

Title: A Critical Examination of the Contributions of Edwin Gordon's Music Learning Theory to the Music Education Profession

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A Critical Examination of the Contributions of Edwin Gordon's Music Learning Theory to the Music Education Profession

By Scott C. Shuler

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Edwin Gordon opened his early presentations of music learning theory by stating that "music education is a profession in search of a discipline." Invariably, at least a few music educators in the audience responded with anger to this allegation, which they perceived to be an arrogant attack on the validity of their professional practices. Gordon then explained his detailed approach to sequencing music learning, which he called "music learning theory." Music learning theory clearly contradicted at least some elements of every popular approach to teaching music. Finding their cherished beliefs thus challenged, many music educators responded belligerently to Gordon's ideas, pressing him for some proof of his theory.

The acrimony surrounding Gordon's presentations soon became so well known that some music educators attended them for their entertainment value, just to see the sparks fly. Articles and research reports written by Gordon and his students were rarely, if ever, accepted for publication by mainstream music education journals. Articles that were critical of his work, on the other hand, *did* reach press.

Gordon's critics did not limit themselves to attacks on music learning theory. Some music educators criticized the *Musical Aptitude Profile* (1965), a measure of what Gordon now calls "stabilized music aptitude," charging that the test really measured music achievement. More recently, some music educators have challenged Gordon's *Instrument Timbre Preference Test* (1984a), a

measure designed to help instrumental music teachers match their students with appropriate instruments, because the items were produced by electronic synthesis rather than by acoustical instruments. Still others have questioned the research basis for Gordon's theory of developmental music aptitude.

Although the controversy surrounding many of Gordon's ideas continues, his music

"Gordon referred to his ideas as theories, but the manner in which he presented his material was anything but tentative. He made frequent references to the research basis for his ideas, a base that many well-read researchers had difficulty identifying."

learning theory has been accepted by an increasing number of music educators. A number of public school music departments have adopted Gordon's learning theory as the organizational framework for their K-12 curricula. Many music educators use at least one of the several tests of music aptitude, achievement, and timbre preference that Gordon has developed.

Gordon has emerged from his earlier counterculture status to become a featured presenter at conferences around the world.

The February, 1986, issue of the *Music Educators Journal* described music learning theory as one of the five major approaches to music education, and research articles exploring or using his theories and tests now appear regularly in mainstream journals. Gordon's concept of developmental music aptitude is often cited by those who support the importance of music experiences for young children. The editors of Webster's dictionaries have asked Gordon to submit the definition of "audiation" for possible inclusion in the 1992 edition of *Webster's Collegiate Dictionary*.

The purpose of this article is to examine several of Gordon's many contributions to the music education profession. To what extent are Gordon's theories and measures radical departures from accepted thought and practice? How strong is the research evidence to support his ideas? What are the key questions about Gordon's work that need to be answered? How extensive is Gordon's current influence on the music education profession? Is that influence likely to expand or diminish? What are the areas in which his future impact is likely to be the greatest?

To address these issues, this article will begin by examining the need for method in music and possible criteria for an appropriate method. It will then provide a summary of the key elements of Gordon's music learning theory and consider whether that theory fulfills the criteria for method. Next, it will then explore the roots of the initial controversy surrounding Gordon's music learning theory, and it will summarize the few studies that have investigated the effectiveness of music learning theory. The article will conclude with a reflection on Gordon's general contributions to the music profession, both in terms of their current impact and their likely future influence.

The Search for Music Method

In 1985, Frank Hodsell—then chairman of the National Endowment for the Arts—began to emphasize publicly the need to develop sequential arts instruction as an integral part of educational reform (Hodsell, 1985). His position was important not only because it represented a new commitment by the

Endowment to arts education in the public schools, but also because it recognized the dearth of satisfactory ways in which to sequence arts instruction.

Criteria for Instructional Method

An appropriate method for the classroom must fulfill the definition of method and, in addition, meet accepted criteria for educational effectiveness. Webster defines "method" as "a procedure or process for attaining an object; as a systematic plan followed in presenting material for instruction" (1970, p. 533). Gordon, using more specific terminology, writes that a method is "the order in which sequential objectives are introduced in a course of study to accomplish a comprehensive objective, a goal." He draws a clear distinction between "method," a more general term, and "technique," which operates on a smaller scale. The latter he defines as "a teaching aid which is used to achieve one or more sequential objectives" (1989, p. 28). The above definitions suggest that an appropriate method must meet at least four criteria: It must be systematic, sequential, comprehensive, and effective in accomplishing long-range objectives.

Leonhard and House add the criteria of validity and retention: "Authentic and lasting musical achievement represents the ultimate criterion in judging the success of methods of teaching music" (1972, p. 318). The results of instruction must be appropriate within the context of the goals of music education, and these results must endure.

Another major criterion in evaluating a method is its effect on student attitudes. Leonhard and House define attitudes as "general emotionalized reactions for or against a thing" and note their importance to the learning process: "Attitudes affect the efficiency of all learning, since they form a basic part of an individual's readiness to learn. A student with a negative attitude toward music is certain to make little or no progress in learning music unless his attitude can be changed" (1972, p. 140).

Numerous factors may have an effect on a student's attitudes toward music and music class. Such factors include the student's early childhood experiences with music, the attitudes of the student's parents toward

music, and the student's feelings about the music teacher. Method, and even specific techniques within a method, can also have a major influence on the student's attitudes:

If a person likes or dislikes one factor in a situation, the entire situation may assume similar coloring. For example, as a result of persistently unrewarding experience with sol-fa syllables in a general music class, a student may develop a negative attitude toward the class, even though he may have found some of his class experiences rewarding (Leonard & House, 1972, pp. 140-141).

Still another criterion in the choice of a music method for young children is its effect on the students' developmental music aptitude. Gordon uses the term "developmental music aptitude" to refer to those music abilities which, he contends, fluctuate during the first several years of a person's life due to formal and informal music experiences (1979, p. 8). The *Primary Measures of Music Audiation* (PMMA, 1979) and *Intermediate Measures of Music Audiation* (IMMA, 1982) are two measures which Gordon developed for the purpose of assessing developmental music aptitude.

In 1977 Schleuter and DeYarman noted the possibility that formal music instruction might affect the music aptitude of young children:

In recent years much attention has been focused upon the learning process and aptitudes of young children. Specifically in music, attention has been given to whether or not early formal music training influences musical aptitude and, if so, at what age range such training ceases to have an effect upon potential to achieve. Gordon [1971] has stated that children's musical aptitude levels stabilize at age 9; however, there is no systematic evidence to support this contention (1977, p. 14).

A typical student's scores on the PMMA or IMMA will fluctuate significantly over time. During the years since Schleuter and DeYarman wrote the above paragraph, some published research evidence (Flohr, 1981; McDonald in this issue) has supported the view that short-term music instruction may have a positive influence on developmental music aptitude of young students. If music aptitude can be increased through formal instruction in the primary grades, then it is likely that one method may have a more positive effect than another. If so, then

another important criterion for the evaluation of a music method for primary children is the effect of the method on music aptitude.

Existing Music Methods

Goodlad writes that "children should be introduced to the structure of music through a carefully planned, sequential curriculum as rigorous and well-organized as the best math curriculum" (1967, p. 2). Music educators use a wide variety of instructional approaches, often in combination, but have generally lacked a single comprehensive method to organize their curriculum. In his book entitled *Contemporary Music Education* (1986), Mark discusses eight different elementary music methods used in the United States: Dalcroze, Orff, Kodály, Manhattanville, Learning Sequence (an early term for Gordon's Music Learning Theory), Carabocone, Suzuki Talent Education, and Comprehensive Musicianship. The February, 1986, special issue of the *Music Educator's Journal*, devoted to the theme "Major Approaches to Music Education," identifies Kodály, Learning Sequence, Dalcroze, Suzuki, and Orff-Schulwerk as the foremost music methods.

