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An investigation of the comparative effects of two tonal pattern systems and two rhythm pattern systems for learning to play the guitar

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AN INVESTIGATION OF THE COMPARATIVE EFFECTS OF TWO TONAL PATTERN SYSTEMS AND TWO RHYTHM PATTERN SYSTEMS FOR LEARNING TO PLAY THE GUITAR

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Submitted to the Temple University Graduate Board

in Partial Fulfillment of the Requirements

for the Degree of Doctor of Philosophy

by

Peter Gouzouasis

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CHAPTER ONE

INTRODUCTION AND PURPOSE

Electronic media have played a central role in establishing the guitar as one of the most popular instruments of the twentieth century. Most children and young adults who learn to play the guitar develop an interest in playing the instrument through their exposure to it in electronic media. Moreover, trends in popular culture have influenced the manner in which the guitar is taught and the content of guitar teaching manuals. Although the guitar is one of the most popular instruments of the twentieth century, no scientifically researched techniques and materials for teaching the guitar have been published.

Traditional approaches to teaching novice guitarists are distinguished by numerous characteristics that have become generally accepted features of guitar texts.[1] From a perspective of executive techniques, there is usually little

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[1] For examples of the general features that may be found in traditional guitar texts, please refer to Guitar Primer by Mel Bay (Pacific, MO: Mel Bay Publications, 1977), Complete Modern Guitar Method by Mel Bay (Pacific: Mel Bay Publications, 1980), Guitar Class Method: A Thorough Study For Individual or Group by Mel Bay (Pacific: Mel Bay Publications, 1976), The Primary Guitar Method by Dick Bennett (Milwaukee: Hal Leonard Publishing Corp., 1967), The Conservatory Method by Dick Bennett (New York: G. Schirmer, Inc., 1966), The Guitar Primer by Brent Block (New York: Belwin-Mills Publishing Corp., 1982), Alfred's Basic Guitar Method: For Group or Individual Instruction by Alfred d'Auberge and Morton Manus (Van Nuys, CA: Alfred Music Co.,1959), The New Guitar Course by Alfred d'Auberge and Morton Manus (Van Nuys: Alfred Music Co.,1966), Melody Playing and Music Reading by Dan Fox and Dick Weissman (New York: G. Schirmer, Inc., 1978), The Guitar: Phase 1 by William Leavitt (Boston: Berklee Press Publications, 1970), Hal Leonard Guitar Method by Will Schmidt (Milwaukee: Hal Leonard Publishing Corporation, 1980), Basic Guitar Lessons by Happy Traum (New York:Amsco, 1984), and Pointer System For Guitar by Zane Van Auken (Milwaukee: Hal Leonard Publishing Corp., 1964).

emphasis placed on the development of left hand and right hand techniques. Concise directions with regard to moving the right hand and holding a plectrum (the guitar pick) are usually missing from the pages of traditional guitar texts. Thorough descriptions of how the left hand should hold the guitar neck and how the fingers of the left hand should move on the fingerboard are also missing from those texts. With most guitar teachers and inexperienced guitar students, the guitar neck is often held differently for strumming chords than for sounding single pitches, and the plectrum is often held differently for strumming chords than for sounding single pitches. There is no concern for consistency in picking or finger movement.

In most traditional approaches to teaching guitar there is an emphasis on the theoretical explanation of music principles rather than on the development of an understanding of sound relationships.[2] From a rhythm perspective, the duration of notes and beats are counted with numbers in duple and triple meter. Meters and note values are described in terms of mathematical relationships rather than in terms of aural relationships. For example, the durational values of rhythm patterns are formed by either dividing large note values into small rhythm components or by adding small note values to form large rhythm components. Picking and strumming patterns are mechanically derived and mathematically related, and picking and strumming motions are described in terms of down and up picking related to the mathematical division of the beat. From a tonal perspective, letter names are associated with the location of pitches on the guitar strings. Pitches are taught by grouping notes on strings,

