

# Melodic Dictation Instruction: A Survey of Advanced Placement Music Theory Teachers

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## Abstract

Based on relevant literature and recent qualitative findings, the purpose of this survey research was to identify pedagogical approaches to melodic dictation employed by Advanced Placement (AP) Music Theory teachers across the United States. The researcher-designed survey questions focused on pitch and rhythm skills, instructional resources, dictation strategies, test-taking skills, and characteristics of successful dictation students. The survey was distributed online to a stratified random sample of 875 AP Music Theory teachers across the United States. Of these recipients, 398 participants from 49 states and the District of Columbia completed the survey, yielding a 45.5% return rate. Results indicated that teachers preferred pitch systems that emphasized scale degree function and rhythm systems that emphasized the meter. Participants also reported the influence of the AP exam on their dictation teaching and described their need for additional instructional time and better preparation for teaching aural skills. Suggestions for further research include similar studies of other populations, including high school teachers of other theory courses and college theory instructors.

## Keywords

aural skills pedagogy, melodic dictation, music theory

Aural skills development is a key component of music theory course work at the high school and college levels (College Board, 2012a; National Association of Schools of Music, 2012). Many theory instructors may agree that these skills are important but

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differ widely on how to teach them (Klonoski, 2006; Paney & Buonviri, 2014; Pembrook & Riggins, 1990). Aural skills, such as dictation, sight-singing, and error detection, typically require students to synthesize knowledge and skills efficiently within specified time limits (Foulkes-Levy, 1997; Karpinski, 2000). Theory instructors face the challenge of coaching students through viable approaches to accomplishing these tasks under pressure.

Determining which strategies to teach for successful dictation and how to teach them are crucial yet scarcely researched tasks. In a related study of sight-singing pedagogy, McClung (2001) noted the lack of research on effectiveness of various sight-singing systems and the resultant tendency of teachers to learn and teach a smattering of various approaches. This can be problematic if their students do not ultimately learn any approach well. Research on dictation strategies also has been minimal and seems to lack even the tradition of informed historical debate that sight-singing pedagogy has enjoyed (Paney & Buonviri, 2014; Pembrook & Riggins, 1990).

Research suggests that students of melodic dictation use varied strategies, including chunking of melodic material (Madsen & Staum, 1983; Oura, 1991; Potter, 1990); protonotation, consisting of shorthand sketching of the target melody (Karpinski, 2000); and kinesthetic approaches to decoding pitch (Mikumo, 1994; Thompson, 2004). Researchers also have found that theory instructors incorporate a variety of strategies in their instruction (Paney & Buonviri, 2014). A key indicator of this variability in instructional method is that many theory teachers write their own materials for dictation learning and practice rather than employ a published text (Pembrook & Riggins, 1990).

Pembrook and Riggins's (1990) study focused on undergraduate music theory instructors' choices of textbooks, computer programs, and syllable systems. Their survey results provided useful information for aural skills instructors, highlighting trends in pedagogy and preferred instructional resources. However, those results were published more than 20 years ago. In addition to the need for updated information about instructional approaches and resources, a gap in the literature exists regarding instructional methods and materials for aural skills specifically at the high school level.

The College Board offers an Advanced Placement (AP) Music Theory exam for high school students who wish to earn college credits in music theory prior to enrollment. Last year 18,161 students took the AP Music Theory exam (College Board, 2012d). To help AP teachers with curriculum development, the College Board provides guidelines, advice, and general oversight through syllabi review, but individual AP teachers ultimately determine how best to prepare their students with the knowledge and skills necessary for success on the exam (College Board, 2012c).

The College Board's oversight and standardized exam provide a consistent context within which AP teachers are operating, but the freedom those teachers have to plan the details of instruction may produce substantial pedagogical variability. Greater knowledge of how AP Music Theory teachers plan curriculum, choose instructional resources, and execute instruction could provide valuable information to current and future teachers and students of music theory. Melodic dictation instruction seems to lack a consistent pedagogical tradition overall (Paney & Buonviri, 2014; Pembrook &

Riggins, 1990). Therefore, current information about AP music theory teachers' approaches to melodic dictation could be especially beneficial for high school and college music theory instructors and students.