The approach of the typical music teacher might best be termed "eclectic." In her review of the major approaches used, Shehan writes that "there are no universally acceptable methods in music, but rather a variety of adaptations as diversified as the skills and interests of the multitude of music specialists" (1986, p. 31). There is little research evidence to support the effectiveness of any of these methods (Shuler, 1987).

If there is a combination most commonly used in general music instruction, it is probably a blend of Orff and Kodály (Mark, 1978, p. 104). According to some experts, this combination has not satisfied the need for a comprehensive method:

Combining aspects of Orff and Kodály approaches to teaching perhaps typifies the American music teacher. One criticism of this eclectic approach is that teachers use parts of many teaching methods and philosophies but have no logical or "complete" system or method (Peters & Miller, 1982, p. 83).

Dalcroze, Orff, and Kodály never intended their approaches to be adopted as complete methods. The authors of *The Eclectic*

Curriculum in American Music Education point out that the ideas of Dalcroze, Kodály, and Orff “were not presented as fully sufficient and independent methods . . . by their creators” (Landis & Carder, 1972, p. 2). Gordon contends that applying the term “method” to most popular general music approaches is inaccurate, for they tend to provide a collection of techniques rather than a comprehensive system of sequential objectives (1989b, pp. 29-30).

Gordon developed the learning sequence that underlies his music learning theory in order to provide a comprehensive framework for music instruction:

When sequential objectives are in logical order, appropriate method is a consequence. Although learning takes place whether method is appropriate or not, it is most efficient and meaningful when method is appropriate. The answer to how sequential objectives can be logically ordered to provide for appropriate method can be found in the empirical model of learning sequence (1984b, p. 11).

Gordon’s Music Learning Theory

The term “music learning theory” refers to the specific sequential taxonomies for skills and for tonal and rhythm content that Gordon has formulated, as well as to his general theories of musical development. The latest revisions of Gordon’s theories appear in his book *Learning Sequences in Music: Skill, Content, and Patterns* (1989a). What follows is a general summary of the basic principles of Gordon’s approach, focusing particularly on the elements to which the remainder of this article refers. Those in search of a more detailed, yet concise, summary of music learning theory should consult Holahan’s excellent article in *Contemporary Music Education* (1986).

Understanding as the Purpose of Music Education

The purpose of music education, according to Gordon, is to provide students with musical understanding through audiation so that they can learn to perform and to respond aesthetically, and to use symbolic representations of their and others’ aesthetic feelings to the extent that their music aptitudes will allow (1989a, p. 21). Gordon

contends that music appreciation and liking can be modeled but not directly taught. Without understanding, all but the purely emotional aspects of appreciation are impossible. Yet, “the more a student understands music the more he is able to appreciate music, although he may not necessarily like all that he understands” (1989a, p. 22).

Music appreciation through understanding is the ultimate goal of music learning theory: “Music learning theory is the structuring of the logical order of sequential objectives which include the music skills and content that students must learn in order to achieve the comprehensive objective of music appreciation” (1989a, p. 29).

Audiation

Music learning theory instruction is intrinsic in approach, in that it focuses on aurally perceivable, functional music events. Such events may be either physically present or “audiated.” Gordon coined the term “audiation” to refer to the process of hearing “music silently, that is, when the sound is not physically present” (1989a, p. 7). Walters expands upon this definition in *Readings in Music Learning Theory*, writing that “audiation is the hearing of sounds that are not before the ear at the moment, through recall, prediction, or conception” (Walters & Taggart, 1989, p. 5). Audiation is therefore similar to what many musicians have traditionally described as “inner hearing.”

The development of audiation is a central focus of Gordon’s approach. According to Gordon, “audiation is fundamental to the understanding of music, and thus it is the basis of music learning theory” (1989a, p. 22). Audiation is also the prerequisite for a sense of tonality and a sense of meter, intelligent listening to music, music literacy, and a theoretical understanding of music. The article in this issue by Trusheim explores Gordon’s general concept of audiation.

Gordon (1989a) identifies six stages of audiation, which may be summarized as follows:

Stage 1: Unconsciously audiating “short series of pitches and durations that [were] heard just a moment earlier in the music”

Stage 2: Organizing “through audiation the series of pitches and durations into one or more tonal patterns of essential pitches and one or

more rhythm patterns of essential durations”
 Stage 3: “Consciously establishing the tonality and the meter of the music”
 Stage 4: “Consciously retaining in audiation tonal patterns and rhythm patterns of essential pitches and durations that [the listener has] already organized in the music”
 Stage 5: “Consciously recalling patterns of essential pitches and durations that [the listener has] organized and audiated in other pieces of music . . . in terms of their similarities to and differences from those which [the listener is] audiating in the present music”
 Stage 6: “Consciously predicting the next patterns of essential pitches and durations that [the listener] will be audiating in the music”
 (Gordon, 1989a, pp. 14-17).

At each stage of audiation, the preceding stages operate simultaneously. The article in this issue by Saunders examines the research basis for Gordon’s stages of audiation.

Learning Sequence Activities

Gordon writes that “method in the [music learning theory] instructional program is based upon learning sequence activities” (1989a, p. 209). He recommends that the first ten minutes of each music class be devoted to these activities, which consist of listening to, audiating, and performing tonal and rhythm patterns (1989a, p. 210). Performing during learning sequence activities takes the form of “singing, chanting, and movement” (1989a, p. 209). The ultimate goals of learning sequence activities are “listening to conventional literature with understanding and performing conventional literature with syntactical meaning through audiation” (1989a, p. 210).

Classroom Activities

Gordon suggests that the remainder of each music class be devoted to “classroom activities,” during which the students listen to, sing, and move to rote songs that introduce tonal and rhythm content (1989a, p. 211). During this portion of each class, the students also synthesize, generalize from, and apply to conventional literature the skills and content understanding developed during learning sequence activities (1989a, p. 53). During classroom activities, the teacher may use such eclectic activities as guided listening, dancing, and the playing of instruments.

Skills Taxonomy

The ordering of skills and content during learning sequence activities is based upon Gordon’s taxonomies (1989a, p. 37). The article by Taggart, in this issue, further examines those taxonomies.

Gordon’s skills taxonomy is as follows:

DISCRIMINATION LEARNING

- Aural/Oral
- Verbal Association
- Partial Synthesis
- Symbolic Association (reading, writing)
- Composite Synthesis (reading, writing)

INFERENCE LEARNING

- Generalization (aural/oral, verbal, symbolic)
- Creativity/Improvisation (aural/oral, symbolic)
- Theoretical Understanding (aural/oral, verbal, symbolic)

Discrimination and Inference Learning

Discrimination learning is primarily rote learning, during which the learner develops a vocabulary of familiar tonal and rhythm patterns. Inference learning is primarily conceptual learning, during which the learner gives meaning to unfamiliar patterns based on the familiar patterns which he has learned at the discrimination levels. The discrimination skill levels precede and thus provide the basis for the inference levels.

Aural/Oral. At the aural/oral skill level of discrimination learning, students first listen to, then perform individual tonal and rhythm patterns on neutral syllables.

Verbal Association. At the verbal association skill level, the students learn to associate “vocabulary names” and “proper names” with the patterns they have learned at the aural/oral level. Vocabulary names are tonal and rhythm syllables, for which Gordon recommends moveable *do* solfege and his own system of rhythm syllables, respectively. Proper names consist of labels for tonality, such as “major” and “minor,” for the tonal function of patterns, such as “tonic” and “dominant,” for meter, such as “duple” and “triple,” and for the rhythmic function of patterns, “macro beats” and “micro beats.”

The macro beat is difficult to define in words, but on a simplistic level might be described as the large-scale rhythmic pulse—generally occurring in pairs—to which a person might walk or march. The perception of the macro beat is somewhat subjective.

Micro beats are the equal divisions of the macro beat that determine meter. Thus, a piece is in duple meter when each macro beat can be divided into two micro beats.

