The Effect of Learning Sequence Activities on the Skills of High School Students and the Influence of Technology-Assisted Learning.

A Document

SUBMITTED TO THE GRADUATE FACULTY

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Master of Music in Music Technology

Education Track

By

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Phoenixville, Pennsylvania
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ABSTRACT

The purpose of this study was to examine the effects of Edwin E. Gordon's pattern instruction on the audiation abilities of high school students. Students were grouped into three categories. 1. Those who would receive pattern instruction from a software program. 2. Those who would receive pattern instruction from the teacher in a classroom setting. 3. No Pattern Instruction. The group receiving no pattern instruction would receive instruction using an ear training software program not based in Gordon's learning theory. The *Advanced Measures of Music Audiation,* a music aptitude test, was administered for student grouping. A post-test, written by the author of the study, was given to determine the effect of each treatment. Participants included 15 high school students in grades nine through twelve. An analysis of variance indicated that there is no statistically significant difference between the three groups. Recommendations for pattern instruction at the high school are discussed.

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The Research Problem

This study will examine the effect of Edwin E. Gordon's learning sequence activities on the audiation skills of high school students in a class piano setting. Gordon's music learning theory is an approach to teaching music which emphasizes the development of a comprehensive set of musical skills. The primary goal of Gordon's approach is to develop "audiation," which is the hearing and comprehending in one's mind the sound of music that is not or may never have been physically present (Gordon, 1993). For Gordon, audiation is to music what thought is to language. Audiation is at the core of Gordon's methodology, which progresses according to a sequential curriculum based in Gordon's forty years of research on the ways in which children learn music.

Edwin Gordon's music learning theory includes two main components: classroom activities and learning sequence activities. Classroom activities include performing musical literature, listening to music, composing, improvisation, and any other activity where students are actively engaged with musical content. In this study, classroom activities refer to the learning of piano through a traditional beginning method book. Classroom activities provide the context for the audiation skills developed in the second area of Gordon's learning theory: learning sequence activities. Learning sequence activities advance students through Gordon's stages of musical learning and teach students the essential audiation skills needed to perform music with comprehension.

Students learn tonal and rhythmic pattern vocabulary through learning sequence activities which allow students to perform classroom activities with comprehension (Gordon, 1993).

Through learning sequence activities students are given a logical, sound-before-sight progression through tonal and rhythmic syntax. The sound-before-sight approach means that every musical concept first occurs without notation. For example, patterns in the tonic triad in major tonality would be sung by the student before being read in notation, and students would chant patterns in duple meter before reading them. This logical sound-before-sight progression allows students to perform music with comprehension. Learning sequence activities include three areas which will be explained in depth below: (1) skill learning sequence, (2) tonal and rhythmic content learning sequence, (3) tonal and rhythmic pattern learning sequence.

Skill learning sequence is a curriculum, defined by Gordon, which moves students through the five levels of discrimination learning. In discrimination learning students are taught skills, context, and patterns by rote. The first level is aural/oral. During this time students use a neutral syllable to perform tonal and rhythmic patterns by rote. Following the aural/oral level is verbal association. In this level, students perform by rote a vocabulary of familiar tonal and rhythmic patterns using tonal solfege and rhythmic syllables. Patterns are familiar because they were performed at the aural/oral level. Proper names of classifications and functions are also learned at the verbal association level. The

third level is partial synthesis, where students learn by rote to audiate the tonality of a series of familiar tonal patterns and the meter of a series of familiar rhythmic patterns. Again, these patterns are familiar because they have been performed during the earlier stages. Following partial synthesis is symbolic association. At this level students learn by rote to read and write familiar tonal and rhythmic patterns in a familiar or unfamiliar order. The last and highest level of discrimination learning is composite synthesis. At this level, students learn by rote to read and write series of tonal and rhythmic patterns that were learned at lower levels.

The second area of learning sequence activities is tonal and rhythmic content learning sequence. Tonal content learning includes all tonal classifications, i.e. major, Dorian, Phrygian, Lydian, Mixolydian, Aeolian, Locrian, etc., and functions, i.e. tonic function in major tonality, or subdominant function in Dorian tonality. Rhythmic content learning includes all rhythmic classifications and functions, i.e. macro/microbeat function in duple meter, and division function in triple meter. The classifications and functions are taught sequentially at all levels of skill learning sequence (Gordon, 1993).

The third area of learning sequence activities is tonal and rhythmic pattern learning sequence. Pattern learning sequence refers to the acquisition of tonal and rhythmic patterns by the student during learning sequence activities. Pattern learning sequence occurs concurrently with skill learning sequence and content learning sequence.

