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From the Editor

I am delighted to introduce Volume 31 of the Journal of Music Theory Pedagogy to the public. As the journal enters its fourth decade of publication, we introduce several major changes with this issue. First and most obviously, the layout of the publication has been completely redesigned and updated. My thanks go to Christopher Winders, our new Production Manager who designed and typeset the new issue, and to Bernie McElheney for his many years of service to the journal.

This issue also marks the merging of the online branch of the journal (variously referred to as Music Theory Pedagogy Online and Journal of Music Theory Pedagogy-ejournal) with the formerly-print version of the journal. Articles previously published in the e-journal will henceforth appear under the subsection “Pedagogy Into Practice,” and the “Resources” section of our website is referenced in the table of contents as well. Back issues of both journals remain fully accessible on our website, but there will be a single annual publication beginning with this volume. My thanks go to Jennifer Snodgrass, Jena Root, and Steve Laitz for their hard work in facilitating the successful merging of these publications.

I also thank Elizabeth Sayrs, my outstanding predecessor as editor of the journal, for her fine work on Volumes 28 and 29, and for mentoring me through the process as we co-edited Volume 30. I hope to maintain the high standards the journal has upheld since its beginning, and to re-establish a consistent and timely publication schedule.

Volume 31 of the Journal contains articles, reviews, pedagogical resources, and reports that will be of use in a wide variety of teaching situations. We are currently accepting material for Volume 32 (2019); instructions for contributors can be found at our website, <https://jmtpp.appstate.edu>. Finally, I draw your attention to the upcoming Second Pedagogy into Practice Conference, to be held at the University of California at Santa Barbara, May 23-25, 2019, and to the Gail Boyd de Stwolinski Prize for Lifetime Achievement in Music Theory Teaching and Scholarship. Information about both of these items is available on our website.

— William Marvin, editor (Eastman School of Music)

Incorporating Popular Music in Teaching: Ideas for the Non-Expert

TIMOTHY K. CHENETTE

Music theory instructors who center their teaching around common-practice music often do so because they believe this repertoire helps students learn broadly applicable skills. But incorporating some (broadly defined) popular music may help students make connections to other repertoires, form more robust and accurate knowledge structures, and exercise creativity. This article is addressed to instructors who do not feel expert in popular music who still want to engage these benefits. Such instructors can remove from themselves some of the burden of claiming expertise they do not feel they have and learning new repertoire every year in order to stay current by giving their students greater degrees of agency. These range from alternative assignments, which require more expertise on the part of the instructor, to student involvement in the priorities and emphases of a class, which opens up the class to the full range of student ideas and preferences.



Music theory teachers tend to view what we teach as broadly applicable: as Kris Shaffer succinctly puts it, “Music theory is a *discipline*, in which we study *multiple theories* about *multiple musics*” (italics in the original). Given that we could not possibly teach every aspect of every musical style, even if this were desirable, we teach a foundation—one which, traditionally, is rooted in common-practice harmony—and expect that students will understand that this foundation is not an end in itself, but a means so that they leave the classroom able to “teach themselves things that go beyond what we can cover in these courses—and even things that won’t come over the musical horizon for another 20 or 30 years” (Shaffer 2014). Anecdotally, this perspective seems common: many professors teach common-practice repertoire because it is what they know best, and they feel it provides an effective starting point for further learning.

Online posts by current or recent students, on the other hand, tend to see the common-practice curriculum as an end in itself and, by extension, view it as out of touch with contemporary music-making. Perhaps the most visible of these to the music theory community recently has been Ethan Hein’s article in the online magazine *Slate*, in which he asserts that “the conventional teaching of music theory serves practicing musicians pretty poorly” and argues that our “common-practice” repertoire should be modern pop and rock music, not Bach-through-Brahms (2014).¹ Ivan Trevino,

¹ This comment, of course, raises the question of how we define “pop and rock music.” This question will be addressed below.

similarly, states that in his imagined ideal music school, “Classical music will be a focus..., but so will other genres of music.” He also extolls the virtues of composing and arranging in a range of styles, and adds, “Maybe this means we axe that last semester of atonal theory in favor of some more practical theoretical skills that we can immediately utilize in our post college lives” (2014).

Two dismissive thoughts might immediately come to mind. First would be to blame the students. If they are looking for practical skills, they should get an internship or play in a band; and perhaps this focus on getting a “practical” education is blinding them to the creative process of extrapolation from what we teach to what they do. Second would be to blame their teachers: perhaps these students have learned from teachers who are just going through the motions, assigning abstract textbook readings and worksheets without making connections to real music or modern practice.² Yet neither of these responses is helpful. Even if both are true, if we embrace them, we miss an opportunity to question the status quo and revitalize our teaching practice.

It is not my intention to suggest that this disconnect between teachers’ pedagogical philosophies and students’ perceptions is a new or even newly-discovered problem.³ Rather, my overview above is meant to highlight the current state of discussion about this problem—a state that is perhaps more interesting than usual, since the ease of online publishing means that new voices can be heard, and more quickly. In the body of this article, I will suggest some ways of incorporating the music these students are calling for, primarily popular music (broadly defined), for instructors who do not currently feel comfortable doing so. These suggestions will not likely convince every student that everything we do will be directly applicable to their future careers, but when we incorporate the pop and rock music that Hein advocates or the “other genres” of Trevino, we invite our students to make further connections themselves. In addition, we may set ourselves up for better success in more traditional goals, as detailed below.

This article is not addressed towards those who feel fluent in the languages and

2 Indeed, Hein suggests this in a comment on music theorist Bryn Hughes’s blog, saying (addressed to Hughes): “You are clearly part of that community [of music academics who are coming to grips with the mismatch between the baseline standards of their profession and the music being made in the world], much to your credit.” Yet Hein’s comment also notes that the school he attended—which he includes in his critique—is a “fairly progressive school” (Ethan Hein, February 28, 2014, comment on Hughes 2014).

3 The interesting literature on contrasts between teachers’ and students’ perceptions in general often focuses on writing assignments and includes Wolsey, Lapp, and Fisher (2012); Macbeth (2006); and Nelson (1990).

practices of modern popular music, but rather towards those who do *not*.⁴ Many teachers who focus on common-practice repertoire do so not because they are averse to popular music, but because they were trained in the former and find it to be an effective means of learning terminology and developing skills in musical analysis and communication. (Discomfort with the unfamiliar may, of course, also be a factor.) Such teachers face two particular challenges. First, how does a “traditionally” trained teacher incorporate popular music in an authentic way? And second, how does this teacher do so without having to spend an immense amount of time and effort learning a vast new repertoire and then repeating this effort every few years to remain current?