At the verbal association skill level, only functional names are used, e.g., those that refer to aurally perceivable relationships among aural phenomena rather than to abstract theoretical or notational concepts. These names provide the link between the sound of the patterns, learned by rote at the aural/oral level, and the notation for these patterns, to be learned later at the symbolic association level. They also contribute to the development of syntax.

Partial Synthesis. At the partial synthesis skill level, the student hears, audiates, and applies proper names to series of familiar patterns. During this stage of development, the student also recognizes the syntax of the patterns, realizing the internal logic of the syllable systems used and beginning to predict in audiation the next patterns.

Symbolic Association. At the symbolic association skill level, the student associates notation with individual familiar patterns for which he has already learned verbal association. The reading subpart of this level, during which the student audiates or performs patterns seen in notation, precedes the writing subpart, during which the student notates patterns heard or audiated.

Composite Synthesis. At the composite synthesis skill level, the student reads and writes series of familiar patterns.

Generalization. At the generalization skill level, the student begins to infer meaning for unfamiliar patterns encountered within sets of one or more unfamiliar and familiar patterns. In generalization aural activities, the student hears two such sets performed without verbal association and identifies whether the sets are the same or different. In generalization oral activities, the student echoes a set on a neutral syllable. At the generalization verbal level, the student echoes with vocabulary names a set performed on a neutral syllable. In generalization symbolic activities, the student reads a notated set or writes a set which has been heard in audiation or dictation.

Creativity/Improvisation. Gordon

theorizes that creativity and improvisation lie at opposite ends of the same continuum. At the creativity end of the continuum, there are no externally imposed restrictions; at the improvisation end, there are many. Gordon therefore considers creative behavior to be less difficult than improvisation.

At the creativity/improvisation oral skill level, the student engages in musical dialogues with the teacher that involve at least one unfamiliar pattern, with or without verbal association. At the creativity/improvisation symbolic skill level, the student writes a set of patterns in response to another set written or performed by the teacher, either with or without verbal association. Once students attain the creativity/improvisation oral level in both tonal and rhythm learning sequence activities, they may begin combining tonal and rhythm elements when creating and improvising during classroom activities.

Azzara's article in this journal further explores Gordon's concept of improvisation. Also of interest is Schilling's article in *Readings in Music Learning Theory* (Walters & Taggart, 1989, pp. 227-236).

Theoretical Understanding. At the theoretical understanding skill level, the student learns those forms of music labeling and analysis which are not essential to aural understanding, such as the letter names of notes and the names and mathematical definitions of intervals, time signatures, and note durations. Gordon stresses that this skill level should be left for last, and that most important musical behaviors are possible without knowledge of music theory.

Content Sequence

Gordon also provides taxonomic frameworks for sequencing the tonal and rhythm content that students learn as they progress through the various skills levels in learning sequence activities. The order of content instruction during learning sequence activities is based on the functional classification of tonal (Gordon, 1989a, p. 91) and rhythm (1989a, p. 155) patterns. Tonal patterns range from two to five notes in length, with a typical length of three notes. Rhythm patterns range from two to three macro beats in length and include at least two notes.

Tonal Content Sequence

The first step in tonal content sequence is to develop the ability to audiate the resting tone in both major and minor tonalities. Then the student is taught to audiate tonal patterns in relation to that resting tone. Gordon recommends the use of moveable *do* solfege as the means to develop a sense of tonal syntax and, eventually, tonal literacy. For example, students are taught that when *do* is the resting tone, the music is in major tonality; when *la* is the resting tone, the music is in minor tonality. For this reason, tonalities are presented in their relative—rather than parallel—keys. The first patterns that are presented in major and minor tonalities are those classified as having tonic or dominant functions, after which the class may progress either to other functional classifications within major and minor or to basic patterns in other tonalities.

Rhythm Content Sequence

The first level of rhythm content to be mastered by the student in Gordon's rhythm taxonomy is the ability to audiate a steady tempo. Then the students learn to audiate macro-beat patterns and micro-beat patterns in duple and triple meters. The next step is mastery of patterns incorporating divisions (even divisions of micro beats) and elongations (extensions of individual note durations beyond a single macro beat) in duple and triple meters. Then the student may progress to other rhythm patterns in duple and triple meter, or to basic patterns in other meters.

Movement Between Levels

Gordon provides specific rules for moving between skill and content levels (1989a, p. 195). The teacher may "bridge," or leap, from a lower skill level to a higher skill level temporarily during learning sequence activities in order to enrich learning, as long as the class returns afterward to the lower skill level before continuing its stepwise progress (1989a, p. 191).

Coordinating Learning Sequence and Classroom Activities

Gordon suggests that teachers coordinate learning sequence activities and classroom activities by introducing and developing content in three stages.

In the first stage, students gain a vague impression of the tonality and meter of a piece of music that they hear and perform in classroom activities. In the second stage, the students study tonal patterns and rhythm patterns in that tonality and meter by using a skill in learning sequence activities. The tonal patterns and rhythm patterns, however, are not necessarily the same as those that may be found in that piece of music. In the third stage, the students are able to interpret the piece of music with syntactical meaning through audiation in additional classroom activities (1989a, p. 212).

Individualization Through Pattern Difficulty

Gordon's studies of the relative difficulty of representative patterns in each of the common modes and meters (1974, 1976, 1978) have enabled him to present tables of tonal patterns (1989a, pp. 92-110) and rhythm patterns (1989a, pp. 156-166) organized according to difficulty within each functional classification. Gordon recommends that the easy patterns in a functional classification be taught first, followed by the moderate and, finally, the difficult patterns. Teachers can individualize instruction during learning sequence activities by using patterns of differing difficulty to accommodate differing levels of student aptitude and achievement (1989a, p. 235).

Music Learning Theory and the Criteria for Method

Music learning theory fulfills at least two criteria for appropriate method. It is based on taxonomies that are clearly both systematic and sequential. Music learning theory is arguably comprehensive, in that it provides a long-range framework within which instruction may be designed to meet the comprehensive goals of a particular music program, and the means for individualizing instruction and evaluation. The goals of music learning theory are also valid in that they are compatible with contemporary music education philosophy. There is some reason to suggest that music learning theory may be effective in fostering student achievement and developmental aptitude. The effects of music learning theory on students' attitudes have

not been established through experimental research.

Systematic and Sequential

Learning sequence is both systematic and sequential. Webster defines the word "systematic" as "methodical in procedure or plan [or] taxonomic" (1970, p. 895). Gordon's framework provides detailed skills and content taxonomies designed to carry the student in stepwise fashion from very rudimentary to highly advanced levels of tonal and rhythm achievement.

Comprehensive

Learning sequence is potentially comprehensive in that it provides a long-range framework within which instruction may be designed to meet the comprehensive goals of a particular music program and the means for individualizing instruction and evaluation. The taxonomies provided for learning sequence activities are logically organized and sequence a broad spectrum of tonal and rhythm learning. The guidelines provided for classroom activities are general enough that the teacher has the flexibility during this portion of each class to accommodate other curricular goals. Even during learning sequence activities, the content of which is focused on tonal and rhythm elements, the teacher models and labels other elements of music such as phrasing, timbre, dynamics, form, and style (1989a, p. 47). Furthermore, learning sequence activities provide the teacher with a systematic means to individualize instruction and evaluation. Instruction may be tailored to differing ability levels through the use of patterns of varying difficulty, and sequential achievement may be evaluated in relation to specific performance criteria such as those found in the tonal and rhythm register books of the *Jump Right In* series (Gordon & Woods, 1984, p. 230).

Valid

The goals and procedures of any curriculum should emanate from the philosophy of the educational institution (Leonhard & House, 1972, pp. 85-86). The validity of the intent and content of any instructional approach must therefore be considered from a philosophical standpoint. Learning sequence is valid because it shares the intrinsic

aesthetic goals espoused by many contemporary music education philosophers and approaches these goals in a manner consistent with this philosophy. According to Leonhard and House, "The primary purpose of the music education program is to develop the aesthetic potential, possessed by every human being, to its highest possible level" (1972, p. 3). These authors advocate an emphasis on the intrinsic value of music (1972, p. 4), an emphasis which is paralleled by music learning theory.

