOW LOOK AT YOUR PAPER. FIND THE TRUCK AT THE TOP OF YOUR PAPER AND PUT YOUR FINGER ON IT."

APPENDIX L--Continued

(Offer help as needed to those children who are not pointing to the correct place on the paper.)

"THERE ARE TWO BOXES UNDER THE TRUCK. THE BOX ON TOP HAS TWO FACES THAT ARE THE SAME BECAUSE BOTH FACES ARE HAPPY. PUT YOUR FINGER ON THAT BOX."

(Offer help again as needed.)

"THE BOX ON THE BOTTOM HAS TWO FACES THAT ARE DIFFERENT BECAUSE ONE FACE IS SAD AND THE OTHER FACE IS HAPPY. PUT YOUR FINGER ON THAT BOX."

(Offer help again as needed.)

"CAN YOU GUESS WHY THERE IS A CIRCLE DRAWN AROUND THE BOX ON TOP? LISTEN AND I WILL TELL YOU WHY. I WILL PLAY THE SONG THAT GOES WITH THE TRUCK BOXES. YOU WILL HEAR THE WORD TRUCK; THEN, AS BEFORE, YOU WILL HEAR THE WORD FIRST AND THE FIRST PART OF THE SONG, AND THEN YOU WILL HEAR THE WORD SECOND AND THE SECOND PART OF THE SONG."

(Start the tape, listen for the words and parts, and stop the tape.)

"THERE IS A CIRCLE DRAWN AROUND THE BOX WITH THE TWO FACES THAT ARE THE SAME BECAUSE THE TWO PARTS OF THE SONG SOUND THE SAME."

(Offer help as needed about why the circle is drawn around the box, and about the relationship of the two faces that are the same to the two parts of the song that sound the same and about the relationship of the two faces that are different to the two parts of the song that sound different.)

"NOW YOU CAN BEGIN TO DRAW THE CIRCLES. FIND THE BOOK AND THE BOXES THAT GO WITH THE BOOK SONG."

(Offer help again as needed.)

"IF THE TWO PARTS OF THE BOOK SONG SOUND THE SAME, DRAW A CIRCLE AROUNG THE BOX WITH THE TWO FACES THAT ARE THE SAME. IF THE TWO PARTS OF THE BOOK SONG SOUND DIFFERENT, DRAW A CIRCLE AROUND THE BOX WITH THE TWO FACES THAT ARE DIFFERENT. PICK UP YOUR PENCIL, LISTEN TO THE BOOK SONG, AND THEN DRAW YOUR CIRCLE."

(Start the tape, listen for the words and parts, and stop the tape. Allow approximately five seconds for the children to draw the circle.)

APPENDIX L--Continued

"DID YOU DRAW A CIRCLE AROUND THE BOX WITH THE TWO FACES THAT ARE DIFFERENT? THAT IS RIGHT."

(Offer help again as needed.)

"LISTEN TO THE BOAT SONG AND DRAW YOUR CIRCLE. REMEMBER, IF THE TWO PARTS OF THE SONG SOUND THE SAME, DRAW A CIRCLE AROUND THE BOX WITH THE TWO FACES THAT ARE THE SAME; IF THE TWO PARTS OF THE SONG SOUND DIFFERENT, DRAW A CIRCLE AROUND THE BOX WITH THE TWO FACES THAT ARE DIFFERENT."