Paney and Buonviri (2014) conducted in-depth interviews with 12 AP Music Theory teachers from large high schools across the United States. They asked participants about their pedagogical approach to melodic dictation and provided them with an example dictation melody to prompt reports of the strategies they encourage their students to use. Qualitative data analysis produced four main themes in their results: (a) *cognitive frameworks*, including building a music vocabulary, connecting aural and written theory, and connecting sight-singing and dictation; (b) *processing strategies*, including grasping the big picture, applying scale degree function, and targeting melodic bookends; (c) *rhythm*, including notation challenges and counting system indecision; and (d) *course design*, including teaching to the AP exam, sequencing instruction, using familiar melodies, and psychological influences. These results displayed both similarities and differences across participants in their qualitative responses, and the researchers recommended a follow-up large-scale survey of AP teachers to provide additional insights into teaching and learning the skills needed for dictation.

In summary, relevant literature suggests that melodic dictation pedagogy lacks a substantial research base and that instructors may be teaching a variety of strategies without full awareness of their effectiveness. Studies have been conducted of students' chosen dictation strategies and college theory instructors' pedagogical decisions, yet a gap exists in the literature regarding current information about melodic dictation instruction, especially at the high school level. Based on Paney and Buonviri's (2014) qualitative results, the purpose of the current study was to identify pedagogical approaches to melodic dictation employed by AP Music Theory teachers across the United States. Our research questions were as follows:

1. What pedagogical approaches to rhythm and pitch do teachers use to build dictation skills?
2. Which resources (texts, music, software, and websites) do teachers employ in melodic dictation teaching?
3. What strategies do teachers recommend students use during dictation?
4. Do teachers address test-taking skills as part of their dictation instruction?

## Methodology

### Survey Instrument

The researcher-designed survey consisted of 24 questions administered through Qualtrics (Qualtrics, 2013) software (see full survey instrument online at <http://jrme.sagepub.com/supplemental>). The online format enabled a variety of response types to specific questions and the incorporation of "logic" questions, in which participants were asked a follow-up question only if they responded in a predetermined way to the

previous question. Questions prompted participants to either choose one answer option, choose multiple answer options (“all that apply”), or provide a free response. The estimated time required to complete the survey was 10 to 15 minutes based on pilot testing with four instructors of aural skills. This time limit was targeted to produce higher response rates and quality responses (Lavrakas, 2008). Piloting of the survey also yielded confirmation of content validity by the four instructors and helpful grammatical clarifications for final survey question editing.

### *Determining the Sample*

Potential participants were chosen at random by state from a master list of schools ( $N = 2,269$ ) accessed through the online AP Course Ledger (College Board, 2012b). The College Board granted us a code to download the ledger after we sent them institutional review board approval letters from our institutions. We chose a confidence interval of  $\pm 5$  at a 95% confidence level. On the basis of published guidelines (Watson, 2001), we calculated that with an estimated variability of 50% and a population of 2,269, we needed 330 to 340 respondents. We sampled 35 teachers from each state and the District of Columbia and included all teachers in states where there were fewer than 35 listed. We estimated a 37% return rate (Sheehan, 2001), which meant that we needed to sample at least 891 potential participants. The number of teachers in each state ranged from 0 (North Dakota) to 263 (Texas). The ledger included only school addresses, so we found individual teacher information by visiting school websites and calling school personnel. After removal of schools for which teacher contact information was unavailable, our process yielded a potential sample size of 894 (see Table S1 in online supplemental materials at <http://jrme.sagepub.com/supplemental>).

### *Survey Distribution*

The survey was sent through Qualtrics survey software (Qualtrics, 2013) to the target sample. The introductory e-mail invitation was addressed directly to each teacher through automation and contained a unique e-mail link for each recipient, thus ensuring that participants responded only once and that their anonymity was maintained. Once the survey connected to that unique link had been completed, Qualtrics automatically removed the respondent from the e-mail list. Thirty-five target participants were not able to be contacted in this manner as their school websites did not provide a direct e-mail address but, instead, a contact field forwarding a message through the school website. We sent those participants our invitation letter and a generic link to the survey directly through the contact field form. We sent reminders to participants who had not yet completed the survey after 2 weeks, 3 weeks, and 6 weeks of the date of the initial invitation.

Of the 894 teachers we initially contacted, 19 informed us that their school did not offer an AP Music Theory course. This discrepancy was due to the fact that high school students can take the AP Music Theory exam and be listed on the Course Ledger without the existence of a formal class offered through that student's school.