There are, in addition, similarities between the structures of music learning theory and contemporary aesthetic theory. To go into these parallels in depth is beyond the scope of this discussion, but a brief summary of the similarities between Gordon's concept of audiation and two contemporary aestheticians' proposed models for aesthetic response may suffice to illustrate this point. In Meyer's books *Emotion and Meaning in Music* (1956) and *Music, the Arts, and Ideas* (1967), he bridged in part the gap that had existed between philosophical aesthetics and educational practice by proposing, among other ideas, that it is the prediction through developed syntax of coming musical events and the subsequent fulfillment or disappointment of that expectation that create affective response (1956, p. 31; 1967, p. 8). Hornung's philosophical dissertation (*The Development of a Model of the Psychological Processes Which Translate Musical Stimuli into Affective Experience*) builds upon Meyer's theories, integrating them with research into such related areas as hearing, perception, and the brain, to develop a detailed model (Hornung, 1982).

The phenomenon of audiation, as described by Gordon, closely resembles Hornung's holographic images of specific sound stimuli (1982, pp. 172-3). There are additional parallels between Gordon's description of the first four stages of audiation and Hornung's cyclical model. Stage one of audiation, in which a short series of notes aurally or visually perceived a few seconds earlier is audiated, is similar to the phase of Hornung's model in which sensory input is rehearsed in short-term memory. In stages two through four of audiation, the

series of notes is organized into one or more patterns of essential notes, which are then used to establish a tonal and meter context and are retained in audiation. These stages resemble the phase of Hornung's model during which essential form is extracted from what has been perceived. Stage five of audiation, which involves the recall of essential note patterns from other pieces of music, is virtually identical to the part of the process Hornung hypothesizes during which holographic mental images are selected and brought from long-term into short-term memory for comparison and discrimination (Hornung, 1982, pp. 157, 177, 186).

Meyer's emphasis on syntactical expectation parallels Gordon's emphasis on the role of tonal and rhythm syntax rooted in audiation, and particularly Gordon's sixth (prediction) stage of audiation. These similarities and others between the music learning theory model and models of contemporary aesthetic theory suggest that Gordon's approach is compatible with the aesthetic rationale for music education and may thus be considered philosophically valid.

Effective

The effectiveness of music learning theory in facilitating the achievement of valid goals has not been definitively established. However, the approach appears to have the potential for such effectiveness based upon the logic of Gordon's focus on the tonal and rhythmic elements of music, the parallels between Gordon's approach and accepted learning theory, and research into the process of music learning. There is also some experimental evidence that supports the effectiveness of music learning theory, although that evidence is far from conclusive.

Leonhard and House assert that an appropriate, aesthetically based music program "should be dedicated to the development of musical responsiveness and musical understanding" (1972, p. 4). Musical understanding is, as mentioned above, the primary goal of music learning theory. The question, therefore, is whether such understanding leads to responsiveness, or whether the quality of responsiveness can and should be taught separately. This question cannot yet be answered on the basis of research, as

there is insufficient evidence to support either side of the issue; so one can only approach the answer based upon reason and inference from the little evidence that exists.

There is logic in Gordon's argument that a teacher can model a love and appreciation of music, but that these qualities cannot be taught directly. It seems reasonable, therefore, to argue that responsiveness to a particular piece of music is rooted in the perception and understanding of expressive aural detail in that piece. A number of prominent music educators and authors (Bessom, Tatarunis, & Forcucci, 1980, p. 24; Buggert & Fowler, 1973, p. viii; Hoffer 1983, p. 296) concur with Gordon's preference for understanding, rather than appreciation, as the appropriate focus for music instruction. Buggert and Fowler, for example, write that appreciation is a "byproduct of understanding. Conceivably, disliking a piece of music might be as natural a result of understanding as learning to enjoy it. Once the student understands the music he listens to, he will acquire his own set of appreciations."

If Meyer's theories are correct, a listener constantly predicts what is going to happen in a piece of music based on his syntax (or lack of syntax) for the style of the piece, and his response to the music is linked to the accuracy of his predictions. An important objective in developing musical responsiveness would, accordingly, be to develop syntax for significant expressive elements. Hoffer's review of research in music education has led him to support the importance of music syntax as a primary curricular goal. He suggests that "the syntax of music is probably the first type of learning that students should acquire in music, because without it the other four areas of learning won't mean much" (1983, p. 56).

Gordon contends that the most important expressive syntaxes are tonal and rhythmic. There is support for such a view. Numerous researchers (Bean, 1939; Broman, 1956; Henkin, 1955, 1957; Hevner, 1935a, 1935b, 1936, 1937; Mainwaring, 1933; Ortmann, 1937; Petzold, 1969) have identified the tonal and rhythmic elements of music as fundamental to the musical response. Gardner's review of the literature also led him to

conclude that tonal and rhythm processing are the core components of musical intelligence (1983, p. 278). Gordon points out:

The audiation of both the tonal dimension and the rhythm dimension are fundamental to the audiation of the harmonic, phrasing, timbre, dynamic, form, and style dimensions, because all other dimensions that we audiate are superimposed upon our audiation of the tonal dimension and the rhythm dimension (1984b, p. 19).

If musical responsiveness results from a syntactical understanding of the tonal and rhythmic elements of music, then music learning theory may be effective in reaching its aesthetic goals.

Relationship to Contemporary Learning Theory. Another question that must be asked when assessing the potential effectiveness of music learning theory is whether the model for learning on which it is based is consistent with contemporary learning theory and research. The structure of music learning theory is largely rooted in the theories of Gagné, a learning psychologist. Gordon's adaptation of Gagné's ideas to music is based in part on music learning theory and research, and in part on educated speculation.

There is a strong resemblance between Gagné's eight conditions of learning, as set forth in his book *Conditions of Learning* (1965), and Gordon's skills taxonomy. Other Gagné premises are clearly present in the music learning theory approach, including a focus on observable behavior; avoiding vague objectives such as "appreciation" while concentrating on measurable performance objectives; the identification of objectives that deal with the smallest possible units of performance, in this case tonal and rhythm patterns; and the recognition of component or "subordinate" objectives, which Gordon calls "sequential" objectives, that lead in stepwise fashion to larger-scale objectives, which Gordon calls "comprehensive" objectives. Hohn's article in this issue explores further the close parallels between Gordon's theories and contemporary thought in educational psychology.

The research basis for Gordon's emphasis of the tonal and rhythm elements of music has been discussed above. His choice of patterns as appropriate building blocks for

music learning is also supported by several studies (DeYarman, 1972; Dittmore, 1970; Jarjisian, 1981, 1983; MacKnight, 1975; Miller, 1975; Van Nuys & Weaver, 1943).

Gordon's adaptation of Gagné's conditions to music, emphasizing the aural experience of music as a prerequisite for the efficient development of music literacy, is in keeping with a long tradition of music learning theory. Advocacy of the "rote-to-note" process in the United States can be traced back to the disciples of Pestalozzi, such as Elam Ives and Lowell Mason (Keene, 1982), and has continued in modern times with the endorsement of such prominent music education philosophers and pedagogues as Orff (Mark, 1978, p. 87), Shinichi Suzuki (Mills & Murphy, p. 12), and Leonard and House:

Musical learning entails the development of many abstract concepts, but concrete experience should precede the abstractions. . . . The best sequence moves from aural experience with tonal and rhythm patterns to the notation which represents these patterns (Leonard & House, 1972, p. 305).

Questions Raised. On the other hand, critics of music learning theory have raised some legitimate questions that have not been satisfactorily answered. First, is it an efficient use of limited instructional time to devote a portion of each class to learning sequence activities? Or, alternatively, is any gain accrued through the inclusion of these activities outweighed by the effects of the decreased amount of time therefore available for other classroom activities? In other words, do learning sequence activities result in a net gain or a net loss in music achievement? Second, do students trained to perform the isolated tonal and rhythm patterns or pattern chains that comprise learning sequence activities transfer this skill to a setting in which they must deal with music as a multidimensional phenomenon, i.e., with both the tonal and the rhythm components occurring simultaneously?

