AURAL SKILLS PEDAGOGY: FROM ACADEMIC RESEARCH TO THE EVERYDAY CLASSROOM

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ABSTRACT

AURAL SKILLS PEDAGOGY: FROM
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Aural skills are necessary for all musicians and are traditionally included at the beginning of a music major's undergraduate degree. A vast body of research informs how people acquire aural skills and how to teach aural skills. The research covers several different areas of study, including music perception and cognition, music theory, and music education. Taken as a whole, a research-based aural skills pedagogy emerges. This thesis compares research to practice: (1) Do textbooks employ research-based pedagogies? (2) Do teachers implement these pedagogies in the classroom? The first section of this thesis synthesizes the academic research to present an ideal aural skills pedagogy. Using this ideal, the second section evaluates eight aural skills textbooks, while the third section reports the self perceptions of six collegiate aural professors. This

thesis shows that most aural skills textbooks incorporate quite a bit of research-based pedagogies, while aural skills professors are less consistent and purposeful in implementing these pedagogies.

I. INTRODUCTION

Aural skills hone the musical mind to develop two interrelated skills, which are often referred to as the hearing eye and the seeing ear. The hearing eye can look at a piece of music and hear it in the mind and subsequently reproduce it with the voice or another instrument. The seeing ear can hear a piece of music and translate it into written notation. Common exercises found in aural skills and ear training classes that reflect the hearing eye and the seeing ear are sight-singing, rhythmic reading, error detection, melodic dictation, and harmonic dictation. Sight-singing is where students are presented with a melody and expected to sing it with correct pitches and rhythms without having practiced or heard the melody. Rhythmic reading is similar, except that the focus is solely on the element of rhythm. With both sight-singing and rhythmic reading, label systems are often used to organize the sounds in the students' minds. Error detection is where students are presented with written music that contains one or more mistakes. A correct version of the music is heard, and the students are expected to circle and correct the error(s). Melodic dictation is where students hear a melody and are expected to notate it with accurate pitch and rhythm. Harmonic dictation is similar, except the students hear a harmonic progression instead of a melody. Students are expected to notate the outer voices as well as the roman numerals of the chords. When music majors enter college, each student possesses these skills to some degree or at least possesses the potential for

these skills. These students are required to complete several semesters of aural skills classes, which are invariably presented alongside music theory classes.

Aural skills in itself does not exist as its own discipline in the same way that music theory or music education does. There is no "Journal of Aural Skills," as there is with music theory, music education, and music perception and cognition. A vast body of research in these other music fields reports on how people acquire aural skills with implications about how to teach aural skills. These separate areas of research have precious little flow of information between each other,[1] which could substantiate the varied methodologies used to teach aural skills. The academic background of aural skills professors is often that of music theory, music education, or music psychology, but hardly ever a mix of the fields. It seems reasonable that college professors, regardless of each professor's primary area of study, should be taking this research seriously and implementing these strategies into their classrooms. Taken as a whole body of research instead of separate fields, a research-based aural skills pedagogy emerges.

This thesis compares research to practice: (1) Do textbooks employ research-based pedagogies? (2) Do teachers implement these pedagogies in the classroom? The first section of this thesis synthesizes the academic research to present an ideal aural skills pedagogy based on research. Using this ideal, the second section evaluates eight aural skills textbooks, while the third section reports the self perceptions of six collegiate aural skills professors. This thesis shows that most aural skills textbooks incorporate

[1] David Butler and Mark Lochstampfor, "Bridges Unbuilt: Aural Training and Cognitive Science," *Indiana Theory Review* 14 (1993): 1-17.

some of research-based pedagogies, while aural skills professors are less consistent and purposeful in implementing them.

II. ACADEMIC RESEARCH

Music Theory

The field of music theory contributes much to the ideal aural skills pedagogy. A solid understanding of theoretical concepts, as well as notation, is vital to an aural student's success, which is perhaps why the two subjects are so often presented concurrently. Students cannot successfully perform an exercise such as melodic dictation without first understanding basic theoretical concepts such as meters and key signatures. In the same way, students cannot translate music into written notation within a dictation exercise if their notation skills are less than fluent. While knowledge of music theory often enhances aural skills, a music theory mindset may actually harm students' progress at times because the two skills require different ways of processing. For example, music theorists often teach harmonic dictation by identifying chord roots and bass lines, and while this concept makes sense from a music theory standpoint, research has shown that using a scalar technique to identify harmonies is more successful in an aural skills setting.[2]

Music Education

The field of music education is important in the ideal aural skills pedagogy. Aural professors should grasp at least a basic understanding of educational principles and

[2] Manuel Alvarez, "A Comparison of Scalar and Root Harmonic Aural Perception Techniques," *Journal of Research in Music Education* 28, no. 4 (1980): 229-35.

learning theories in order to teach effectively. Any discussion of education should begin with an understanding of how the human brain learns. Though individuals have varied learning styles, there are some general theories that can be set forth. According to Piaget's Developmental theory, children move through different operational stages as they grow. School-aged children start out in the Concrete Operational stage, in which they are able to apply logic to concrete situations and objects. Beginning around the age of 11 or 12, children start to transition into the Formal Operational stage, where abstract thinking emerges. Research shows, however, that only 40 to 60 percent of college students and adults fully reach the Formal Operational stage.[3] When considering education at the collegiate level, it is therefore appropriate to take the Concrete Operational stage into consideration.

In the comparison between declarative and procedural knowledge, the goal of the education must be clarified. Is the end result to have the student know an obscure term about music? Teachers often refer to this strategy as "covering" the concept. Or is the end result to have the student know how to use that term, thereby transforming declarative into procedural knowledge and ridding the term of its obscurity? Obviously the latter is preferred; this is called content *mastery*. When looking at Bloom's taxonomy, teachers mostly ask questions that demand Lower Order Thinking Skills because (1) it is easier to assess and (2) the students and teacher will receive instant gratification for those easy, quick answers. This type of question, however, is seldom accurate in assessing whether or not the students are actually learning the concept. Concepts must be assessed within many different contexts to ensure mastery.

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[3] Michael J. Chandler, ed., *Adv in Child Development*, ed. Author Unknown (New York: Academic Press, 1976).

Learning theories are also an important contribution from the field of music education. A basic understanding of common learning theories is necessary to understand the evaluation of the presence or absence of learning theories within aural skills textbooks and classrooms. The following learning theories are defined alphabetically:[4] [5]

- Constructivism: learning parts of a concept must be connected to learning the whole; learning never involves processing isolated facts. Constructivist theory builds from the ground up at the students' own pace and bases curriculum on students' prior knowledge.
- Behaviorism: focusing on producing certain behaviors leads to learning; this theory is based on Skinner's research with positive and negative reinforcement. Behaviorism relies heavily on repetition until mastery takes place.
- Brain-Based Learning: learning takes place if the brain is allowed to function in its natural way; curriculum is built around psychological processes and how the brain learns new information. Brain-Based Learning heavily relies on active processing, in which the student is able to learn new material in an engaged way.
- Control Theory of Motivation: learning is guided by the lead teacher (as opposed to the coercion-based boss teacher), who makes the intrinsic motivation of the work known to the student and thereby improves students' work quality.
- Observational Learning: learning correct behavior and skills occurs by observing a model.

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[4] Jim Askew, "Educational Theories," Crescent Public Schools, http://crescentok.com/staff/jaskew/isr/education/theories.htm (accessed September 26, 2011).

[5] Sunny Cooper, "Theories of Learning in Educational Psychology," Continuing Education, http://www.lifecircles-inc.com/Learningtheories/glossary.html (accessed September 28, 2011).

- Spiral Curriculum: learning occurs by basic ideas being revisited over and over with increasing levels of complexity added each time.
- Process-Based Learning: learning occurs when emphasis is placed on process rather than product; curriculum and assessment is weighted on the process of learning a skill rather than focusing on the end result of attaining that skill.
- Heuristic Processes: learning takes place when decision making is based on logical flow charts or progressions.
- Fleming's Learning Styles (VARK): learning happens through one or more of the four modalities (visual, auditory, reading/writing, kinesthetic)

Although it is easy to brush aside these educational concepts as common sense, professors need to keep them in the forefront of their minds while teaching in order to have a more purposeful and intentional approach to teaching.

Music Perception and Cognition

The field of music perception and cognition (or music psychology) is crucial to understanding the way aural skills are processed. Several cognitive mental processes occur at the same time during aural activities such as melodic or harmonic dictation, error detection, and even sight-singing. These processes are described by Matthew S. Royal in his review article on George Pratt's *Aural Awareness*.[6] The following cognitive mental processes are represented by certain exercises normally performed in an aural skills classroom. Assessing the presence or absence of these skills provides a way to assess the presence or absence of these cognitive mental processes.

[6] Matthew S Royal, "Review: Music Cognition and Aural Skills: A Review Essay on George Pratt's 'Aural Awareness'," *Music Perception: An Interdisciplinary Journal* 17, no. 1 (1999): 127-44.

- aural acuity (perception): the ability to pick out component sounds of a simultaneous complex sound or quick progression of sounds. This is the ability to listen critically to sound and attach meaning to it. This skill is developed in aural skills classes through harmonic dictation.
- memory: includes both short term working memory and long term memory. The ability to process and store stimulus patterns that were just heard, to compare patterns, and to enable a sense of continuity that is both fragile and necessary to a temporal art like music. In aural skills classes, this skill is typically trained through dictation and/or echoing. Four types of memory include aural memory, visual memory, kinesthetic memory, and analytical memory.
- imagery (audiation): the ability to hear music in one's head without any hint of this music in the surrounding environment. Three contexts for imagery are: response to notation, following auditory stimulus, and as a prerequisite to scholarly analysis. In an aural class this skill is trained and assessed through sight-singing, rhythmic reading, and dictation.
- musical knowledge: (1) procedural/implicit: term for the music-specific schemata of knowledge that is developed and acquired through enculturation; (2) declarative/explicit: knowledge that one can talk about, including technical terms that can be associated with particular elements and structures of sound. Sight-singing, rhythmic reading, and dictation are justified within an aural skills class because they strengthen the connection between notation and sound.
- kinesthetic processes: the use of body movement or involvement in a learning process. Each type of musician will have a specific set of automatic motor skills

according to their primary instrument or voice type. Physical movement is extremely connected to understanding and performing rhythms. Body movements often reinforce mental concepts and increase the connection between working memory and declarative knowledge.

- aesthetic judgment: capacity to respond with a critical evaluation of a musical passage. It is controversial whether this process can/should be included in an aural skills class, where most of the listening is analytic versus the holistic listening that aesthetic judgment requires. This is the aspect mostly removed from music in aural skills classrooms, and perhaps that is why these classes do not seem to connect with students' sense of aesthetic in the everyday music they encounter.

Implications in Pedagogy

Aural Skills Acquisition by Gary Karpinski is the only book-length study that draws from the fields of music theory, music education, and music psychology. He describes a sequential pedagogy that builds from the ground up, somewhat in the mindset of a constructivist. His research, like this thesis, draws from experimental research done by music theorists, music educators, and music psychologists. The work found in this book culminates in his publishing of an aural skills textbook seven years later based on his methodology, which has been widely acclaimed as effective.[7] Karpinski's recommended sequence and teaching suggestions are presented on the next page.[8]

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[7] Marva Duerksen, "Manual For Ear Training and Sight-Singing, by Gary S. Karpinski. New York: W. W. Norton, 2007. (and Other Texts by Gary S. Karpinski.)," *Gamut: Online Journal of the Music Theory Society of the Mid-Atlantic* 2, no. 1 (2009).

[8] Gary S. Karpinski, *Aural Skills Acquisition: the Development of Listening, Reading, and Performing Skills in College-Level Musicians* (New York: Oxford University Press, USA, 2000).