Of the remaining 875 participants, 398 completed the survey, yielding a 45.5% return rate. At this return rate and a 95% confidence level, our calculated confidence interval was  $\pm 4.44$ .

### Participants

Participants who completed the survey were current AP Music Theory teachers representing 49 states and the District of Columbia. Their average class size was 11.6 students. Most programs had 20 or fewer students (92%), and 99% had 30 or fewer students. Only one participant reported having more than 100 students enrolled for the year.

Participants had been teaching AP Music Theory for an average of 6.82 years. Most participants had taught 5 years or less (54%). Three participants had taught for more than 30 years. Participants had bachelor's degrees (84%), master's degrees (76%), and doctorates (9%). Most were certified in their state (77%), and 5% had National Board Certification. Additional education in Orff (6%), Kodály (5%), Gordon (1%), and AP (5%) training programs was also represented.

### Results and Discussion

Participants ( $N = 398$ ) responded regarding pitch and rhythm skills, instructional resources, dictation strategies, test-taking skills, and characteristics of successful dictation students. We organized results into four categories: pitch and rhythm skill development, strategies during dictation, extramusical success factors, and instructional resources.

#### *Pitch and Rhythm Skill Development*

**Pitch.** From a list, participants chose the pitch system they used for sight-singing (see Table 1). The most common response was moveable *do* (*do* = tonic in both major and minor), 41%; followed by moveable *do* (*do* = tonic in major; *la* = tonic in minor), 22%; and scale degree numbers (1 = tonic in both major and minor), 15%. This result was in contrast to Pembroke and Riggins's (1990) study of college music theory teachers in which numbers were the most frequently selected pitch system, followed by a neutral syllable and moveable *do*. Seventy-nine percent of our participants used an approach based on scale degree function (moveable-*do* systems and scale degree numbers) in their instruction, while only 17% used a neutral syllable, fixed *do*, or letter names. Although various factors may influence a teacher's decision to use a particular method, these results suggest that many teachers may believe that using a pitch system that reinforces scale degree function is helpful for developing aural skills. Previous research suggests this is an effective strategy (Cassidy, 1993; Mishra, 2013). College theory instructors, in attempting to strengthen the transition from high school theory to college theory, could benefit from knowing these results and consider how to capitalize on students' prior training.

**Table 1.** Pitch Systems Used by Participants in Aural Skills Instruction.

Pitch system	<i>n</i>	%
Moveable <i>do</i> ( <i>do</i> = tonic in both major and minor)	177	41
Moveable <i>do</i> ( <i>do</i> = tonic in major; <i>la</i> = tonic in minor)	94	22
Scale degree numbers (1 = tonic in both major and minor)	66	15
Fixed <i>do</i> with chromatic inflections ( <i>do</i> = C, <i>di</i> = C#, etc.)	32	7
Neutral syllable, such as “lah”	32	7
Other	16	4
Scale degree numbers (1 = tonic in major; 6 = tonic in minor)	8	2
Fixed <i>do</i> without chromatic inflections ( <i>do</i> = C and C#)	5	1
Letter names (inflected, e.g., “G-sharp”)	4	1
Letter names (non-inflected, e.g., “G” for G and G#)	0	0

Note. Participants reported the pitch system they use most in instructing students in aural skills.

**Table 2.** Rhythm Counting Systems Used by Participants in Aural Skills Instruction.

Rhythm system	<i>n</i>	%
1 2-and 3-e-and-a	364	85
1 2-tay 3-ta-tay-ta	27	5
ta ti-ti ti-ri-ti-ri	15	4
ta tadi takadimi	11	2
du du-de du-ta-de-ta	8	1
Other	6	3

Note. Participants responded to how they would have students count a given rhythm (quarter note, two eighth notes, and four sixteenth notes).

Most participants reported that sight-singing and dictation followed generally parallel paths in the curriculum (52%), while 45% said that the two shared at least some things in common. Only 4% taught sight-singing and dictation using separate, unique curricula. Teachers reported using the same pitch system in instruction for both sight-singing and dictation “frequently” (59%), “sometimes” (36%), and “never” (5%). Together these results suggest that many participants saw aural skills development as a single entity, with dictation and sight-singing developing concurrently.