The central thesis of this article is that every degree of choice and creativity one allows to students—within the constraints of a course’s purpose, goals, and available resources—eases these two central problems and invites students to greater success in any curriculum. Focusing on learning objectives, rather than on how a student must approach that learning objective, allows multiple paths through material, which in turn facilitates student ownership and also the contextualization of the “traditional” curriculum. Asking students to actively participate in selecting content for the class has many of the same benefits, but in addition alleviates some of the “authenticity” burden from the teacher and makes clear that student preferences and opinions are welcome in the classroom. Notably, these solutions do not require fundamental redesign of curricula.

This article, then, is addressed primarily to teachers who do not feel that they are experts in popular music. It will first explain why such teachers might want to incorporate this repertoire, drawing both on the tensions identified above and on the scholarship of teaching and learning. The following section is designed to help these instructors imagine ways of giving their students greater freedom in the service of integrating popular music. It begins by describing small degrees of flexibility, and ends with ways of more fully reflecting, encouraging, and productively using the diversity of tastes and backgrounds represented among our students.

Learning Benefits of Incorporating Popular Music

The most intuitive benefit of incorporating popular music is the connection it makes to students who identify with that repertoire. Justin London suggests a

⁴ As such, this article and its exploration of the benefits of incorporating popular music are not intended as a criticism of contemporary music theory teaching but rather as a resource for interested instructors. Indeed, the survey results reported in Snodgrass (2016) suggest that most music theory instructors do use at least some popular music in their teaching.

disconnect between the music we teach and the music students interact with most often:

The failure of our students to connect theory to their other musical experiences is perhaps our fault... We must take the initiative to show our students how theory plays an important role in critical listening, and how a knowledge of music theory can enhance their musical understanding and experience. (1990, 113–114)

Other music theorists have made much the same point, including Folse (2004) and Ripley (2011). A slightly different critique from *outside* the field, embodied in the internet postings listed above, asserts that what we teach in the music theory classroom is not relevant to music making today. But these calls for change are, perhaps, two sides of the same coin: musicians wish music theory classes were more useful, while music theorists wish musicians could more easily see how useful music theory is. The solution from both sides: incorporate more popular music! This perspective, echoed in other publications, suggests a kind of forward-looking benefit: if we make connections between different styles of music, students will be able to make further connections themselves later.

There is a strong argument to be made that education should be about learning to think and adapt to future realities rather than acquiring today's "useful" skills, despite the concerns of the students referenced above. Yet incorporating popular music is useful from this perspective as well. Since many students are familiar with popular music, intentionally incorporating it activates prior knowledge. As stated in the book *How Learning Works: Seven Research-Based Principles for Smart Teaching* by Susan Ambrose et al.:

Ideally, students build on a foundation of robust and accurate prior knowledge, forging links between previously acquired and new knowledge that help them construct increasingly complex and robust knowledge structures.... If they do not draw on relevant prior knowledge—in other words, if that knowledge is inactive—it may not facilitate the integration of new knowledge. (2010, 13)

There may have been a time when the majority of students entered music school aurally understanding pivot chords, for example, or sonata form, and the teacher's job was simply to activate this knowledge and give the student proper terminology for it. But if so, that time is past, and students are likely to come to music school with a wide range of experiences with a wide range of music.⁵ If we activate this knowledge

⁵ Given this reality, Telesco (2013) advocates creating mental schemata for use in sight reading based on students' familiarity with popular styles. This is a slightly different, but compatible (and also popular-music-based), response to problems related to those presented in the current article.

as we present new concepts, we will be helping students make these “complex and robust knowledge structures.” This is presumably why Ripley (2011), among many others, advocates using popular music for its familiarity—though it is easy to forget that there are also many students not well-versed in popular styles, or familiar with different popular styles.⁶

Making these connections also puts the “traditional” curriculum into context. *How Learning Works* further points out that while it is important to activate prior knowledge, “when learning new material, students may draw on knowledge ... that is inappropriate for the context, and which can distort their interpretation of new material or impede new learning” (Ambrose et al. 2010, 23). This is often a hang-up in the study of older styles when they are not explicitly compared with new styles, for example, when studying eighteenth-century voice leading without talking about differences in modern rock or even contemporary choral music. Activating prior knowledge and *comparing* it to new knowledge can facilitate not only greater understanding, but also comprehension of when different perspectives are appropriate. For example, sometimes allowing parallel fifths in part writing, or comparing the effect of parallel power chords with the effect of contrary motion in eighteenth-century voice leading, can help students understand when certain voice-leading norms are appropriate and when they are not. If we participate in making such comparisons, we can help make sure they are accurate and effective. In this way, incorporating some popular music may not dilute the “traditional” curriculum, but strengthen it.

A fourth beneficial connection with students regards attitudes towards learning. Teresa M. Amabile, a notable researcher on creativity, found that creativity—one of the central focuses of the report of the recent CMS Task Force on the Undergraduate Music Major—flourishes when a person’s abilities are matched with intrinsic, rather than extrinsic, motivation. Of course, extrinsic motivators like teacher-given instructions and grades are (in most cases) impossible to avoid in higher education, but Amabile found that these are not necessarily bad when paired with intrinsic motivators (1997, 45). One excellent way to increase intrinsic motivation is to study music that students care deeply about and to ask them to bring in materials that they are interested in. In addition, Carol Dweck has demonstrated extensively the difference between students with a fixed mindset, which posits that intelligence is fixed and leads to poorer learning and lower levels of risk-taking, and students with a growth mindset,

⁶ This is one reason for giving students flexibility to bring in their own repertoires, as described below, rather than simply bringing in the music the instructor considers “popular.”

which posits that intelligence is malleable and produces better learning outcomes.⁷ A curriculum focused almost exclusively on common-practice repertoire will make it easy for students steeped in that repertoire to develop a growth mindset, but may simultaneously contribute to a fixed mindset among a subset of other students who do not get as many opportunities to feel successful.

Finally, an embrace of creativity in music theory classes is a virtue in and of itself. Dire warnings about the state of employment in traditional music careers are easy to find. The CMS Task Force on the Undergraduate Music Major Manifesto gives a more positive spin:

The creative and expressive dimensions of music have been progressing rapidly over the past several decades. Factors include an expanding, interconnected global society with its cross-cultural influences, crossover stylistic expressions, electronic as well as acoustic performance and production, advances in technology, access and transmission afforded by the internet and digital media, and growing creative impulses for many real-world musicians in the form of improvisatory and compositional endeavors.