Category	Skill	Method/Explanation
Basic Features	Texture	Understanding textures provides a tool for listening to music.
	Timbre	Important to discriminate among various instrumental and vocal timbres.
	Tessitura and Register	Important because of octave and pitch recognition in dictation.
	Tempo	Teach static and dynamic.
	Dynamics	There are no absolutes.
	Articulation	Recognize and explore general and instrument-specific articulation.
Preliminary Listening Skills	Pulse and Meter	Perception of pulse→ Perception of Meter→ Hypermeter→Rhythmic Dictation*
	Pitch	Pitch matching, pitch memory, memory of pitch collections, inference of tonic, perception of melodic contour, identification of intervals, identification of scale types, solmization systems
Actual Skills	Melodic Dictation*	Four phases of musical perception and cognition, presenting melodic dictation, assessment tools and evaluation rubrics.
	Polyphonic Dictation	Small but essential component of music training.
	Harmonic Dictation*	Part writing, Arpeggiation, Gestalt, Bass line as the basis of harmonic function, Inversion, Chord quality, Voice Leading, and Harmony
	Transcription	Does not develop short-term memory, extractive listening, or speed and fluency, but it is a realistic tool.
	Instrumental Playback	Uses all pitch skills, but does nothing to enforce written notation.
	Error Detection and Correction*	Indispensible skill to performer, conductor, and teacher—need to integrate this skill into early stages of aural training and use other parameters besides pitch and rhythm.
	Advanced Hypermeter	Make connections with other parameters of music.
	Sight-Reading*	Scan music before sight-reading.
		Interval and scale degree strategies.
		Solmization systems for sight-reading.
		Intonation: how to tune the key and pitches within the key.
		Visual Tracking: eye movements, chunking, reading ahead
		Metric and rhythmic thinking: conduct while sight-singing, recognize patterns.

		Harmonic Thinking: understanding implied harmonies can make passage easier and more musically meaningful (arpeggiate chord progressions)
		Structural singing: realize what is structural and what is embellishing; also recognize voice leading patterns.
Large-Scale Features	Form	Tools to help identify form: provide listening guidelines or questions or a graphic representation of a work.
	Key Areas	Begin with smaller scale works and move to more complexity, and use computer programs to map pieces.
More Complex Reading Skills	Chromaticism	As seen in neighboring tones, passing tones, stepwise patterns, neighboring tones, and functional chromatic arpeggiation.
	Modulation	Recognize the different types and expect certain patterns
	Tempo and Meter Changes	Be able to do it in real time.
	Clef Reading	Know treble, alto, tenor, and bass clefs.
	Transposition	Know the different kinds and methods for transposition.
	Score Reading	Use of keyboard, singing, and error detection skills.
	Conducting	Keep in mind harmony, pitch and intonation, dynamics, timbre, rhythm and articulation, balance and orchestrational aspects, and line and continuity.

*Skills that correspond to the cognitive mental processes described previously

These skills (harmonic/melodic dictation, error detection, sight-singing, rhythmic reading) are often the core of aural skills curriculum. Karpinski's methods for teaching these core skills are presented in order to provide a more solid basis of research-supported teaching methods. The summaries of these skills are presented in the order found in the book.

Karpinski's Methodologies

Rhythmic Reading: (pp. 19-32)

Karpinski asserts that the foundation for rhythmic reading is developing a sense of pulse, followed by understanding meter. The perception of pulse, which is the regularly recurring feeling of musical stress, can be evaluated through clapping or pronotational symbols. Perception of meter begins with realizing primary and secondary pulses, followed by represented them through symbols and conducting. Hypermeter may also be introduced at this point. Rhythmic dictation is the foundation for melodic and harmonic dictation according to McHose. His method advocates that rhythmic reading and dictation shouldn't be used to ignore pitches, since the eventual goal is to listen to pitch and rhythm at the same time.

Melodic Dictation: (pp. 62-110)

One of the inadequacies of the melodic dictation system, according to Karpinski, is that notation as assessment provides little insight into the perceptual and cognitive operations of the musical mind. Singing the melody back or having the students write pronotation might give more information worthy of analysis.

He identifies four phases of musical perception and cognition that occur during melodic dictation. Each phase must be kept in mind when teaching and assessing melodic dictation.

The first phase is hearing. Two issues to keep in mind are that physical problems can impede correct hearing, and that psychological things like boredom, ADD, and test anxiety can impede the ability to listen attentively.

The second phase is short-term melodic memory. When remembering a melody, the contour is the most correct aspect of melody retained in the memory, which is known as tonal imitations. The tonality of a melody can provide expected function and framework, which is helpful. The expectation of a musical grammar (formed through acculturation) may help or hinder, depending on if the expectation matches what is actually being played. The more a student "knows how the music goes," the more the student can remember. With regard to the instructional tool of singing back, if it is used as a diagnostic tool, it can hinder music memory. If it can be done accurately, it can greatly aid music memory. Singing back is a reflection of a musical-memory level, which is required for accurate melodic dictation. If students can selectively remember the music and identify patterns, then their short-term memory increases. If the dictation exercise is longer than the listener's short-term limit, retroactive interference comes into play. Pitches are more easily remembered if they are attached to rhythms. It is also helpful to keep the "primacy" and "recency" effects in mind, where students remember the first and the last best. Two strategies that extend the capacity of short-term musical memory are extractive listening and chunking. Extractive listening is the ability to focus attention on a selected segment of a musical stimulus and remember that segment despite the inhibitive nature of surrounding musical material. Chunking is the immediate recognition of a group of notes such as a scale or a chord that reduces Miller's limits when remembering melodies.

The third phase is musical understanding. When a piece of music is memorized, one must apply musical understanding before moving to notation. With regard to duration, it is important to identify meter and rhythm through pronotation at first. Using

rhythm solmization for understanding can aid understanding. Even though there are many different systems, this method advocates for the use of the takadimi system due to the fact that each part of the beat is denoted by a unique syllable. With regard to pitch, there are several strategies to applying musical understanding. All functional tonal evaluations stem from a sense of the tonic, and it is important to assess contour correctly. Combining identifying scale degrees and stages of pronotation will ensure proper development of understanding. This method states that beginners must use melodies that clearly define tonic and avoid any ambiguity, such as mistaking the pentatonic.

The fourth and final phase is notation. Establishing well-defined expectations about notation is crucial. The important goals in notation are speed, fluency, and immediacy. With regard to meter and rhythm, supplying the students with a beat unit should lead to pronotation, which eventually will lead to notation. Using various beat units will develop fluency, as will using a solmization syllable system. With regard to pitch, pronotation will also work, but the name of the tonic pitch needs to be provided so pronotation can be translated. Whether functional or fixed systems of solmization are used, choose a logical combination; Karpinski discourages using mixed syllables such as using both moveable and fixed do.

When presenting melodic dictation, most textbooks provide various extramusical cues. With regard to meter and rhythm, most textbooks provide cues about meter, tempo, starting rhythmic value, and/or number of measures. With regard to pitch, extramusical cues are often playing the tonic note, scale, and/or chord before the dictation. Providing the key signature, actual key, and/or starting pitch are also common cues. These cues detract from learning valuable aural skills that work on perceiving these things.

Acceptable cues, according to Karpinski, include saying the starting pitch and the beat unit. With providing so few cues, teachers must be prepared to have a variety of answers and to discuss them with the students.

The tempo of the dictation is important to consider because the rate of presentation has an effect on the listener's ability to process pitch discrimination tasks. When there are between 100 and 240 pitches per minute, perception is at a maximum. The length of the dictation and the number of playings can be calculated with the formula P=(Ch/L)+1 where P is the number of playings, Ch is the number of chunks in the dictation (with a chunk defined as a single memorable unit), and L is the limit of a listener's short-term memory in terms of chunks. Non-numerical factors for the length and number of playings include prior experience, education, and success in focusing attention. When forming dictation exercises, this method deems it necessary to match the listener's knowledge and skill to the types of figures contained in the dictation.

The duration between playings places demand on all dictation-taking skills, particularly on the listener's facility with notation. Duration between playings depends on whether the students are using pronotation, pronotation plus notation at the end, or just notation. Students who do well when the time between playings is longer are probably working correctly, but slowly and inefficiently. Students who improve when the number of playings is increased are most likely having difficulties with focused attention, extractive listening, or other aspects of short-term memory.

Overall, it is important to keep in mind that the skills necessary for taking dictation are the true goals, not the dictation itself.

Harmonic Dictation: (pp. 117-127)

Karpinski fails to articulate an effective way to teach harmonic dictation, but, rather disappointingly, he simply lists the currently used methods. At the end of the section, he suggests that a combination of these methods might be successful. Here are the methods that he reports:

- Part Writing: melodically dictating each line then harmonically analyzing each chord afterward. This is harmonic looking, not harmonic listening.
- Arpeggiation: arpeggiate the members of each harmony as it passes. This method can become tedious and impractical as harmonies increase in speed
- Gestalt: recognizes the chords as entities which are then instantly recognizable and expected. May actually be a result of other techniques rather than a method in itself to use.
- Bass Line as the Basis of Harmonic Function: focusing on the bass line and the implied harmonies. Students may need to be trained to focus on the lowest voice. This method also turns out to be more of a single-line dictation rather than harmonic listening.
- Inversion: add perception of inversions to bass line to identify chord root. Without some acknowledgement of chord quality, this system becomes ineffective when chromatic harmony is introduced.
- Chord Quality—intersection between contents of bass line and qualities of chords above. This method also becomes ineffective when it isn't combined with knowledge of chord inversion.

- Voice Leading and Harmony: The first step in this method is to follow, remember, understand, and notate a bass line. Then, the student traces certain voices at specific crucial locations in order to make conclusions about the functions of chord progressions.

In this book, there was so much detailed and thoughtful instruction on how to teach other aural skills that could and should be transferred to harmonic dictation. For example, in the melodic dictation chapter, there was a great amount of emphasis placed on training in harmonic expectations and being literate in the musical grammar of traditional, tonal, Western music, a concept that would equally, if not more so, assist with training in harmonic dictation. Interestingly, the sight-reading chapter also emphasizes recognizing and expecting certain harmonic patterns to aid sight-reading.

As for how to train a student into a harmonically functional mindset, the book contains some hints which can be pieced together to form a valid conclusion that is ironically not clearly presented in the book. In the section about sight-reading, the book states, “We are generally unable to perform at sight that which we have not yet learned.” Applying this concept to harmonic dictation (we are generally unable to recognize chords which we have not yet learned), implies that students must learn progressions and harmonic functions before they are expected to identify them in a harmonic dictation exercise. In chapter 5, the book comments on this idea by alluding to the Gestalt approach. It says that identification of pitch collections (such as a chord in harmonic dictation) can only occur after rigorous training through developing tonal memory and understanding. A couple of places in the book give suggestions on how tonal memory may be acquired. In one passage it states that singing back (if it can be done accurately)

can greatly aid music memory, while later in the same chapter the book states that a student needs a lot of repetition on patterns in order to have "tonal brainwashing". In the last chapter of the book, it states that our most direct means of testing mental representations of sounds is the human voice. Therefore, the unintentional yet brilliant conclusion of this book is that the best way to teach harmonic dictation is through having the students sing chord progression patterns with lots of repetition.

Error Detection: (pp. 130-132)

Factors that affect the listener's accuracy include number of parts (less makes it easier), texture (thin makes it easier), and type of error (rhythm makes it easier). This method advocates that error detection should be integrated into the early stages of aural training. Karpinski supports using other parameters in addition to pitch and rhythm, such as tempo and articulation. This exercise is a good opportunity to use language to communicate musical ideas by using standard and common vocabulary to correct the mistakes.

Sight-Singing: (pp. 158-193)

This method states that students should scan the music before sight-reading to identify global parameters. Identifying the clef helps orient the student in the music. The key signature implies the pitch collection, but the tonic still has to be figured out. The time signature and tempo marking must be interpreted correctly. Changes in these parameters must also be identified. The reader should orient themselves by mentally placing the members of the tonic chord on the staff. They should also place and hear the first pitch in their head. When scanning the music, range and tessitura are important

factors because the reader can compare it to their personal vocal range and possibly request a transposition. The reader can also identify scale degrees of the upper and lower boundaries and see how they relate to members of the tonic chord. During this scanning stage, it is also important to look for roadmap signs such as repeat signs. "Mumbling"—rapid reading that stands somewhere between freely scanning out the music and reading it in real time—can help provide anchor points and maintain fluidity while sight-reading.

