Use of music learning readiness skills in the musical development of beginning instrumental music students

James Earl Thomas Jr.

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USE OF MUSIC LEARNING READINESS SKILLS IN THE MUSICAL DEVELOPMENT OF BEGINNING INSTRUMENTAL MUSIC STUDENTS

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
In
Education

by
James Earl Thomas, Jr.
September 1997
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Approved by:

Mary Jo Skillings, First Reader

Edward J. Bostley, Second Reader

9/8/97
ABSTRACT

This study addresses the need to develop in beginning instrumental music students the learning readiness skill of Rhythm Perception. Tonal Perception, Aural, and Oral skills are inherently involved with the development of Rhythm Perception, and therefore, are included to a limited degree. Generally, these skills are not taught prior to receiving instrumental music instruction. The study will include approximately forty students, boys and girls, ages nine to eleven, with similar ethnic, socio-economic and cultural backgrounds. Students will be selected from fourth and fifth grade instrumental music class enrollments and placed into a control group and an experimental group. Both groups will be instructed using a music method book entitled *Ed Sueta Band Method*, written by Edward Sueta. Simultaneously, these two groups will receive basic tactile/psycho-motor training involving the physical techniques of playing a musical instrument; such as, embouchure formation and function, tone production, breath control, tonguing, slurring, fingering, sliding, sticking, as appropriate. The experimental group will receive, in addition, an innovative approach involving the application of Music Learning Theory (MLT) in rhythm
perception and performance skills developed by Edwin E. Gordon. The hypothesis is that the experimental group will demonstrate significant improvement in rhythm perception, instrumental proficiency and rhythm notational skills, and musical understanding due to the innovative teaching approach using Gordon's rhythm audiation procedures. Conclusions and implications are that the teacher and the beginner will realize faster growth and development in student instrumental music performance through the use of audiation skill exercises. This music learning approach will provide training in the aural perception of rhythm, initiate student understanding of aural perception, and assist the learner in applying that understanding to developing the tactile and psycho-motor skills involved in playing a musical instrument.

1Music Learning Theory (MLT) as developed by Edwin E. Gordon, involves the student in learning to perform music as the direct result of audiation training (1993, p.35).
ACKNOWLEDGMENTS

The author, with a deeply felt sense of gratitude, wishes to thank Dr. Edward J. Bostley and Dr. Mary Jo Skillings for their thoughtful guidance and assistance throughout this project.
DEDICATION

To Ms. Dee Thomas
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CHAPTER ONE

Introduction

Learning to play a musical instrument has always been and continues to be a challenging undertaking for the beginning music student, especially ages nine to eleven in the fourth and fifth grades. These young novices must acquire a variety of musical knowledge and performance skills prior to learning a musical instrument (Gordon, 1980, p. 235). This endeavor to play a musical instrument requires a great deal of effort and commitment. The student must learn, in the proper sequence, how to successfully synthesize all of the musical elements and apply them to developing musical proficiency on an instrument (Junda, 1994, p. 37). Such an adventure not only involves cognitive and affective learning, but psycho-motor development and creative growth as the student attempts mastery of the chosen musical instrument (Balkan, 1985, 9. 42: Dobson, 1989, p.27).

Today, the elementary music teacher must meet the challenge of starting and developing students into reasonably competent young musicians. Ideally, prior to learning an instrument the young music novice should acquire and demonstrate certain musical knowledge and performance skills as a readiness for developing technical skills on an instrument. Pierce claims that during the early stages of instrumental music instruction the student must be able to
transfer a music reading ability to technical application on the musical instrument (1992). As shown in an example by Pierce, a great deal of knowledge and skill is necessary to produce a third-line B-flat on the trumpet. The information and skills required to perform the note include: depressing the correct valve; shaping the oral cavity, tongue [using the tongue to properly initiate the note], and lips [embouchure] to produce the correct buzzing effect; and blowing the appropriate amount of air [through a correctly formed embouchure] past the lips to create the needed vibration to sustain the pitch. In addition to the physical skills needed for sounding the note, there is a requirement for the aural facility [critical listening in which the ear is hearing the pitch before singing or playing] to hear and determine the correct pitch. Only when all of these [music learning readiness] skills are in place can a student be expected to correctly perform a third-line B-flat on the instrument (Pierce, 1992, p.296).