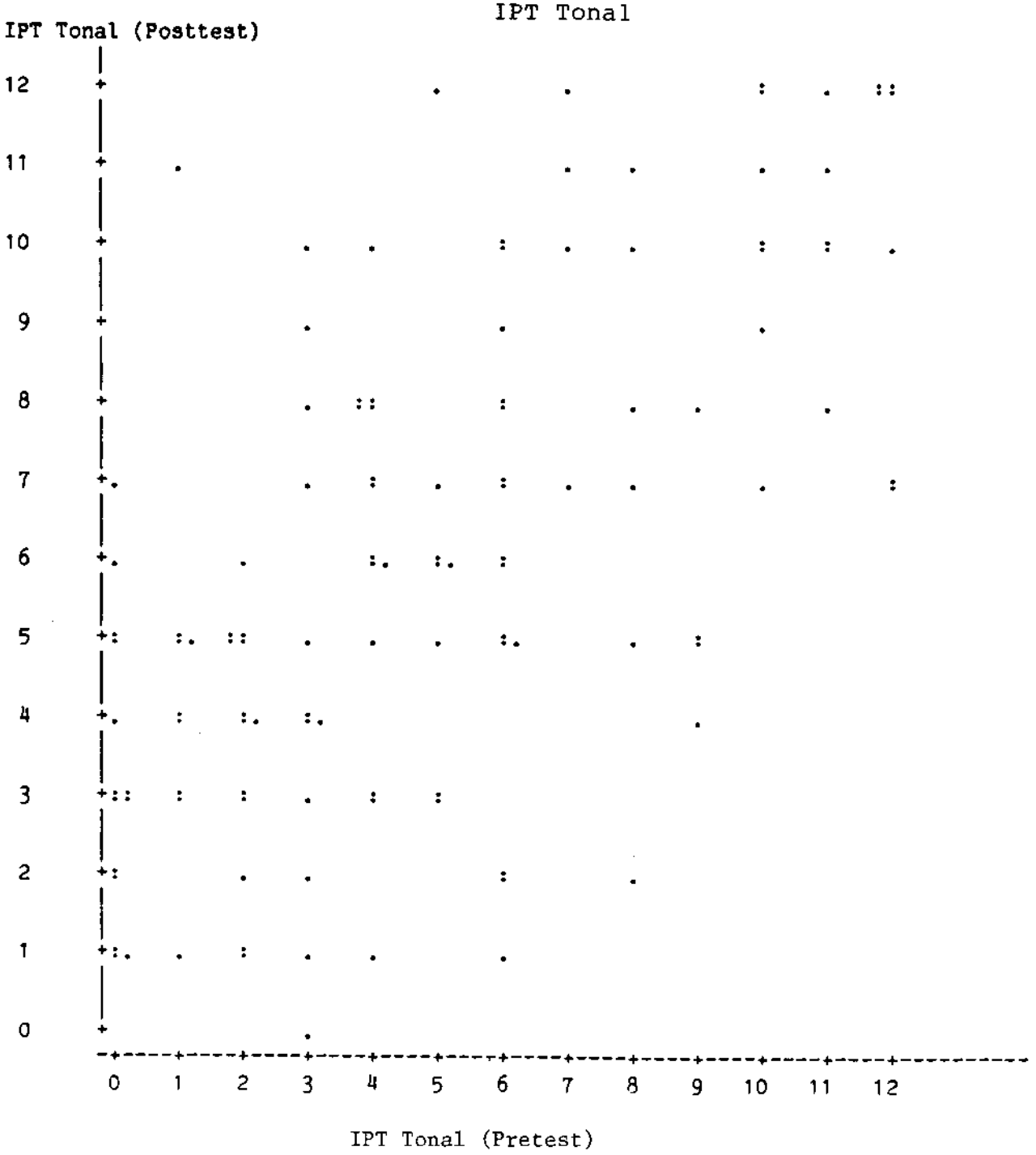
(Start the tape, listen for the words and parts, and stop the tape. The test has begun. Depending upon the age and needs of the children, you may continue to stop the tape between songs to allow the children to draw each circle or you may let the tape run continuously. The tape is timed to allow the children five seconds to draw each circle. Perhaps you might let the tape run continuously after the children have drawn a few circles. Do not give any more answers or replay any part of a song. If a child cannot answer a question, be sure that the reason is not that he does not know how to use the answer sheet. When a child does not know whether the parts of a song sound the same or different, do not force him to answer the question. Try to encourage him and suggest that he make his best guess. Without embarrassing him, help him to position his pencil so that he will be ready to listen to the next song; it may be easier for him. A child may either erase or cross out a circle he wishes to change.)

"FIND THE BED AND THE BOXES THAT GO WITH THE BED SONG. LISTEN TO THE BED SONG AND DRAW A CIRCLE."