Third, might Gordon's concern for audiation, as defined by the student's ability to perform music, unnecessarily limit the student's listening experiences? The size of a person's speaking vocabulary tends to be smaller than the vocabulary that the person

understands when listening. Likewise, it is possible that a person's music listening vocabulary may exceed, indeed should exceed, that person's performance vocabulary. Otherwise, a person would have to be capable of performing a piece in order to enjoy it during listening.

Gordon might respond to the third question by contending that music learning theory supports listening experiences which include unfamiliar patterns, and that building a vocabulary of familiar patterns helps students understand the unfamiliar patterns encountered during listening by giving those students the basis to infer the meaning of the unfamiliar patterns.

Attitude

An important area to investigate before adopting Gordon's learning sequence activities, or any other procedures consisting largely of drill, as part of the instructional process is the potentially negative effect they may have on student attitudes. In recommending that a ceiling of ten minutes be placed upon the amount of time per class period devoted to learning sequence activities, Gordon acknowledges this concern:

Only under very unusual circumstances should more than ten minutes of a class period be allocated to learning sequence activities, regardless of the length of the class period. Too much time given to learning sequence activities might make a class period dull (1988, p. 210).

Even if limited to ten minutes, such drill activities at the beginning of each music period may damage student attitudes toward music class and thus, toward music itself.

On the other hand, if learning sequence activities are effective in fostering achievement, they should have a positive effect on student attitudes. Hoffer states that "understanding more about music usually contributes to liking it better, and, in turn, positive attitudes motivate students to learn a subject better" (1983, p. 62). Gordon supports this linkage of achievement and attitude, writing that "when learning sequence activities, classroom activities, and performance activities are found in balance in the instructional program . . . students are motivated to learn" (1989a, p. 209). An important topic for future study will be to measure student

attitudes toward music class and specific music activities in order to learn whether learning sequence activities have any effect on students' attitudes toward instruction.

Retention and Developmental Aptitude

There is some research evidence regarding the effects of music learning theory instruction on developmental music aptitude (see McDonald study in this issue), but little research in the area of retention. These are appropriate topics for future study. Articles by Cutietta and Walters in this issue explore further the nature and basis of Gordon's theories regarding music aptitude.

Acceptance of Music Learning Theory

Gordon introduced his music learning theory at a time when existing approaches to music instruction remained eclectic, unproven, and generally dominated by European systems. One might therefore have expected American music educators to welcome his approach, which provided detailed guidelines for music instruction. However, as mentioned above, the initial response to music learning theory was mixed at best. There were several possible reasons that this response has occurred.

One reason for the slow acceptance of Gordon's approach may have been cultural. Americans have an almost obsessive tendency to prefer things European, at least in matters of culture. For example, American audiences are notoriously more impressed by orchestra conductors with foreign-sounding names, to the extent that some American-born conductors have cultivated foreign affectations. The same chauvinism may have led American music educators to look beyond our borders for guidance, turning to foreign-born pedagogies such as those developed by Orff, Dalcroze, Suzuki, and Kodály. Such an explanation would account in part for the extent to which some music educators have uncritically embraced idiosyncratic aspects of these approaches that are alien, and arguably inappropriate, to American culture. Music educators may unconsciously suspect that no American could possibly propose a successful system of teaching music, although their spending patterns indicate that they harbor no parallel reservations about American textbook series.

A second reason for the cool response to Gordon's ideas was the very self-confidence with which he proselytized for what was, especially at the outset, an untested theory. His blunt criticism of many of the cherished icons of music pedagogy, such as teaching rhythm notation through fractions, was unlikely to earn praise from the advocates of such techniques. In keeping with the long tradition of confrontation between self-styled prophets and the status quo, it was only natural for leaders in music education who felt successful with what they were doing to question this upstart who exhorted them to repent and see his truth. In fact, as an author and professor already known to many of his peers in the profession, Gordon faced the classic problem of any prophet seeking acceptance in his own land. To some observers, Gordon appeared to relish the iconoclast role, for he seemed to seize every opportunity to tweak his opponents.

A third reason for Gordon's difficulty in convincing music educators of the validity of music learning theory was that his audience often did not understand what he was proposing. Interested teachers who read his books often ran aground on the rocks of his dense prose or were overwhelmed by the newness of his terminology and often-complex ideas. Even among Gordon's own students, it seemed that few had sufficient understanding of his ideas to explain them to others. Lacking understanding, and faced by a large number of new labels and seemingly elaborate rule structures, music educators often read into Gordon's ideas greater rigidity and more radical changes than he was actually proposing. Relatively few seemed to understand his proposals for what they were: a more detailed revision of the sound-before-sign approach to music education, the roots of which could be traced back at least as far as Pestalozzi's disciples.

A fourth reason for the slow acceptance of music learning theory was the high level of tonal and rhythm skill it demanded from teachers. Many practicing music teachers could not sing tonal patterns with accurate pitch, nor were they adept in the use of moveable *do* tonal syllables. It appeared that significant changes would be needed in

music-teacher preparation programs before there would be a cadre of teachers who could use music learning theory effectively.

The fifth reason for resistance to Gordon's ideas was legitimate questioning of his premises. Although Gordon referred to his ideas as theories, the manner in which he presented his material was anything but tentative. He made frequent reference to the research basis for his ideas, a base that many well-read researchers had difficulty identifying. The questions that these skeptics raised about Gordon's music learning theory were therefore justified, for it is appropriate for professionals to scrutinize any set of proposals before adopting a major shift in approach.

Research into the Effectiveness of Music Learning Theory

There is limited research available on the effectiveness of music learning theory. Palmer, Stockton, MacKnight, McDonald, and Shuler have conducted studies either directly or indirectly relevant to music learning theory. Reports based on the studies of McDonald and Shuler appear elsewhere in this issue, so this article includes only a brief summary of their work. More extensive summaries of the other three studies follow.

The Palmer Study

Palmer (1974, 1976) sought to compare the relative effects on music rhythm reading of the Kodály-based Threshold to Music method to an early version of music learning theory, as set forth by Gordon in his book *The Psychology of Music Teaching* (1971). Palmer's experimental sample consisted of 136 fourth graders in three Winter Park, Florida, public elementary schools. The treatment period lasted for 20 weeks. In two of the schools, students were randomly assigned to classes receiving either Kodály- or Gordon-based instruction, both groups being taught by the investigator. The instruction that the music learning theory experimental groups received omitted the verbal association level of Gordon's skills sequence, so that in essence the study compared little more than the Kodály and Gordon rhythm syllable systems.

All classes involved in the study were intact groups. The experimental classes met

three times a week for 20 minutes each session. Two control classes in the third school were taught by another music specialist, and received traditional instruction which included no special instruction in rhythm reading. The control classes met once per week for 45 minutes.

The criterion measures in this study consisted of a written and a performance component. The three written measures, selected from two standardized achievement tests, were:

- 1) the Meter Discrimination subtest of Colwell's *Music Achievement Test* (MAT, 1969) Test 1;
- 2) Subtest b, Rhythm, of MAT Test 2, Part 3 (Auditory Discrimination in Music); and
- 3) the Rhythm Concepts: Reading Recognition subtest of Gordon's *Iowa Tests of Musical Literacy* (ITML, 1970).

The three performance measures, created by the investigator, were:

- 1) Response to Meter, designed to measure the ability of the student to synchronize a response to pulses of duple and triple meter musical excerpts;
- 2) Imitation of Rhythmic Patterns, designed to measure the ability of the student to imitate one- to two-measure rhythm patterns presented aurally; and
- 3) Response to Rhythmic Notation.