Hoffman concurs with Pierce in stating that developing all of these techniques is no easy task for students, and that is one reason why learning to play an instrument can be very challenging work (1984).
A logical approach to overcoming many of the numerous initial difficulties the beginning instrumental student must face is to teach aural listening and oral (singing/chanting) skills prior to the student learning the instrument (Gordon, 1980). According to Dalcroze, "it is nothing less than lunacy to set a child to study an instrument before he[she] has been trained to appreciate rhythm and to distinguish sounds [tonality]" (Dalcroze, 1921, p.103). These aural and singing skills may then be applied to playing the instrument. As the learner gains initial proficiency on the instrument, musical notations can then be taught. Using this sequence of skill development, the learner gives meaning to music notation through audiation and instrumental performance. In the learning sequence, two key areas of musical development as readiness for learning to perform on an instrument are: aural perception of rhythm and tonality and applying these aural skills to performance (Gordon, 1980, p.14). For this paper, Aural Perception is defined as: the awareness of musical sounds. The development of Aural Skills provides the acquisition of the understanding of musical organization, specifically, rhythm and tonality. Rhythm consists of three fundamental elements of rhythm organization. These elements are: (1) macro beats (primary or basic recurring pulsations in music); micro beats (shorter, equal temporal divisions of

Audiation: hearing and deriving meaning from music through recall/creation even though sound is not physically present (Gordon, 1980, p. 2)
the macro beats); and melodic rhythm, which "is the rhythm of the melody or the text of a piece of music" (Gordon, 1980, p. 88). Tonality is considered: "in Western music, the organized relationships of tones with reference to a definite center, tonic, and generally to a community of pitch classes called a scale of which the tonic is the principal tone; sometimes also synonymous with key" (The new Harvard Dictionary of Music, 1986).

In Gordon's Music Learning Theory (MLT) the beginning instrumental music student will greatly enhance his/her performance skills with a solid foundation in rhythm perception (1980). Dalcroze (1921), in stating the importance of rhythm study, said: "Rhythmic training can make a person musical" (p. 321). To become an outstanding performer, it seemed obvious to Dalcroze, the young learner has to develop a strong concept and ability in rhythm performance. Similarly, Gordon (1980) expressed that a strong foundation in rhythm perception will serve the student well in note-reading and developing other aspects of music performance (p.3).

One way to accomplish the task of improving student readiness through the perception of rhythm and tonality, may be through the use of Gordon's audiation skill training. This research project is intended to determine the effectiveness of Gordon's music learning readiness program in enhancing the beginning elementary instrumental music student's aural perception, understanding, and performance of rhythm in music.
CHAPTER TWO

Review of the Literature

There are several researchers such as, Dalcroze, Mursell, Gordon and others who have addressed the importance of student music learning readiness in the perception of rhythm and tonality in elementary music study. Dalcroze (1921) believed that "the two essential elements [of music] are movement [rhythm] and sound [tonality]." In consonance with this line of thought he strongly advised that musical studies should be preceded by exercises in rhythm and the study of tonality, after which, "and not before, to resort to instrumental studies" (p. 90). Gordon (1980), in defining the learning sequences in music, expressed: "the basic units of music are tonal and rhythm patterns." He went on further to say that the most basic music skill, aural perception [making sense of rhythm and tonal patterns], must properly precede oral skills [accurately signing/chanting rhythm and tonal patterns, and instrumental performance skills] and music reading and writing skills (p. 14).

Hicks (1980), in applying the "Patterns of Growth"

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theory from Jerome F. Bruner's work Toward a Theory of Instruction to music learning readiness, concluded that "a child must initially experience various [musical] sounds and categorize them into elemental concepts about melody, harmony, tone color and dynamics" [before proceeding further with music study] (p. 53).

In approaching the subject of music learning readiness, several authors have responded to such questions as: (a) How do students learn music? (b) What music learning skills should be taught? (c) What is the order or sequence in which these skills should be taught? (d) How should these music learning skills be taught? (e) How do these music learning skills relate to instrumental music study?

Those questions have been successfully answered by such researchers as Dalcroze, Mursell, Gordon, and others who have contributed an enormous amount of information based upon empirical studies of the music learning process of children. Other educational researchers such as Piaget and Bruner have contributed much empirical research in the learning process which may easily be applied to music learning.

In order to answer some of those questions, as they relate to student readiness for instrumental music study, this literature review will be divided into the following areas: (a) How students learn music; (2) Basic learning readiness skills required for playing a musical instrument;
(3) The priority sequence for learning these skills; (4) Method for teaching music learning readiness skills; and (5) Applying the skills to instrumental music performance.