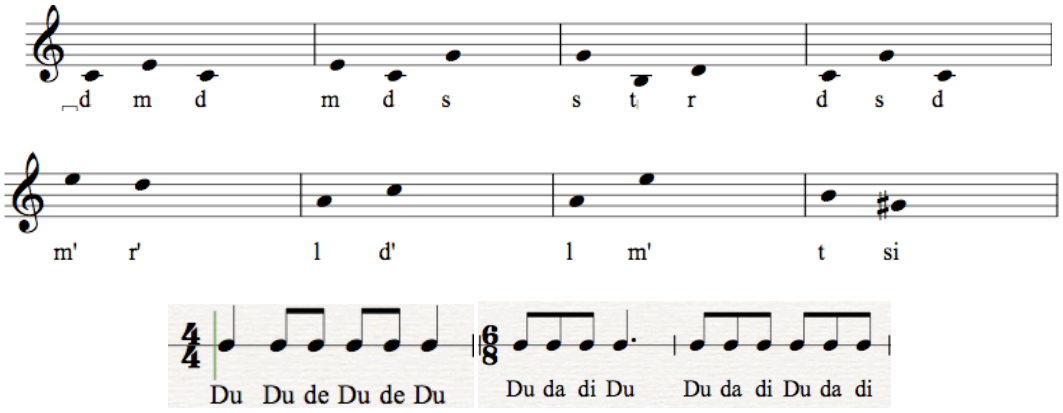
According to Gordon, students must comprehend tonal and rhythmic patterns before being introduced to notation. At the first skill level of aural/oral all tonal and rhythmic pattern instruction is done on a neutral syllable. Tonal patterns are performed on “bum” and rhythmic patterns are performed on “bah.” Following the aural/oral level of musical learning is the verbal association level. In this second stage of musical learning, tonal and rhythmic pattern instruction is done using tonal solfege and rhythmic syllables. Students begin labeling musical elements; however, there is no theoretical instruction given at this point. For example, students are told that the resting tone is labeled “do” in major tonality and ”la” in minor tonality, but no further explanation is given. They are not told that there are no sharps or flats and that the key is C major. Similarly, students are told that if they are audiating the rhythmic syllables “du de” they are audiating duple meter and if they are audiating “du da di” they are audiating triple meter. It is important to remember that at the verbal association level even though students are taught proper names of harmonic functions, tonal solfege and rhythmic syllables, there is no explanation as to how many beats are in the measure or how a whole note relates to a half note. For the time allotted for this study, students will only advance to the verbal association level of discrimination learning in Gordon’s music learning theory.

In this study, students at the aural/oral level would echo tonal and rhythmic patterns using a neutral syllable. Students at the verbal association level would echo with the appropriate solfege. Students at the verbal association

level of learning would use “do” to label the resting tone in major tonality, “‘la” would be used to label the resting tone in minor. Students performing rhythmic patterns at the verbal association level of learning would use “du de” in duple meter, and “du da di’ in triple meter. Gordon categorizes 6/8 and 12/8 as triple meters (Gordon, 1993).

Specifically, tonal patterns are generally from two to five pitches in length and outline a harmony. Rhythmic patterns are generally four beats in length and could be in a variety of meters and use a variety of rhythmic functions. Pattern instruction combined with classroom activities make for a comprehensive music curriculum. If we are to teach our students to audiate and not just decode notation we must include pattern instruction in our rehearsals and high school classroom music instruction (Gordon, 1993).

Examples of Tonal and Rhythmic Patterns



Azzara found that tonal and rhythmic pattern instruction combined with classroom activities regarding improvisation improves student comprehension of notation and results in a more musical performance (Azzara, 1993). MacKnight

found that tonal pattern instruction is a more effective method of introducing pitches to fourth grade instrumentalists than learning by letter name, fingering, and sound (MacKnight, 1973). Whitener found that a curriculum that is solely performance based is not as effective at developing musicians as one which emphasizes comprehensive musicianship. Whitener defined comprehensive musicianship as an in-depth study of elements such as form, composition, and improvisation in addition to the traditional performance method. In his study, Whitener worked with junior high band students of whom the control group worked with the materials in the band method book being used while others incorporated elements of comprehensive musicianship (Whitener, 1982).

The research included in the bibliography of this study is mostly limited to beginning band students and general music classes. This study will give attention to students in a beginning piano class. The research included in the bibliography does not address how students who have been taught by traditional methods would respond to audiation-based instruction. This study will include audiation-based instruction at the high school level. None of the research in the bibliography address pattern delivery through technology-assisted learning. This will also be a focus in this study.

There are many reasons why we may not have seen much research on pattern instruction at the high school level. Pattern instruction in high school classes poses unique challenges. High school ensemble directors often have groups with large numbers of students spanning grades nine through twelve.

This means that most ensembles/classes will have members at various stages of musical learning (aural/oral, verbal association, partial synthesis, symbolic association, composite synthesis). Also, delivering patterns to a large ensemble within the recommended ten minutes while also trying to hear all students perform patterns individually can make instruction lengthy, rushed, and not ideal. These difficulties may also explain why there has been little research on the effect of pattern instruction on high school students.

Technology may offer a way for instructors to provide Gordon's pattern instruction to high school students. Technology has been used effectively in teaching musical concepts to individuals. Canelos, Murphy, Blombach, and Heck found that students who used technology-assisted learning in music theory performed better than those who did not (1980). Technology could also provide students much needed practice with tonal and rhythmic patterns while teaching students at different levels. By allowing students to perform on computer workstations, we could discover if technology-assisted learning is an effective way to deliver tonal and rhythmic patterns. With the increasing use of technology in the music classroom, more and more schools are beginning to include a MIDI lab. By using technology-assisted learning to deliver individualized pattern instruction, even large ensembles could effectively deliver pattern instruction while not compromising classroom activities.

The purpose of this study is to examine the difference between the delivery of tonal and rhythmic patterns by a live instructor verses technology-

assisted learning on the music achievement of high school students. The null hypothesis is that there will be no difference between the three groups in their audiation of tonal and rhythmic patterns.