**Rhythm.** Participants chose from a list how their class would count a given rhythm. The majority of teachers (85%) used the traditional “one-e-and-a” counting system (Table 2). At a distant second (5%) was the Eastman Counting System (“one-ta-tay-ta”). Both of these systems are based on the rhythm’s relation to the meter. The remaining 10% used a system that related rhythm to the beat but not the meter (e.g., Takadimi, Galin-Paris-Chev , Gordon). Again, although various factors may influence a teacher’s decision to use a particular method, these results suggest that many teachers may emphasize an understanding of where rhythms fall in relation to metrical organization.

Teachers reported using the same rhythm system for instruction of both sight-singing and dictation “frequently” (77%), “sometimes” (22%), and “never” (1%).

Very little has been published in the research literature on rhythm counting systems. Though several studies suggest using a system (Demorest, 2004; Hoffman, Pelto, & White, 1996), no study was found in which teachers were asked which system they use in their teaching. Pierce (1992) compared four systems for learning rhythms (clapping, counting, sizzling, and clap-counting) in an instrumental setting. He found that sizzling (an articulated hissing through the teeth) produced the most efficient route to satisfying the study’s rhythmic performance criterion and concluded that the reason was that sizzling was most similar to performance on a wind instrument. Therefore, the *purpose* of choosing a particular rhythm system needs to be considered; in dictation, this purpose seems to be the ability to orient the listener to precise placement of beats and division within the meter. Results of our survey support this assertion.

A majority of participants (86%) reported compound meter was more difficult for their students than simple meter. Only 1% reported simple meter was more difficult, and 13% said they were equally difficult. Focused strategies in teaching compound meter could help teachers of AP Music Theory. Music teachers also might recommend specific and accessible repertoire in compound meters for students’ listening or encourage students to identify compound meter examples in the popular music they consume.

Participants reported more student errors in pitch than in rhythm, 66% to 17%, with 17% choosing neither. This suggests that our participants may have considered pitch to be more of a challenge for students. Previously published recommendations (Foulkes-Levy, 1997, 1998; Karpinski, 1990, 2000; Rogers, 2004) suggest practicing common pitch and rhythm patterns in order to overcome these challenges. Participants in this study agreed; 80% said that patterns were important in their dictation instruction.

### *Strategies During Dictation*

Participants reported the pre-notation strategies they taught students to use during dictation tasks: sketch rhythms (83%), sketch noteheads on the staff (58%), write solfège syllables or scale degree numbers (49%), sketch contour (46%), and write letter names (9%). These align with Karpinski’s (1990) suggestions for students to make a graphic representation of the melody first in order to increase speed of transcription and melodic memory.

During the first listening of a dictation, 46% of participants asked students to focus first on rhythm, 25% on broad aspects (e.g., range, contour, or phrase structure), and 14% on pitches. Seventeen marked *other* and noted that they allowed students to choose what they would do first. For example, comments included “It depends on the person. I try to find a system that works for each. The choir students make more errors with rhythm but the band students make more errors in pitch” and “What they can hear the best. If they hear rhythm best, focus on that, if pitch, that.” The need to help students find their own best approach confirms prior research by Buonviri (2014) in

which highly successful dictation takers from the same undergraduate theory program demonstrated and described widely divergent strategies.

On the first listening, 58% advocated listening before writing, whereas 42% recommended that students write while they were listening. These results show an obvious difference in pedagogical approach and suggest a need for further research on the efficacy of each of the two options. Regarding what to write first, 70% encouraged their students to write some of the beginning of the example and some of the end, 27% advocated writing as much as possible from the beginning, and only 3% advocated writing from the end first. In contrast, Buonviri (2014), in an in-depth qualitative study of highly successful melodic dictation strategies, found that all six participants wrote while listening during the dictation prompts in his research; none of them listened before writing. Those participants did demonstrate a mixture of approaches: writing from both ends, writing from the beginning, and writing from the end, as found in the current study.

We asked how teachers integrate written theory knowledge into their melodic dictation approach. Their responses included making predictions about pitch material (78%), hearing implied harmonies (56%), making predictions about rhythmic material (47%), using a process of elimination regarding pitch (44%), and using a process of elimination regarding rhythm (30%). These findings appear to confirm prior research (Paney & Buonviri, 2014) regarding the efficacy of integrating written and aural facets of high school theory courses.