How Students Learn Music

Articles relating to student music learning readiness in performing music almost invariably turn to pronouncements which have as their primary focus, concern about children and how they learn. There are many articles dealing with music teaching and music learning, especially in the music performance area, which take as their model the research of Piaget, Bruner, and Gordon. Such references to these three seminal researchers and authors indicate that many present researchers have embraced their extensive work in unlocking the mysteries of the learning process. Before responding to the question of how students learn music, let us consider how learning in general takes place.

Jean Piaget (1971) explains this phenomenon in one of his writings, Biology and Knowledge, by stating "... knowledge [in the learning process] consists basically of information drawn from our environment [acquired experience] in the form of reality and of figurative or motor responses to sensory stimuli. This leaves out of account the question of instinct and all hereditary aspects of the mechanisms of perception or intelligence levels insofar as they are linked with the development of the brain" (p, 2). In his work,
Science of Education and Psychology of the Child, Piaget theorized, essentially, that the individual gains knowledge as that person reacts to intellectual stimuli from the environment. He argues further that knowledge is gained from action, and that action consists of assimilating reality "into the necessary and general coordinations of action" (p. 29).

Piaget, in his theory of developmental stages, expounds that knowledge involves learning by experience. The argument is clarified with the explanation that an individual, from infancy through adulthood constructs intellectual structures based on learning experiences from the external world. These structures are the integration of assimilation and accommodation responses to environmental stimuli. As a new experience is realized a new structure is built upon a preceding structure. Cognitive development is based upon this continuous process. Piaget, in Science of Education and the Psychology of the Child (1970, p.30), concluded that an individual passes through four stages of intellectual development in the span of one's lifetime. Those stages are (approximately):

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5Assimilation "is the integration of exterior elements into evolving or completed structures of an organism" (Jean Piaget, Piaget and His School, p. 16). From the same source Accommodation is defined as "any modification of an assimilatory scheme or structure by the elements it assimilates" (p.18).

6See (Piaget's Theory in Piaget and His School, p. 22)
Sensorimotor Period: from infancy to two years. During this stage the infant begins to construct a complex system of action-schemes, organizes reality [what he perceives from the environment] in terms of spatial-temporal and casual structures. New structures are added on to existing structures as the individual continues to gain learning experiences from interacting with the environment.

Preoperation Period: begins at two years of age and extends to seven. In this period the semiotic or symbolic function develops. That is the child begins to use symbols and signs to represent thought. Symbolic play (pretending), deferred imitation (performed when the person or thing imitated is no longer present), drawing, mental imaging, and impressive language usage become prominent during this stage of development.

Concrete Operations Period: arrives at age seven and continues to eleven years of age. Now the person becomes able to use logic to solve concrete problems, but is unable to solve hypothetical or abstract problems.

Formal Operations Period: begins at age eleven and is present through age fourteen. The individual is now capable of successfully challenging abstract problems and finding solutions from obvious points of information or hidden clues.

7"A scheme is the structure or organization of actions as they are transferred or generalized by repetition in similar or analogous circumstances". (Jean Piaget and Barbel Inhelder, The Psychology of the Child, p.4).
In researching intellectual development and the learning process, other researchers such as, Jerome Bruner, James Mursell, and Edwin Gordon have acknowledged Piaget's contributions in this area.

Bruner (1960), in his work, *The Process of Education*, views intellectual development similarly to Piaget's stages of mental operations. However, Bruner begins by omitting discussion of the first of Piaget's four stages, i.e., the Sensorimotor period. In referring to Piaget's second stage Bruner adds that in this period the child begins to develop language and learns "to represent the external world through symbols established by simple generalization" (p.34). He adds further that the child at this time lacks the concept of reversibility. The next stage, Concrete Operations, Bruner explains, is the period in which the child becomes able to gather data from the real world into the mind and transforms that information so that it can be organized and used in the solution of problems. Bruner agrees with Piaget in stating that in contrast to the Sensorimotor period which consisted of simple stimuli-response action, there is now an operation action [transformation] that is internalized and reversible. **Internalized** action means that the child performs problem-solving action mentally, even though trial and error activity may be involved. **Reversibility** is characterized by Bruner as "complete compensation", meaning that an "operation can be compensated for by an inverse operation" (p. 36). In viewing
the Formal Operations period, Bruner concurs with Piaget by stating that the child's intellectual ability will now allow mental operations on hypothetical propositions rather than being restricted to pass experience or to what is before him/her (p. 37).

Bruner (1966), in his book, *Studies in Cognitive Growth*, said that there are three ways in which learning takes place. Learning results when the individual processes and responds to information from the environment. The three modes of learning are: (a) Enactive — learning occurs through action and manipulation; (b) Iconic — a person experiences perceptual organization and imagery using aural, kinesthetic and visual senses; and (c) Symbolic — the child gains knowledge through words and other symbols (p. 1).