[2] Please refer to Introducing The Guitar: The Individualized Instructor by James Froseth and Hunter March (Chicago: G.I.A. Publications, 1982). Froseth and March use a sound recording that accompanies the text to teach the student how to play only individual pitches and not tonal and rhythm patterns. Schmidt and Traum also use a sound recording that accompanies the text, but the recordings are used only for tuning the guitar, for chord practice, and for singing songs.

usually from the first string to the sixth string. Illogically constructed melodic fragments, comprising two to three pitches, are commonly used to introduce pitches on the guitar. Songs in major tonality and melodic fragments without a tonal center are usually emphasized, and few introductory guitar texts introduce music in minor, dorian, or mixolydian tonality.[3] Pentatonic tonalities are rarely considered outside a rock or blues context. Furthermore, there is no logical sequence to teaching chord structures. Learning to play chords is not based upon music principles, but rather on the use of particular chords as they appear in songs found in guitar texts. Visual and aural relationships between chord patterns are rarely audiated or dealt with on a technical or musical level.

Audiation[4] should be considered as a music ability by which humans gain music knowledge and learn to understand music relationships. From a rationalist perspective, audiation is a conceptual process by which humans logically organize the sounds of music. Whereas hearing is a perceptual process, audiation is a conceptual process. The ability to audiate is perhaps the most important aspect of music learning, because without audiation one cannot logically organize music that is heard or conceptualized.

Traditional approaches to teaching guitar are not constructed with consideration for a developmental sequence that is based upon a theory of music learning. Within those approaches, learning to audiate is of secondary importance to learning music theory, and learning how to use audiation abilities to play the guitar is of secondary importance to learning executive technique to play the guitar. Relatively few traditional guitar manuals address the

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[3] Although Traum uses songs in major, minor and dorian tonality, only Froseth and March identify the tonality of the songs.

[4] Audiation is the ability to comprehend music when the sound is not physically present. For a complete discussion on audiation see Chapters 1, 2 and 3 in Learning Sequences in Music: Skill, Content and Patterns: A Music Learning Theory (Chicago: G.I.A. Publications, 1989).

development of music audiation abilities and singing skills, yet the development of music abilities and music skills of children should be of primary concern to classroom music teachers and instrumental teachers.[5] Because of those deficiencies, most guitar instruction lacks a logical sequence of teaching music concepts.

Individual differences in the music aptitudes of guitar students are rarely considered in traditional guitar texts. Individual differences in the music aptitude of beginning guitar students may be identified by using objective tests. Tests of music aptitude measure the ability of a person to audiate logically organized music sounds. The Primary Measures of Music Audiation (PMMA)[6] and the Intermediate Measures of Music Audiation (IMMA)[7] are used to measure developmental music aptitude, whereas the Musical Aptitude Profile (MAP)[8] is used to measure stabilized music aptitude. When the individual differences in music aptitude of beginning guitar students are considered, instruction on the instrument may be adapted to account for those differences. For example, the difficulty level of tonal patterns and rhythm patterns that a student is taught is dictated by the student's tonal and rhythm aptitudes. Because of those relationships, success in learning to play tonal and rhythm patterns is directly related to tonal and rhythm aptitude. If a guitar student

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[5] Songs without a recording are presented in Easy Way To Guitar: For Individual or Group Instruction by Mel Bay (Pacific: Mel Bay Publications, 1973) and Chords, Strums and Songs by Dan Fox and Dick Weissman (New York: G. Schirmer, Inc., 1978).

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

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

[8] Edwin E. Gordon. Musical Aptitude Profile (Chicago: The Riverside Publishing Company, 1988).

cannot sing a tonal pattern or song in tune without accompaniment, it may be expected that the student will not be able to perform the tonal pattern or song in tune.