Review of Related Literature

Pattern Instruction

Gordon's music learning theory is "the analysis and synthesis of the sequential manner in which we learn when we learn music" (Gordon, 1993). Three critical pieces of Gordon's music learning theory are tonal content learning sequence, rhythmic content learning sequence, and skill learning sequence. Gordon has defined specific sequences for the introduction of tonal and rhythmic functions. Tonal content learning sequence refers to the order that tonalities and harmonic functions should be introduced to the student in learning sequence activities. Rhythmic content learning sequence refers to the order that meters and beat functions should be introduced to the student in learning sequence activities – i.e. macro/microbeat patterns before division/elongation patterns. Skill learning sequence refers to the logical, sequential way in which students should be moved forward though Gordon's levels of musical learning (aural/oral, verbal association, partial synthesis, composite synthesis). All three content learning sequences are delivered through learning sequence activities. Learning sequence activities are designed to enable all students to comprehend and audiate music. Audiation is "the hearing and comprehending in one's mind the sound of music that is not or may never have been physically present. It is neither imitation nor memorization." Audiation is to music what thought is to language. Learning sequence activities, combined with classroom activities,

make up a logical, comprehensive, and sequential music curriculum (Gordon, 1993).

Kratus (1994) found that a child's ability to audiate positively correlated with tonal and rhythmic cohesiveness in original composition and negatively with exploration. He also found that a child's ability to audiate was positively correlated with developed rhythmic patterns and negatively with the song's pitch range. However, Kratus did not examine the effect of sequential pattern instruction on students' compositional behavior. He compared the ability of a student to audiate, as measured on the *Intermediate Measures of Music Audiation*, to their compositional processes (Kratus, 1994).

Azzara (1993) set out to research the effect of improvisation activities on the music achievement of fifth grade students. Students received tonal and rhythmic pattern instruction and at the conclusion of the study performed three etudes. The first was prepared in advance by the student, the second, with teacher assistance, and the last one was sight-read. Azzara found that those students who received additional training in improvisation performed criterion etudes at a higher level than those who did not receive the improvisation instruction. Azzara found that improvisation leads to higher musical achievement. Although Azzara did not look at the effect of pattern instruction on groups of students, pattern instruction was used in the study. Neither did he investigate the possibility of pattern delivery via software (Azzara, 1993).

Grutzmacher (1987) investigated the effect of tonal pattern instruction on first year instrumental students. She found that students who received tonal pattern instruction performed significantly better when aurally identifying major and minor tonalities and in sight-reading melodic material than students who were taught pitches through notation. Subjects were fifth and sixth grade instrumental students who were already studying an instrument. (Grutzmacher, 1987).

Hufstader (1977) found a learning sequence for music listening skills associated with detection of timbre, rhythm, and harmony. Hufstader developed a test that was administered to first, third, fifth, and seventh grade students. Hufstader found that timbre skills tended to develop first, followed by rhythm and melody. The ability to hear harmony developed last (Hufstader, 1977). Hufstader's work was not based in Gordon's learning theory.

MacKnight also found that tonal pattern instruction is a more effective method of introducing pitches and fingerings than note identification techniques. MacKnight worked with fourth grade beginning instrumentalists. She found that the group who received tonal pattern instruction scored significantly higher in both melodic sight-reading and auditory-visual discrimination skills. Rhythmic syllables were used in the study. Students would chant "ta" for quarter notes, "ti" for eighth notes, and "ta-i" for a dotted quarter note. The rhythmic syllables used in the study are based on the notation and not the beat function of the rhythm.

Conducting her research in 1975, the pattern instruction in this study does not follow Gordon's definition of pattern instruction (MacKnight, 1975).

The Use of Technology in Instrumental Music

Grashel, Sheldon and Reese (1999) compared the effects of live accompaniment, intelligent-digital accompaniment and solo performance on musicians' performance quality. Participants were undergraduate music education majors performing on a secondary instrument. The students were separated into three groups: live accompaniment, intelligent-digital accompaniment, and solo performance. Those in the live accompaniment group practiced with a pianist for 1.5 hours per week over a six-week period. Those in the second group were trained in the use of Vivace software, an intelligent-digital accompanying program, and were instructed to practice for 1.5 hours per week. Those in the solo performance group were instructed to practice the music alone for 1.5 hours each week. After 6 weeks, each student performed first without accompaniment and then in the designated mode. Students in the solo performance group played twice. Educators who were familiar with state and regional band lists then judged the recordings. Students were judged on tone quality, intonation, rhythm, technique, interpretation, and articulation. The mean score of both the intelligent-digital accompaniment group and live accompaniment group decreased between performance one and performance two while the mean score of the solo performance group increased between

performances. Scores suggested that accompaniment aided the students in getting an overall sense of the piece. Students were surveyed about their experiences and those in the intelligent-digital accompaniment group had mixed comments. Most praised the program and said it made the practicing fun while others were frustrated when they had difficulty getting the program to work properly. This study evaluated the use of software as a practice tool, not as the mode of instruction (Grashel, Sheldon and Reese, 1999).

Evelyn K. Orman (1998) divided a group of beginning saxophone students into two groups. The control group did not utilize any technology-assisted music instruction while the experimental group used a program developed by the author of the study for 8-15 minutes each band class. The computer program was divided into different units that were also covered in band class. Students from both groups then completed written and videotaped assessments. These assessments were then compared for differences between both groups. The study also surveyed students in the experimental group for their attitudes toward the use of technology in their saxophone studies. It was found that the students who were exposed to technology-assisted learning performed better on both written and videotaped assessments. The program used in the study did not cover performance practices (Orman, 1998).