The results of the study were analyzed with the students' *Musical Aptitude Profile* or MAP (Gordon, 1965) scores used as a covariate. The data yielded a significant difference between the aggregate experimental groups and the control group on gain scores that favored the experimental groups, regardless of treatment. This result may also have been attributable to differences in teachers, total weekly class time, and/or class schedule. There was no significant difference between the two experimental groups on gain scores, although the mean improvement of the Gordon group was slightly higher than that of the Kodály group.

The Stockton Study

Stockton (1983) conducted an investigation which involved the use of rhythm learning sequence activities with older general music students. In this study he compared the effects of two different methods of teaching rhythm on the meter discrimination skills of nonmusic-major college students, and examined the relationship between rhythm

aptitude and meter discrimination achievement. Stockton's sample consisted of 52 students who had enrolled in an introductory music course at Lafayette College in Easton, Pennsylvania. The experimental treatment in this study was a rote performance method derived from Gordon's learning sequence activities. The control treatment consisted of "a lecture-demonstration approach incorporating notation skills without performance" (Stockton, 1983, p. 8). Both treatments addressed the aural discrimination of duple, triple, and combined meter.

All of the students in Stockton's investigation first took the meter subtest of MAP, then were randomly assigned to either an experimental or a control group on the basis of their music aptitude. The treatment continued for 12 weeks. During this time each class met for 75 minutes per week, of which 25 minutes were devoted to either the experimental or the control treatment. The balance of each class period was devoted to instruction typical of the course. The investigator taught both the experimental and the control groups. The experimental group learned 12 four-measure rhythm patterns by rote, using rhythm syllables. Collectively the patterns "represented a variety of typical rhythmic devices such as rests, divisions and elongations of the beat, and anacruses" (1983, p. 21). The students in the control group analyzed the meter components of 12 recorded musical excerpts with the aid of notation. These musical excerpts were selected on the basis of rhythmic variety.

Stockton developed a test of aural meter discrimination which he administered to the students at the end of the 12-week instructional period. The test presented 50 recorded musical excerpts of 25-30 seconds in length. The students were instructed to identify the meter of each excerpt as either duple, triple, or combined. The data were analyzed using a two-way analysis of variance. The experimental group demonstrated a significantly greater gain in aural meter discrimination achievement than did the students in the control group.

Stockton concluded that the learning sequence activities approach was superior to the reading and listening approach in

fostering rhythm understanding. Furthermore, students possessing higher rhythm aptitude demonstrated a significantly higher level of meter discrimination achievement than did those possessing lower rhythm aptitude, regardless of the instructional treatment used.

Stockton's study is important for several reasons. First of all, he compared the effects of a traditional approach to the effects of a version of music learning theory that was more current than the version used by Palmer. Secondly, the pattern training in Stockton's study consisted of isolated patterns, but during testing the examples were presented within a complete musical context. In spite of the transfer thus required, the music learning theory approach was found to be superior. Finally, Stockton found no evidence of an interaction between the effectiveness of the music learning theory treatment and the students' music aptitude.

The MacKnight Study

MacKnight (1975) investigated the effects of a tonal pattern training treatment, very similar to learning sequence activities, on the aural and performance achievement of fourth grade beginning instrumental music students. One of her secondary questions examined the interaction between the effects of music aptitude and pattern training on music achievement. Another secondary question dealt with the effect of the treatment on student attitudes. Although not explicitly stated, the study also incorporated an implicit investigation of rhythm pattern training.

The sample for this study consisted initially of 90 fourth grade students in three elementary schools who signed up for beginning instrumental music. These students were stratified on the basis of music aptitude, as reflected by their scores on MAP, and by academic aptitude as measured by their scores on the *Lorge-Thorndike Intelligence Test* (1954). After a trial period of six weeks, during which time the students decided whether they would continue instrumental instruction until the end of the year, the sample was narrowed to 85 students. This final sample was then divided into homogeneous experimental and control groups of no more than six students each.

The three instrumental music teachers used in the study were selected from among five volunteers. The selection criteria were that the teachers (a) traditionally helped students reach a certain minimum level of performance competence by the end of the first year of instruction, (b) had a beginning instrumental student dropout record of no greater than ten per cent, and (c) earned a score above the nintieth percentile on the *Minnesota Teacher Attitude Inventory* (MTAI), a scale which has been shown to have some usefulness in predicting over-all teaching effectiveness. One teacher elected to teach the experimental classes in the study, and the other two agreed to teach the control classes.

Students in both groups met for one 30-minute class each week. The treatment continued for 32 weeks. MacKnight states that both groups "covered the same pitches, rhythms, meters, keys, tempos, dynamics, and special signs. The only variation in treatment was in the method and order of introducing pitch" (p. 59). Students in the experimental group learned each new pitch as part of a tonal pattern. Each pattern was taught aurally before presenting it in notation. The instructional material in this group consisted of melodies that contained the tonal patterns. The melodies were presented in the same order as the patterns they contained. The control group used a standard method text, *Breeze Easy* (Kinyon, 1959), and allowed the book to dictate the sequence and manner of presentation for new pitches. Each new pitch was first introduced in notation at the top of a page, along with its fingering.

Although MacKnight mentions the fact only incidentally, there were also important differences in the presentation of rhythm to the two groups. Students in the experimental group learned rhythm in phrases, using a modified version of the Kodály rhythm syllables. Pulsation within phrase rhythm was stressed as the primary organizing element in rhythm. In the control group, on the other hand, rhythm was taught:

as it numerically relates to a beat. . . . For example, a [quarter note was] taught as a quarter note having the durational value of one beat in 4/4 meter. Melodic rhythm [was]

practiced by counting, using a number to identify the [quarter note], '1 and' for [two eighth notes], and '1, 2 and' for the [dotted quarter followed by an eighth note]. Unlike traditional instruction, the control group used rhythm syllables and were encouraged to sing assigned melodies with letter names or on a neutral syllable (p. 59).

These differences in rhythm instruction were not specifically addressed in MacKnight's research questions, but may well have had a significant effect on the students' posttest achievement scores.

The achievement posttests used in MacKnight's investigation were Test 2 of MAT and Form A of the *Watkins-Farnum Performance Scale* (WFPS, 1954). The students' scores were examined for treatment main effect and for the interaction of music aptitude and treatment, using a three-factor least-squares design with unequal cells.

The WFPS and MAT scores were analyzed separately. The results showed that the experimental group scored significantly higher in both performance and aural skills. The data also revealed a significant effect of music aptitude on both posttest scores. There were significant interactions between treatment and music aptitude for both posttest scores, but the makeup of this interaction differed between the MAT and WFPS. For the WFPS the experimental treatment had a significant positive effect on the scores of lower-aptitude students; however, on the MAT the experimental treatment had a significant positive effect on the scores of higher aptitude students.

MacKnight created an original measure of student attitude for use in this study. This measure was administered before the beginning and after the end of the 32-week treatment. The test, which she entitled the *Student Attitude Questionnaire* (SAQ, 1975), was based on the Osgood criteria for a semantic differential scale. The content of this test consisted of bipolar adjective pairs, placed at opposite ends of a five-point scale, on which the students described their feelings about each of ten facets of the students' instrumental music experience. MacKnight performed no analysis on the data gathered from the two administrations of SAQ, as it was obvious from the descriptive

data that there was no difference in mean attitude between the two treatment groups.

MacKnight's investigation had several strengths, such as her careful teacher selection process and the length and control of the treatment. Her separate analyses of the students' scores on the two posttests, on the other hand, implied an assumption that the two scores were unrelated, an assumption that seems hard to justify. In fact, aural and performance skills might reasonably be expected to show a high correlation. Another oversight, alluded to above, was MacKnight's failure to recognize that the differences in the rhythm teaching approach experienced by the experimental versus the control groups might have caused at least some of the differences that she observed between the students' scores on the WFPS, a scale which measures rhythm performance and other dimensions, and their scores on the third part of MAT 2, which requires students to detect rhythm and tonal errors.