When sight-reading, it is important to identify the physical characteristics of the experts so these characteristics may be emulated. One of these characteristics is the eye movements during the scanning process. To become like the experts, students need to become more knowledgeable about musical structures and more efficient at recognizing them rapidly. They also need to develop the skill of scanning the music as rapidly as possible. Using interval strategies for sight-reading has limited use and is impractical for the true goal of sight-reading, which is to gather valuable information about how music itself works.

Solmization systems are grouped into the categories of pitch and rhythm. When deciding on a pitch-based solmization system for sight-reading, it is important to choose between a fixed system and a moveable system. A fixed system is where a student reads pitches and assigns the proper label until he/she can read directly in solmization. A moveable system involves reading pitches and translating them into scale degree syllables by relating to tonic. It also relies on seeking patterns of functional shapes on an essentially generically conceived staff. Both types of solmization systems are useful, so both should be used but with different labels. Translating rhythms into syllables can be beneficial, whether it is a functional system or a notation-oriented system. A final note on

solmization systems—Karpinski states that professors should either buy into the system wholeheartedly or not at all because it becomes an impediment to students who do not attain fluency.

During sight-reading, two kinds of tonal intonation problems can occur. The first intonation problem is the key itself. When the key is out of tune, it results in a break-down of pitch reading. Karpinski recommends that professors have the student see whether or not they have lost tonic, and if they have, have them practice singing tonic throughout the exercise, singing melodies over a tonic drone, and singing melodies over a tonic/dominant drone. The second kind of intonation problem is when pitches within a key are produced inaccurately without losing tonic. If a few isolated pitches are mistuned at a specific sport in a passage, this method has the student compare the mistuned pitches with correctly tuned pitches that the student has already sung. If certain scale degrees are consistently performed out of tune, this method has the student sing scales and sequences slowly and carefully while tuning each pitch.

Students who are competent at rhythm and pitch exercises but still stumble in sight-reading are often reading note to note; they need to look ahead and read bigger chunks of music. Goolsby's findings show that music notation is processed before the performance of it, and that skilled readers look farther ahead in notation, don't process the melody "note by note," use longer notes to scan notation, and use a system of chunking. Eye movements determine and depend on readers' abilities to see and understand musically meaningful chunks such as metric groupings, rhythmic patterns, scalar passages, arpeggiations, and harmonic implications. A drill to practice reading

ahead is to choose a duration, look at the first unit, cover the first unit, sing the first unit while looking at the second, and so on.

Students must also focus on metric and rhythmic thinking when sight-reading. Conducting is the most effective kinesthetic method to develop a sense of meter since it defines differences between duple and triple. Students' sense of rhythmic grouping may be within or across the barline and learned as a pattern. Recognizing rhythmic patterns is often helped with visually beamed metric divisions. Accurate rhythmic performance is the result of matching a pattern against a mental inventory of previously learned patterns and working out an unfamiliar pattern in real time. Rhythmic training should occur in a musical context, with recognition of nuance and style.

Harmonic thinking is important for two reasons. Readers who quickly grasp harmonies implied in a passage can use that information to make a performance easier, and readers who take harmonic implications into account can produce more musically meaningful performances. Arpeggiating chord progressions is beneficial because it ingrains sounds of chords in the ears and the mind, reinforces the links between symbols and sounds, and links the eye to the ear to the mind in a deeper understanding and fluency in music. Literate musicians learn to think about harmony as rapidly as they can perform it. Visual and mental chunking of harmony is where a reader takes in groups of pitches at sight and makes harmonic sense of them, a task which increases in difficulty with increasing complexity.

Knowledge of harmonic structure and how passing, neighboring, and other non-harmonic tones fill out the melody can help a sight-singer navigate seemingly difficult

passages. Simplifying melodies into first-order reductions and so on can provide an anchor for the singer's ear, around which to navigate the embellishing notes. These techniques not only make the sight-singing easier, but also more musical. Much single-part music contains inherent implications of more than one voice. Astute readers should see the harmonic implications of a melody to process seemingly difficult passages.

It is important to emphasize performance indications and musical expression. Much of aural training focuses only on rhythm and pitch, which causes a huge gap between sight-reading and actual musical performance. Karpinski advocates that aural teachers must train their students to sight-read the additional elements of tempo, dynamics, articulation, accent, and phrasing. Although the combination of these expectations may overwhelm the sight-readers, he believes it is certainly better than creating un-musical habits. Giving contingent feedback is also crucial in the sight-reading process; teachers should suggest improvements and praise well-executed exercises and elements.

Learning prepared materials helps sight-reading because people are generally unable to perform at sight that which they have not yet learned. Isolating and working out specific skills helps readers arm themselves with skills necessary to execute them in the future at sight. Some skills are the same regardless of whether they are performed through preparation or at sight, such as establishing collection, tonic, pulse, tempo, and meter. Readers must be supplied with tools, become aware of the applicability in prepared materials, and be taught to bring forward and apply the tools appropriate to specific circumstances during sight-reading. Some skills differ significantly between sight-reading and performing prepared materials such as the types of eye movements, the

speed of assessing harmonic implications, and practice techniques. New concepts in the context of prepared materials lead to better sight-reading. The factors that contribute most significantly to sight-reading ability are the understanding of notation and various musical concepts, the experience with reading and performing a wide variety of music literature, and the amount of time and effort spent on sight-reading. Sight-reading is a separate skill from musical talent and instrumental technique. Sight-reading is a valuable, transferrable skill to either singing or instrumental performance.

Emergence of Ideal Pedagogy

All of this research—music theory, music education, and music perception and cognition, as well as the methods provided by Karpinski, provides a basis for comparing the ideal of research to the reality of practice. The practice portion of this comparison is found in the current aural skills textbooks and in the teaching methods of the actual professors, which were evaluated with surveys.

III. TEXTBOOK SURVEY

Eight aural skills textbooks were evaluated using the following questions. Though many aural skills classes are taught by using a sight-singing book or a combined theory and aural book, these options were excluded in favor of delving into actual aural skills texts. While this list of textbooks is by no means exhaustive, it is a representative sample of currently available textbooks. The textbooks are presented alphabetically by the first author's last name. The following questions were developed in order to assess how the textbooks measure up against the assembled body of research.

- **Is a certain learning theory used or implied in the text?**

  Specific mentioning of key aspects of the theory or a special emphasis placed on the theory was used to assess what theory or theories were present in the textbook. Therefore it should be noted that even though each book probably contains bits and pieces of many learning theories, the ones listed seemed to guide the general direction and purpose of the text.

- **Are the following cognitive mental processes (aural acuity, memory, imagery, musical knowledge, kinesthetic processes, and aesthetic judgment) focused on in the text? If so, through what skills?**

The cognitive mental processes of aural skills are listed in the Academic Research section and are assessed based on the presence or absence of the skills that each process is reflected in.

- **What is the content of curriculum covered in the text?**

  This question addresses the general overview of concepts covered. Chapter titles or basic skills are listed, depending on the particular format of the book. This question also addresses the scope of the skills.

- **What is the sequence of this content?**

  Sometimes the text had specific prescriptions for sequence of the content, while other text the sequence was an implied progression through the book.

- **What, if any, methods are advocated for learning the core aural skills? (harmonic/melodic dictation, error detection, sight-singing, rhythmic reading—the skills reflected in the cognitive mental processes)**

  These methods are meant to be compared with those discussed in the Academic Research section based on Karpinski's *Aural Skills Acquisition.*

- **What label system is endorsed, if any?**

  Options include moveable do, fixed do, letter names, and scale degree numbers.

- **What is the ratio in the text of instruction to exercises?**

  This information was assessed by measuring the actual space on the page used by either instruction or exercises. For each book, two or three samples of text were assessed and averaged together.

- **Are other musical concepts besides rhythm and pitch emphasized? If so, how much?**

Other musical concepts may include form, timbre, dynamics, and other aesthetic concepts.

- **Does this text discuss its possible relationship to a theory text or course?**

  This question helps explore the perceived relationship between the two.

(1/8) Text:

Ear Training: A Technique for Listening

by Benward and Kolosick[9]

Is a certain learning theory used or implied in the text?

Spiral Curriculum: basic ideas are revisited over and over with increasing levels of complexity added each time.

This text is centered on four main topics: melody, harmony, rhythm, and transcription. Each unit revisits these topics with increasing complexity as the text progresses.

Observational Learning: The student observes a model to learn correct behavior.

At the end of the Suggested Classroom Procedures subsection of the Preface, the text states that "teaching comes best from a human musical role model."

Are the following cognitive mental processes focused on in the text? If so, through what skills?

- aural acuity: Yes, through dictation.
- memory: Yes, through dictation.
- imagery: Yes, through error detection and dictation.
- musical knowledge: Yes, through dictation.
- kinesthetic processes: Yes, through clapping rhythms and singing.

[9] Bruce Benward and J. Timothy Kolosick, *Ear Training: A Technique For Listening*, 7th ed. (Boston: McGraw-Hill, 2010).

- aesthetic judgment: No. No passage of this book asks the student to judge the music based on aesthetics.

What is the content of curriculum covered in the text?

The curriculum of this text focuses in on four main topics of aural skills: melody, harmony, rhythm, and transcription. Each of the 16 Units revisits each topic in increasingly complex ways.

- The melodic study extends from identification of a single interval to the comprehension of melodic organization in two-part and three-part forms of moderate length.
- The harmonic study extends from the identification of a simple triad to the recognition of nondominant 7th chords, modulations, secondary dominants, and augmented 6th chords.
- The rhythmic study extends from simple rhythmic units containing whole-beat and half-beat values to the perception of complicated patterns with subtriplets, syncopations, and changing meters.
- The transcription study extends from simple diatonic melodies to elaborate multi voice chromatic textures.

What is the sequence of this content?

Within this spiral curriculum, the text also has an internal structure within each unit of certain types of drills that continually recur.

- Within the melody portion of each unit, the drill types include melodic dictation, mode identification, melodic error detection, scale degree identification, melodic figure identification, two-voice dictation, phrase relationships, musical form, intervals, and models and embellishments.
- Within the harmony portion of each unit, the drill types include chord function identification, chords in music literature, harmonic rhythm, non harmonic tones, cadence types, aural analysis, triad position identification, harmonic dictation, chord quality identification, harmonic error detection, and support drills for harmonic dictation.
- Within the rhythm portion of each unit, there are two types of drills: rhythmic dictation and rhythm error detection.
- Within the transcription potion of each unit, there is no specific drill type. The transcription itself acts as a summative drill of the previous three skills.

What, if any, methods are advocated for learning the core aural skills? (harmonic/melodic dictation, error detection, sight-singing, rhythmic reading—the skills reflected in the cognitive mental processes)

- Harmonic dictation: Listen to and sing the bass voice on solfege or numbers, convert them to actual pitches, recognize the harmony off the bass, notate the roman numerals and outer voices as instructed.
- Melodic dictation: Create an aural image of the melody (try to sing it in your mind), establish an understanding of the melody's structure (with solfeggio syllables or numbers), notate the melody.

- Error detection: Create an aural image in your head as you sing or perform it in your mind, compare this original version to what you hear and circle the notes that surprise you.
- Sight-singing: This text does not cover sight-singing.
- Rhythmic reading: The only rhythm activities in this text are dictation and error detection; both skills assume rhythmic reading is already mastered. Tips for rhythmic activities include counting the meter aloud and saying or clapping the rhythm.

What label system is endorsed, if any?

The text gives instructions based on solfege and/or scale degree numbers.

What is the ratio in the text of instruction to exercises? (This data is calculated by assessing a unit from the beginning, middle, and end of the book and averaging these three numbers.)

32% Instruction and 68% Exercises

These percentages were calculated using the Instructor's Edition, which has more instruction than the student edition has.

Are other musical concepts besides rhythm and pitch emphasized? If so, how much?

Other musical concepts are absent from the curriculum of this text. One section of the preface does suggest having students play the dictation examples with their instruments to get a different timbre besides the expected piano timbre of aural skills classes.

Does this text discuss its possible relationship to a theory text or course?

The text briefly mentions that it is intended to accompany most undergraduate music theory courses.

(2/8) Text:

Developing Musicianship through Aural Skills: A Holistic Approach to Sight-Singing and Ear Training

by Kent D. Cleland and Mary Dobrea-Grindahl[10]

Is a certain learning theory used or implied in the text?