In further discussion of how students learn, Bruner refers to the "Act of Learning". He asserts that learning involves three simultaneous processes. First, acquisition of new information, then second, transformation that information to have it fit new tasks, and third, evaluation, wherein there is checking to determine if the information has been manipulated to adequately meet the task (1961, p. 48).

On examining the question of How Students Learn Music, James L. Mursell and Mabelle Glenn are cited from their work, *The Psychology of School Music*. In that work these authors "regard learning as the active creation of a living structure, a process of transformation and discovery" (1938,
Further, in this same source under the heading of "Musical Learning", they have concluded that a person learns (music) through a process of synthesis and analysis. That is, one begins with a crude and imperfect synthesis, and proceeds through a process of analysis to a better synthesis (p. 49). By way of clarification of how these ideas would apply to music learning, one might consider as an example: a student who plays a wind instrument has just learned primary fingering for a given note (synthesis). Now the learner is introduced to an alternate fingering. Upon receiving and analyzing this new information (analysis) the student incorporates this new knowledge into new action or performance (synthesis), wherein the performer has a choice of fingering based on need. Gordon (1971), in his book, *Psychology of Music Teaching*, speaks of perceptual and conceptual learning⁸ with references to Robert Gagne's (1965) theories in *The Conditions of Learning* and Piaget's four stages of intellectual development. Gordon characterizes the first four of Gagne's eight types of general learning⁹ as perceptual and the remaining four as conceptual (p. 62).

Gordon also looks at Piaget's Four Stages of Intellectual Development and categorizes the first three

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⁸Gordon divides learning types into general classifications: Perceptual and Conceptual. That is, "simple sound reception and memorization are indicative of perceptual learning", whereas "generalization and transfer best characterize conceptual learning" (p. 62).
stages (Sensorimotor, Preoperational, and Concrete Operational) as Perceptual and the fourth and final learning stage as Conceptual. In applying these learning theories to music, Gordon says that at the perceptual level students gain knowledge, predominantly, through the rote learning process. At the Conceptual level the student is able "to transfer and to generalize multiple discrimination understandings to unfamiliar music" (1971, p. 58).

Knowing how the individual learns provides some basis for determining objectives and strategies for teaching basic readiness skills to the beginning music student (Kertz, p. 5). After examining the theories of learning, intellectual growth and development as espoused by Piaget, Bruner, Mursell, Gordon, and others it should now be appropriate to turn attention to the learning of needed readiness skills for playing a musical instrument.

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Gagne's eight types of general learning, as referenced by Gordon, (1971) are: (a) Signal Learning; (b) Stimulus-Response Learning; (c) Chaining; (d) Verbal Association; (e) Multiple-Discrimination Learning; (f) Concept Learning; (g) Principle Learning; and (h) Problem Solving (p. 57).
Basic Readiness Skills for Playing a Musical Instrument

As indicated earlier in this paper, success in being able to play a musical instrument is based upon the learner acquiring and developing many skills. Again attention is called to the need to prepare the instrumental music student with aural perceptual skills and oral skills prior to study of the musical instrument. The technical application of this knowledge requires the instrumental performer to be concerned with: (a) posture, embouchure, and breath support; (b) tone production; (c) intonation; (d) articulation; (e) physically manipulating valves, keys, bows, or slides; and (f) coordinating numerous tasks simultaneously (Kendall, 1988, p. 206). With all of these capabilities expected of the instrumentalist, where does one begin the acquisition of this knowledge? The child must be introduced initially to various sounds and be taught or allowed to recognize basic concepts about melody, harmony, rhythm, tone color and dynamics (Hicks, 1980, p. 53). Interestingly enough, another expert, Junda, categorized readiness for the skill of music reading, which should be taught after tonal and rhythm skills, as: intonation, aural perception, rhythm and inner hearing (1994, p. 37). Since Basic Music Readiness Skills for playing a musical instrument have been identified it is now important to determine the learning sequence in which these should be taught.
Priority for Learning Basic Skills