These considerations aside, MacKnight's study is important for several reasons. First of all, the pattern training that constituted her experimental treatment bore a strong resemblance to learning sequence activities. The rhythm component implicit in her treatment differences strengthened that resemblance by adding the rhythm dimension to the tonal dimension which she was explicitly investigating. Learning sequence activities involve both rhythm and tonal pattern training. The interaction that she found between the effects of music aptitude and the treatment on the two dimensions of achievement she measured is in direct contradiction to the conclusions drawn by Stockton (see above). Finally, the time devoted to the pattern treatment in MacKnight's study caused no apparent effect on student attitudes.

The McDonald Study

McDonald (1991, in this issue) developed a method for elementary recorder instruction based on Gordon's learning sequences and compared the effectiveness of this method with a more traditional method. She examined the effects of two instructional treatments on the students' PMMA scores and on their performance of several brief melodies on the recorder. The PMMA was admini-

stered as both a pretest and a posttest.

The students' mean increase in rhythm and composite PMMA scores was significantly greater for the learning sequence group than for the traditional group. The tonal score of the learning sequence group was also higher, but the difference was not significant at the 0.05 level. The recorder performance measure also revealed significant differences in favor of the learning sequence group in all four dimensions measured: melodic, rhythmic, executive skills, and composite score.

The Shuler Study

Shuler (1991, in this issue) examined the effects of learning sequence activities on the vocal performance achievement of third grade general music students. His primary goal was to determine whether students would transfer discrete tonal and rhythm skills acquired during learning sequence activities into the context of musical performance, where all of the elements of music operate simultaneously. He selected teachers for the study who were competent in the use of learning sequence activities. He chose a naturalistic setting, allowing the teachers in the study to select classroom activities appropriate to their curricula, in order to determine whether the effects of learning sequence activities were consistent from one teacher and curriculum to another. The study continued for almost an entire school year. In the posttest the students performed two rote songs, and their performances were evaluated by a panel of judges.

The effects of the learning sequence activities treatment were not consistent in Shuler's study. No conclusion regarding the effects of learning sequence activities could be drawn, as a result of an interaction between the treatment and teacher variables. Both teachers in Shuler's study were clearly biased toward the music learning theory treatment, yet the students of one teacher demonstrated greater singing ability when they had not engaged in learning sequence activity. The effectiveness of learning sequence activities in fostering vocal performance achievement varied depending upon the teacher and/or curriculum.

These studies suggest that music learning theory may be effective, but the results are

not conclusive. On the other hand, the studies conducted by Stockton, MacKnight, and McDonald indicated that learning sequence activities might facilitate music achievement.

Present and Future Influence of Gordon's Ideas

As mentioned above, a number of Gordon's ideas have found increasing acceptance, while others remain controversial. The terms "audiation" and "developmental aptitude," for example, have become part of the common vocabulary of music educators. In contrast, relatively few Orff and Kodály educators have abandoned their use of pentatonicism and endorsed Gordon's preference for beginning with complete major and minor tonal systems. Undergraduate music theory instruction in institutions such as the University of Michigan, Capital University (in Columbus, Ohio), and Pennsylvania State University has been reorganized to incorporate many of the principles of Gordon's music learning theory. Other theorists, such as Brink (1983) and Jones (1985), have taken exception to Gordon's organizational framework for rhythm.

Miklaszewski is among many who have adopted a middle-of-the-road response to Gordon's ideas. In a review of the 1984 edition of Gordon's *Learning Sequences in Music*, Miklaszewski (1986) expressed admiration for several of Gordon's proposals, particularly audiation. On the other hand, he questioned whether the existing research base is adequate to justify the level of specificity and detail Gordon provides when proposing concepts such as multiple levels of audiation and the exact number of minutes of learning sequence activities that should be included at the beginning of each class period. Miklaszewski is also among many music educators who have questioned the appropriateness of separating the tonal and rhythm dimensions of music during learning sequence activities. Perhaps in response to such concerns, Gordon provides clearer explanations, more detailed documentation of his research base, and a clearer identification of those aspects of his theory that are highly speculative in the 1988 edition of *Learning Sequences in Music*.

Gordon's ideas have already influenced several areas of the music education profession. Gordon has taken an increasing interest in early childhood music education. While he cannot take sole credit for the growing emphasis on this area among music educators, those who argue for early music instruction often cite his theory of developmental music aptitude. Furthermore, in the absence of other published measures, his *Primary* and *Intermediate Measures of Music Audiation* (1979 and 1982 respectively) are used by an increasing number of public schools and researchers to measure both music aptitude and achievement in grades K-4. Hence, his focus on tonal and rhythm audiation has a profound influence both on the selection of students for talented programs and on the evaluation of music instruction, and is therefore likely to have an influence on the nature of instruction as well.

Classroom Use of Gordon's Materials

The reasons for the slow acceptance of music learning theory, described earlier in this article, have continued to limit the extent to which general music teachers have applied this approach in their classrooms. Shuler (1987) mentions that he had difficulty finding teachers who were skilled in the use of music learning theory. The three factors that seem to be the greatest obstacle for teachers are the apparent complexity of music learning theory, the high level of tonal and rhythm skill required to teach learning sequence activities, and the scarcity of materials to facilitate the use of music learning theory in the classroom. Students who have studied with Gordon at the University of Iowa, the State University of New York at Buffalo, and at Temple University have carried music learning theory into their classrooms, and Gordon maintains an active schedule of workshops and inservice presentations. However, the extent to which teachers use music learning theory may ultimately depend upon the commercial success of published pedagogical materials based on Gordon's ideas.

The *Jump Right In* general music series (Gordon & Woods, 1984) has not achieved widespread adoption. The series incorporates several well-intentioned attempts at

innovation that have, ironically, proven to be a liability in the eyes of teachers accustomed to more traditional series. The series provides register books that help teachers sequence tonal and rhythm learning sequence activities and provide criteria for the evaluation of student success. The series also provides a wealth of proven songs and instructional activities for use during "classroom activities." The activities are printed on cards that are coded to coordinate with learning sequence activities, and include ideas appropriate for Orff- and Kodály-based instruction, mainstreamed special education students, and other common instructional situations. Teachers are expected to draw on this material to "roll their own" lessons, selecting and/or designing content and activities appropriate for each class.

This attempt to provide teachers with quality materials from which they may custom-design instruction is a laudable step away from the tyranny of the textbook. Furthermore, it would appear to offer a reasonable alternative to graded text series. Music series are, of necessity, designed to be used by music teachers who have a certain hypothetical amount of instructional time, but that time inevitably differs from what is offered in most school districts. Teachers who have inadequate instructional time find it impossible to complete graded textbooks. The *Jump Right In* classroom activities cards provide a way for teachers to organize the correct type and amount of material to fit the needs of their particular situation. Indeed, the card format completely eliminates the temptation of the canned lesson plan.

Many teachers have found the *Jump Right In* register books cumbersome to use. In order to simplify their use, Gordon developed a "short version" of each register book. Some teachers have complained that it takes too long for students to complete the lower skill levels in the register books and begin to learn notation. The series requires teachers to use recordings from other series, which creates a problem when those series eventually go out of print. The rigid textbook adoption criteria of some states, such as Texas, generally do not allow for statewide adoption of series that venture as far from

the traditional path as does *Jump Right In*. Perhaps most unfortunately, many music teachers have apparently become accustomed to the ease of moving from page (x) to page (x+1) in canned series and are not interested in "rolling their own" lessons. Teachers are understandably reluctant to revolutionize both methodology and materials at once. In short, the *Jump Right In* series contains many innovative ideas, but will apparently require further revision in order to become widely used. Byrd's article in this issue explores the potential impact of music learning theory on general music instruction.

Ironically, in spite of the fact that music learning theory is widely misunderstood to be an elementary general music method, Gordon's ideas have found their most successful commercial application—and therefore their most widespread use—in the area of instrumental music. Froseth's *Individualized Instructor* (1981) and *Comprehensive Music Instructor* (1984) are two successful beginning instrumental music series that draw heavily on music learning theory. The *Jump Right In* instrumental series, recently co-authored by Grunow and Gordon (1989b), is also finding widespread acceptance.