The performance of logically organized music sounds, by singing, chanting, or performing on an instrument, is music achievement. The level of music achievement that one can attain is dependent in part on one's level of music aptitude. Because of the relationship between music aptitude and music achievement, success with learning to play an instrument is influenced in part by one's level of music aptitude. Gordon determined that scores on the Tonal Imagery subtests of MAP, Melody and Harmony, were highly correlated with the ability to perform with good intonation in unison and in parts, respectively.[9] Scores on the Rhythm Imagery subtests of MAP, Tempo and Meter, were correlated more with achievement in meter and melodic rhythm rather than were scores on the Tonal Imagery subtests of MAP or scores on the Musical Sesitivity preference subtests of MAP. Moreover, scores on the Musical Sensitivity subtests of MAP (Phrasing, Balance, and Style) were highly correlated with music expressive ability, melodic and rhythmic improvisational abilities, and the ability to select the appropriate tempo in the performance of music, respectively.

Grunow and Gordon have developed an approach to teaching wind instruments that is based on a student's ability to audiate, chant, and sing rhythm patterns, tonal patterns, and songs.[10] Prerecorded cassette tapes and instruction manuals are used to teach students tonal patterns, rhythm patterns,

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[9] Gordon, pp. 26-27.

[10] Richard F. Grunow and Edwin E. Gordon. Jump Right In: The Instrumental Series (Chicago: G.I.A. Publications, 1987).

and songs. For example, there are 16 units of lesson material and 16 units of music enrichment material included on the cassette tape for primary level instruction in the soprano recorder method. Tonal and rhythm pattern taxonomies were constructed and sequentially structured for each instrument. Sequentially organized tonal and rhythm patterns are audiated, sung and chanted, and transferred to the instrument in a logically consistent manner. In a tonal context, the student first learns to audiate and to sing tonal patterns using a neutral syllable, then learns to audiate and to sing the same patterns using tonal syllables, and then learns to audiate and to perform the same patterns using an instrument. In a rhythm context, the student first learns to audiate and to chant rhythm patterns using a neutral syllable, then learns to audiate and to chant rhythm patterns using rhythm syllables, and then learns to audiate and to perform the same patterns using an instrument. Each song on the tape is taught and sung by a male or female voice with piano accompaniment, then sung with piano accompaniment only. The songs are imitated by the student on the recorder after he listens to a professional recorder player with piano accompaniment. The student performs the songs with piano accompaniment only. In the soprano recorder manual, style of articulation, tone quality, and phrasing are taught by audiating and echoing music examples performed by a professional musician on the instructional tape. Fingering pattern charts with the appropriate tonal syllables, not letter names, are used as a reference tool, but not as a teaching technique, to locate particular pitches.

Singing, chanting, and moving to music should be considered fundamental skills for learning to play the guitar. When a guitar student can sing a song, chant a rhyme, or move to a particular music composition, those skills may be transferred in a natural and logical manner to the guitar. That is because the song, chant, or movement has become a natural part of the

student's music vocabulary. The song, chant, or movement is familiar music information that may be transferred from a familiar performance medium (the voice and body) to an unfamiliar music medium (the guitar).

By definition, a teaching method is "the order in which sequential objectives are introduced in a course of study to accomplish a comprehensive objective."[11] Method refers to the reasons we teach particular concepts and the sequence in which we teach those concepts, techniques are the teaching tools. Also, method refers to structure, sequence, and organization; techniques are used to achieve structure, sequence and organization. A method for teaching the guitar should be based on developmental aspects of learning and a logical sequence of techniques and materials. Without regard for how music learning takes place and without a logical sequence of teaching materials based upon developmental aspects of learning, guitar teaching materials currently construed as "methods" may be categorized better as technical manuals.[12]

To construct a progressive method for teaching the guitar, one should attend to basic principles of music education, concepts of learning from developmental psychology, and concepts of playing the guitar. There should be an emphasis on the development of audiation, the development of singing and movement skills, and the development of executive technique through music experiences. Most of the lesson materials and music activities that are found in traditional introductory guitar instruction texts are specific to the guitar. In those texts, materials are designed only to teach a student techniques for playing the guitar. Furthermore, general music activities are usually nonexistent

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[11] Edwin E. Gordon. Learning Sequences in Music: Skill, Content and Patterns: A Music Learning Theory (Chicago: G.I.A. Publications, 1989), p.1.