Perhaps for good reason rhythm and tonal perception skills appear prominently in the listing of basic fundamentals that the learner should know when taking on the study of a musical instrument. For example, Hicks, in his article, "Sounds Before Sight: Strategies for Teaching Music Reading", begins commentary on basic skill learning with the subject of Rhythm Development. He states that initially the young student should be allowed to use physical activity, such as walking, clapping, tapping, and running to help develop rhythm readiness (1980, p. 53). Similarly, Junda in her presentation, "Developing Readiness for Music Reading", emphasizes the need for the student to acquire an understanding of rhythm as a foundation skill for good music performance (1994, p. 37). Also, of equal importance on the list of readiness skills are tonal perception skills. As mentioned earlier in Chapter Two of this literature review, Gordon, in his book entitled, Learning Sequences in Music, said that tonal and rhythm patterns are the basic fundamentals of music (1980, p. 15). He places those skill areas high in the hierarchy of readiness activities. Gordon also recommends rote singing, initially, in different tonalities and time signatures, to develop a basis for understanding tonality and rhythm (1980, p. 134). Another researcher, Kendall, believes that the learning sequence is "cyclical or spiral in that the aural, kinesthetic and visual
skills are identified, arranged, repeated and expanded to facilitate effective music learning" (1988, p. 217). This suggests there is a continuous learning process, and that the skills learned can be transferred to instrumental music playing (Pierce, 1992, p. 295). Upon considering the learning sequence for teaching music readiness skills the question becomes: How should these skills be taught? The question posed can be answered by reviewing the teaching methods available for accomplishing the objective and narrowing the choices to the one which appears to be most effective and efficient.

Method for Teaching Readiness Skills

While there may be several methods for teaching readiness skills available one method of teaching readiness skills is through the use of Gordon's Music Learning (MLT) which involves audiation skill exercises. MLT is interactive and is very practical for teaching aural/oral skills. For example, the program contains rhythm notational exercises (Aural: listening and Oral: chanting/performing) wherein the student is obligated to concentrate primarily on developing critical listening skills in rhythm prior to their application to reading skills. Students are guided by the teacher according to their own pace of development.
Applying Music Learning Readiness Skills to Instrumental Performance

The acquisition of aural and oral skills inherently involved the development of Rhythm and Tonal Perception skills. Initially, the learning activities of Listening (Aural) and Singing/Chanting (Oral) are performed before using the musical instrument as suggested by Gordon (1993, p. 37). With the development of those two skills the learner is gradually encouraged to transfer what he/she has acquired in terms of Rhythm and Tonal Perception to his/her musical instrumental performance. The knowledge and understanding gained by the student will enhance the physical playing/performance immensely (Bostley, 1995).
CHAPTER THREE

Project Preview

Statement of the Objectives

The objectives of this project take into consideration the necessity for teaching music fundamentals to the beginning elementary instrumental music student. The intended teaching results should reflect the application of this knowledge to the physical aspect of the individual's performance. It is important to recognize that many beginning students have difficulty with the physical efforts of playing an instrument, due largely, to a lack of cognitive readiness prior to taking up study of the instrument (Kendall, 1988). To a substantial degree this readiness can be established through the correct perception of rhythm relationships. A teaching strategy which will enable the student to acquire an understanding of those relationships can be found in the use of Gordon's MLT. Now then, the question is how effective and efficient is MLT? In order to determine if Gordon's innovative approach can make the music learning process easier and more effective this project will focus on the following objective:

Students in the Experimental class will demonstrate increased performing and reading skills in rhythm compared to those students in the Control
The increased performing and reading skills refer to acquired capabilities the student will possess after instruction in aural and visual concepts which will enable the individual to be more successful in playing his or her instrument. The student should become more effective in applying rhythm perception skills to instrumental performance and more proficient in reading music notation.

Design of the Project

This project is an interactive ear training program emphasizing aural and oral skills in the perception and performance of short rhythm patterns. There will be a comparison/contrast of teaching methods to determine whether MLT will be more effective in realizing student achievement in music reading and instrumental music performance than the traditional method of instruction.

Method One  Control Group

(Traditional Training)

Utilizing the Ed Sueta Band Method, written by Edward Sueta, the teacher will provide a traditional instructional approach following the lessons provided in this music method.
book. The traditional approach to instrumental music uses, virtually, only the music method to introduce and develop music readiness skills for playing the instrument. Additionally, instruction in this approach includes teaching the student the basic tactile/psycho-motor fundamentals of embouchure development, tone production, breathing, tonguing fingering, sliding, bowing, and sticking. The classes will meet twice weekly for thirty minutes at each session, over a period of sixteen weeks. Population: 18-20 students. Ages 9-11 years old.