(Start the tape and follow your procedure. Supervise as much as possible to be sure that the children are circling the box under the correct picture. Whether the tape runs continuously or is stopped between questions, always give the name of the picture before the children hear it on the tape. At the end of each row of answers, explain how to find the next row and offer help as needed. Also, tell the children when they should turn over their papers. When the test is completed, instruct each child to print his complete name and grade on the line at the top of the front side unless other arrangements have been made. Then collect the papers.)

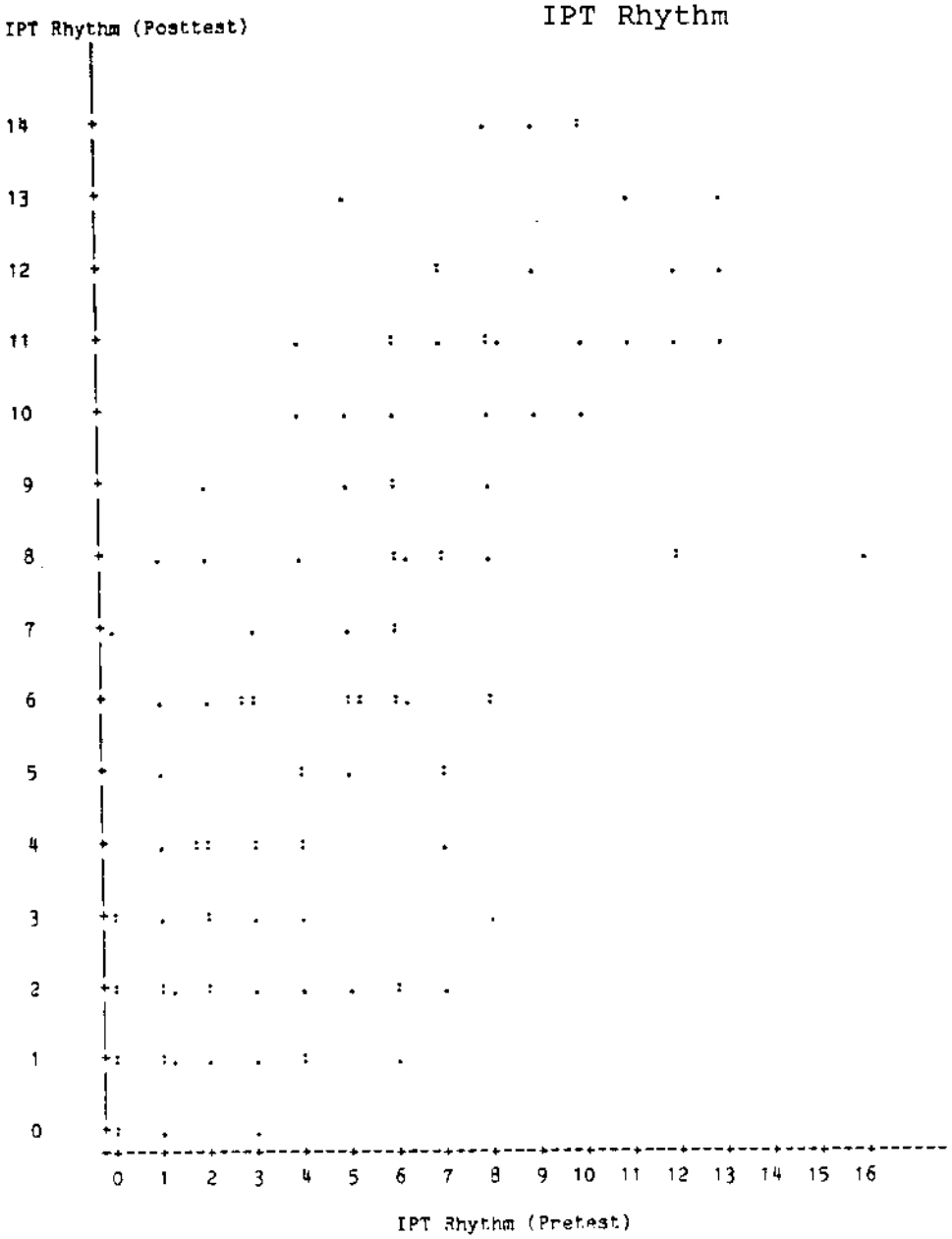
APPENDIX M

SCATTERPLOT OF COVARIATE DEPENDENT VARIABLE



APPENDIX M--Continued

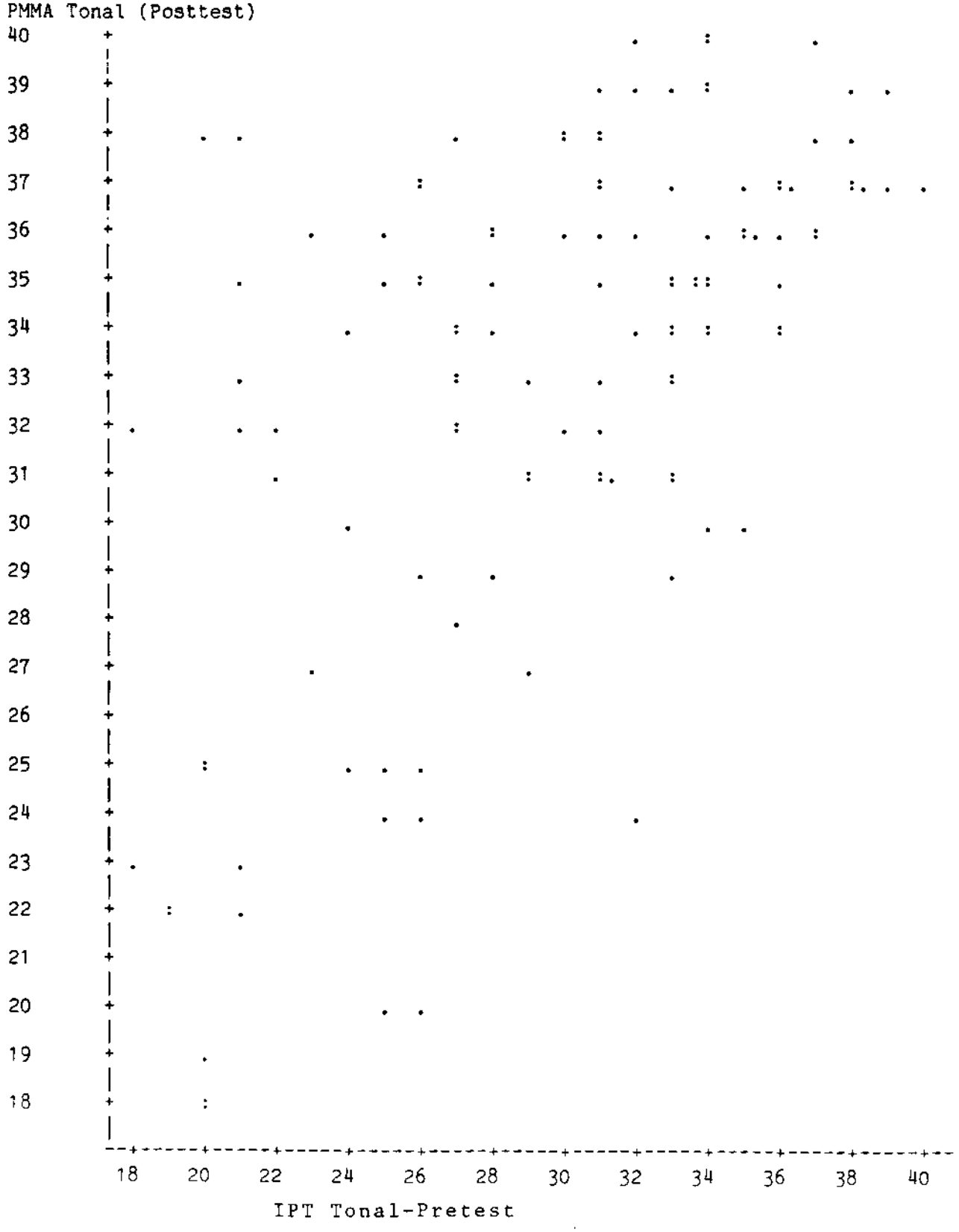
SCATTERPLOT OF COVARIATE DEPENDENT VARIABLE