[12] Gordon, p.1.

in traditional guitar texts, because the emphasis is on the development of specific guitar techniques rather than on the development of musicianship.

Tonal and rhythm patterns are the fundamental components of music. In a progressive guitar method, tonal and rhythm patterns, along with songs, chants, and, rhymes, may be considered to be the fundamental elements of music learning. Although other music education researchers have developed tonal and rhythm pattern taxonomies for wind instruments based on a music learning sequence, there are no similarly-constructed taxonomies for guitar instruction. The purpose of this research is to discover a tonal and rhythm pattern taxonomy that will improve guitar instruction.

PROBLEMS

The specific problems of this study were the following.

1) To determine the comparative effects of two types of tonal pattern instruction on the guitar performance of sixth grade students who possess high and low levels of tonal music aptitude.
2) To determine the comparative effects of two types of rhythm pattern instruction on the guitar performance of sixth grade students who possess high and low levels of rhythm music aptitude.

CHAPTER TWO

RELATED RESEARCH

The researcher undertook an Educational Resources Information Center (ERIC) search that included the Current Index to Journals in Education (CIJE) and Resources in Education (RIE).[1] No studies were found in the music education research literature or guitar teaching literature that are designed to determine an appropriate tonal pattern and rhythm pattern taxonomy for guitar instruction. Therefore, only the Gordon study,[2] which is concerned with the creation of a general tonal pattern and a rhythm pattern taxonomy, will be described in detail.

The Gordon Study

Four groups of public school students from Erie County, New York participated in the study. Group I (N=134) and Group II (N=139) consisted of fourth-grade students from the same school who were taught by two different teachers. Group III (N=87) and Group IV (N=82) consisted of eighth-grade students from the same junior high school who were taught by the same teacher.

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[1] Educational Resources Information Center (Washington, DC: U.S. Department of Education, 1966-1989).

[2] Edwin E. Gordon. Factor Analytic Study of Tonal and Rhythm Patterns (Chicago: G.I.A. Publications, 1978).

The Musical Aptitude Profile (MAP)[3] was administered in its entirety, along with the Tonal and Rhythmic Aural Perception and Reading Recognition subtests of the Iowa Tests of Music Literacy (ITML; Level I)[4] , to all of the students who participated in the study. Those tests were administered to evaluate objectively the music aptitude and music achievement levels of the students who participated in the study and to compare objectively their levels of music aptitudes and music achievement with students who participated in the standardization sample. MAP and ITML means, standard deviations, and subtest intercorrelations within and across the two test batteries are presented for fourth-grade students. That information is not presented for eighth-grade students because of the similarity of the data presented for fourth-grade students. Although all of the groups were tested, the total data of test results from only the fourth-grade students (Groups I and II) were analyzed in the study. Because of the similarity of the data presented for the fourth-grade students, the data derived from the testing of the eighth-grade students (Groups III and IV) were selectively analyzed in the study.

After a thorough analysis and interpretation of the relationship between music aptitude and music achievement scores, Gordon determined that the students who participated in the study were typical in terms of aptitude and achievement. As expected, the correlation between MAP (aptitude) and ITML (achievement) scores was not high. For both Group I and Group II, the correlation between MAP and ITML Composite scores was .56.

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[3] Edwin E. Gordon. Musical Aptitude Profile (Chicago: G.I.A. Publications, 1988).