They follow this, however, with the statement that the academy does not prepare students for this reality, since it “has remained isolated, resistant to change” (2014). Though this controversial statement ignores the great diversity of music teaching today,⁸ a curriculum that invites creativity and novel ways of recombining material, exposes students to a broad range of today’s active music-making and invites students to bring their own preferences and ideas into a setting where they can be studied, questioned, and creatively manipulated is one that will better prepare students for this rapidly changing musical world.

Increasing Degrees of Student-Centered Learning

To return to the central thesis of this article, every degree of freedom granted to students will contribute to alleviating the burdens of claiming authenticity for

⁷ Though much of Dweck’s work has focused on these themes, they are expounded at length in Dweck (2016). An excellent source for advice on how to give feedback that encourages a growth mindset is Dweck (2007).

⁸ Among the many published and presented responses to the report of the CMS task force was a strong rebuttal of its characterization of contemporary music theory and aural skills teaching by Snodgrass (2016). Snodgrass reports the results of a survey that shows that the vast majority of responding music theory instructors do teach at least some popular music, though 11% of respondents reported giving their students no exposure to this repertoire. It is important to note that though the CMS task force was convened by the College Music Society, it was not voted on or endorsed by the members of the CMS.

the instructor and learning new repertoire—which means that insights from the student-centered learning movement will be helpful. Student-centered learning is not necessarily a new idea, but it has recently been envisioned more radically than before. The standard music theory pedagogy text focuses on student learning rather than teacher effort when it states, “A distinction should be made between teaching (i.e., transmitting information—for example, through a lecture) and learning (connecting the student’s mind and needs in some way to what the instructor is talking about)” (Rogers 2004, 161). This in itself is a kind of student-centered perspective, but it still focuses on content. Kris Shaffer gives a more radical definition, arguing, “A student-centered curriculum treats the student as a subject, and the materials as the objects to be engaged, manipulated, even constructed by the student-as-subject” (2014). While Michael Rogers advocates paying attention to student learning, Shaffer proposes that students be empowered as agents directing their own education. Stamatis (2014), similarly, specifies that a student-centered learning environment “encourages student engagement, active learning, self-examination, and individually designed projects.”

For an instructor not well-versed in popular music to incorporate it without wholesale redesign of curricula, it will be necessary to juxtapose this repertoire with “traditional,” common-practice repertoire. Fortunately, this can be a very good thing, particularly in its encouragement of creativity. Creativity is often defined in words similar to those of Sir Ken Robinson et al. (1999): “Imaginative activity fashioned so as to produce outcomes that are both original and of value” (30). Amabile (1997) describes creativity as thriving when three components are in place: prerequisite prior knowledge (“expertise”), intrinsic motivation, and “creative thinking skill” (42). This latter category essentially refers to the ability to generate novel ideas, and is particularly likely to be strong when people are asked to think in new ways. Juxtaposing seemingly different things is clearly a valuable component of this element of creativity, whether it means recomposing Lady Gaga in the style of Bach, experimenting with interplay between technical virtuosity and artistry in different styles, or recording a “crossover” album.

Before providing specific suggestions for giving students greater flexibility, it is necessary to address an elephant in the room: what, exactly, is popular music? John Covach has argued that the term is problematic in a society where many popular repertoires are given a high cultural position, since our uses of the term “popular music” usually imply an opposition with supposedly highbrow “classical” music (2015).⁹ Yet in this context it might make sense: while prestigious mass media like

9 Covach’s primary recommendation, that music schools not focus on a specific repertoire

the New York Times and National Public Radio began covering non-“classical” music some time ago, the theory classroom still often preserves the distinction. We might count as “popular” anything that is mainstream within our culture but not explicitly contained within the (Bach-through-Brahms, plus second Viennese school, Bartók, and Stravinsky) repertoire we have traditionally used as our foundation. Even if this distinction is vague and even problematic, that may not be a problem—students come to our classes with many different kinds of preferences and backgrounds, and if we give them some say, we will reflect those preferences, whatever they are. Our primary concern should be opening the doors to new repertoire, not necessarily defining exactly what may come in.¹⁰

Perhaps the easiest way to invoke creativity in the classroom—and a way that is already travelled in many classrooms—is to ask students to compare or contrast two seemingly disparate things. While this type of task still relies on a teacher’s instructions, it asks students to make novel and creative connections, and can easily be designed to eschew single correct answers. Applied to popular music incorporated within a traditional curriculum, such activities might include:

- ◆ Comparing Clementi’s Sonatina in G major, Op. 36, No. 5, movement iii, with the Mindbenders’ song based on the Clementi, “Groovy Kind of Love.”¹¹ There are technical differences (Clementi’s diminished leading-tone chords, for example, are usually replaced by minor supertonic chords, and parallel fifths abound in the latter song): to what extent do these explain the aesthetic differences?
- ◆ Evaluating a shape-note song such as Sarah Lancaster’s “The Last Words of Copernicus” (Sacred Harp #112) from the perspective of Bach-style voice leading and part writing. Do the many parallel fifths and octaves, emphasis on tonic harmony, static lines, missing thirds, etc. make this a bad piece? If not, what is the value of so-called “rules” of voice leading?
- ◆ Investigating the common pop music progression where V⁷/V is followed by IV (as at 1:22 of Bruno Mars’s “When I Was Your Man”). What is the effect, compared to a “proper” resolution?

but teach many repertoires as their core, also resonates strongly with this article. Covach’s lecture can be viewed on the University of Rochester Institute for Popular Music’s Youtube Channel at https://www.youtube.com/watch?v=6b3M7KF7C7U&feature=em-subsub_digest.

¹⁰ The challenges, of course, get bigger the more culturally distant the repertoire gets from the traditional canon. For example, music that doesn’t use Western notation or scales may be very difficult to juxtapose with, say, Beethoven’s Fifth Symphony. Of course, there are still valuable insights to be gained from this juxtaposition—just different ones from those focused on here.

¹¹ This comparison is suggested by Clendinning and Marvin (2011, 198).

- ◆ Improvising on some instrument using only a predetermined set class over a twelve-bar blues.