APPENDIX M--Continued

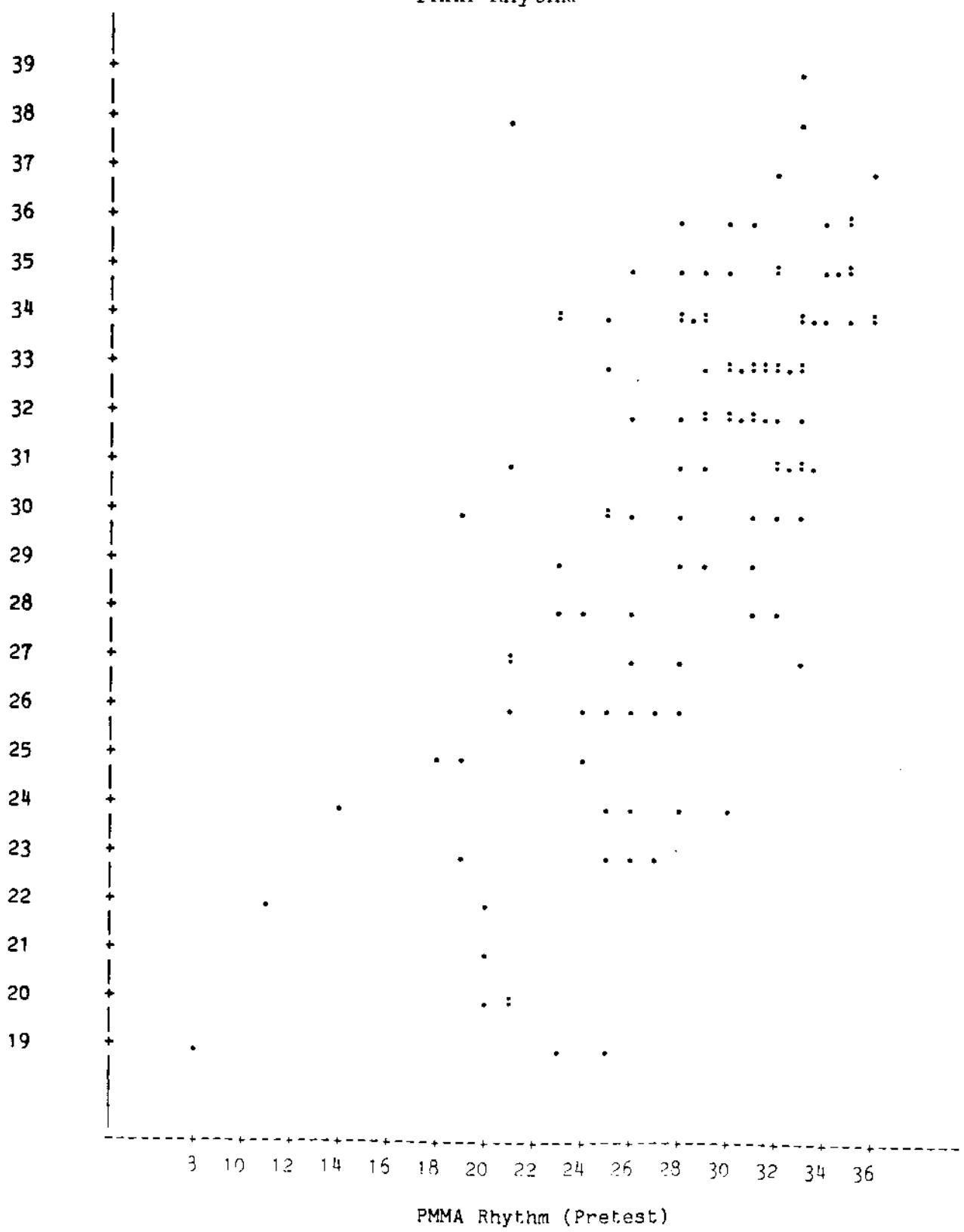
SCATTERPLOT OF COVARIATE DEPENDENT VARIABLE