### *Extramusical Success Factors*

Teachers selected from a list any test-taking strategies and interventions included in their classes: discussion of test-taking skills for dictation (95%), opportunities for students to share strategies (83%), discussion of test anxiety and potential solutions (59%), and opportunities for students to observe each other during dictation tasks (32%). These suggest an acknowledgment of extramusical aspects that may contribute to success on an exam and confirm previous research on AP Music Theory teachers' classroom focus (Paney & Buonviri, 2014). Although "teaching to the test" sparks debate in education (Cizek, 1993; Mintrop & Sunderman, 2009; Shepard, 1991), participants' answers to this item simply may reflect a desire to eliminate confounding variables and focus students' attention on the true task at hand: accurate musical processing.

We asked participants to list three words that describe strong dictation students and three words that describe weak dictation students. In both cases, the most frequent responses fell into three categories: music background, dictation skills, and personal descriptors. Describing strong students, participants most frequently reported backgrounds as singers (18%), instrumentalists (18%), and pianists (17%). They cited dictation skills of rhythmic ability (18%) and attentive listening (13%), and they described strong students as focused (21%) and confident (15%). In describing weak dictation students, participants reported backgrounds of general lack of music experience (14%) and singers (11%). They cited lack of rhythmic ability (16%) as detrimental to



dictation skills, and they described weak students as unfocused (25%), overwhelmed (11%), and anxious (10%).

Participants' descriptions of students' backgrounds in the *strong* survey question (singers, instrumentalists, and pianists) were noted relatively equally. However, singers were also listed in the *weak* description, suggesting that vocal training may carry both perceived advantages and disadvantages for dictation skill development. Students' rhythm skills appear to be a priority among these teachers, given the frequency of responses on both sides of the topic. This confirms prior research (Paney & Buonviri, 2014). Finally, results suggest a need to encourage students' ability to focus during dictation studies. This could be interpreted as a need to encourage focus in general during dictation skill development, to encourage focus specifically during dictation tasks, or both. It seems that increased student focus might also increase confidence and reduce the tendency of students to be overwhelmed and anxious. In other words, the personal descriptors of these students may all be interrelated.

### ***Instructional Resources***

Participants listed the music materials they used to reinforce melodic skill development. Pedagogical melodies intended specifically for dictation or sight-singing were more common than any other type of music example (87%). Participants also mentioned classical music (70%), traditional folk music (62%), past popular folk music (older than 5 years; 50%), and current popular music (43%). Participants used the melodies as sources for dictations (93%), for reinforcing intervals (79%), and for reinforcing rhythmic patterns (68%).

Participants reported using the following textbooks: *Music for Sight Singing* (Ottman & Rogers, 2010), 52%; *Tonal Harmony* (Kostka & Payne, 2009), 39%; *Ear Training: A Technique for Listening* (Benward & Kolosick, 2009), 24%; *Barron's Guide to AP Music Theory* (Scoggin, 2010), 20%; *A New Approach to Sight Singing* (Berkowitz, Fontrier, Kraft, Goldstein, & Smaldone, 2010), 19%; and *The Musician's Guide to Aural Skills* (Phillips, Clendenning, & Marvin, 2004), 18%. Participants chose their text because it was the text they used as a student (41%), it was recommended at a workshop (38%), it was already in use at the school (33%), they read book reviews about it (20%), or they received a sample copy in the mail (18%).

Regarding computer use in the curriculum, 60% of participants reported encouraging students to use computers for self-directed learning, 38% reported that computer use was required for classwork, 38% required computer use for self-directed learning, and 12% reported that computer use was not a part of the curriculum. Participants also reported that students used computers for music theory instruction during class time at school (66%), outside of class at school (54%), and outside of school (76%).

Twenty-seven percent of participants said that they did not use any software in teaching melodic dictation. Interestingly, this is almost the same percentage reported over 20 years ago by Pembroke and Riggins (1990), although their survey targeted undergraduate instructors. Researchers have found computer-assisted instruction (CAI) to be as beneficial as traditional instruction for music

theory fundamentals, including aural identification skills (Parrish, 1997) and for rhythm-reading skills (Smith, 2009). CAI also can generate additional instructional time for advanced concepts and skills because students can learn the basics outside of class; however, it can be frustrating and time-consuming depending on availability of computers and functionality of programs (Parrish, 1997). All these factors are important considerations when interpreting this result of the survey and making pedagogical decisions.