A teacher with a strong commitment to teaching popular music might criticize these exercises as all being based in “classical” knowledge: stylistically-defined norms of harmonic progression, eighteenth-century voice-leading, resolution of tendency tones, etc. Certainly, it would be valuable to come at such comparisons from other perspectives: for example, critiquing the “naturalness” of Schubert’s text setting when compared with the freer, more syncopated styles of modern pop. Yet the point of these exercises is to show ways that a traditional curriculum can be enriched, not fundamentally changed. Fundamental change is welcome, but it can also be difficult for teachers with a traditional background and many constraints on their time. Simply beginning to reach out in this way can dramatically change the classroom atmosphere and may lead to further and more substantial changes later.

More important, perhaps, these activities do not solve the problems mentioned before. Since the teacher defines the task, such activities rely on the teacher’s knowledge of popular repertoire and may suggest to the student that the teacher is an expert in popular music—an impression many teachers will be uncomfortable with. Teachers who do not already have deep repertoire knowledge can still design such projects by searching through the repertoire they do know, investigating currently popular music at websites like Billboard’s The Hot 100 (<http://www.billboard.com/charts/hot-100>) to see if any of it relates productively to what they are planning to teach, using resources like HookTheory’s “Find songs with the same chords” (<http://www.hooktheory.com/trends>) to find songs that follow a chord progression they would like to investigate, searching online for crossover versions of classical “hits” that could spur discussion about why the music appeals to the crossover artist,¹² or asking knowledgeable colleagues for ideas to go with a particular unit. (A good opening strategy is simply to do an internet search for “popular music [topic of class],” for example, “popular music counterpoint,” “popular music Neapolitans,” etc.) But while such small initiatives can be helpful, they are only moderate steps along the road to greater student freedom and a diverse classroom

¹² Just as a sample, there are virtuosic metal guitar covers of Corelli’s *La Folia* variations and the third movement of Beethoven’s *Moonlight Sonata* recorded by artist Dan Mumm, while Nas’s rap song “I Can” samples Beethoven’s *Für Elise* to highlight an important rhythmic/contour motive and convey a sense of seriousness and high-mindedness. There are also cover recordings the opposite direction, like Vitamin String Quartet’s tribute to Radiohead and the album *Strung Out on OK Computer*, and it is not too hard to find recordings of Beatles songs by symphony orchestras.

repertoire.

The suggestions listed above ask students to be creative with a teacher-given task; taking student freedom a step farther, a teacher could focus on a learning objective, rather than a task, and allow the students multiple paths to that objective. Such multiple paths could be seen as a less radical form of some changes proposed by the College Music Society's report of the Task Force on the Undergraduate Music Major. This report recommends greater student choice in curricular pathways; allowing more choices within existing courses is an initial step in this direction. Below are listed several common class types, along with a few ideas to spur thinking on how popular music might be incorporated and juxtaposed.

Fundamentals courses. These are perhaps the easiest in which to employ this type of thinking. Because many of the typical skills taught here—note reading, writing time and key signatures, transposition, intervals, and chord construction—are not tied to a single style or genre, learning objectives can often be met regardless of style preference. For example, students could be asked to bring to class five popular songs they enjoy and be ready to write appropriate key signatures for them on the board. Students could either find scores online or use their aural skills to identify tonic. Or students could identify intervals, write out chords, etc., for music in almost any tonal style.

Aural Skills. Some skills developed in aural skills courses—e.g., musical memory, tonic determination, notation, basic sight reading—are not highly style-dependent. These can use music from different styles in different ways: for example, a class could be given a choice of two transcription projects, one in “popular” style and the other “classical,” or students could choose pieces to transcribe themselves. (To keep grading manageable, the instructor could require that multiple students work, independently or together, on each chosen excerpt.) Developing aural schemata, however, is likely more style dependent. Instructors who wish to inculcate a specific style here should probably focus on that style, though it may be advantageous to occasionally compare it with other styles. Instructors who serve diverse populations could, again, give students some choice in which repertoire they focus on.

Diatonic and chromatic harmony courses. An instructor who wishes to focus on common-practice harmony will still likely find it useful to compare it to popular-music tonal harmony, as such comparisons can put the common-practice norms in relief. For example, one could ask students to do an harmonic analysis of a Mozart minuet and a student-chosen rock piece that uses a cycle of three to five chords, and compare the two in terms of the effects of harmony and cadences, or in terms of

how they modulate. Instructors who want to serve groups of students with different interests more effectively could have a unit or class called “harmony” but multiple alternative sets of readings and assignments. Another assignment might ask students to find a piece of music that uses a given chord (say, the dominant chord) in a piece in any style, label the chords that come before and after, identify where it comes within the phrase model, and/or describe how a tonic is established in that style.

Counterpoint. Counterpoint, especially when identified with a certain period (e.g., sixteenth-century counterpoint), is clearly tied to a style, and there is not a strong tradition of counterpoint teaching within popular music practice. Nevertheless, students could still analyze and describe the relationships between, say, outer voices of a rock song, using the terms parallel, similar, oblique, and contrary.

Form. One way to activate prior knowledge at the beginning of a class or unit on form would be to ask students to create a timeline of a piece from their personal music library, and to think about what elements they are using to make their decisions (usually, this means harmony/key areas and especially themes). Or, students who have learned about a given form could be asked to evaluate its appropriateness to popular styles. For example, there are a number of forums and blogs on the internet that assert connections between sonata form and popular song (verse-chorus) forms.¹³ Students could be asked to evaluate these claims: why are they made, and do you agree?

Twentieth-century modernism. Serialism might seem difficult to juxtapose with non-classical music, but it is possible and useful even here. Dave Brubeck (though some would include him in the “classical” category) wrote jazz pieces that feature twelve-tone melodies but not serialism (an example is “So Lonely”). This could engender an interesting discussion on why he does this, and even an assignment to write a piece using a twelve-tone row in a popular style (I have had students do this with a remarkable degree of success).