PMMA Tonal



APPENDIX M--Continued

SCATTERPLOT OF COVARIATE DEPENDENT VARIABLE



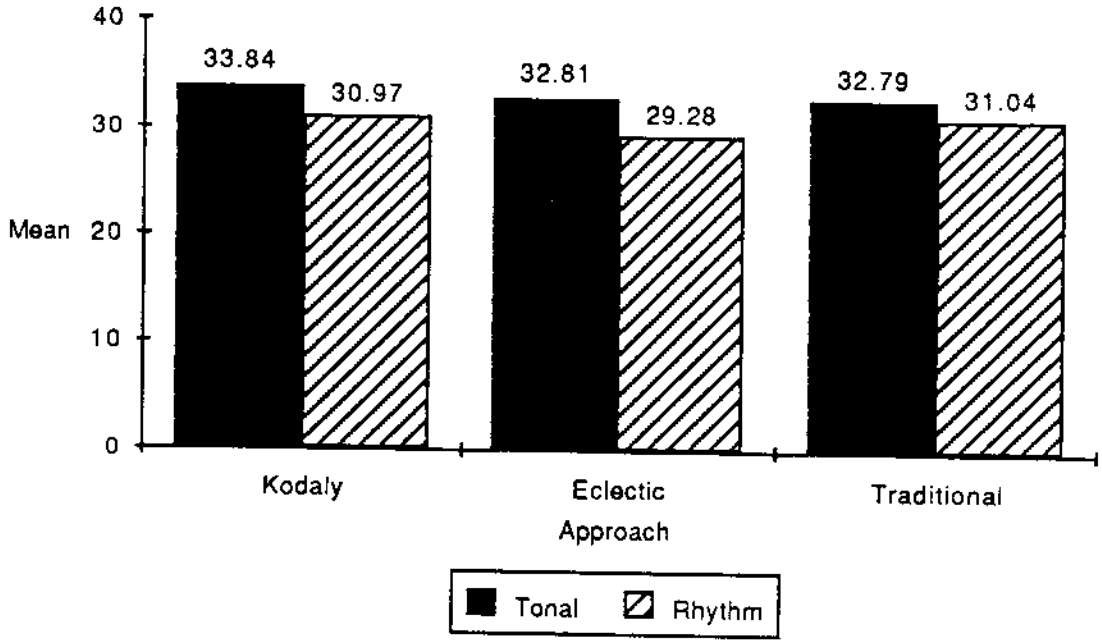
APPENDIX N

UNADJUSTED TREATMENT STATISTICS

Approach	Kodaly	Eclectic	Traditional	Test
Number	22	43	56	
Means	8.50	5.65	5.54	IPT Rhythm
Standard Deviation	3.00	3.69	4.14	
Means	6.59	5.40	6.41	IPT Tonal
Standard Deviation	3.05	3.27	3.29	
Means	3.41	29.70	30.55	PMMA Rhythm
Standard Deviation	3.59	4.92	4.94	