Software that participants reported using included Finale (MakeMusic, 2013), 42%; Auralia (Rising Software, 2013a), 23%; Practica Musica (Ars Nova Software, 2013), 13%; MacGAMUT (MacGAMUT Music Software, 2013), 8%; Musition (Rising Software, 2013b), 5%; and Sibelius (Sibelius, 2013), 5%. The most common websites used for teaching melodic dictation were musictheory.net, 76%; gmajor musictheory.org, 26%; emusictheory.org, 24%; and teoria.com, 8%. College Board websites also were selected: AP Central Practice Exams (<https://apstudent.collegeboard.org/apcourse/ap-music-theory/exam-practice>), 65%, and AP Central Classroom Resources ([http://apcentral.collegeboard.com/apc/public/courses/teachers\\_corner/2261.html](http://apcentral.collegeboard.com/apc/public/courses/teachers_corner/2261.html)), 32%.

### *Additional Teacher Comments*

We asked participants if there was anything else they would like to add about melodic dictation using an open-response format. We coded the responses of the 103 participants who answered this question and arranged them in rank order of frequency. Participants specifically mentioned the benefits of daily dictation practice in class (13%); small, systematic steps in dictation instruction (11%); and solfège as a dictation tool (7%). One participant stated plainly, “Start easy and don’t tell them it is getting harder.” Another noted, “If we miss even one day then the students always take a step backward.” These findings are consistent with prior studies (Maclin, 1993; Yarbrough, 2002) demonstrating the importance of carefully sequenced steps for music task mastery.

Participants also described their own needs for more time within the course to teach dictation (7%) and for additional pedagogical help and resources (7%). One responded, “This is one of my weaker skills as far as teaching AP Theory. I was never very strong with it in college, and I find it somewhat difficult to teach. I assume it is a result of my weaknesses.” Another participant mentioned that dictation is “hard to do in class because it is so time-consuming,” and another concurred: “With all of the other topics that I have to cover I find that I teach aural ‘survival’ skills rather than really doing a thorough job.” These responses confirm findings from Paney and Buonviri’s (2014) study that AP Music Theory teachers struggle with their own lack of preparation to teach aural skills and with a lack of time to teach it thoroughly. Still, as one participant put it, “there is no substitute—either textbook or computer program—for real teaching by a real teacher.” AP Music Theory teachers lead challenging courses with demanding schedules; considering and implementing various approaches to dictation instruction, and reflecting on their efficacy, may be beneficial to these instructors.

### ***Limitations and Further Research***

Our sample for this study consisted solely of AP Music Theory teachers. Although participants from 49 states and the District of Columbia completed the survey, we recognize that many high schools across the country offer other theory courses, too, representing a variety of skill levels and content emphases. We targeted the AP teachers because their courses represent relatively consistent content based on the requirements for proposing a course for AP status (College Board, 2012c).

Many AP teachers were not contacted as a part of our sample, and some of those contacted did not respond. Although there was no way to determine how representative of the population our participants were, we were pleased to have responses from every state on the list. Our hope was that universal guiding factors, including the AP exam, across states and schools would provide a consistent context from which participants would answer the survey questions, thus highlighting any potential differences in their approaches in the classroom.

Although we asked about computer and website use, we did not ask specifically about mobile device applications (apps). Authors of further research could investigate the use of apps in theory instruction both in the classroom and for individual practice.

Some high school students take music theory courses other than AP Music Theory. A survey of high school theory teachers whose schools do not offer AP might be a direction for future research. Preparing students well for college course work depends heavily on current knowledge of trends in collegiate curriculum planning. Future studies of college teachers could address the same research questions posed in the current study through a similar survey methodology. A main thrust of AP courses is the preparation of students for college work in the discipline in the form of transfer credits, favorable placement in course work, or simply readiness for the standard course sequence. Comparisons of high school and college instructors' pedagogical practices regarding dictation and aural skills could yield beneficial information to both groups.

The results of this large-scale survey of AP Music Theory teachers highlight current practice in high school music programs. Information about pitch and rhythm skill development, strategies during dictation, extramusical factors, and instructional resources may help teachers of AP Music Theory to understand what is happening in others' classrooms and to think critically about how to approach specific aspects of dictation instruction in their own classrooms. University theory instructors also may benefit from knowing about current practice in high schools and the experiences of students who have had high school music theory training. Although music teachers generally agree that aural instruction is important and that dictation training is difficult, many are unsure how to approach it. The results of this survey study, along with continued research in dictation skills, may affirm teachers' successful approaches and direct them to possible alternatives in addressing difficulties.