Method two
Experimental Group
(Application of Gordon's Music Learning Theory)

Instruction for this group will consist of interactive ear training through use of the Gordon MLT in addition to the Sueta Music Method and the same basic tactile/psycho-motor training taught in the Control group. The MLT instruction will provide aural and visual learning opportunities for developing rhythm perception and performance skills. Supplementary special music reading exercises will incorporate sight reading of notation and application of note reading to performance on the student's instrument. As with the Control, classes will meet twice weekly for thirty minutes at each session, over a period of sixteen weeks. Population: 15-20 students. Ages: 9-11 years old.
Other Factors

Socio-economic background: Similar in both groups with some variations according to a slightly diverse racial and ethnic population. Students are from lower to middle class homes with income accordingly.

Music background: Similar in both groups. Generally, student music experiences are limited to listening to the popular music of the day on radio or television. Most students have been exposed to varying amounts of church and school music. A small number of students have had previous vocal and/or instrumental music experience.

Grade Level: Fourth and fifth grades.

Gender: Mixed, with 9 boys and 7 girls in the Control group, and 6 boys and 7 girls in the Experimental group. Multicultural.

Hypothesis

Method Two (MLT), along with instruction which is common to both the traditional and experimental approaches, will enable the students in the Experimental group to read,
understand and perform rhythms on his/her musical instrument with greater success, by the end of this sixteen-week study, than the students in the Control group.

Evaluation

Students are to be evaluated by use of Gordon's Intermediate Measures of Music Audiation and teacher-prepared instrumental music aural/visual skills tests which focus on Rhythm Perception. The results will determine the effectiveness of the experimental treatment and indicate the degree or rhythm reading readiness achieved within each group.

Delimitations

This project only addresses one main area pertaining to student readiness for instrumental music instruction at the elementary grade level. The focus of this study is on the student's perception, understanding, and performance of short rhythm patterns. It is not intended to include the areas related to the physical aspects of playing a musical instrument. However, the classroom teacher will find the results of this study helpful in developing basic musicianship in the elementary music program. With a good foundation in rhythm the student will be able to concentrate
More more freely on the physical aspects of playing the instrument.
CHAPTER FOUR

Implementation and Review

Description (Post) of the Project

This project consisted of traditional music instruction and an experimental training program emphasizing aural and oral skills in the perception of Rhythm. There was a comparison/contrast of music teaching methods employed to determine whether the experimental approach to the teaching of music is more effective in improving student achievement in instrumental music performance than the traditional method of instruction.10

The student population involved in this study was divided into a Control group and an Experimental group. The control group was taught utilizing the Ed Sueta Band Method, with which the teacher, through the traditional instructional approach, followed the lessons as provided in the music method book. Additionally, instruction in this approach included teaching the student the basic tactile/psycho-motor fundamentals of embouchure development, tone production, breathing, tonguing, fingering, and sticking. Classes met twice weekly for thirty minutes at each session, over a

10See Application of Gordon's Music Learning Theory (MLT), page 24 of this study, and Application of the Traditional Music Learning Method, P. 27.

The Experimental group received instruction consisting of interactive ear training through use of the Edwin Gordon Method, the Ed Sueta Music Book and the same basic psycho-motor/tactile training taught to the Control group. These classes also met twice weekly for thirty minutes at each session, over a period of sixteen weeks. Population: 13 students. Ages: 9-11 years.

Other Factors

Socio-economic background: Similar in both groups with some variations according to a slightly diverse racial and ethnic population. Students came from one or two parent homes, with mostly lower to middle class incomes. Many of the parents were gainfully employed, but some were not.

Music background: Similar in both groups. Students, generally, had limited music experiences in church, school, motion picture, television, and radio music. They listened mostly to the popular music of the day which included various styles of rock, country, music which included tejano and salsa.
**Grade level:** Fourth and Fifth grades.

**Gender:** Mixed with 9 boys and 7 girls in the Control group, and 6 boys and 7 girls in the Experimental group.

**Cultural Status:** Multicultural.
Application of Gordon's Music Learning Theory (MLT)

Gordon's Music Learning Theory (MLT), in which Audiation is the key element, was applied throughout the study as the innovative treatment for the Experimental group. The MLT describes the proper music learning sequence, a validated, sequential learning approach that provides the standard for realistic instruction for the beginning music student (Gordon, 1993, p. 35). This approach involves a hierarchy of learning stages divided into two major levels of learning _ the Discrimination Stages and the Inference Stages.

Pertinent to this study is the Discrimination level that consists of five music learning stages:

1. Aural/Oral _ the initial stage in which the instructor chants or sings a short rhythm or tonal pattern and the learner imitates the pattern in a like manner.