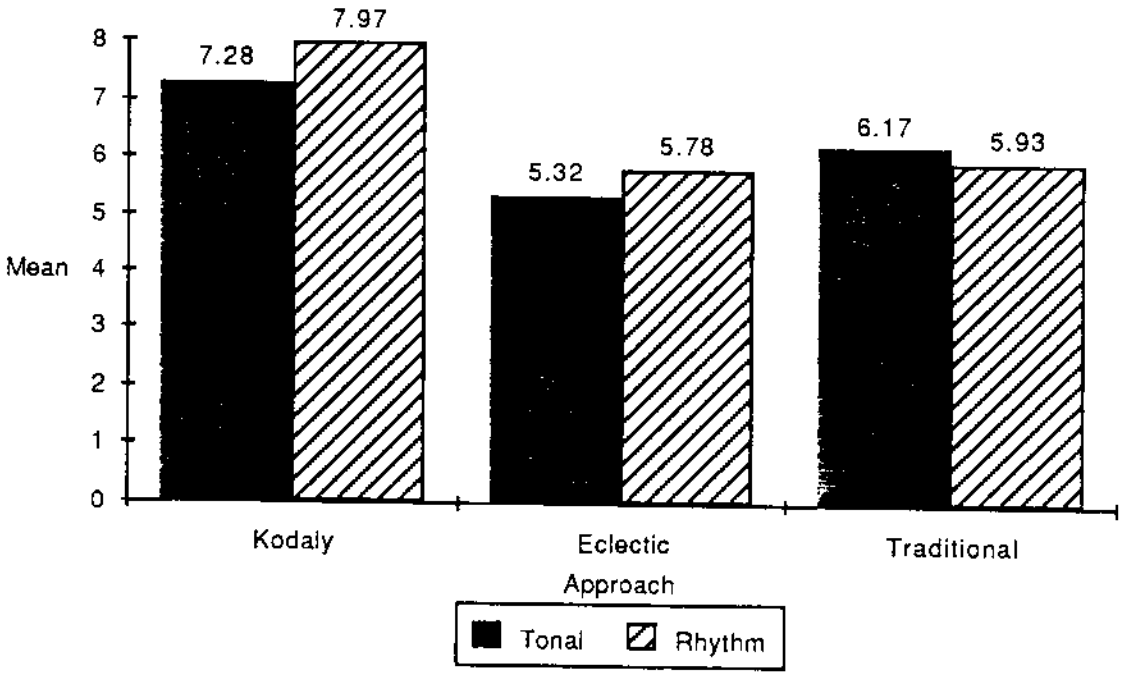
APPENDIX O

ADJUSTED PMMA SCORES



APPENDIX O--Continued

ADJUSTED IPT SCORES



ANALYSES OF SCORES ON PMMA

School	Jefferson		Bethune			Thornton	Reagan
Classes	Kodaly	Traditional	Traditional			Eclectic (K)	Eclectic (Orff)
			Class 1	Class 2	Composite		
		N=22		N=56		N=22	N=21
			Tonal PMMA				
No. of points gained	16	17	15	8	23	16	13
Average of Gains	5.6	5.1	5.13	6.0	5.56	4.4	4.3
Range of Gains	1-13	1-11	1-14	1-17	1-17	1-12	1-14
No. of Points Lost	3	2	6	6	12	4	5
Average of Loses	2.0	1.5	1.0	4.0	2.5	3.75	2.6
Range of Losses	1-4	1-2	1-6	2-6	1-6	1-8	1-5
Same Score	3	1	1	1	2	1	5
			Rhythm PMMA				
No. of Points Gained	16	12	17	12	29	12	9
Average of Gains	4.4	4.8	4.0	6.25	5.12	3.4	3.2
Range of Gains	1-11	1-11	1-11	1-17	1-17	1-5	1-11
No. of Points Lost	5	7	2	2	4	7	5
Average of Losses	3.2	1.85	2.0	1.5	1.75	3.14	1.0
Range of Losses	2-6	1-3	1-3	1-2	1-3	1-8	1-1
Same Score	1	0	2	1	2	2	5

APPENDIX P--Continued

ANALYSES OF SCORES ON IPT

School	Jefferson		Bethune			Thornton	Reagan
Classes	Kodaly	Traditional	Traditional			Eclectic (K)	Eclectic (Orff)
			Class 1	Class 2	Composite N=52		
	N=22		Tonal IPT			N=22	N=21
No. of Points Gained	20	8	13	10	23	14	15
Average of Gains	3.3	3.4	2.8	2.2	2.5	3.4	3.0
Range of Gains	1-10	2-7	1-7	1-4	1-7	1-7	1-5
No. of Points Lost	4	4	3	3	6	7	3
Average of Losses	2.5	2.25	3.6	2.6	3.16	2.0	3.6
Range of Losses	1-4	1-5	3-5	1-5	1-5	1-5	1-8
Same Score	1	8	2	0	2	0	3
			Rhythm IPT				
No. of Points Gained	22	13	12	5	17	10	15
Average of Gains	3.0	2.5	3.5	1.5	2.5	2.3	3.0
Range of Gains	1-7	1-5	1-8	1-2	1-8	1-4	1-5
No. of Points Lost	3	4	4	4	8	8	3
Average of Losses	3.0	2.5	3.5	2.25	2.87	2.62	3.6
Range of Losses	2-5	1-3	2-5	1-4	1-5	1-5	1-8
Same Score	1	2	4	4	8	3	3