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## Supplemental Material

The online survey and table are available at <http://jrme.sagepub.com/supplemental>.

## References

- Ars Nova Software. (2013). *Practica musica* [Computer software]. Available from <http://www.ars-nova.com/practica6.html>
- Benward, B., & Kolosick, J. T. (2009). *Ear training: A technique for listening* (7th ed.). New York, NY: McGraw-Hill.
- Berkowitz, S., Fontrier, G., Kraft, L., Goldstein, P., & Smaldone, E. (2010). *A new approach to sight singing* (5th ed.). New York, NY: Norton.
- Buonviri, N. O. (2014). An exploration of undergraduate music majors' melodic dictation strategies. *Update: Applications of Research in Music Education*, 33(1), 21–30. doi:10.1177/8755123314521036
- Cassidy, J. W. (1993). Effects of various sight singing strategies on nonmusic majors' pitch accuracy. *Journal of Research in Music Education*, 41, 293–302. doi:10.2307/3345505
- Cizek, G. J. (1993). The place of psychometricians' beliefs in educational reform: A rejoinder to Shepard. *Educational Researcher*, 22(4), 14–15. doi:10.3102/0013189X022004014
- The College Board. (2012a, January 29). AP: Music theory. Retrieved from [http://www.collegeboard.com/student/testing/ap/sub\\_music.html](http://www.collegeboard.com/student/testing/ap/sub_music.html)
- The College Board. (2012b). *AP course ledger*. Retrieved from <https://apcourseaudit.epiconline.org/ledger/>
- The College Board. (2012c). *Course homepages*. Retrieved from [http://apcentral.collegeboard.com/apc/public/courses/teachers\\_corner/index.html](http://apcentral.collegeboard.com/apc/public/courses/teachers_corner/index.html)
- The College Board. (2012d). *2012 program summary report*. Retrieved from the College Board website: <http://research.collegeboard.org/programs/ap/data/participation/2012>
- Demorest, S. M. (2004). Choral sight-singing practices: Revisiting a web-based survey. *International Journal of Research in Choral Singing*, 2(1), 3–10.
- Foulkes-Levy, L. (1997). Tonal markers, melodic patterns, and musicianship training: Part I. Rhythm reduction. *Journal of Music Theory Pedagogy*, 11, 1–24.
- Foulkes-Levy, L. (1998). Tonal markers, melodic patterns, and musicianship training: Part II. Contour reduction. *Journal of Music Theory Pedagogy*, 12, 1–24.
- Hoffman, R., Peltó, W., & White, J. W. (1996). Takadimi: A beat-oriented system of rhythm pedagogy. *Journal of Music Theory Pedagogy*, 10, 7–30.
- Karpinski, G. S. (1990). A model for music perception and its implications in melodic dictation. *Journal of Music Theory Pedagogy*, 4(2), 191–229.
- Karpinski, G. S. (2000). *Aural skills acquisition: The development of listening, reading, and performing skills in college-level musicians*. Oxford, UK: Oxford University Press.
- Klonoski, E. (2006). Improving dictation as an aural-skills instructional tool. *Music Educators Journal*, 93(1), 54–59. doi:10.1177/002743210609300124
- Kostka, S., & Payne, D. (2009). *Tonal harmony* (6th ed.). New York, NY: McGraw-Hill.
- Lavrakas, P. J. (Ed.). (2008). *Encyclopedia of survey research methods*. Thousand Oaks, CA: Sage. doi:10.4135/9781412963947