Secondary Music

Rohwer and Polk (2006) examined the practice habits of eighth grade instrumentalists and have labeled four types of practice behaviors: 1. holistic, noncorrective - these were students who did not stop for errors in their run through. 2. holistic, corrective – these were students who stopped only for errors in their run through. 3. analytic, reactive – these were students who stopped to remediate sections of music. 4. analytic, proactive – these students jumped around in the music to fix errors. The analytic students made significantly more gains than did the holistic students. Pattern instruction could improve student's comprehension of the music they are practicing allowing them to be more analytic in their practice behaviors. (Rohwer and Polk, 2006)

Gromko (2004) listed many factors that influence a high school wind players' ability to sight-read, however the study did not address any pedagogical effect. Therefore it did not address pattern instruction or technology-assisted learning. Instead the focus of the study was to analyze factors influencing a high school wind player's ability to sight-read. (Gromko, 2004)

Major (1992) conducted a study where he examined the effect of rhythmic subdivision on the rhythmic sight-reading of high school choirs. In his study, students chanted rhythmic patterns for 5 minutes at the beginning of each rehearsal. Depending on which group the students were in they either chanted using the traditional "1 e and a" counting system or simply echoed patterns on a

neutral syllable. He found that the group who used the subdivision scored significantly higher on reading rhythmic patterns in his post-test. However this study did not use a rhythmic syllable system based on beat function. The internal logic of Gordon's rhythm syllables may influence student's rhythmic understanding and their musical achievement. (Major, 1992)

Kennedy (2002) studied the compositional process of four different high school musicians. The subjects were all enrolled in their school music program, while two of them were advanced and the other two were novices. Kennedy found commonalties between the four composers but concluded that composition is a very idiosyncratic process. Kennedy stressed the importance of listening in developing high school composers, however this study did not address student's audiation in composing. The study focused on the process rather than the musical content of their writing. The author made recommendations in nurturing composition skills among high school students, but did not recommend a way for teachers to teach the rhythmic, harmonic, melodic, and structural elements of music (Kennedy, 2002).

McClung (2008) found that high school choral students who used Curwen hand signs in the sight-singing of melodies did not perform statistically better than those who only performed using solfege. One group had extensive training in hand signs and solfege while the other had extensive training in only solfege. His results mirrored results done in earlier studies; however, these students had far more training in both Curwen hand signs and solfege. Gordon's pattern

instruction was not used in the teaching of solfege or hand signs (McClung, 2008).

Killian and Henry (2005) observed the strategies used by high school choral students when sight-singing. Students were given two examples to sing. Before the first example students were allowed to practice for thirty seconds while the other example was read without any practice. Killian and Henry observed the techniques used by students and found students in the high accuracy group tonicized the key, used hand signs, and sang out loud during the rehearsal period. Students in the low accuracy group abandoned steady beat and stopped during the melody. Pattern instruction could provide the tonal and metric framework for students to organize material in a musical way. (Killian and Henry, 2005)

Design of the Study

This study examined the effect of Edwin Gordon's tonal and rhythmic pattern instruction on the musical comprehension, or audiation, of high school students in grades nine through twelve. Students were divided into three groups according to their results on the *Advanced Measures of Music Audiation* (AMMA). The AMMA is a test of music aptitude designed for students from ages 14 and older. Groups were formed on the procedure recommended by Gordon. For example, students with AMMA scores equal to or greater than the 80th percentile were identified as high aptitude; students with scores above the 20th and below the 80th percentile were identified as moderate aptitude students; and students who were in the 20th percentile or lower were identified as low aptitude students. Groups were balanced with roughly equal number of low, medium, and high aptitudes.

The first group received pattern instruction through the use of technology-assisted learning. The second received pattern instruction delivered by the teacher. The third group did not receive pattern instruction. Pattern instruction was limited to the aural/oral and verbal association levels of musical learning. Pattern instruction occurred during five to ten minutes of the class period at a frequency of two to three times per week. Tonal and rhythmic pattern instruction alternated on a weekly basis for eight weeks. Students performed tonal patterns in major and minor tonalities using tonic, subdominant, and dominant functions.

Students performed these patterns on a neutral syllable “bum” and using movable “do” with a “la” based minor. Students chanted rhythmic patterns in usual duple and usual triple meters using macrobeat/microbeat and division patterns. A macrobeat is the fundamental beat in a rhythmic pattern. For example, in usual duple meter with the meter signature of 2/4 the quarter note would be the macrobeat and in usual triple meter with the meter signature of 3/4 the dotted half note would be the macrobeat. A microbeat is an even division of a macrobeat. In usual duple meter with a meter signature of 2/4 the eighth note would be the microbeat. In usual triple meter with a signature of 3/4 the quarter note would be the microbeat. Macrobeat/microbeat patterns are those that only use combinations of macrobeats and microbeats, only microbeats, or only macrobeats. Division patterns use further subdivisions of the microbeat. Students were exposed to division patterns, however they were not tested on them and they are not included in the post-test. Division patterns in 4/4 meter would include the use of sixteenth notes.