Constructivism: learning parts of a concept must be connected to learning the whole; learning never involves processing isolated facts.

This text logically orders the topics from simple to complex. The chapters present facts that are sequenced in a connected way that allows the student to understand the concept being presented.

Brain-Based Learning: this theory states that learning will take place if the brain is allowed to function in its natural way. Curriculum is built around psychological processes and how the brain learns new information. This theory heavily relies on active processing, in which the student is able to learn new material in an active way.

This text has many exercises which allow the student to process the information they learned in an active way. The book also asserts that it is organized in such a way as to take advantage of how the brain naturally works when it hears and processes music, thereby aiding students to achieve better results.

[10] Kent D. Cleland and Mary Dobrea-Grindahl, *Developing Musicianship through Aural Skills: a Holisitic Approach to Sight Singing and Ear Training* (New York: Routledge, 2010).

Are the following cognitive mental processes focused on in the text? If so, through what skills?

- aural acuity: Yes, through dictation.
- memory: Yes, through dictation.
- imagery: Yes, through rhythmic reading and dictation.
- musical knowledge: Yes, through rhythmic reading and dictation.
- kinesthetic processes: Yes, through conducting, articulating, and singing.
- aesthetic judgment: Yes, there is a section on musicality for one of the Reflections. It encourages students to bring their aesthetic/musical mindset to the aural skills classroom.

What is the content of curriculum covered in the text?

This text has twelve chapters with the following titles:

Chapter 1 Simple Meter, Rests and Phrases; The Major Mode, Major Triads and Tonic Function

Chapter 2 Compound Meters, Ties and Dots; The minor Mode and Inverted Triads

Chapter 3 Changing Meter; Second Division in Compound Meter; The Dominant Sound

Chapter 4 Triplets and Duplets; Seventh Chords and Predominant Function

Chapter 5 Less Common Meters; C Clefs and Harmonic Progression

Chapter 6 Syncopation; Beginning Non-Modulating Chromaticism

Chapter 7 Triplets and Duplets; More Non-Modulating Chromaticism

Chapter 8 Triplets; Other Clefs; Beginning Modulation

Chapter 9 Reading Complex Rhythms; More Complex Modulation

Chapter 10 Twentieth-century Rhythmic Techniques

Chapter 11 Twentieth-century Material based on Tonal Models

Chapter 12 Twentieth-century Material based on Non-Tonal Models

What is the sequence of this content?

This text does not specify any sequence other than the implied progression of one chapter to another. The preface does say that each chapter should take approximately five weeks for an average undergraduate class to cover, which implies that this text is meant for the standard four semesters of aural skills for undergraduates.

What, if any, methods are advocated for learning the core aural skills? (harmonic/melodic dictation, error detection, sight-singing, rhythmic reading—the skills reflected in the cognitive mental processes)

- Harmonic dictation: There is no procedure outlined for how to learn this skill.
- Melodic dictation: There is no procedure outlined for how to learn this skill.
- Error detection: This skill is not explicitly emphasized or practiced in this text.
- Sight-singing: Although there are many sections on singing to learn the concepts being taught, there is no specific section on sight-singing. However, the contexts in which singing is used in this book could translate to helping the skill of sight-singing.

- Rhythmic reading: The text advocates practicing rhythmic reading through clapping the beat while articulating the rhythm or conducting and articulation. The text also advocates for a use of varied tempi and dynamics.

Even though there is no section describing a procedure for the many dictation exercises the text provides, the information leading up to the exercise is supposed to aid in successfully performing the dictations.

One skill that is emphasized that falls outside of these skills is improvisation. Specific ways to learn improvisation are described in the text.

What label system is endorsed, if any?

An appendix in the back of the book discusses the various labels systems and identifies four goals of a label system:

- Recognition of notes and harmonic structures
- Understanding of musical relationships within a key
- Practice in observing multiple aspects of a musical sound
- Providing a musical sound on which to sing each pitch

The text states that no one label system accomplishes all of the goals, so a combination would be useful, such as moveable do and letter names or fixed do and scale degree numbers. This book definitely advocates for the use of solfege based on the two different Reflections that discuss the topic.

What is the ratio in the text of instruction to exercises? (This data is calculated by assessing a section from the beginning, middle, and end of the book and averaging these three numbers.)

30% Instruction, 70% Exercises

Are other musical concepts besides rhythm and pitch emphasized? If so, how much?

This text has quite a few musical concepts that are emphasized, mostly contained within the Reflections that occur at the end of each unit. Titles of the Reflections are (1) Why Study Solfege? (2) Professionalism, (3) Musicality, (4) Listening, (5) Perseverance, (6) Creativity, (7) Confidence, (8) Performance Preparation, (9) Energy, Space and Time, (10) Understanding and Appreciating Twentieth-century Music, (11) Being an Advocate for Music, and (12) A Life of Solfege.

Also, throughout the exercises in the book, dynamic markings and style indications are present as if to encourage musical performances.

Does this text discuss its possible relationship to a theory text or course?

This text makes no mention of its possible relationship to a theory text or course.

(3/8) Text:

Functional Hearing: A Contextual Method For Ear Training

by Arthur Gottschalk and Phillip Koeckner[11]

Is a certain learning theory used or implied in the text?

Constructivism: learning parts of a concept must be connected to learning the whole; learning never involves processing isolated facts.

This text takes concepts and skills and breaks them down into their component parts. Each Area of the book is designed to head toward cumulative skills and goals, but the incremental steps in that journey are crucial.

Brain-Based Learning: this theory states that learning will take place if the brain is allowed to function in its natural way. Curriculum is built around psychological processes and how the brain learns new information. This theory heavily relies on active processing, in which the student is able to learn new material in an active way.

Each concept is introduced in small segments with many chances for students to actively practice and master each step toward a cumulative skill. The preface states that this book is constructed on the perception and awareness of tendency and function. This book also designs exercises to help bridge the gap between cognitive and aural perception of musical ideas.

[11] Arthur Gottschalk and Phillip Koeckner, *Functional Hearing: A Contextual Method For Ear Training* (New York: Ardsley House, Publishers, Inc, 1997).

The Control Theory of Motivation: the lead teacher (as opposed to the coercion-based boss teacher) makes the intrinsic motivation of the work known to the student and thereby improves students' work quality.

This text explains why certain skills are important throughout the different sections. It emphasizes that they are not simply exercises that are ends in themselves, but that they are a means to an end that will be a necessary tool for the students' musicianship.

Are the following cognitive mental processes focused on in the text? If so, through what skills?

- aural acuity: Yes, through dictation.
- memory: Yes, through dictation.
- imagery: Yes, through sight-singing, rhythmic reading, and dictation.
- musical knowledge: Yes, through sight-singing, rhythmic reading, and dictation.
- kinesthetic processes: Yes, through conducting, tapping steady beat, and singing.
- aesthetic judgment: No. No passage of this book asks the student to judge the music based on aesthetics.

What is the content of curriculum covered in the text?

This curriculum covers scale degrees within major and minor scales, intervals, sight-singing, melodic constructs, triads, seventh chords, dictation, chromaticism, and rhythm. These broad skills are discussed and developed in detail through recurring sections entitled Fundamentals, Rhythm, Learning to Hear Intervals, Melodic Constructs, Melody, Learning to Hear Chords, Learning to Hear Function, Dictation, and Transposition.

What is the sequence of this content?

This text is organized into seven Areas. Each area title states the goal of that area and begins with the word "hearing." The first area is Hearing the Essential Elements of Music. The second area is Hearing Quality, Function, and Inversion in Triads. The third area is Hearing Quality, Function, and Inversion in Seventh Chords. The fourth area is Hearing Secondary Functions and Modulations. The fifth area is Hearing and Performing in Multiple Parts. The sixth area is Hearing Chromaticism. The seventh area is Hearing in Nonfunctional Contexts. This book is sequenced with each of these goals acting as a stepping stone to the next one.

What, if any, methods are advocated for learning the core aural skills? (harmonic/melodic dictation, error detection, sight-singing, rhythmic reading—the skills reflected in the cognitive mental processes)

- Harmonic dictation:
    - Write the bass line.
    - Identify the chord qualities.
    - Analyze the possibilities.
    - Listen for inversions.
    - Check your work.
- Melodic dictation:
    - Step 1: Score Setup
        - the length of the dictation
        - the clef for the dictation

        - the key for the dictation
        - the meter of the music
    - Step 2: First Hearing: Establishing the Key
        - silently sing the tonic and dominant pitches
        - silently sing the diatonic scale, ascending and descending
        - silently arpeggiate the tonic and dominant triads, ascending and descending
    - Step 3: First hearing: Setting the Tempo
        - actively internalize the tempo
        - imagine what the division and subdivisions of the beat will sound and feel like
        - tap, clap, or conduct silently to relate what you hear to the meter
    - Step 4: First Hearing: Listening without Writing
        - internalize the music by singing back what you hear
        - listen actively to the basic aspects (rests, highest/lowest pitches, steps/leaps, tonic/dominant, repeated pitches, patterns, etc.)
    - Step 5: Multiple Hearings: Writing Down What You Hear
        - represent the rhythm first (using shorthand)
        - represent the pitch using note heads on the shorthand rhythm notation
        - fully notate what you hear
- Error detection:
    - Compare what you hear with what is written.

    - Circle any pitch or rhythm that seems to be incorrect.
    - Correct any pitch or rhythm so that it matches what you hear.

- Sight-singing:
    - Gain understanding of general characteristics of the music you are about to read (range, key, clef, meter, rhythmic vocabulary, unusual events).
    - Establish sight-reading tempo.
    - Internalize the beat for at least two measures (conduct or tap beat).
    - Do not stop to correct errors.
    - Firmly establish tonic and dominant in your mind. Relate everything you hear and see to these tonal guideposts.
    - Use knowledge of intervals and function along with aural perception to sing the music. Read ahead—try to sing/think in phrases.

- Rhythmic reading:
    - Choose a tempo that will allow you to negotiate the syllables, letters, or number with which you chose to identify each note.
    - Work for complete accuracy at a slow tempo.
    - Conduct as you perform to keep the beat steady.
    - If you happen to make a mistake within one beat, move on without missing the next beat.

What label system is endorsed, if any?

The text states that it is compatible with all label systems, but throughout the book moveable do solfege and careted scale degrees are used.

What is the ratio in the text of instruction to exercises? (This data is calculated by assessing a chapter from the beginning, middle, and end of the book and averaging these three numbers.)

38% Instruction and 62% Exercises

Are other musical concepts besides rhythm and pitch emphasized? If so, how much?

No, all the concepts in this book are based on rhythm and pitch; the main goals of this text (identified in the titles of the areas) are all rhythm and pitch-based. The combination of the fact that the first area is called Hearing the Essential Elements of Music and the fact that other musical concepts besides rhythm and pitch are excluded implies that this text deems those other concepts non-essential.

Does this text discuss its possible relationship to a theory text or course?

One sentence in the Preface states that it has "an organizational plan that facilitates coordination with the general outline of most undergraduate theory courses."

(4/8) Text:

Music for Ear Training: CD-Rom and Workbook

by Michael Horvit, Timothy Koozin, and Robert Nelson[12]

Is a certain learning theory used or implied in the text?

Spiral Curriculum: basic ideas are revisited over and over with increasing levels of complexity added each time.

Four categories of exercises appear throughout this text: rhythmic dictation drills, preliminary exercises for melodic dictation and harmonic dictation, melodies and phrase-length harmonic exercises, and music from the literature. Each category starts with the rudimentary and adds complexity throughout.

Are the following cognitive mental processes focused on in the text? If so, through what skills?

- aural acuity: Yes, through dictation.
- memory: Yes, through dictation.
- imagery: Yes, through dictation.
- musical knowledge: Yes, dictation.
- kinesthetic processes: Yes, through tapping steady beat and graphing melodies.

[12] Michael Horvit, Timothy Koozin and Robert Nelson, *Music For Ear Training: Cd-Rom and Workbook*, 2nd ed. (n.p.: Schirmer, 2005).

- aesthetic judgment: No. No passage of this book asks the student to judge the music based on aesthetics.

What is the content of curriculum covered in the text?