- MacGAMUT Music Software. (2013). *MacGAMUT* [Computer software]. Available from <http://www.macgamut.com>
- Maclin, J. P. (1993). The effect of task analysis on sequential patterns of music instruction. *Journal of Research in Music Education*, 41, 48–56. doi:10.2307/3345479
- Madsen, C. K., & Staum, M. J. (1983). Discrimination and interference in the recall of melodic stimuli. *Journal of Research in Music Education*, 31, 15–31. doi:10.2307/3345107
- MakeMusic. (2013). *Finale* [Computer software]. Available from <http://www.finalemusic.com>
- McClung, A. C. (2001). Sight-singing systems: Current practice and survey of all-state choristers. *Update: Applications of Research in Music Education*, 20(1), 3–8. doi:10.1177/875512330102000102
- Mikumo, M. (1994). Motor encoding strategy for pitches of melodies. *Music Perception*, 12, 175–197. doi:10.2307/40285650
- Mintrop, H., & Sunderman, G. L. (2009). Predictable failure of federal sanctions-driven accountability for school improvement—and why we may retain it anyway. *Educational Researcher*, 38, 353–364. doi:10.3102/0013189X09339055
- Mishra, J. (2013). Improving sightreading accuracy: A meta-analysis. *Psychology of Music*, 42, 131–156. doi:10.1177/0305735612463770
- National Association of Schools of Music. (2012). *National Association of Schools of Music handbook 2011–2012*. Retrieved from NASM website: [http://nasm.arts-accredit.org/site/docs/Handbook/NASM\\_HANDBOOK\\_2011-12.pdf](http://nasm.arts-accredit.org/site/docs/Handbook/NASM_HANDBOOK_2011-12.pdf)
- Ottman, R., & Rogers, N. (2010). *Music for sight singing* (5th ed.). Upper Saddle River, NJ: Pearson.
- Oura, Y. (1991). Constructing a representation of a melody: Transforming melodic segments into reduced pitch patterns operated on by modifiers. *Music Perception*, 9, 251–265. doi:10.2307/40285531
- Paney, A. S., & Buonviri, N. O. (2014). Teaching melodic dictation in Advanced Placement music theory. *Journal of Research in Music Education*, 61, 396–414. doi:10.1177/0022429413508411
- Parrish, R. T. (1997). Development and testing of a computer-assisted instructional program to teach music to adult nonmusicians. *Journal of Research in Music Education*, 45, 90–102. doi:10.2307/3345468
- Pembroke, R. G., & Riggins, H. L. (1990). “Send help!” Aural skills instruction in U.S. colleges and universities. *Journal of Music Theory Pedagogy*, 4(2), 231–242.
- Phillips, J., Clendinning, J. P., & Marvin, E. W. (2004). *The musician's guide to aural skills*. New York, NY: Norton.
- Pierce, M. A. (1992). The effects of learning procedure, tempo, and performance condition on transfer of rhythm skills in instrumental music. *Journal of Research in Music Education*, 40, 295–305. doi:10.2307/3345837
- Potter, G. (1990). Identifying successful dictation strategies. *Journal of Music Theory Pedagogy*, 4(1), pp. 63–71.
- Qualtrics. (2013). *Qualtrics* [Computer software]. Available from <http://www.qualtrics.com>
- Rogers, M. R. (2004). *Teaching approaches in music theory: An overview of pedagogical philosophies* (2nd ed.). Carbondale: Southern Illinois University Press.
- Scoggin, N. (2010). *Barron's AP music theory*. Hauppauge, NY: Barron's.
- Sheehan, K. B. (2001). E-mail survey response rates. *Journal of Computer-Mediated Communication*, 6(2). Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/jcmc.2001.6.issue-2/issuetoc>

- Shepard, L. (1991). Psychometricians' beliefs about learning. *Educational Researcher*, 20(7), 2–16.
- Rising Software. (2013a). *Auralia* [Computer software]. Available from <http://www.risingsoftware.com/auralia/>
- Rising Software. (2013b). *Musition* [Computer software]. Available from <http://www.risingsoftware.com/musition/>
- Sibelius. (2013). *Sibelius* [Computer software]. Available from <http://www.sibelius.com>
- Smith, K. H. (2009). The effect of computer-assisted instruction and field independence on the development of rhythm sight-reading skills of middle school instrumental students. *International Journal of Music Education*, 27, 59–68. doi:10.1177/0255761408099064
- Thompson, K. A. (2004). Thinking in sound: A qualitative study of metaphors for pitch perception. *Journal of Music Theory Pedagogy*, 18, 81–108.
- Watson, J. (2001). *How to determine a sample size: Tipsheet #60*. University Park: Penn State Cooperative Extension. Retrieved from <http://www.extension.psu.edu/evaluation/pdf/TS60.pdf>
- Yarbrough, C. (2002). Sequencing musical tasks: The teaching artistry of Robert Shaw. *Update: Applications of Research in Music Education*, 20(1), 3–8. doi:10.1177/87551233020210010601

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