The most important reason for the success of these instrumental series is the extent to which their authors have adopted practical compromises between the realities of the traditional instrumental music program and the details of music learning theory. There are significant differences between the series, but they share key common elements. Students who use these series first engage in listening, singing, and movement experiences, then develop facility with tonal and rhythm syllables in order to provide the aural foundation for success on their instruments. They then play their instruments by ear. Only after completing these steps do the students encounter notation, but the introduction is not delayed so long that the students are unwilling to read music. Once notated music is introduced many students quickly develop notational literacy. In a sense, these authors have developed a pragmatic blend of the aural/oral-to-syllable levels of music learning theory with the

listening-and-imitation features of the Suzuki approach, toward an end result that may be more effective than either of those individual approaches.

Suzuki. This blending of elements from music learning theory and other approaches is a process through which Gordon's ideas are having, and are likely to continue to have, a strong influence. Some Suzuki teachers have drawn on Gordon's music learning theory to refine their instruction. These teachers have begun to focus on audiation, rather than pure imitation, as a means of developing their students' ability to perform their standard pieces. Suzuki students who lack aural skills must listen to seemingly endless repetitions of the Suzuki recordings in order to learn their music. Suzuki teachers who have incorporated key elements of music learning theory have found that having students sing and move to their pieces makes memorization much more rapid, and that using tonal and rhythm syllables eventually helps students learn to read music when notation is introduced.

Orff. Gordon may also have an influence on Orff pedagogy. Gordon was invited to present several sessions at the 1985 national convention of the American Orff-Schulwerk Association and was well received. Orff advocates value the creative aspects of movement and music-making, but many feel a need for more structured sequence. Some have found part of the answer by adopting aspects of Kodály, but others are finding useful ideas in music learning theory (see Cernohorsky's article in *Readings in Music Learning Theory*, Walters & Taggart, 1989, pp. 272-285). For example, some Orff teachers share Gordon's reservations about having students work too long with pentatonic pitch sets. They agree that experiences with complete major and minor systems are more appropriate for children in our culture and are more likely to lead to the sense of leading tone and tonal motion that enhances musical expressiveness.

Some Orff advocates also have joined Gordon in questioning whether children are truly improvising when playing keyboard instruments from which all bars but those in the pentatonic scale have been removed. As

Kratus has pointed out, such activity might better be labeled "exploration" (1990, pp. 35). These teachers have begun to develop the students' ability to audiate as a prerequisite for true improvisation.

Kodály. Gordon's ideas have already had some influence on Kodály pedagogy. Gordon was invited to deliver the keynote address at the 1981 national meeting of the Organization of American Kodály Educators. Laurdella Bodolay, formerly director of the Kodály Musical Training Institute, has revised her use of the Kodály syllable system as a result of conversations with Gordon. The traditional Kodály syllable system is based on notation rather than on aural relationships. Bodolay now links the syllables to the musical function of rhythm patterns, rather than to the way the patterns are notated (based on conversation with Bodolay, 1990). Other nationally known Kodály clinicians, such as John Feierabend, have incorporated an even greater amount of music learning theory into their pedagogy. For example, Feierabend recommends that teachers have their students echo patterns using syllables before introducing the notation for those patterns. To use Gordon's terminology, Feierabend is recommending that "verbal association" precede "symbolic association." (See Feierabend's article in *Readings in Music Learning Theory*, Walters & Taggart, 1989, pp. 286-300).

Conversely, Gordon has shown greater willingness to incorporate ideas from other methods, provided that they are used in a sequence that is consistent with his taxonomies. For example, in his lectures, he now acknowledges the potential effectiveness of Curwen (often erroneously referred to as Kodály) hand signs and Orff instrument experiences, techniques he originally criticized. The pragmatic compromises Gordon made in the *Jump Right In* instrumental series are further indications of his general evolution toward greater flexibility. Evidence of his willingness to combine features of various approaches may be found in the several chapters of *Readings in Music Learning Theory* (Walters & Taggart, 1989) that address the implications of music learning theory for pedagogical approaches

designed by others.

Music learning theory is also being used effectively in the traditional ensemble rehearsal setting. Shuler describes how music learning theory can be used to refine teaching procedures in the instrumental rehearsal (Walters & Taggart, 1989, pp. 208-226). Jordan achieved similar results in the choral setting (Walters & Taggart, 1989, pp. 168-182). Recognizing the potential contribution of music learning theory to the ensemble setting, the American Choral Directors Association invited Gordon in 1989 to present two sessions at its annual national meeting.

Challenges and Problems. The fact that the content taxonomy of music learning theory is built on characteristics typical of Western art music, such as major and minor tonalities and tonic-dominant harmonic relationships, presents a challenge as music educators who deal with the need to teach music of other cultures. It may be that such music teachers will be able to apply Gordon's skills sequence to musical content drawn from some of those cultures by identifying a content taxonomy and set of typical patterns for each musical system. It seems likely that a vocabulary of pitch and rhythm patterns can be identified for most types of music, and that students could benefit from listening to and imitating those patterns. (Those interested in exploring cross-cultural applications of music learning theory should consult Campbell's book *Lessons from the World: A Cross-Cultural Guide to Music Teaching and Learning*.)

Music learning theory presents a potential problem when approaching some avant-garde Western music. Gordon's tonal syllable system for dealing with what is traditionally called "atonal" music seems awkward. Gordon contends that atonal music is really "multitonal," and that listeners must subjectively audiate a series of tonal centers in order to derive meaning from that music (1989a, pp. 86-87). He suggests that sightsingers use "intertonal" patterns to connect "two tonal patterns in different tonalities in the same keyality." He continues:

The first pitch of the intertonal...pattern is

performed with the appropriate tonal syllable in the tonality and keyality of the first tonal pattern, but it is always audiated as "do." The second pitch of the intertonal...pattern is audiated with the second pitch of the intertonal...pattern, or its enharmonic. It is performed with the appropriate tonal syllable in the tonality and keyality of the second tonal pattern (p. 118).

Experienced singers often use intervals to sing atonal music. The approach Gordon proposes is more consistent with music learning theory, but complicated. Further research is needed to determine the most efficient way to develop notational audiation for atonal or multitonal music.

Conclusion

Considerable research is needed before music educators should abandon traditional practices and adopt music learning theory as the method for teaching music. However, the problems mentioned above notwithstanding, this author finds music learning theory to be the most complete and thoughtful description of music learning now available. The theory continues to evolve, based on research findings and the practical experience of teachers who use it. Many of the finer details are speculative, and some are no doubt erroneous, but the general process it describes—moving from aural experience to notation to theory—is useful and challenging.

Music learning theory has had some influence on other approaches to music instruction and on the traditional rehearsal setting. Until such time as decisive research evidence surfaces either in support of or in contradiction to the fundamental principles of music learning theory, its future influence may depend upon its success in revising and refining common practice. The development of appropriate instructional materials would hasten the adoption of music learning theory by classroom teachers, but the ultimate determinant of its popularity may be the musical skills of practitioners. Until college music theory and teacher preparation programs insure that music education majors can perform tonal and rhythm patterns, the use of music learning theory may be limited to an elite group.

Regardless of whether music learning

theory achieves widespread adoption, it is clear that such Gordon contributions as audiation and developmental aptitude will continue to influence music education.

Edwin Gordon is one of the most prolific authors in music education, and one of its most profound thinkers. Whether or not music educators agree with his ideas, they should be thankful for his important contributions to the debate about music learning.

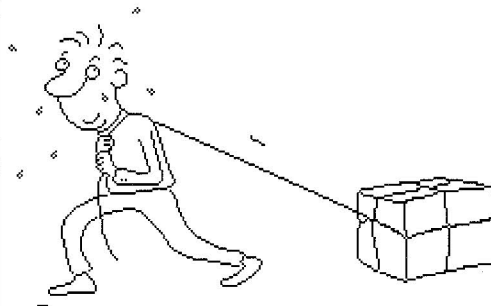
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