- The rhythmic dictation drills extend from simple meters and basic rhythms to compound/changing meters and syncopation.
- The preliminary exercises for melodic/harmonic dictation include learning the applicable intervals, triads, and scales at each level of complexity.
- The melodic dictation exercises extend from simple diatonic intervals all the way through serial music.
- The harmonic dictation exercises extend from the tonic triad to polyharmony and polytonality.
- The examples from music literature are contained in Units 10, 14, and 17 and include compositions by Kuhlau, Farmer, MacDowell, von Weber, Chopin, J. S. Bach, Clarke, Diabelli, Haydn, Beethoven, Glinka, Schubert, Mozart, Scarlatti, Brahms, Schumann, and Grieg.

What is the sequence of this content?

Due to the spiral curriculum nature of the content, it seems logical to assume that the sequence would flow straight through the book. However, nothing in the book specifically indicates a specific sequence.

What, if any, methods are advocated for learning the core aural skills? (harmonic/melodic dictation, error detection, sight-singing, rhythmic reading—the skills reflected in the cognitive mental processes)

- Harmonic dictation: Listen to the complete exercises, identify cadence types, employ knowledge of logical chord progressions in common-practice period, and isolate individual voices.
- Melodic dictation: Listen to the complete exercise, establish the key, evaluate the types of skips, assess the shape of the melody, listen for important structural pitches, and listen for phrase and cadence structure.
- Error detection: This skill is not included in this text.
- Sight-singing: This skill is not included in this text.
- Rhythmic reading: The only rhythm activity in this text is dictation; this skill assumes rhythmic reading is already mastered. Tips for rhythmic dictation include defining the time signature, defining the meter, tapping the beat, assessing the most frequently occurring note value, and listening for recurring patterns.

It is important to note that these methods are only found in the Suggestions to the Student section at the beginning of the text and are not mentioned anywhere in the body of the text.

What label system is endorsed, if any?

No label system is mentioned in this text.

What is the ratio in the text of instruction to exercises? (This data is calculated by assessing a chapter from the beginning, middle, and end of the book and averaging these three numbers.)

0% Instruction, 100% Exercises

Are other musical concepts besides rhythm and pitch emphasized? If so, how much?

Other musical concepts are absent from the curriculum of this text. However, the CD-Rom that accompanies this text does allow for manipulation of instrumental timbres in the playback, but there is no discussion of this topic or any other extra-pitch/rhythm topics.

Does this text discuss its possible relationship to a theory text or course?

This text makes no mention of a relationship to a theory text or course.

(5/8) Text:

Manual for Ear Training and Sight-Singing

by Gary S. Karpinski[13]

Is a certain learning theory used or implied in the text?

Constructivism: learning parts of a concept must be connected to learning the whole; learning never involves processing isolated facts. Constructivist theory builds from the ground up at the students' own pace and bases curriculum on students' prior knowledge.

In the Approach sub-section of the To the Instructor section, the text emphasizes that it does not merely present items for testing or isolated facts; rather, it presents methods for learning skills by emphasizing how primary concepts can be applied to specific skills. In the Curriculum sub-section, the text provides flexibility of curriculum according to the students' prior knowledge, with the first eleven chapters being devoted to developing fundamental skills. This book covers the information in such a way as to allow the instructor the freedom to teach according to the students' prior knowledge, though perhaps not in such an individualized way as a pure-constructivist might advocate for.

Brain-Based Learning: this theory states that learning will take place if the brain is allowed to function in its natural way. Curriculum is built around psychological processes and how the brain learns new information. This theory heavily relies on active processing, in which the student is able to learn new material in an active way.

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[13] Gary S. Karpinski, *Manual For Ear Training and Sight Singing* (New York: W. W. Norton & Co. Inc., 2007).

At the end of every chapter in this book, there are a multitude of exercises where the student is encouraged to actively practice the skills that were just taught. At the very beginning of the Approach sub-section, the author asserts that "the structure and content of this book have been shaped in large part by recent research in music cognition and perception," which is very much in line with how the brain functions.

Are the following cognitive mental processes focused on in the text? If so, through what skills?

- aural acuity: Yes, through dictation.
- memory: Yes, through dictation and echoing.
- imagery: Yes, through sight-singing, rhythmic reading, and dictation.
- musical knowledge: Yes, through sight-singing, rhythmic reading, and dictation.
- kinesthetic processes: Yes, through conducting, tapping steady beat, and singing.
- aesthetic judgment: No. No passage of this book asks the student to judge the music based on aesthetics.

What is the content of curriculum covered in the text?

This text has seventy-eight chapters with the following titles:

Chapter 1 The Fundamentals of Meter and Rhythm*

Chapter 2 The Fundamentals of Pitch*

Chapter 3 Combining Pitches with Meter and Rhythm*

Chapter 4 Error Detection and Correction*

Chapter 5 More About Meter and Rhythm*

Chapter 29 Repeat Signs*

Chapter 30 The Subdominant Triad

Chapter 31 Syncopation

Chapter 32 The Dominant Seventh Chord in Melodic Contexts

Chapter 33 Introduction to Harmonic Singing

Chapter 34 Introduction to Harmonic Listening: Harmonic Rhythm and Cadences

Chapter 35 Two-Part Music

Chapter 36 Introduction to Bass Line Dictation

Chapter 37 Root Position and First Inversion Triads

Chapter 38 Introduction to Voice Leading

Chapter 39 Triad Qualities

Chapter 40 The Leading-Tone Triad

Chapter 41 The Supertonic Triad

Chapter 42 The Submediant Triad

Chapter 43 The Mediant Triad

Chapter 44 The Dominant Seventh Chord in Harmonic Contexts

Chapter 45 Voice-Leading Techniques

Chapter 46 Six-Four Figures

Chapter 47 Other Seventh Chords

Chapter 48 Transposition*

Chapter 49 The Modes: Relative Approach*

Chapter 50 The Modes: Parallel Approach*

Chapter 51 Advanced Triplets

Chapter 52 Chromatic Passing Tones

Chapter 53 Skips to Chromatic Pitches as Prefix Neighbors

Chapter 54 Chords Applied to the Dominant

Chapter 55 Chords Applied to the Subdominant

Chapter 56 Chords Applied to the Supertonic

Chapter 57 Chords Applied to the Submediant

Chapter 58 Chords Applied to the Mediant

Chapter 59 The Neapolitan Chord

Chapter 60 The Augmented Sixth Chords

Chapter 61 Other Chords

Chapter 62 Melodic Sequence

Chapter 63 Harmonic Sequence

Chapter 64 Other Clefs*

Chapter 65 Hemiola*

Chapter 66 Stepwise Chromatic Alterations

Chapter 67 Reading in Keys Other Than the Notated Key Signature

Chapter 68 Introduction to Modulation

Chapter 69 Closely Related Modulation from the Major Mode

Chapter 70 Closely Related Modulation from the Minor Mode

Chapter 71 Distant Modulations

Chapter 72 Successive Modulations

Chapter 73 Fragments of Tonality

Chapter 74 Advanced Metric Concepts

Chapter 75 More Advanced Rhythms

Chapter 76 Some Common Non-Diatonic Pitch Collections

Chapter 77 Hypermeter*

Chapter 78 Form*

*These chapters are considered "optional" in the text, although chapters 1-10 are only optional for students who are well-grounded in fundamentals.

What is the sequence of this content?

The sequence of this content advocated in the text is flexible, based on the teacher's goals for the class as well as the students' prior knowledge. The text groups the chapters into Essential and Optional categories, as well as provides several different ways of organizing this text into a curriculum. Beyond these variables, the text is sequential, with new material building on previously learned concepts, as in the constructivist mindset.

What, if any, methods are advocated for learning the core aural skills? (harmonic/melodic dictation, error detection, sight-singing, rhythmic reading—the skills reflected in the cognitive mental processes)

- Harmonic dictation: You should combine bass-line dictation skills (focus attention on bass voice, then it becomes another form of melodic dictation) with chord-identifying skills (root position vs. inversion). (pages 155-159)
- Melodic dictation: There are four steps= hear the music, remember the music (singing it back), understand the music (first rhythm, then pitch), then notate the

music. This text advocates using pronotation first and adding musical notation later in the sequence. (pages 14, 42)

- Error detection: You must have an aural image of the music in your head to compare the performance with, specify exactly where the error is and use specific words to correct it.
- Sight-singing: While there is no specific section on general advice for sight-singing, throughout the book there are headings that say "Implications for Reading and Singing" or "Implications for Sight-reading." These headings denote sections where the text gives advice on how to navigate through sight-reading passages that include the topic that is currently being discussed.
- Rhythmic reading: This text advocates using the takadimi rhythmic syllables to read and perform rhythms. The text also supports using pronotation first and adding musical notation later in the sequence.

In the Organization sub-section of the To the Instructor Section, this text states that dictation constitutes the majority of the listening activities in the book because it can develop a more complete spectrum of listening skills than any other exercise.

What label system is endorsed, if any?

This text simultaneously uses scale degrees (careted) and moveable do solmization. These two are represented side by side with a slash separating them: ^1/*do*.

What is the ratio in the text of instruction to exercises? (This data is calculated by assessing a chapter from the beginning, middle, and end of the book and averaging these three numbers.)

64% Instruction, 36% Exercises

Are other musical concepts besides rhythm and pitch emphasized? If so, how much?

Out of the seventy eight chapters in this text, only three deal with topics that are not based on rhythm or pitch. Chapter 24 on Performance Indications deals with dynamics, articulation, and phrasing. Chapter 29, entitled Repeat Signs, deals with general road mapping indicators such as repeat bars, multiple endings, etc. Chapter 78 on Form lists different types of forms, but doesn't define them and assumes they have been learned already. All three of these chapters are listed as "optional."

Does this text discuss its possible relationship to a theory text or course?

Yes, this text is intended to use in an aural skills classroom that either progresses alongside a theory class or is in a single comprehensive course. However, this text also emphasizes the differences between the learning sequences of aural skills and music theory and cautions instructors to either teach the music theory in advance of what they will encounter in aural skills or teach the rudiments of aural skills before written theory work is begun.

(6/8) Text:

A New Approach to Ear Training:

A Programmed Course in Melodic and Harmonic Dictation

by Leo Kraft[14]

Is a certain learning theory used or implied in the text?

Behaviorism: A learning theory coined by Skinner in which the learner is trained in specific behaviors based on positive and negative reinforcement. A related learning theory is programmed instruction, in which the student progresses through a sequence of exercises at their own pace until mastery is attained.

The basis of this text is programmed instruction, an educational theory based on Skinner's behaviorism. The text leads the student through exercises that progress from a beginner's level to increasingly complex levels of difficulty. This text allows students only to progress if they have mastered the previous skill.

Are the following cognitive mental processes focused on in the text? If so, through what skills?

- aural acuity: Yes, through dictation.
- memory: Yes, through dictation.
- imagery: Yes, through dictation.

[14] Leo Kraft, *A New Approach to Ear Training: a Programmed Course in Melodic and Harmonic Dictation*, 2nd ed. (New York: W. W. Norton & Company, 1999).

- musical knowledge: Yes, through dictation.
- kinesthetic processes: Yes, through singing and playing the piano.
- aesthetic judgment: No. No passage of this book asks the student to judge the music based on aesthetics.

What is the content of curriculum covered in the text?

This text is organized into two chapters; one covers melodic dictation, and two covers harmonic dictation. Each chapter has four sections within it that increase the complexity of each skill being taught.

What is the sequence of this content?

The text recommends that the two chapters be worked through concurrently, so that the basics of both skills are taught at the same time and so that the skills will progress in complexity together.

What, if any, methods are advocated for learning the core aural skills? (harmonic/melodic dictation, error detection, sight-singing, rhythmic reading—the skills reflected in the cognitive mental processes)

- Harmonic dictation: The text encourages the students to understand and recognize harmonic function (tonic, predominant, and dominant) and the standard arrangement of these functions within a progression. The students are to study the introduction at the piano and absorb all the information before beginning the exercises. For the actual dictations, students are encouraged to sing the tonic triad

or the scale of the key. Three different strategies to take harmonic dictation are provided:

  - Write roman numerals, write soprano and bass notes on the staff, then write T, P, or D
  - Write harmonic functions, write soprano and bass, fill in the inner voices and chord identifications
  - Write soprano and bass on staff, write inner voices, write chord identifications and harmonic functions

- Melodic dictation: To prepare for the exercises in each lesson, the student is encouraged to study the demonstration melody until it can be sung from memory. For the actual dictations, the text recommends that the student memorize the melody and write down what they can from that memory. Students are also encouraged to complete the exercise in as few listening as possible. A few tips provided include:
  - listening to groups of notes such as repeated patterns
  - identify the highest and lowest pitches to create a framework
  - imagine the harmonic background of the melody
- Error detection: This skill is excluded from this text.
- Sight-singing: This skill is excluded from this text.
- Rhythmic reading: This skill is excluded from this text.