2. Verbal Association _ The next level in the hierarchy in which the learner begins to structures. At this stage the student is introduced to specific rhythm and tonal syllables with the objective that the learner will be able to give meaning to rhythm and tonal patterns.
3. Partial synthesis _ the stage which allows the learner to be able to verbally identify or describe the functions or significance of neutral syllables upon listening to a short musical pattern chanted or sung by the instructor. The student can then synthesis the few elements, that have been learned, to express the rhythm or tonal concept.

4. Symbolic association _ the phase at which the learner begins to utilize written music notation to represent music patterns which are familiar from audiation and practiced in earlier stages.

5. Composite synthesis _ the state at which the learner is able to read and perform two or more different, but familiar, music patterns without assistance from the instructor.

Once the student has demonstrated achievement at the Composite stage he/she is ready to enter the final three stages of the Inference level. At the Inference level the student learns to use all previous knowledge and skills "to give meaning to unfamiliar music patterns, become musically creative, and gain understanding of theoretical reasons behind the organization and function of music" (Bostley, 1995).
The Inference stages are:

1. Generalization _ wherein the student applies previously learned skills to read, understand and perform, without imitation or assistance unfamiliar rhythm and tonal patterns.

2. Improvisation/Creativity _ the stage in which learner, using those previously learned skills, develops the ability to improvise spontaneously in performance, and the capability of writing or notating original musical thoughts on music manuscript.

3. Theoretical Understanding _ the final stage in Gordon's Music Learning Sequence in which the student learns the technicalities of how and why music is organized so that the listener is able "to give deeper cognitive and esthetic meaning to the musical sounds perceived" (Bostley, 1995).

In this study students were instructed through the Composite stage, and they were able to perform a series of two or more patterns successfully.
Traditional Music Learning Method

Traditional Music Learning methods involve the use of a standard music method from which the teacher provides instruction. There are no previous critical music listening skills developed. This approach begins with reading notation. The student must immediately apply notation to pitch and rhythm, and apply that notation to performing on a musical instrument. Instruction follows the sequence of one lesson to the next in a hierarchy of reading and performing skills. In this Study students in the Control group were instructed through use of the Traditional Music. As a result, they were able to perform better melodically than rhythmically over the period of this Study.
Music Learning Readiness Skills Study Results

Utilizing Gordon's Intermediate Measures of Music Audiation (IMMA) the raw scores in this study indicate minimal differences in student performances between the Control and the Experimental groups' pretests and posttest results.

From the IMMA tests, which only involved listening to and comparing similarities or differences in rhythm patterns, the Control group's pretest and posttest results indicated only a marginal difference of +0.2 percent. By comparison, the Experimental group's score after the two tests reflected a marginal difference of -0.6 percent. These scores seem to support Gordon's contention that music aptitude stabilizes around age 9 or 10 (Gordon, IMMA, Part II, p. 4). Therefore, there was no expectation of a major difference in the test results between the two groups.

Pretests of student music instrument performance indicated that both the Control and the Experimental groups had a 24% rate of correct performance after listening to pre-recorded rhythm patterns and imitating those patterns on their instruments. However, in the posttest, which required reading music and performing on the musical instrument that was read, the Control group had only a 7% correct rhythm performance rate, with a difference between pretest and posttest results of -17%. This reflects an actual
decrease of performance and music reading ability. In explaining this lack of positive progression in rhythm reading proficiency, it is noted that the students in the Control group, using the Traditional instruction, concentrated on and developed their tonal (pitch) reading abilities more than their rhythm reading skills. With less emphasis on the study of rhythm notation the Control group's rhythm reading skills suffered significantly. On the other hand, the Experimental group's pretests and posttest results showed a significant improvement of +38% in rhythm reading proficiency. The Experimental group's degree of success seems to support the hypothesis that given Gordon's MLT, along with instruction which is common to both the Traditional and the Experimental approaches, the student will read, understand and perform rhythms on his/her musical instrument with greater success. (See Appendix A)
Conclusion

The special treatment applied to the Experimental group was effective over the sixteen-week period of the study. In contrast, the Control group actually a decrease in raw scores over the sixteen-week program reflecting a weakness in the teaching/learning technique in acquiring music reading/performance skills in rhythm proficiency through the use, solely, of the Traditional instructional approach.

Recommendation

If this innovative approach (MLT) is applied over the complete period during which a youngster studies music while in grade school, expectations are that there will be greatly improved reading, performance and musical skills.
CHAPTER FIVE

Post Study Observations

Opening and Closing Information

This sixteen-week Study began with pretests over a two-week period beginning January 21, 1997. Instruction began on February 3, 1997 and ended on April 29, followed by posttesting through May 8, 1997, the closing date of the study.