[4] Edwin Gordon. Iowa Tests of Music Literacy (Iowa City: Bureau of Educational Research and Service, Division of Extension and University Services, University of Iowa, 1971).

The experimental testing consisted of listening to a series of tape recorded tonal patterns and rhythm patterns. Each group listened to one recording per week. The recordings were from seven to forty minutes in length. Groups I and III, fourth grade and eighth grade respectively, listened only to sixteen consecutively ordered tape recordings of tonal patterns, and Groups II and IV, fourth grade and eighth grade respectively, listened only to seven consecutively ordered tape recordings of rhythm patterns.

The tonal pattern tapes comprise a variety of tonal pattern classifications--major, minor, dorian, phrygian, lydian, mixolydian, aeolian, and intertonal/multitonal [5] --and categories--tonic, dominant, subdominant, modulatory, chromatic, cadential, multiple,[6] and expanded patterns[7] for major and minor tonalities; tonic, subtonic, supertonic, cadential, and characteristic tone patterns for dorian and phrygian patterns; tonic, subtonic, dominant, subdominant, cadential, and characteristic tone patterns for mixolydian and aeolian tonalities; tonic, dominant, supertonic, cadential, and characteristic tone patterns for lydian tonality; relative, parallel, and unrelated patterns for multitonal music. Group I and Group III students listened to a total of 1227 tonal patterns. The researcher based his selection of patterns, experimental

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[5] An intertonal pattern is a two tone pattern that is used to connect two tonal patterns in the same keyality but in different tonalities. Multitonal music is music with only one part but with two or more tonalities. For a complete discussion on tonality, see Chapter 3 in Learning Sequences in Music: Skill, Content, and Patterns: A Music Learning Theory by Edwin E. Gordon. (Chicago: G.I.A. Publications, 1989).

[6] Multiple tonal patterns contain three to five diatonic tones and combine parts of patterns from two or more harmonic functions. See Gordon, p. 89.

[7] Expanded tonal patterns contain only three tones. They are root position and inverted function patterns that are not fundamental to a particular tonal classification. See Gordon, p. 89.

procedures, and data analysis techniques on the results of two previous studies.[8] All of the criterion tonal patterns were presented in music notation.

The rhythm pattern tapes included a variety of rhythm pattern classifications (usual duple, usual triple, usual combined, unusual paired, unusual unpaired, unusual paired intact and unusual unpaired intact) and categories (tempo and meter beats, divisions and elongations, rests, ties, and upbeats for each of the aforementioned classifications).[9] The Group II and Group IV students listened to a total of 524 rhythm patterns. All of the criterion tonal patterns were presented in music notation.

Gordon used a Moog Sonic Six Synthesizer and a Roland EP-10 Electric Piano to perform the tonal patterns on the sixteen tonal tapes. He used the synthesizer also, with a custom designed rhythm programmer, to perform the rhythm patterns on the seven rhythm tapes. The classroom teacher verbally gave the same directions for each of the test tapes, and each test tape had three practice exercises. A machine-scorable answer sheet was used by the students to record their answers.

For both the tonal test tapes and the rhythm test tapes, students were asked to listen to a pair of tonal patterns or to a pair of rhythm patterns. Each student's task was to decide whether the patterns of the pair sounded the same or sounded different. If the second pattern of the pair sounded exactly the same

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[8] Edwin Gordon. "Toward The Development of a Taxonomy of Tonal Patterns and Rhythm Patterns: Evidence of Difficulty Level and Growth Rate" Experimental Research in the Psychology of Music: Studies in the Psychology of Music vol. 9 (Iowa City: University of Iowa Press, 1972) and Tonal and Rhythm Patterns: An Objective Analysis (Albany: Albany State University of New York Press, 1976).

[9] For a complete discussion on meter see Chapter 3 in Learning Sequences in Music: Skill, Content, and Patterns: A Music Learning Theory by Edwin E. Gordon. (Chicago: G.I.A. Publications, 1989).