Most of the suggestions given so far rely to some extent on a teacher’s knowledge of popular repertoire, but this is not an absolute necessity for incorporating popular music. Every degree of freedom afforded to students puts less responsibility on the teacher to know repertoire and present it in an authentic way and gives a greater invitation to students to bring their own ideas and preferences to the classroom. The

¹³ Given the ephemeral nature of some of these sites, the best way to find these is probably through internet searches for “sonata form popular music,” but as of the writing of this article they include an informal post on the blog Think Like a Cellist (<https://thinklikeacellist.wordpress.com/2015/02/25/sonata-form-and-the-modern-pop-song/>), an instructional post on the blog of writer Julie Wu (<http://juliewuauthor.com/?p=18940>), and even a post on Reddit (https://www.reddit.com/r/Music/comments/107m57/a_pop_song_in_sonata_form_music_is_awesome/).

prime example given above is letting students find a piece that is an example of a concept or where a concept is useful, potentially opening up the classroom to a good deal of diversity. This strategy can be very useful in a number of different situations, including choosing pieces for transcription or dictation in aural skills, finding examples of harmonies, and simply practicing analysis. It may, however, be more useful in the later stages of a given unit, once students have already demonstrated some understanding, so that students are more likely to bring in appropriate pieces.¹⁴

Taking this idea to its logical conclusion, it is possible for students to be collaborators in the design or implementation of a course. This is an admittedly radical step, and perhaps easiest for teachers who already have experience and strong ideas that will be applicable to many situations and the confidence to deal with the unknown. There are resources to help those that wish to go this route. The one most relevant to music theory teaching is Alegant and Sawhill (2013): though the authors spend much of their essay discussing self-grading, they also include self-design. Another excellent resource is Davidson (2015). In a classroom where students have an active role in creating the course, the diversity of their music preferences will be reflected.

Not all teachers (or perhaps especially institutions) will be comfortable with the idea of students helping to design a course, but even this radical step can be tailored to different levels of comfort. We can still bring our preferences and ideas to the classroom, adding our own voices to the mix. We might, for example, come on the first day of class with a list of learning objectives, then ask students to prioritize these or to add their own (for which we might still define the methods of assessment). Or we might say, “I would like for you to learn something about the effects of different harmonies, which ones are most important, and ways that they progress from one to another, but I am open to doing so with regard to different repertoires. Keep in mind that if you choose a repertoire I am not expert in, there will be more responsibility on you to bring in examples and to explain how you think they work.”

I have also, particularly at the end of a curriculum track, given much more open-ended assignments that allow for student design. The most open-ended of these was an assignment I gave in the last weeks of a final aural skills course: the assignment was “Get into groups and do something that involves aural skills.” I gave the students

¹⁴ Instructors should, of course, have a plan for what to do when students bring in inappropriate pieces, e.g., an “example of a V^7/V ” that turns out not to include this chord. Choices include awarding partial points if the example has some aspect of the desired element (say, a French augmented sixth instead of a V^7/V , since it does include some of the same notes) and asking students to try again.

some examples of appropriate projects—working up an a cappella group arrangement of a popular song, learning a piano or string quartet piece from a recording instead of a score, coming up with a framework for improvisation, sight-reading their way through a defined repertoire—but left room for other possibilities. Student groups were tasked with crafting a proposal that made clear what they expected to get out of the project educationally. We dedicated several weeks to this project, and in these weeks I acted no longer as instructor but now as guide, listening to groups as they worked and offering advice when appropriate. My students worked enthusiastically, and as I walked from group to group, occasionally consulting but mostly feeling a bit useless, I witnessed amazing results: students explaining to each other important concepts and ways of working, significant effort, and truly creative performances. (Incidentally, all of my student groups chose popular-music-related projects, suggesting to me that they feel there is not yet enough popular music in my class.)

Conclusion

We have much to gain from an embrace of popular music in the classroom. The benefits will include the building and activating of more robust knowledge structures, the demonstration of relevance, and communicating to our students their own value—and the value of their ideas, backgrounds, and preferences—to our classes. These benefits are available not just to teachers who consider themselves popular music scholars, and not even just to teachers with a sizeable popular music section in their music libraries, but to all teachers who take steps to incorporate these repertoires. Even just an occasional comparison between the “core” repertoire of a class and a “popular” piece of music can make a big difference and open doors to further changes in the future.

To the extent that we embrace student agency in the classroom, we will open the studied repertoire to a greater diversity of music, bring students’ ideas and preferences into play, and foster creativity especially through comparison of seemingly disparate things. In doing so, we have the opportunity to embrace student perspectives and remove from the teacher the responsibility of being an authority on all aspects of popular music. And we gain the benefits of perceived usefulness of class material, appropriate activation of prior knowledge, encouragement of different kinds of students, and a fuller embrace of creativity.

Works Cited

- Alegant, Brian, and Barbara Sawhill. 2013. "Making the Grade (Or Not): Thoughts on Self-Design, Self-Assessment, and Self-Grading." *Engaging Students: Essays in Music Pedagogy* 1. <http://flipcamp.org/engagingstudents/alegantSawhill.html>. Accessed April 3, 2018.
- Amabile, Teresa M. 1997. "Motivating Creativity in Organizations: On Doing What You Love and Loving What You Do." *California Management Review* 40 (1): 39–48.
- Ambrose, Susan A., et al. 2010. *How Learning Works: Seven Research-Based Principles for Smart Teaching*. San Francisco: Jossey-Bass.
- Campbell, Patricia Shehan, et al. 2014. *Transforming Music Study from its Foundations: A Manifesto for Progressive Change in the Undergraduate Preparation of Music Majors*, conference copy. Report of the Task Force on the Undergraduate Music Major, The College Music Society. <http://dx.doi.org/10.18177/sym.2016.56.fr.11118>. Accessed April 3, 2018.
- Clendinning, Jane Piper, and Elizabeth West Marvin. 2011. Workbook for *The Musician's Guide to Theory and Analysis (Teacher's Edition)*, 2nd ed. New York: Norton.
- Covach, John. 2015. "High Brow, Low Brow, Not Now, Know How: Music Curricula in a Flat World." Keynote lecture, Ann Arbor Symposium IV: Teaching and Learning Popular Music, Ann Arbor, MI, November 19, 2015.
- Davidson, Cathy. 2014. "How Do I Get Started? A Step-By-Step Guide to Designing a Student-Centered Classroom, Part I." *The Futures Initiative*, August 4, 2014. <https://www.hastac.org/blogs/cathy-davidson/2015/08/04/how-do-i-get-started-step-step-guide-designing-student-centered>. Accessed April 3, 2018.
- Dweck, Carol. 2016. *Mindset: The New Psychology of Success*. New York: Ballantine Books.
- _____. 2007. "The Perils and Promises of Praise." *Educational Leadership* 65 (2): 34–39.
- Folse, Stuart. 2004. "Popular Music as a Pedagogical Resource for Musicianship: Contextual Listening, Prolongations, Mediant Relationships, and Musical Form." *Journal of Music Theory Pedagogy* 18: 65–79.
- Hein, Ethan. 2014. "How Can Traditional Music Theory Mesh With Modern Pop Music?" *Slate*, February 1, 2014. http://www.slate.com/blogs/quora/2014/02/17/teaching_music_theory_how_can_modern_music_mix_with_traditional_theory.html. Accessed April 3, 2018.
- Hughes, Bryn. 2014. "In Defense of Music Theory." *bloghughes*, February 27, 2014. <https://bloghughes.blogspot.ca/2014/02/in-defense-of-music-theory.html>. Accessed April 3, 2018.
- London, Justin. 1990. "'One Step Up': A Lesson from Pop Music." *Journal of Music Theory Pedagogy* 4 (1): 111–14.
- Macbeth, Karen P. 2006. "Diverse, Unforeseen, and Quaint Difficulties: The Sensible Responses of Novices Learning to Follow Instructions in Academic Writing." *Research in the Teaching of English* 41 (2): 180–207.
- Nelson, Jennie. 1990. "This Was an Easy Assignment: Examining How Students Interpret Academic Writing Tasks." *Research in the Teaching of English* 24 (4): 362–96.