After the pattern instruction portion of the study students were administered a post-test. The post-test included identification of tonal and rhythmic patterns using major and minor tonalities, tonic and dominant functions, duple and triple meter and macrobeat/microbeat functions.

Results from the study show a rhythmic score, a tonal score, and a composite score. Scores were compared through the mean and standard

deviation for each group. Since we are examining differences between three groups an analysis of variance was used for statistical analysis.

The author's recommendations for further study are found in the discussion section. The results of this study will aid high school music teachers in deciding if pattern instruction will significantly improve their students' audiation skills. It will also help music teachers determine which strategy for pattern instruction will be the most effective. The study will examine if technology-assisted learning is an effective method of pattern delivery for high school students.

Results

Students were administered a test where they had to match the performed pattern with the correct notation. Traditional dictation was deemed too difficult for this population in the amount of time allotted. Tests were scored on the number of correct answers. Students did not lose points for incorrect responses. The test yielded a tonal score, a rhythmic score, and a composite score.

Table One - ANOVA

Anova: Single Factor						
Summary						
Groups	Count	Sum	Average	Variance		
Group One	5	162	32.4	30.8		
Group Two	5	146	29.2	104.7		
Group Three	5	162	32.4	24.3		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	34.1333	2	17.06667	0.320400501	0.7318	3.8852
Within Groups	639.2	12	53.26667			
Total	673.333	14				

An analysis of variance using composite scores was used to determine if the null hypothesis was valid. The results in table one show that the obtained value for F was less than the critical value for F, meaning that the null hypothesis is the best explanation ($F(2, 12) = .32$, $p = .73$). This means that there is not a

statistically significant difference between composite scores and method of treatment between the three groups. Group means and standard deviations of these category scores are included in table two.

Table Two – Mean Scores and Standard Deviations

	Rhythmic Score	Tonal Score	Composite Score
Group One	19.8 (.44)	12.6(5.17)	32.4(5.54)
Group Two	12.2 (6.71)	17(5.97)	29.2(10.23)
Group Three	12.8 (.89)	19.6(4.43)	32.4(4.93)

Discussion

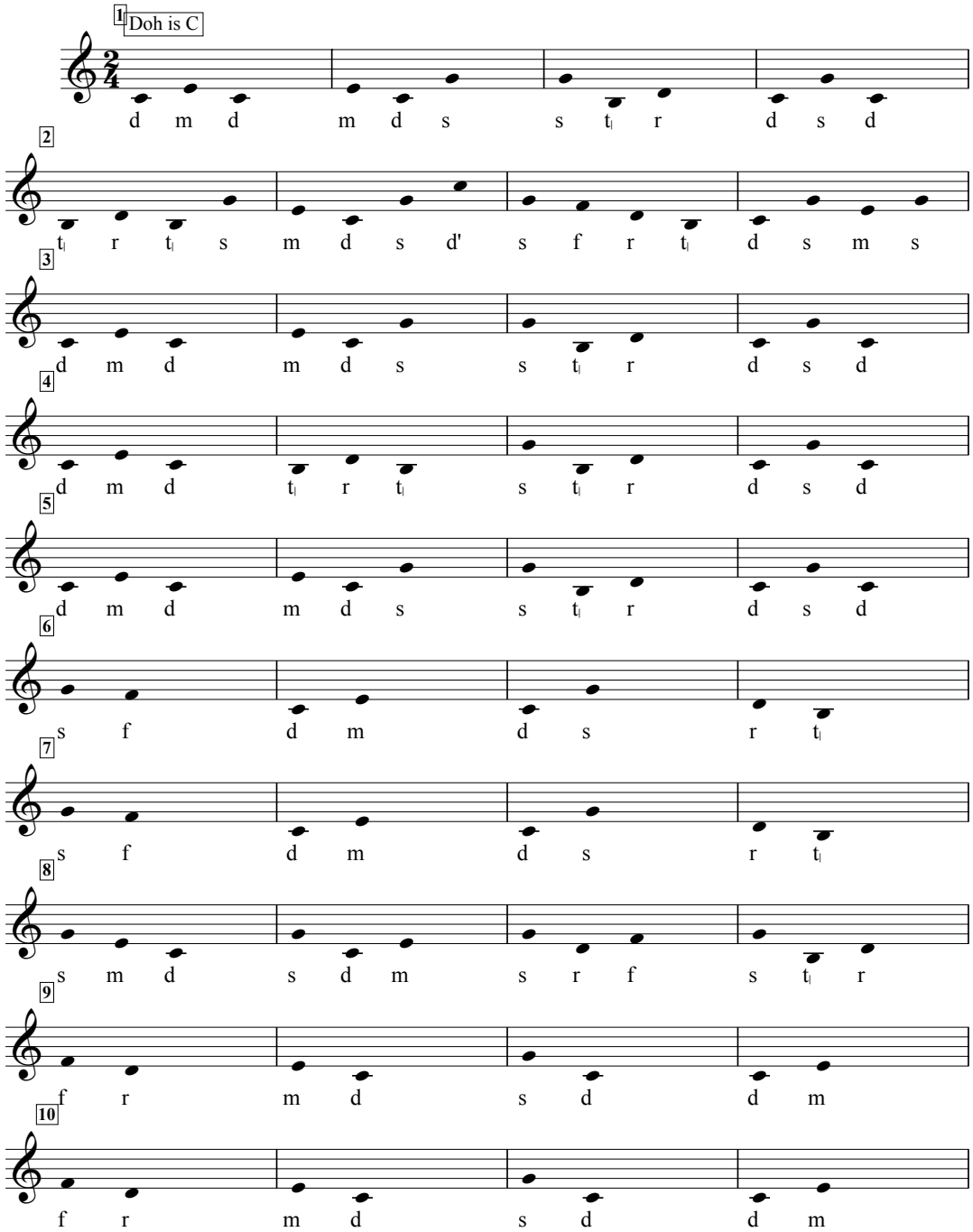
Results show that students from all three-treatment groups were successful in identifying patterns in notation, suggesting value all forms of ear training used in the study. Further research could examine how an extended treatment would affect the audiation of a larger sample size of high school students. From the researcher's observation administering the treatments, the students in the traditional pattern instruction group benefited from vocalizing the patterns. Students who were in the group that received pattern instruction through technology-assisted learning were reluctant to sing patterns. Some students in this group expressed that they were self-conscious when using the software. Students who received pattern instruction from the teacher were more willing to sing patterns because they were able to blend in with their classmates, while students using the software were not. Research with a general music population at the high school level can be difficult and there are many factors that can influence student's attitudes, behavior, attendance, and performance in a general music class. But it is still important that we teach these students to audiate to the best of their abilities.