What label system is endorsed, if any?

The text does not specifically endorse any particular label system, but the examples of singing in the book are written in scale degree numbers.

What is the ratio in the text of instruction to exercises? (This data is calculated by assessing a typical section in both the melodic and harmonic dictation chapters and averaging these two numbers.)

17% Instruction, 83% Exercises

Are other musical concepts besides rhythm and pitch emphasized? If so, how much?

The only mention of other musical concepts is that the examples on the CDs are played with different instrumental and vocal timbres.

Does this text discuss its possible relationship to a theory text or course?

There is no mention of a possible relationship to a theory text or course.

(7/8) Text:

Strategies and Patterns for Ear Training

by Rudy Marcozzi[15]

Is a certain learning theory used or implied in the text?

Spiral Curriculum: basic ideas are revisited over and over with increasing levels of complexity added each time.

This text revisits the same categories of skills in each chapter and progresses with added complexity and synthesized mastery.

Process-Based Learning: the focus of instruction is not the end product, but rather teaching the process of how to attain that end. This type of learning theory is less focused on summative assessment and more focused on formative assessment.

This text explicitly emphasizes a process-based learning ideology. The text focuses on guiding students to create their own process and technique for each skill in order to facilitate transfer and enhance the meaningful nature of learning aural skills.

The Control Theory of Motivation: the lead teacher (as opposed to the coercion-based boss teacher) makes the intrinsic motivation of the work known to the student and thereby improves students' work quality.

[15] Rudy Marcozzi, *Strategies and Patterns For Ear Training* (Upper Saddle, New Jersey: Pearson Education, Inc., 2009).

The text states that the teacher must emphasize the purpose of learning aural skills such as dictation beyond a grade for the course.

Heuristic Processes: method of decision making based on logical flow charts or progressions.

This text is filled with what are called comparative strategies, which are often expressed in flow charts in the text. These charts reflect a heuristic process by guiding the learner through a logical decision-making process.

Are the following cognitive mental processes focused on in the text? If so, through what skills?

- aural acuity: Yes, through dictation.
- memory: Yes, through dictation.
- imagery: Yes, through rhythmic reading and dictation.
- musical knowledge: Yes, through rhythmic reading and dictation.
- kinesthetic processes: Yes, through conducting and singing.
- aesthetic judgment: No. No passage of this book asks the student to judge the music based on aesthetics.

What is the content of curriculum covered in the text?

The content of this text includes rhythm, singing, melody, and harmony, from basic diatonic materials to advanced chromatic elements and procedures.

What is the sequence of this content?

The five sections of each chapter are teaching tips, rhythm and meter, singing and solfege practice, melody, and fusion and transfer. These basic skills are revisited every chapter as stated by the spiral curriculum learning process. The chapters are designed to present basic elements of skills first that progress until skills can be synthesized and transferred through complex, contextual musical examples.

What, if any, methods are advocated for learning the core aural skills? (harmonic/melodic dictation, error detection, sight-singing, rhythmic reading—the skills reflected in the cognitive mental processes)

This text has an underlying process that it applies to all of the dictation skills it teaches. This process is repeated for each hearing. It is called the Five P Process:

- Prepare: before you hear the example, concentrate and perform any advance study tasks such as identifying musical cues and performance aids (conducting).
- Perceive: actively and attentively listen to try and memorize as much of the example as you can.
- Process: replay the example in your mind and apply musical knowledge to recognize patterns and elements of the music.
- Pencil: write down what you have remembered and figured out so you can focus on other elements in the subsequent playings
- Proof: sing your version in your head and check it with your notation.

Here are some tips that the text provides for each specific skill:

- Melodic dictation: simplify the exercise by only using note heads or only writing pronotation of solfege or scale degree numbers, listen structurally, focus on relationships in music, realize that the process is more important than the product.
- Error detection: imagine what the line will sound like in your mind's ear and compare it to the performance.
- Sight-singing: Although this text uses singing exercises in every chapter, it does not specifically focus on teaching the skill of sight-singing. The text suggests that the students/teacher use a different resource for this skill.
- Rhythmic reading: Rhythmic reading is not specifically focused on, but its counterpart of rhythmic dictation is present. Conducting is favored over tapping (it shows the beats and tapping does not communicate duration. Singing the rhythms on a pitch or an actual melody is preferred so duration can be communicated and a more musical experience achieved. Listing the beat level patterns on the board can also help.

What label system is endorsed, if any?

This text uses moveable do (with do as the root of both major and minor), but it leaves the applicable areas of the text broad enough to accommodate other label systems. The preface comments that any consistently used label system is better than none at all.

What is the ratio in the text of instruction to exercises? (This data is calculated by assessing a chapter from the beginning, middle, and end of the book and averaging these three numbers.)

32% Instruction, 68% Exercises

It is worthy to note that instruction in this text is heavily weighted toward the beginning of the book, with the amount of instruction decreasing as the book progresses.

Are other musical concepts besides rhythm and pitch emphasized? If so, how much?

No other musical concepts besides those based on rhythm and pitch are present in this text.

Does this text discuss its possible relationship to a theory text or course?

In the preface this text states that it should be used alongside a traditional study in harmony, which means a theory class.

(8/8) Text: *The Musician's Guide to Aural Skills*

by Joel Phillips, Jane Piper Clendinning, and Elizabeth West Marvin[16]

Is a certain learning theory used or implied in the text?

Constructivism: learning parts of a concept must be connected to learning the whole; learning never involves processing isolated facts. Constructivist theory builds from the ground up at the students' own pace and bases curriculum on students' prior knowledge.

This text structures the concepts from basic to complex, building on students' previous knowledge. The text also advocates that the instructor use the book to accommodate each student's skill level in order to provide remediation and challenges where needed.

Fleming's Learning Styles (VARK): Students learn through the four sensory channels: visual, aural, reading/writing, and kinesthetic.

The text explicitly states that it strives to provide multiple avenues to learn skills that will accommodate students' individual learning styles, especially in the visual, aural, and kinesthetic modalities.

Are the following cognitive mental processes focused on in the text? If so, through what skills?

- aural acuity: Yes, through dictation.

[16] Joel Phillips, Jane Piper Cleninning and Elizabeth West Marvin, *The Musician's Guide to Aural Skills* (New York: W. W. Norton & Company, 2005).

- memory: Yes, through dictation and echoing.
- imagery: Yes, through sight-singing, rhythmic reading, and dictation.
- musical knowledge: Yes, through sight-singing, rhythmic reading, and dictation.
- kinesthetic processes: Yes, through stepping, conducting, tapping steady beat, keyboard exercises, playing on individual instruments, singing, and various exercises like bouncing tennis balls.
- aesthetic judgment: Yes, in the Contextual Listening section of each chapter, there are several open ended questions about style or some other aesthetic quality that promote discussion of such topics.

What is the content of curriculum covered in the text?

Over the two volumes of this text, there are thirty-four chapters with the following titles:

Chapter 1 Pitch and Pitch Class

Chapter 2 Beat, Meter, and Rhythm: Simple Meters

Chapter 3 Pitch Collections, Scales, and Major Keys

Chapter 4 Minor Keys and the Diatonic Modes

Chapter 5 Beat, Meter, and Rhythm: Compound Meters

Chapter 6 Pitch Intervals

Chapter 7 Triads and Seventh Chords

Chapter 8 Intervals in Action (Two-Voice Composition)

Chapter 9 Melodic and Rhythmic Embellishment in Two-Voice Composition

Chapter 10 Notation and Scoring

Chapter 11 Voicing Chords in Multiple Parts: Instrumentation

Chapter 12 The Basic Phrase Model: Tonic and Dominant Voice-Leading

Chapter 13 Embellishing Tones

Chapter 14 Chorale Harmonization and Figured Bass

Chapter 15 Expanding the Basic Phrase: Leading-Tone, Cadential 64, and Passing Chords

Chapter 16 Further Expansions of the Basic Phrase: Predominants, 64 Chords, and Other Diatonic Chords

Chapter 17 The Interaction of Melody and Harmony: More on Cadence, Phrase, and Melody

Chapter 18 Diatonic Sequences

Chapter 19 Intensifying the Dominant: Secondary Dominants and Secondary Leading-Tone Chords; New Voice-Leading Chords

Chapter 20 Phrase Rhythm and Motivic Analysis

Chapter 21 Further Expansion of the Harmonic Vocabulary

Chapter 22 Modulation to Closely Related Keys; Mixed Beat Divisions

Chapter 23 Binary and Ternary Forms

Chapter 24 Color and Drama in Composition: Modal Mixture and Chromatic Mediants and Submediants

Chapter 25 Chromatic Approaches to V: The Neapolitan Sixth and Augmented Sixths

Chapter 26 Popular Song and Art Song

Chapter 27 Variation and Rondo

Chapter 28 Sonata-Form Movements

Chapter 29 Chromaticism

Chapter 30 Modes, Scales, and Sets

Chapter 31 Music Analysis with Sets

Chapter 32 Sets and Set Classes

Chapter 33 Ordered Segments, Serialism, and Twelve-Tone Rows

Chapter 34 New Ways to Organize Rhythm, Meter, and Duration

What is the sequence of this content?

Within each chapter, there are six parts: (1) Key Concepts, (2) Call and Response, (3) Contextual Listening, (4) Melodies for Study, (5) Improvisation, and (6) Composition. The book suggests that the instructor might want these parts completed in parallel with each other rather than one after another. Once again, the text emphasizes that the teacher should tailor the sequence to the individual classes and students. This text also provides two different ways for using this book in an undergraduate curriculum of two semesters. One way includes all of the fundamental and introductory material, while the other skips said introductory material and begins with Chapter 8.

What, if any, methods are advocated for learning the core aural skills? (harmonic/melodic dictation, error detection, sight-singing, rhythmic reading—the skills reflected in the cognitive mental processes)

- Harmonic dictation: Though there is no specific procedure for this skill, the text serves to build a musical vocabulary in the students' mind through exercises that are supposed to develop proficiency in harmonic dictation. One tip in the book for this skill is to have the students sing the soprano and bass lines, as well as the inner voices.

- Melodic dictation: Though there is no specific procedure for this skill, the text serves to build a musical vocabulary in the students' mind through exercises that are supposed to develop proficiency in melodic dictation.
- Error detection: The text advocates that the teacher use the Melodies for Study and Composition sections to work on the skill of error detection, though no procedure for this skill is discussed.
- Sight-singing: The text advocates that the teacher use the Melodies for Study and Composition sections to work on the skill of sight-singing, through no procedure for this skill is discussed. However, some tips on singing music in the book include singing on solfege or scale degrees, performing a tonicizing exercise before reading, and conducting a measure in the meter before performing.
- Rhythmic reading: The book suggests the following strategies:
    - Memorize the look and sound of rhythmic patterns.
    - Remember that patterns with the same number have the same proportion and sound alike.
    - Conduct the meter when performing the patterns.
    - Use a counting method to help you remember how each pattern sounds.
    - Pay attention to which notes are accented and if there is any syncopation.

Two additional skills that receive a large amount of instruction about process and methods are composition and improvisation.

What label system is endorsed, if any?

The preface states that this text advocates the use of moveable do solfege or scale degree numbers since these systems communicate relationships within keys. However, the text also says that if another system is preferred, the teacher should use it because any system is better than no system.

What is the ratio in the text of instruction to exercises? (This data is calculated by assessing an average-sized chapter from both the first and second volumes and averaging these two numbers.)

21% Instruction, 79% Exercises

Are other musical concepts besides rhythm and pitch emphasized? If so, how much?