- Ripley, Angela N. 2011. "An Investigation of Pedagogical Methods for Increasing the Perceived Relevance of Music Theory Courses to Undergraduate Music Students." MM thesis, Baylor University.
- Robinson, Ken, et al. 1999. *All Our Futures: Creativity, Culture and Education*. Report of the National Advisory Committee on Creative and Cultural Education [Great Britain]. London: Department of Education and Employment.
- Rogers, Michael R. 2004. *Teaching Approaches in Music Theory: An Overview of Pedagogical Philosophies*, 2nd ed. Carbondale, IL: Southern Illinois University Press.
- Snodgrass, Jennifer Sterling. 2016. "Current Status of Music Theory Teaching." *College Music Symposium* 56. <http://dx.doi.org/10.18177/sym.2016.56.fr.11135>. Accessed April 3, 2018
- Shaffer, Kris. 2014. "Student-Centered Curriculum." *Kris Shaffer: Data Scientist. Digital Media Specialist. Developer. Author*, December 7, 2014. <https://pushpullfork.com/student-centered-curriculum/>. Accessed April 3, 2018
- _____. 2014. "What is Music Theory?" *Hybrid Pedagogy: A Digital Journal of Learning, Teaching, and Technology*, March 1, 2014. <http://www.digitalpedagogylab.com/hybridped/music-theory/>. Accessed April 3, 2018.
- Stamatis, Yona. 2014. "Towards a Philosophy of Student-Centered Music and Social Justice Learning." *Engaging Students: Essays in Music Pedagogy* 2. <http://flipcamp.org/engagingstudents2/essays/stamatis.html>. Accessed April 3, 2018
- Telesco, Paula. 2013. "Teaching Elementary Aural Skills: How Current Brain Research May Help," *Journal of Music Theory Pedagogy* 27: 211–46.
- Trevino, Ivan. 2014. "My Pretend Music School." *Ivan Trevino: Composer. Percussionist.*, September 21, 2014. <https://ivandrums.com/2014/09/21/my-pretend-music-school/>. Accessed April 3, 2018
- Wolsey, Thomas DeVere, Diane Lapp, and Douglas Fisher. 2012. "Students' and Teachers' Perceptions: An Inquiry Into Academic Writing." *Journal of Adolescent & Adult Literacy* 55 (8): 714–24.

The Discovery Channel: Using Techniques from Discovery Science to Teach Concepts in the Core Theory Sequence

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The college music classroom has changed in recent years. Amidst upheavals in curricula, technology, and student populations, many of us have altered the look and feel of our teaching in profound ways. This paper presents my version of “the change”: a groupwork-based guided inquiry approach to teaching fundamental concepts in the core music theory sequence. My method shares features of its underlying philosophy with techniques of active learning proposed by previous scholarship and driven by a shift in our teaching towards the student-centered classroom and a pedagogical stance rooted in the theory of social constructivism. Many of these pedagogical methods hold it necessary for students to have a grasp of basic terminology and concepts before they can engage in active learning; here, I suggest that active learning can be most valuable when made part of the process of uncovering basic theory concepts itself and propose a protocol for doing so adapted from the teaching of science, technology, engineering, and mathematics (STEM) fields. I seek to make the process consistent with best practices for promoting student engagement and a deeper conceptual understanding of course content, particularly in classrooms that are heterogeneous with regard to students’ academic ability. As well, by having students recreate the intellectual processes of music analysis as they are undertaken by scholars in the field, the guided inquiry method promotes an understanding of what it is, in Michael Rogers’ formulation, to “do”—rather than simply to “learn”—music theory.



The college music classroom has changed in recent years; amidst upheavals in curricula, technology, and student populations, many of us have altered the look and feel of our teaching in profound ways. This paper presents my version of “the change”: a groupwork-based guided inquiry approach to teaching fundamental concepts in the core music theory sequence. In the discussion below, I recount briefly the assumptions driving the shift in our teaching towards active learning, the student-centered classroom, and a pedagogical stance rooted in the theory of social constructivism. My guided inquiry approach shares features of its underlying philosophy with techniques of active learning proposed by previous scholarship. While many of these pedagogical methods hold it necessary for students to have a grasp of basic terminology and concepts *before* they can engage in active learning, my approach seeks to make active learning part of the process of uncovering basic theory concepts through a protocol for discovery learning adapted from the teaching of science, technology, engineering,

and mathematics (STEM) fields. In so doing, I make it consistent with best practices for promoting student engagement and a deeper conceptual understanding of course content, particularly in classrooms that are heterogeneous with regard to students' academic ability. By having students recreate the intellectual processes of music analysis as they are undertaken by scholars in the field, this method promotes an understanding of what it is to “do,” rather than simply to “learn,” music theory.

Active Learning, Student-Centered Pedagogy, and Social Constructivism

The shifting mindsets of college instructors—in particular, the ways we view our relationship to our students—have ushered in new pedagogical strategies by which these mindsets take concrete form. Despite the diverse look and feel of these pedagogical methods, they can all be classified as techniques for promoting *active learning*, in which, Elizabeth Barkley writes, “students are dynamic participants in their learning and...are reflecting on and monitoring both the processes and the results of their learning.”¹ Active learning, Barkley notes, is also “an umbrella term that now refers to several models of instruction, including cooperative and collaborative learning, discovery learning, experiential learning, problem-based learning, and inquiry-based learning.”²

The availability of rigorous studies documenting the effectiveness of these techniques varies by field, with the most extensive research concentrated in STEM fields.³ In general, college faculty clearly find active learning methods to be useful in encouraging student participation and critical thinking, as demonstrated by their increasing use of them in higher education.⁴ Although less voluminous, the literature on smaller scale studies in specifically musical contexts have indicated there are distinct advantages offered by a focus on active learning.⁵ And there has been a

¹Barkley (2010, 17).