Test Materials

Test to be given to all Three Groups

Tonal and Rhythm Pattern Test

Name:
Directions: Listen to the pattern played and circle the correct notation.



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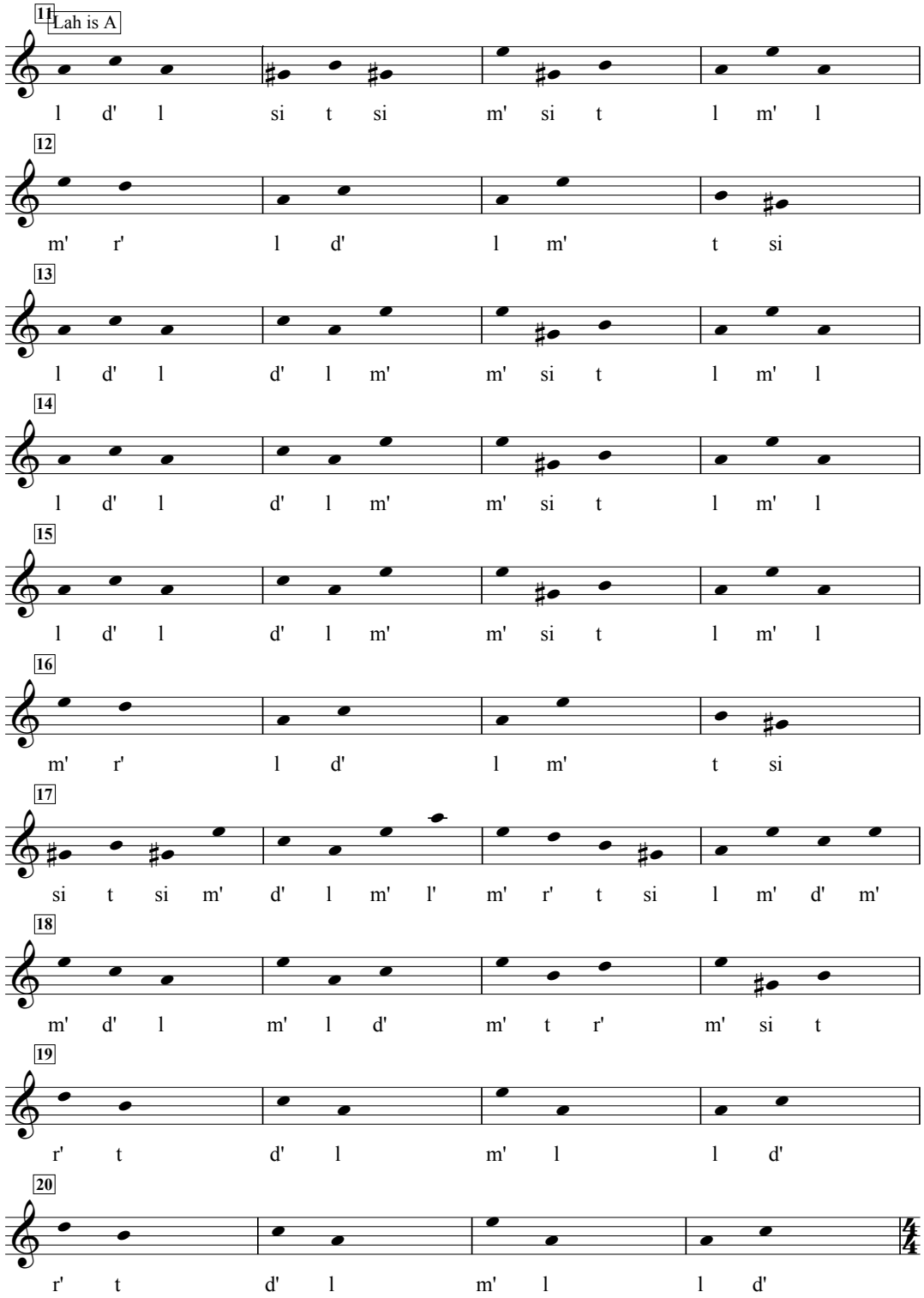
11
Lah is A
l d' l si t si m' si t l m' l
12
m' r' l d' l m' t si
13
l d' l d' l m' m' si t l m' l