Testing

1. Listening Pretest (No instrumental performance)

Boths groups (Control and Experimental) were administered the Edwin Gordon Intermediate Measures of Music Audiation test at the beginning and at the end of the Study.

2. Listening and Instrumental Performance Pretest

All subjects were given a teacher-prepared rhythm listening test whereby each student performed on his/her music instrument the rhythm pattern heard from a pre-recored tape. The test consisted of a simple four-measure exercise in duple meter wherein each measure had a different rhythm pattern. Prior to the test these students had begun to play by ear
only, during the previous (first) semester of this Traditional school year.

3. Music Notation Reading and Performance Posttest

Each student was given a teacher-prepared posttest which required the student to demonstrate on his/her instrument the degree of reading and performing proficiency achieved as a result of this study. The Control group test was based on material studied in the Ed Sueta Music Method. Students were asked to read and perform, individually, the test notation on their music instruments. The test for the Experimental group was based on Edwin Gordon's MLT. Each subject was asked to audiate the rhythm patterns and to perform those patterns on his/her music instrument. This test also had some melodic variations.

Study Intent

The main focus of the Study was concentrated on students in the Control group being taught in a traditional manner to read and to perform music from the Ed Sueta Music Method. Therein, emphasis was placed on melodic note-reading, with secondary attention paid to the reading of rhythm. Simultaneously, the Experimental group received instruction from Edwin Gordon's MLT with primary emphasis on
audiation of rhythm patterns and secondary concern for melodic note-reading.

**Conclusion**

The test results seem to indicate that the Experimental group's performance of rhythm patterns was superior to that of the Control group. Conversely, the Control group appeared to perform better on melodic note-reading. (See Appendix B)
Adverse Concerns Impacting the Study

1. Students absences
   a. Field trips
   b. Illnesses
   c. Medical/Dental appointments
   d. Earthquake/Fire drills

2. Holidays/Minimum days/Vacation days

3. Control Group
   a. Began with 22 students. Four dropped this Band/Class Study and two did not complete the final testing.
   b. Most students appeared to have had a more positive attitude than some of the students in the Experimental group.

4. Experimental Group
   a. Began with 17 students. Three dropped the class and one did not complete the final testing.
   b. One student displayed a negative attitude on the Posttest (Listening), but, did exceptionally well on the playing portion of the Posttest. Some others appeared to have little confidence in their ability to perform on the Posttest (playing), due to a lack of sufficient study and practice, apparently.
5. Reasons given for leaving the Band/Class Study
   a. Disenchanted with the Band class and the Study
   b. Too busy with other activities
   c. Don't like to study and practice music
Appendix A: Intermediate Measures of Rhythm Audiation Results

**Listening**

**Control Sample (N = 16)**

<table>
<thead>
<tr>
<th>Raw Scores</th>
<th>Percentile Rank</th>
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</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Posttest</td>
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<td>34.2</td>
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**Experimental Sample (N = 13)**

<table>
<thead>
<tr>
<th>Raw Score</th>
<th>Percentile Rank</th>
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</thead>
<tbody>
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<td>Posttest</td>
</tr>
<tr>
<td>33.8</td>
<td>33.2</td>
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Appendix B: Pretest and Posttest Playing Results

Listening and Playing

Control Sample (N = 16)

<table>
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<tr>
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<th>Pretest (Listening)</th>
<th>Posttest (Reading)</th>
<th>Difference</th>
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</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>24%</td>
<td>7%</td>
<td>-17%</td>
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Experimental Sample (N = 13)

<table>
<thead>
<tr>
<th></th>
<th>Pretest (Listening)</th>
<th>Posttest (Reading)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>24%</td>
<td>62%</td>
<td>+38%</td>
</tr>
</tbody>
</table>

Pretest Performance/Playing (Description)

Each student in both groups listened to a recorded four-measure rhythm phrase and imitated the rhythm of that phrase on his/hers musical instrument as closely as the student could perform what was heard.

Results: Approximately .24 accuracy in each group
Posttest Performance/Playing (Description)

Each student was given a written posttest to determine the degree of progress achieved in reading and applying music notation in performance on the musical instrument.

Results:

Control Group reading accuracy

Pitch/Note: .86
Rhythm: .07

Experimental Group reading accuracy

Pitch/Note: .46
Rhythm: .62
References


Bostley, E. J.(1997). Teaching rhythm reading readiness skills. Lecture at California State University, San Bernardino, CA.