² Ibid., 16.

³ See Freeman et al. (2014); and Slunt and Giancarlo (2004). Although not wholly applicable to the arts and humanities, conclusions from pedagogical research in STEM fields may have special relevance for music theory, as indicated in the discussion below.

⁴ Eagan et al. (2014, 5-6).

⁵ Ravenscroft and Chen (2015), for instance, document the advantages of the flipped classroom and groupwork as active learning techniques, while Pike (2014) notes the benefits of collaboration in a keyboarding class.

veritable explosion of resources that provide an ever-expanding toolkit for the music teacher interested in active learning approaches.⁶

Many of the active learning models of instruction noted by Barkley have been implemented in music, with particularly notable contributions in the areas of collaborative/cooperative learning⁷ and the integration of creative and experiential activities such as composition, performance, and improvisation,⁸ as well as suggestions for use of technological applications.⁹ Others have focused on activities that encourage students to metacognate on their own learning, thereby making them active participants in their learning, regardless of format.¹⁰ Finally, special mention should be made of the “flipped classroom” format that has been widely adopted in many disciplines and which has proven popular in theory instruction. Flipped pedagogy is based on the assumption that with a wealth of reading and online resources at their disposal, students’ time in class is best devoted to complex problem solving, critical thinking tasks, and identifying and clarifying misunderstandings.¹¹ In addition to its description in the scholarly literature,¹² implementation of the flipped classroom is increasingly supported by music course materials coming on the market.¹³

6 The discussion of techniques for active learning music theory pedagogy in higher education has been particularly fruitful in three journals: *Journal of Music Theory Pedagogy*, *Engaging Students: Essays in Music Pedagogy*, and *College Music Symposium*.

7 For discussions of cooperative and collaborative learning see Ravenscroft and Chen (2015); Rifkin (2013); Ripley (2016); and Segall (2009). For examples of peer-led learning, see Lyons (2015); Leupold and Snodgrass (2014); and Snodgrass (2013).

8 For general discussion of creativity and its integration in the music classroom, see Chenette (2016) and Rifkin (2014). For examples involving composition or recomposition, see Aziz, (2015); Hoag (2013); Johnson (2014); Rogers (2013); Stevens (2015a and 2015b). For the use of performance and improvisation in a theory context, see Callahan (2012); Michaelsen (2014); Ng (2014); Palmer (2014); Schubert (2013 and 2014); and Silberman (2012).

9 For discussion of software and hardware specifically developed for music and music pedagogy, see Green (2014); Latartara (2008); McConville (2012); Molumby (2014); and Peebles (2013). For innovative repurposing of general use technology specifically for music, see Renihan (2015); Duker (2013); Alegant (2008); Hoffman (2015); and Stephan-Robinson (2014).

10 See Alegant and Sawhill (2013); Ferenc (2017); and Marvel (2017).

11 Berrett (2015, 2-5).

12 Kris Shaffer (2013a) describes the “basic flip” in the theory classroom, while de Clerq (2013) proposes a flip of the aural skills classroom. McCandless and Stephan-Robinson (2014) offer ideas for technological applications that facilitate flipping the classroom.

13 See, for instance, the online tools developed by Anna Gawboy and Inessa Bazayev to accompany

Underlying all this active learning is *student-centered pedagogy*, a mindset that describes a change in professors' thinking from viewing ourselves less as givers of information than as facilitators of knowledge acquisition. Bransford et al. describe such a mindset as a bridge: "If teaching is conceived as constructing a bridge between the subject matter and the student, learner-centered teachers keep a constant eye on both ends of the bridge."¹⁴ Pedagogical methods for producing active learning have thus changed, and almost certainly improved, the look and feel of our classrooms by reorienting our thinking towards the "bridge" and greatly reducing our reliance on traditional teaching methods such as the lecture and other forms of direct instruction, or "teaching as telling."¹⁵

If there is one area which is relatively *unaffected* by the use of active learning techniques, it is the earliest stages of introducing basic theory concepts to students. Many active learning activities are often predicated upon some teaching as telling early in the discussion of a theory topic; this is intended to ensure that students have a grasp of the necessary vocabulary and skills, which can then be deployed in a variety of active learning activities. As Kris Shaffer notes, although the flipped classroom improves upon the lecture-then-homework format by more efficiently allocating the use of students' in-class time, it "still reflects the same pedagogical pattern: information then assimilation and application" of a more traditional approach, replacing an in-class lecture with an out-of-class video lecture or other direct instruction resource.¹⁶

There is a great deal of complex information to be covered in the theory sequence. It is not an unreasonable assumption to make that students cannot be asked to complete a collaborative or creative activity involving, for instance, mode mixture without first being given an understanding of what the concept entails. They must understand a set of terms, vocabulary such as "borrowed chord" and "mixture," and grasp conceptual

Burstein and Straus (2016), as well as those for Holm-Hudson (2017). As typified by Heap (2017), other instructors may opt to design their own web-based resources tailored to their particular student populations.

¹⁴ Bransford et al. (1999, 136).

¹⁵ As Barkley points out, however, the lecture format and active learning are not mutually exclusive, nor is "activity" the same as "active": "highly skilled listeners who are involved in a lecture by self-questioning, analyzing, and incorporating new information into their existing knowledge are learning more actively than students who are participating in a small group discussion that is off-task, redundant, or superfluous" (2010, 17). Although active learning benefits all students, different student populations may benefit from different pedagogical methods to promote it, a topic I take up below.

¹⁶ Shaffer (2013b).

knowledge, including how parallel modes are blended in a piece and how the blending leaves harmonic function unchanged. Additionally, students must, at every stage, incorporate knowledge of new concepts with their pre-existing theory knowledge. For instance, mixture's placement in the curriculum means that it is often the first example of chromatic harmony *other* than applied chords that students have seen; so an additional piece of understanding the concept is sorting out how to differentiate the two types of chromaticism. Finally, students must understand how the system of Roman numeral analysis can be adapted to describe mode mixture harmonies. Some sort of direct instruction for getting all this information to students is appealing for the compactness and rapidity with which it can be conveyed.