14
l d' l d' l m' m' si t l m' l
15
l d' l d' l m' m' si t l m' l
16
m' r' l d' l m' t si
17
si t si m' d' l m' l' m' r' t si l m' d' m'
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r' t d' l m' l l d'
20
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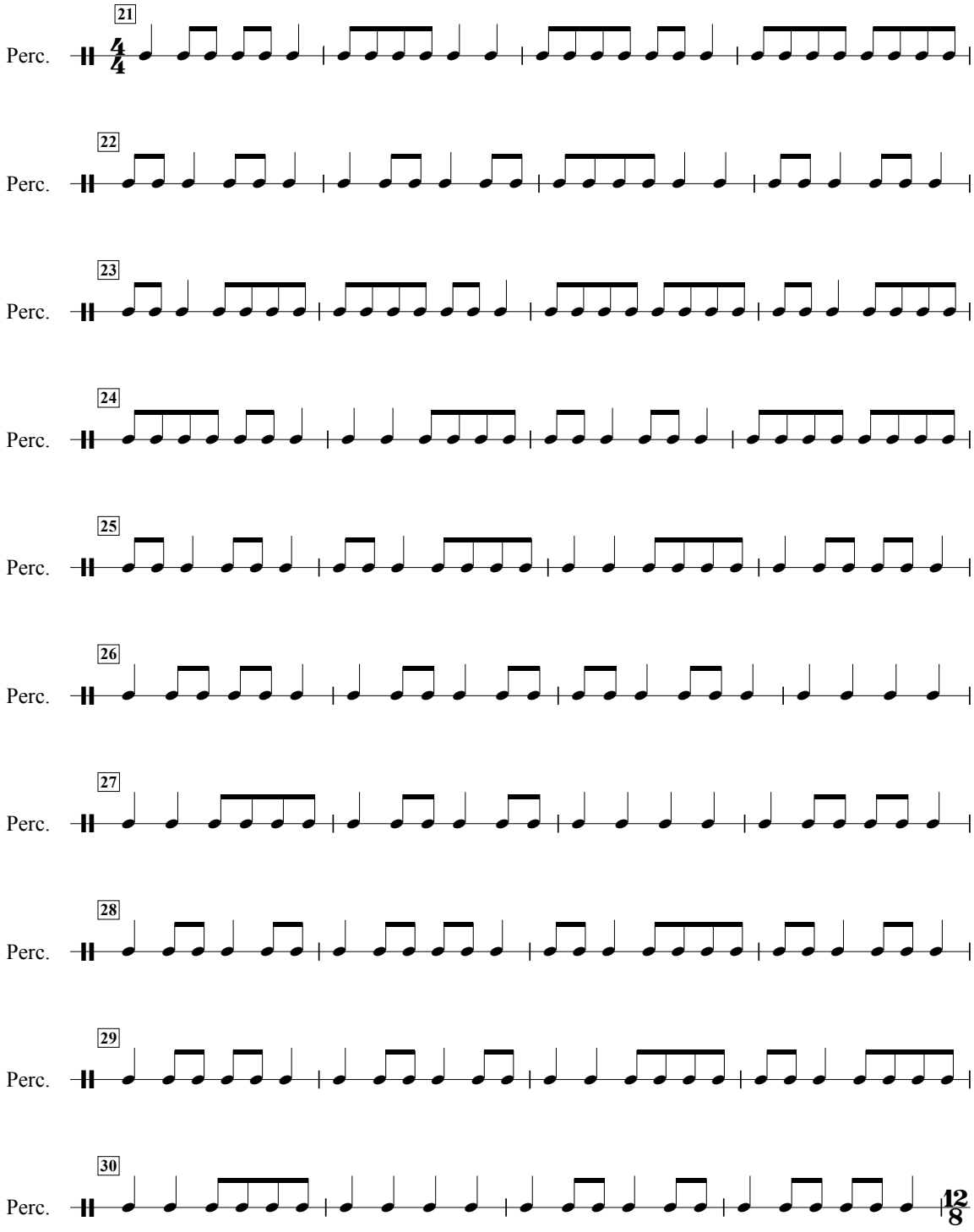
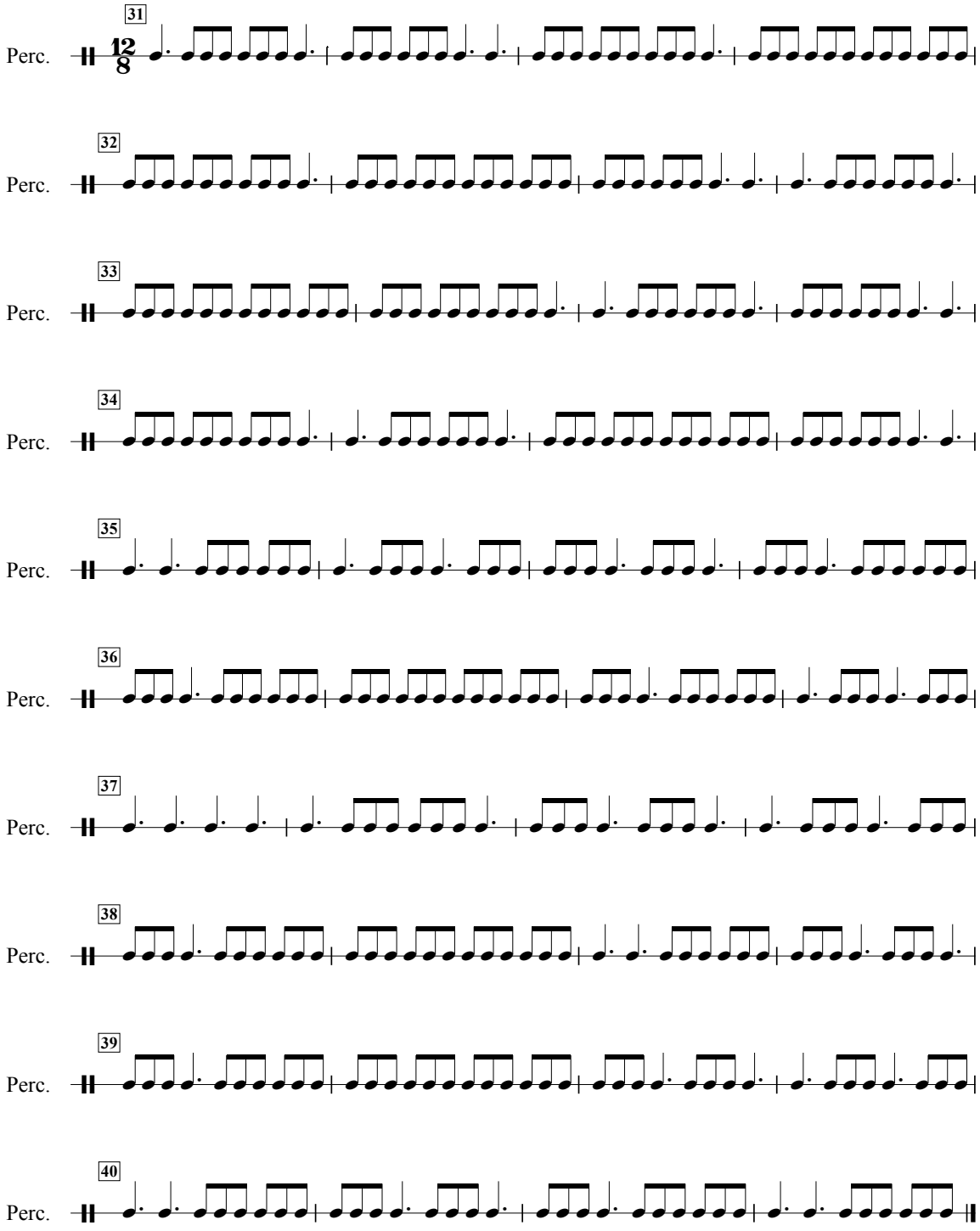