Chapters 10, 11, 23, 26, 27, and 28 focus on other musical concepts besides rhythm and pitch including form, instrumentation/scoring, and the difference between popular and art song. The book encourages students to evaluate class improvisations and compositions based on aesthetic qualities. The book encourages different instrumental timbres to be utilized within the aural skills classroom.

Does this text discuss its possible relationship to a theory text or course?

Yes, this text offers several comments on the different possibilities of its role alongside a theory curriculum. Perhaps most obviously, the text advocates for its partner, *The Musician's Guide to Theory and Analysis,* underscoring the benefits of unified terminology and methodology. It even addresses the possibility that the aural skills class may progress more slowly than the theory class by making the theory text a little shorter

to provide time to catch up with aural skills at the end. This text does not limit is use with its partner; it asserts that it is a worthwhile resource that can be paired with other theory textbooks. The text also says that it can be used at the high school level as well, since it corresponds well to the content of the Advanced Placement Course in Music Theory.

IV. PROFESSOR SURVEY

Aural professors were surveyed for this thesis in order to evaluate whether research-based methodologies are employed in the classrooms themselves. These surveys were conducted via e-mail. Information about the survey was sent to twelve aural skills professors at University of Texas-San Antonio and Texas State University-San Marcos. Three professors from each university ended up responding to the ten question survey sent out for a total of six respondents. The professors' answers are anonymous and will be presented in a random order for each question. The following questions were developed in order to assess how the professors measure up against the assembled body of research.

1. Do you teach with a certain learning theory in mind?
2. Does your class use a textbook? If so, which one?
3. What is the content of curriculum covered in your class?
4. What is the sequence of this content?
5. What methods do you employ to teach each skill?
6. Do you ever use singing as a means of learning? What is your perspective on singing as an instructional tool?
7. What label system do you teach, if any?
8. Are other musical concepts besides rhythm and pitch emphasized?

9. Describe the atmosphere of your classroom. Are students actively engaged? How so?
10. How many of your students attain mastery of the skills you teach? Some, most, all?

Question 1: Do you teach with a certain learning theory in mind?

- No.
- Not really. I try to encourage the students to use their musical intuition and balance that with their increasing skills set.
- No.
- Yes, mutual communication.
- I don't teach with a specific learning theory, but my pedagogical approach is certainly informed by various theories and methodologies. My research is in music perception and cognition, so a knowledge of basic perceptual principles definitely informs my approach to teaching aural skills.
- No.

Question 2: Does your class use a textbook? If so, which one? How many assignments come out of the book?

- Krueger *Progressive Sight-singing* (6 assignments); Wallace *Developing Aural skills* (7 assignments)
- Yes, two books: Berkowitz: *A New Approach to Sightsinging* (1 per week), Wallace: *Developing Aural skills* (unfortunately) (2 per week)
- I use the Ottoman sight-singing book for singing practice. Students are assigned different melodies to practice throughout the week. Students also use MacGamut to practice dictation. I do not use a dictation textbook.
- My aural classes use different materials among which "A New Approach to Sight-singing" by Berkowitz, and "Developing Aural skills" by Barbara Wallace. There are regular assignments out of both books.
- I use the Robert Ottoman Sight-singing book, not so much as a "text," but as practice material. I do make specific assignments regarding what to practice and how they should use the material to gain experience and familiarity with the principles and skills required in sight-singing. I also use it as a source for melodic dictation.
- We use the Ottman/Rogers *Music For Sightsinging*. We use *MacGamut* as well. Most melodies for students to prepare come from the Ottman book, but I compose all dictation, error detection and sightsinging exam melodies.

Question 3: What is the content of curriculum covered in your class?

- Depending on the particular semester, it varies, but the entire four semester sequence covers learning the skills necessary to sing tonal melodies including chromaticism and modulation at sight (or minimal preparation time), harmonic identification of tonal progressions including chromaticism, melodic dictation of tonal melodies, error detection within melodic and harmonic notation, and rhythmic dictation and error detection within the context of all of the above.
- We have a combined sight-singing and ear training course. Thus, I try to keep it to about 50 percent singing, with practice and polish of prepared melodies and melodies and exercises that we sing at sight. We do various improvisation exercises as well. In the ear-training portion of the class (50% or so), we work on dictation, error correction, and other ear-training exercises.
- We have a four semester aural skills sequence. In general, the first two semesters cover diatonic melodies and harmonic progressions, the third semester introduces chromaticism and modulation, and the fourth semester includes more extensive chromaticism, modes and other scales, and some atonality.
- Aural Learning IV: different aspects of melodic and harmonic dictation, developing the ear towards atonal examples by focusing on intervals, etc.
- Course materials from Music Theory I (basic diatonic pitch patterns, basic rhythms and meters) as applied through singing, playing, and music dictation (writing music notation from what you hear and identify). The essential purpose of aural skills study is to develop an immediate, fluent, reliable connection between music as heard, played, and sung, and music as notated and understood

in terms of structure and form. By the end of the semester, students will achieve the ability to recognize and notate music patterns as heard and to recognize written or heard patterns and reproduce by voice or instrument.

- Sing from memory and with correct intonation (1) intervals: TT, m6, M6, M7, P8 (both ascending and descending) (2) all chord types by quality and inversion (3) diatonic chord progressions that include triads in all inversions and 7th chords (4) melodies that contain scalar motion, any diatonic skip, and any non-chord tone. Upon hearing any of the musical structures listed above, aurally assess its identity and notate it. Upon hearing any cadence, parallel period, or sentence, aurally assess its identity and notate it. While playing a diatonic progression that may include any diatonic chord in any inversion at the piano in a block chord texture, sing the arpeggio of each chord. Sing at sight melodies that contain scalar motion, any diatonic skip, and any non-chord tone. Conduct while reading at sight rhythms in any simple or compound meter, including patterns with triplets and syncopations. Upon hearing a rhythm as described above, aurally assess its identity and notate it. Given a musical score that includes any of the musical structures listed above and a flawed performance of the score, detect the errors and rewrite the score as performed.

Question 4: What is the sequence of this content?

Answers to this question are presented in the same order as the previous question due to the dependent nature of some of the answers; this is the only question where this deliberate ordering happens.

- I try to include some aspect of each of the above every class, since they are very much interrelated, and the skills are dependent on the students' understanding of how they interrelate.
- I try to keep the sight-singing and ear training material coordinated. I begin with stepwise melodies (major and minor), move to melodies with skips in the tonic and dominant harmonies, then melodies with other skips. In Aural skills III, I begin with chromaticism (melodic and harmonic) chromatic chords, and modulation. In Aural skills IV, we use various 20th century techniques.
- For melodies, I sequence by interval size and harmonic function. I start with stepwise melodies, then add skips from various diatonic chords (starting with I, then V, then ii and IV, etc.). Melodies in both major and minor keys are used from the beginning. For rhythm, students begin with basic rhythmic patterns in both simple and compound meters (with notes no faster than the division of the beat). We then gradually incorporate other beat subdivisions, rhythmic patterns, and metric organizations. For harmony, I use a "model progression" approach. We learn I-V-I, then continually expand that progression based on stereotypical bass line patterns and chord functions. For instance, we learn a do-fa-sol-do bass line, where fa can be harmonized as IV, ii6, or ii6/5 (in both major and minor keys).

Chromatic chords are eventually introduced within the context of these model progressions that the students already know. I use this same approach when teaching theory courses, so the two classes are always informing and reinforcing each other.

- I rearrange it at my discretion depending on the weaknesses and strengths of the particular class.
- I follow the order of the concepts found in the book we use.
- The above items concurrently moving from inverted triads to inverted 7th chords.

Question 5: What methods do you employ to teach each skill? (such as harmonic/melodic dictation, error detection, sight-singing, etc.)

- Dictation, error detections, sight-singing, identifying cadences aurally, rhythmic counting, duet singing, prepared melody singing, and sing and plays at the piano.
- With all topics: First modeling the patterns with known identities. Stress visualization and audiation. The having students sing back from the models. Then practice identifying.
- Students learn sight-singing, melodic dictation, rhythmic dictation, harmonic dictation, and error detection.
- I use all of the above. I also have students diagram various forms (rondo, binary, etc.) by ear. We also do a great deal of rhythmic work.
- Simple methods of listening to the bass line, chord quality, stability vs. instability, harmonic functionality, stepwise vs. leapwise motion, attention to intervals and retention in memory of the main scale degrees I, III, V.
- This is too big a question to answer adequately in this space—I use whatever method seems to be appropriate for a particular class or individual within that class, and they may differ from class to class or student to student.

Question 6: Do you ever use singing as a means of learning? What is your perspective on singing as an instructional tool?

- We use singing constantly. We sing error detection or melodic dictation exercises at the end of the activity at minimum. Often times, we sing in the midst of such exercises.
- I use it a lot not only in my aural skills classes but also in my theory classes, where we sing our four-part harmonizations to realize how they impact us in choral sound. I also play those on the piano. Otherwise theory is not worthy of studying, for it is detached from real sound.
- Yes, singing is constantly used as a tool for learning, both in sight-singing activities and to practice concepts in class. For instance, we will build harmonic progressions by singing each part, therefore reinforcing the voice leading patterns that create typical chord progressions.
- I always stress singing and performing as the basis for learning aural skills. Instrumentalists should sing and play piano (regardless of how well, familiarity with piano is essential), and singers should sing as instrumentalists (i.e., using their voice as an instrument of pitch and rhythm rather than as simply a "beautiful sound" to convey lyrics.
- Yes, and it's an excellent instructional tool for most.
- Use it almost constantly.

Question 7: What label systems do you teach, if any?

- I am a fixed Do educated person but here I teach moveable Do because of the policy of the school. I find this unfortunate, for moveable Do has 17 syllables, while fixed Do only deals with the names of the notes which are seven (instead of letters, many musicians—almost all of Europe, all Asia, and all Latin America—use syllables to name their notes). Ergo—you do not change your letter names ever; neither do they change their syllables—do, re, mi, fa, so, la, si (not ti). Sharps and flats are sung but are not pronounced because it is a waste of time and you cannot do that in tempo. Consequently, as you name your keys differently, so do they; the key of G, for instance, will be "Sol major." We also sing with intervals and numbers here, and we do letters on the atonal examples.
- We use moveable do, with do-based minor.
- Prefer scale degree numbers, but teach with moveable do solfege.
- Different systems work differently for different skills—moveable Do, La based minor is better for most tonal melodic sight-singing, do based minor is very helpful for very simple melodies that do not have any hint of ambiguity about mode; Fixed Do with chromatic inflection is better for highly chromatic or non-tonal singing; whistling is helpful for melodic and harmonic dictation; Numbers work better for harmonic progression; Note names are helpful when teaching C clefs (or other clefs if they are not familiar). Rhythmic syllables are helpful for basic patterns, but are not generally helpful when actually sight-singing. For students with a strong background in sight-singing, or those with perfect pitch, sometimes no system works better to help them progress.

- Moveable do with do-based minor.
- I use moveable do, with do-minor solfege.

Question 8: Are other musical concepts besides rhythm and pitch emphasized? If so, how much?

- In past texts (before the Wallace), these issues were indeed dealt with.
- Emphasis is placed on rhythm, melody, and harmony, but we also listen to other structural features of music (especially timbre, dynamics, form, and texture).
- No.
- We talk about these elements some, particularly during transcription activities.
- In the context of performance sight-singing in actual practice, dynamics and tempo are important, so are emphasized to the extent that it doesn't interfere with other aspects that are essential.
- I wish they were, but students struggle with fundamental things such as intonation, rhythm, and harmony, so I emphasize these.

Question 9: Describe the atmosphere of your classroom. Are students actively engaged? How so?

- Mostly yes. Try to include responses from class as often as possible.
- I strive to create a welcoming environment that makes all students feel comfortable with each other, with me, and with the learning process. Students are encouraged to ask questions, participate in discussions, perform in class, and give feedback on each other's performances. Students also know that they can approach me outside of class at any time to ask questions, practice certain skills, or discuss their thoughts about music.
- It's about 78% Nitrogen, 20% Oxygen, and traces of valve oil, bow resin, and perfumed sopranos. Like any other class, interest and engagement varies, but I try to have them doing something all the time. Most aural skills is actually learned in the practice room rather than the classroom, so what actually happens in class is sometimes difficult to predict.
- I do not let them take a nap because I ask them to reply individually to questions, to sing, to write down things on the board. In other words, I provoke them to participate, and no one can hide. On the other hand, when they all do that, they become interested and they ask questions on their part. This is how a lecture converts from a monologue to a dialogue with the class.
- Students are very actively engaged. I treat the class as a kind of workshop. We constantly chant, sing, conduct, use hand signs, etc.
- Very lively and excited.