APPENDIX Q

BACKGROUNDS AND EXPERIENCE OF TEACHERS

	24 years Teacher A	23 years Teacher B	15 years Teacher C	10 years Teacher D
Years Experience				
Teaching Approach	Kodaly (and Traditional)	Traditional	Eclectic-- Emphasis on some Orff activities.	Eclectic-- Emphasis on some Kodaly activities.
Education	Bachelors degree with major in Music Ed. Large University in southwest Texas.	Bachelors degree with major in Music Ed. Large church University in central Texas.	Bachelors degree with major in Music Ed. Small state school in Minnesota.	Bachelors degree with major in Music Ed. Large state school in east Texas.
Work Toward Advanced Degree		12 hours toward Masters degree at large church University in central Texas (1 course in general methods).	3 hours toward Masters degree at large state University in east Texas. General music workshop for elementary music teachers.	3 hours toward Masters degree at large church school in central Texas.
In-Service Training	12 years: 2-day training sessions in Kodaly at state conventions-- Lois Choksy Charlene Watson 1 year: 6 sessions on Kodaly with teacher from nearby city who was trained at Kodaly Institute in Wellesley, Massachusetts.	3 years: 2-day training sessions in Kodaly at state conventions 1 year: 6 sessions on Kodaly with teacher from nearby city who was trained at Kodaly Institute in Wellesley, Massachusetts. Early workshops with Nash.	8 years: 2-day training sessions in Kodaly at state conventions 1 year: 6 sessions on Kodaly with teacher from nearby city who was trained at Kodaly Institute in Wellesley, Massachusetts. 3 workshops with Sylvia Wallach--Early Childhood music.	4 years: 2-day training sessions in Kodaly at state conventions 1 year: 6 sessions on Kodaly with teacher from nearby city who was trained at Kodaly Institute in Wellesley, Massachusetts.

Workshops	Barbara Andress on Richards use of Kodaly.	Orff workshop at state music convention with Avon Gillespie. 6 years: Early Childhood music workshop at nearby state school.	2-day Orff workshop at large church University in North Texas. Orff workshop at state music convention with Avon Gillespie. Grace Nash in Chicago and later at state music convention--Orff techniques.	Kodaly workshop with teacher formerly in school system who received Kodaly training at Kodaly Institute in Wisconsin.
Summer Study			Richards use of Kodaly with Peggy Bennett and Anna Langness at state school in north Texas.	
Other		Vocal recording soloist for Ward Records, Waco, Texas.	Pedagogy and materials for Music Ed. Large state school in east Texas.	Orff with Fran Smart Adicott.

APPENDIX R

MUSICAL COMPONENTS OF THE FOUR APPROACHES

	Kodaly	Eclectic		Traditional
		Orff-Based	Kodaly-Based	
Singing, pitch recognition, reading	Solfège with hand signals exclusively.	Some solfège with hand signals.	Some solfège with hand signals.	Numbers--no solfège used.
Rhythm reading	Syllables	Syllables	Syllables	Words--walk, run, etc.
Type of songs in repertoire	Folk songs used exclusively.	Some folk music; mostly pentatonic songs and chants to accompany words.	Very little folk music; Basically songs from text.	Little folk music; mostly songs from texts.
Improvisation	Very little	Much use, especially as accompaniments with percussion instruments.	Very little	None
Movement	Folk dances not associated with a specific country.	Improvised movement incorporated with instruments and some creative movements to words, poems, stories.	Stylized dances	Stylized dances

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