21
Perc.
4/4
22
Perc.
23
Perc.
24
Perc.
25
Perc.
26
Perc.
27
Perc.
28
Perc.
29
Perc.
30
Perc.
12/8

4


31
Perc.
12
8
32
Perc.
33
Perc.
34
Perc.
35
Perc.
36
Perc.
37
Perc.
38
Perc.
39
Perc.
40
Perc.

Definitions (Gordon, 1993)

Aural/Oral – The first (most elementary) level of discrimination learning and the foundation for all other levels of discrimination learning and for inference learning. At this level of learning students use a neutral syllable to learn by rote to perform tonal patterns and rhythmic patterns.

Division Patterns – One function of rhythmic patterns. A division pattern includes a division of a microbeat (a duration shorter than a microbeat) or a division of a macrobeat (a duration shorter than a macrobeat but not a microbeat).

Partial Synthesis – A level of discrimination learning. At this level of learning students learn by rote to audiate the tonality of a series of familiar tonal patterns and the meter of a series of familiar rhythmic patterns.

Macrobeat – The fundamental beats in a rhythmic pattern. In usual duple meter with the meter signature 2/4, quarter notes are the performed or underlying macrobeats. In usual triple meter with the measure signature 6/8, dotted-quarter notes are the performed or underlying macrobeats. In usual triple meter with the measure signature ¾, dotted half notes are the performed or underlying macrobeats. In unusual meters with the measure signatures 5/8 and 7/8, the performed or underlying macrobeats are combinations of quarter notes and dotted-quarter notes.

Macrobeat/Microbeat Patterns – One function of rhythmic patterns. A macro/microbeat pattern includes combinations of macrobeats and microbeats, only microbeats, or only microbeats.

Microbeat – The equal division of a macrobeat. The following are examples. In usual duple meter with the measure signature 2/4, groups of two eighth notes are the performed or underlying microbeats. In usual triple meter with the measure signature 6/8, groups of three eighth notes are the performed or underlying microbeats, or in usual triple meter with the measure signature ¾, groups of three quarter notes are the performed or underlying microbeats. In unusual meters with the measure signatures 5/8 and 7/8, groups of two eighth notes and groups of three eighth notes are the performed or underlying microbeats.

Verbal Association – A level of discrimination learning. At this level of learning students learn by rote a vocabulary of tonal patterns using tonal syllables and a vocabulary of rhythmic patterns using rhythmic syllables. The same patterns are taught at the aural/oral and verbal association levels of learning. Proper names of classifications and functions are also learned at the verbal association level of learning.

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