Question 10: How many of your students attain mastery of the skills you teach? Some, most, all?

- Most. We have the highest attrition rate between AS 1 and 2, where some students choose to change their major. Often, they find that their desire to be a music major is not great enough to be willing to commit the time needed to succeed.
- There is always a certain nucleus of students who exceed other in mastery; I try to seek a balance between keeping up the pace and not letting others fall behind. However, a few will fall behind because of different reasons such as lack of interest, not showing up regularly, not preparing homework, and last but not least—they slipped through the cracks in aural IV while they should have been in aural II or even I… This must not be allowed, for it is a shame.
- Depends on how you define mastery.
- Define mastery. Are they as good as they can be after four semesters? –no, none. Perhaps 50% are as good as they will ever be, which is ok for most students in their chosen career, and very few will ever use all the skills we teach. Perhaps 25% will continue to practice and get better, and will eventually develop what I would call mastery. The other 25% may have gotten good enough to pass the course, but will not practice, and will lose many of the skills they have by the time they graduate, but they will at least know what it's like to have had them.
- Some.
- Most students attain mastery by the end of that semester's class, but it is even more important to me that they retain those skills. Not only do they need to be

ready for the next level of aural skills, but they also need to be fluent enough that they maintain and use their ear training and sight-singing skills through the rest of their degree and in their future musical careers. Achieving that type of mastery is much more difficult.

V. CONCLUSIONS

Textbook Survey

With regard to the learning theories found within the textbooks, every textbook exhibited some form of learning theory, whether it was directly named or vaguely implied. The main theories employed were Constructivism, Spiral Curriculum, and Brain-Based Learning. One particularly effective learning theory was the Control Theory of Motivation because the lack of motivation is often what keeps students from fully engaging in the ear training learning process. When surveying the cognitive mental processes found in each text, most of the processes were present, but some textbooks had vague or limited processes of learning/teaching these skills. The cognitive mental process that was least represented in the textbooks was aesthetic judgment, with only two of the eight textbooks emphasizing concepts within that category. While some of the textbooks had adequate teaching methodologies, the one that referenced the Karpinski text the most was, as expected, the textbook written by Karpinski. It is interesting to see the development of his thought process when comparing the book to the textbook, which was written seven years later. The change reflects a refinement in his ideas and the expansion of their implications.

Some textbooks excluded basic skills such as error detection and sight-singing, which leads to the question of what exactly should be included in aural skills pedagogy.

The ideal result of these classes is to equip students with the necessary hearing and notation skills necessary for excelling in whatever musical field they go into, but the topic of what specific skills best convey that end goal seems to have a more varied approach among the different textbooks. The scope of the textbooks also varied greatly, with some textbooks beginning at the rudiments of music and others beginning at an average college level skill set. Some stayed within the range of tonal music, while others branched out into atonal types of music as well. Label systems were fairly consistent within the textbooks (moveable do solfege or scale-degree numbers), but many of the textbooks emphasized that teachers could use any label system with the text. The usefulness of the ratio between instruction and exercises is merely to point out how much of the textbook is actually instructional, and how much of the text is more of a workbook. Most of the instruction in a classroom comes directly from the teacher, but if a teacher heavily relies on a textbook (especially for homework assignments), it is important for the book to convey effective instruction for the student to reference out of class.

The reference to or teaching of musical concepts other than those having to do with rhythm or pitch also varied between the textbooks. Some textbooks excluded these concepts entirely. Of those who included these concepts, some texts had entire chapters devoted to topics such as form while others briefly mentioned issues such as needing different timbres besides piano for exercises. An interesting point on this topic came from the Cleland and Dobrea-Grindahl text. It had “Reflections” throughout the book on different topics such as Musicality, Professionalism, Music Advocacy, and so on. The inclusion of such topics into an aural skills curriculum is extremely rare and worthy of consideration; it may help overcome students’ perception of irrelevance that sometimes

creeps into the classroom. Overall, the supremacy of pitch and rhythm as dominant topics remains. The information provided in each text on its possible relationship to a theory text/course was nearly always present, and nearly always brief. It seemed to be mentioned only to qualify itself as a text worthy of consideration as a standard college-level aural skills textbook.

Professor Survey

The first professor survey question had very telling results. Four of six respondents reported that they teach with no learning theory, with the other two giving vague answers. One of the two that reported any information about a learning theory mentioned teaching on the basis of cognition research, which seems most related to Brain-Based Learning, while the other respondent simply said "mutual communication." This data is confusing due to the fact that basic learning theories such as Constructivism and Spiral Curriculum are present in nearly every teaching situation. Perhaps the respondents simply do not know what the specific learning theories entail; perhaps they do not know exactly what learning theories they may be implementing subconsciously. Both possibilities have the same underlying problem: aural skills professors, in general, are not intentional about the learning theory they employ. This situation is a prime example of how more communication between fields is needed; music theorists and music psychologists need to dive into the world of music education a little bit more in order to become more effective collegiate educators. College professors, most of whom have doctorate-level education, should deign to learn at least a basic understanding of learning theories and their implications in the classroom.

The second professor survey question concerning the use of textbooks has vague results. The respondents reported using resources that don't truly qualify as textbooks; either they were work books or sight-singing books, nothing like the textbooks evaluated in this thesis. Since the bulk of the textbooks reviewed in this thesis had a solid basis in research methods, it is surprising that the sample of professors surveyed do not use a full-blown aural skills textbook. Of course, only two universities were sampled for the study; widening the range of professors would probably produce different results, especially since textbook choice is often determined and unified within departments.

The content reported by the respondents was fairly unified across the sample; they seem to cover the basic midrange of scope that the average textbook employed. Answers for the sequence of this content varied from sequential, to Spiral Curriculum (even though they didn't realize it), to leaving the sequence open to the needs of the current class. The freedom employed by professors in structuring their classes can be viewed as either positive or negative, depending on the effectiveness of the method (i.e. the success of the students).

The question concerning methods for teaching skills was misread by half of the respondents and generalized by the other half; perhaps the question should have been worded a little more clearly. It was meant to inquire into the specific methods used to teach the core ear training skills (error detection, melodic/harmonic dictation, sight-singing, and rhythmic reading). The purpose of this question was to be able to compare responses to the methods for teaching these skills found in the textbooks as well as the methods found in the academic research. This question, crucial to evaluating the state of

current aural skills pedagogy, should not be discarded but rather pursued until appropriate and applicable answers can be obtained.

The next question inquired into professors' perspective on singing as an instructional tool. The responses were overwhelmingly encouraging; all six of the professors reported that they viewed singing as an invaluable teaching tool that they actually employ in the classroom, which is right in line with what the research recommends. Possibilities for expanding this question include exploring how exactly singing is used. Does the instructor sing? Do the students sing as a group or individually? Does the singing happen inside or outside of class? In what contexts is singing used as an instructional tool? What skills are taught through singing? The answers to this question are positive, but more information must be obtained before extensive analysis can occur.

The label system that most of the sampled professors employ is moveable do with do-based minor. It was interesting to find that most of the professors chose to emphasize do-based minor, as opposed to la-based minor. The controversy between the two options has very strong opinions on both sides, but it is more common for college professors to side with do-based minor because it makes more theoretical sense. One of the respondents had an extremely versatile answer that advocated for different methods for different situations including such answers as whistling and la based minor, along with more common answers. One respondent expressed that the standard moveable do with do-based minor was used in the classroom, but that this respondent actually personally prefers a fixed-do system. It is certain that some professors are required to teach a system that they may not entirely agree with, and how this cognitive dissonance affects their teaching may be an issue worthy of further investigation.

With regard to the presence of other musical topics besides rhythm and pitch, the overall response from the professors was that time spent, if any, on these topics is limited due to needed time on the more essential elements (presumably rhythm and pitch). Even then, some of the professors said that these topics are brought up in the context of exercises as to not distract from the essential components. In most of the discussions about this topic, the professors advocate passionately for more emphasis on these ideas, but they seems to offer little advice on the actual implementation of such ideas. This mindset is also reflected in George Pratt's *Aural Awareness*.[17] He emphasizes that these topics (form, dynamics, etc.) must be present in aural skills pedagogy, but in his actual book, he only spends a couple of chapters on such topics, with the other chapters focusing on rhythm and pitch-based ideas. It seems that this research-based notion is an ideal that no one seems to have a successful, practical way of implementing.

The last two questions in the professor survey focus on the classroom itself. The first asks the professor to describe the atmosphere of the classroom regarding students' level of engagement. Responses conveyed that professors strive to keep their students engaged with fairly successful results, although respondents admit that interest levels do vary, as is to be expected. The second inquires into the professors' perspective on their students' level of mastery. Two of the respondents started their answers with the phrase, "define mastery," communicating the perceived elusive nature of mastery. According to the responses in this professor survey, the concept of mastery has many different interpretations, from moving on to the next level of aural skills, to maintaining skills into students' professional lives. It is important to have a specific mind-set as to what kind of

[17] George Pratt, *Aural Awareness: Principles and Practice* (Philadelphia: Open University Press, 1990).

mastery one is teaching toward, both as a goal and as a point of reference for assessment; this topic should be more fully discussed and thought through by professors to ascertain what realistic goals for Aural skills mastery can and should be. These expectations for mastery should also be clearly communicated to the students so they understand and can strive toward those goals as well.

General

The research presented in this thesis highlights the discrepancies between what the academic research recommends for teaching aural skills and what the current textbooks and professors actually deliver. The results of the textbook survey are much more specific and thorough than that of the professor surveys because the textbook could be analyzed and dug through to find specific elements or to discover underlying currents. The professor surveys, on the other hand, represented a simple snapshot from the professor's perspective. While helpful in beginning the process of evaluating the pedagogy of the classrooms, the professor surveys are by no means comprehensive assessments. They are rather small pieces of a much bigger puzzle. This puzzle can be further assembled through further research studies such as conducting more extensive professor surveys and observing classrooms.

This thesis stirs up many more questions than it answers. A worthwhile study would be to survey or interview teachers who use some of the textbooks surveyed in this thesis, to see if their answers are more in line with the research-based methods. The whole relationship between professors and the textbooks they employ is a topic yet to be explored. The systematic testing of these methods' effectiveness will be crucial in providing support for the use of them. Such experiments are few and far between in

regard to testing aural skills methods, although a couple of professors at Texas State have begun research in this field. The first step is assembling the body of research that points to certain methods, as is done in this thesis. The next step is to scientifically test these methods with groups of students using pre and post test scores.

Overall, it seems that most of the academic research is retained in the aural skills textbooks that pervade the market, but there is a larger gap between the academic research and the actual strategies implemented by the teachers. The reasons for this increased discrepancy have yet to be explored and investigated, but are worthy of study. Perhaps the method of gathering the information from the textbooks and the professors can inform one of the reasons for the discrepancy. The textbook survey was, in a way, easy to assess because of its stable nature. The textbook itself was written with much deliberation and purpose, and is presented in a very calculated way. It is the author's best attempt at setting forth a pedagogical approach to aural skills. On the other hand, assessing a professor is a different story due to the fluid, living nature of both teaching and the specific professor. Teaching has to adapt to innumerable variables within a given situation.[18] It is easier for a textbook to represent research-based pedagogies because it is revised and worked over into the final product. Teaching does not have that luxury; it is much more like a performance or an improvisation, with a practiced pattern in mind that has to react with the circumstances. The question then becomes, how can teachers improve their "improvisation" skills to reflect a more research-based pedagogy? In a musical sense, improving improvisation happens only with practice and study. The same

[18] Robert A. Duke, *Intelligent Music Teaching: Essays On the Core Principles of Effective Instruction* (Austin, Texas: Learning and Behavior Resources, 2009).

may be true with professors—more time and training is needed in order to become intentional with the type of pedagogy they present.

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VITA

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