But there is evidence to suggest that the assumption students must be *given* conceptual information before they can begin to actively apply it reverses best practices. At its core, the student-centered classroom is predicated on certain beliefs about the way knowledge is attained. Active learning techniques are held to be effective because they assume that knowledge is built within the mind of the student, rather than a deficit model which sees knowledge as an external reality acquired from outside the mind. Active learning assists students in creating that knowledge, a view derived most directly from the theory of social constructivism. Peter Webster notes that the very process of knowing is an active one: “teachers who believe in constructivism generally believe that *knowledge* is formed as part of the learner’s active interaction with the world, and that that knowledge exists less as abstract entities outside the learner than constructed anew through action.”¹⁷

Eberlein et al. write that the implication of social constructivism is that “students must *actively build for themselves* a workable understanding of sophisticated concepts...”¹⁸ (my emphasis). Conversely, they also note that direct instruction may fail to give students an adequate chance to incorporate new information alongside concepts they already understand: “Because the human mind has limitations on the rate and amount of new information it can accurately assimilate and comprehend, any strategy that attempts to transfer knowledge more or less directly from teacher to student—‘teaching by telling’—is ineffective for many if not most students. As cognitive load increases, the need for student engagement increases.”¹⁹ In other words, rather

¹⁷ Webster (2011, 40). Webster (41) notes that the work of Jean Piaget and John Dewey has been particularly influential in shaping the music pedagogy community’s current understanding of constructivism.

¹⁸ Eberlein et al. (2008, 263).

¹⁹ Ibid.

than saving active learning pedagogy for once students have acquired a grasp of the concept, active learning may be most effective at the very moment students are first learning that concept.

Active learning techniques have been shown to improve our teaching for many reasons, but most fundamentally because they place the student, rather than the instructor, at the center of our instruction. Doing so requires us to think carefully about the way our students gain understanding of course material and acknowledge that students must be willing, motivated participants in the classroom. And cognition and social constructivist theory tell us that this engagement is nowhere more crucial than when students are first introduced to fundamental skills and concepts.

Thus, the approach presented here seeks to introduce active learning as part of the earliest process of concept formation via groupwork-based guided inquiry. It shares some features with the approach described by Shaffer, who follows the work of Ramsey Musallam to propose an inquiry-driven classroom based on a modification of the “learning cycle” often used in active learning activities in STEM teaching. Below, I discuss two classroom activities that implement this approach. One, from my music fundamentals course, prompts students to uncover the principles of the minor mode (Example 1); the other, from my third semester theory course, centers on mode mixture (Example 2). In both activities, students are led through a process of scaffolded investigation in which they 1) explore several musical examples; 2) articulate how their current analytical skills are unequal to the task of describing the features of the passage in question; and 3) develop new analytical constructs that adequately describe those features.

Adapting Discovery Science Techniques to Teaching Music Theory

The inquiry-driven classroom formalizes something that many instructors do informally all the time: introduce a new subject in a spirit of investigation via the playing of a musical example and stimulating students’ interest by drawing their attention to novel features of the work. Recent textbooks, too, have adopted this stance, exposing students first to musical examples, after which the theoretical principles at work are explicated.²⁰

To combine this “music first” stance with an active learning method consistent

²⁰ See, for instance, Jones, Shaftel, and Chattah (2014); Laitz (2016); and Clendinning and Marvin (2016).

with constructivist principles, my guided inquiry approach asks students to work in groups to carry out their own investigation of musical examples, thereby building their own knowledge of a new theory concept. My approach is modelled upon a common approach from STEM teaching in higher education, Process Oriented Guided Inquiry Learning (POGIL), which emphasizes a version of the three-part learning cycle.

Others have noted the resonances between STEM fields and music theory and suggested theorists may glean insights from STEM teaching methods. VanHandel (2012, 210) posits a link between mathematics and music fundamentals, saying “there may be a cognitive link between the abstract and systematic processes in mathematics and those in music. If that is the case, music theorists should consider the vast amounts of research done in mathematics education to see if we can learn anything about best practices in that discipline.” Follet (2013) notes that the scientific method can be a useful tool for teaching listening and ear training because music is systematic and patterned. And Brititzer-Stull (2003, 21) describes the descriptive portion of analysis in intentionally scientific terms, saying, “The quality of musical discourse is directly proportional to the quality of empiric evidence used to support it. That is, musical arguments should be supported by data.”

The website for the POGIL Project created by the original developers of the method describes it as follows:

A POGIL classroom or lab consists of 3-4 students working in small groups on specially designed guided inquiry materials. These materials supply students with data or information followed by leading questions designed to guide them toward formulation of their own valid conclusions—essentially a recapitulation of the scientific method. The instructor serves as facilitator, observing and periodically addressing individual and classroom-wide needs.²¹

When I first encountered POGIL, I was struck by the extent to which this methodology could be adapted to the discipline of theory, because as with in science, the basic tenets of music theory are not particularly open for reinvention: there is widespread agreement about the basic description and analysis of concepts like the minor scale and mode mixture.²² Nevertheless, there is value in having students “discover” these concepts for themselves, rather than having the information handed to them, because of the benefits in comprehension and retention that accrue from actively building knowledge oneself.

²¹ The POGIL Project, “POGIL: Process Oriented Guided Inquiry Learning,” www.pogil.org. Accessed January 3, 2018.

²² I am grateful to Rebecca Van Tassell for introducing me to the POGIL method and providing valuable feedback on drafts of this article.

In Michael Rogers's formulation, there is a crucial distinction between "learning" and "doing" theory. Students, he argues, need practice in "making interpretational decisions—...about judging conflicting evidence, measuring significance, discovering appropriate supporting clues, sifting out clutter...and arguing convincingly for a particular point of view...[S]tudents who are never exposed to the dangers (and delights) of speculation may be *learning* theory but they will never be *doing* theory."²³ For Rogers, true analysis—the discovery of connections, relationships, patterns, and hierarchies in a work—cannot begin until the basic tools of description such as identification of keys, intervals, scale degrees, and harmony have been mastered.²⁴ But description and analysis exist along a continuum; the descriptive labels in common use today arise *from* the previous analyses of professional theorists who discover patterns and relationships consistent enough throughout the repertoire to codify them into descriptive terms. Students can usefully reprise this process, thereby gaining valuable insight into the way music-theoretical knowledge is generated.²⁵

The three-part learning cycle in the POGIL method is delineated as follows: In the *Exploration* phase, students are given a model or analysis problem that contains elements that are recognizable to them, as well as elements that are, as yet, beyond their ability to explain. In the *Concept Formation* phase, students are led through the aspects of the problem that are new to them and asked to theorize how the new information they have can be placed in relation to their current analytical skills. Students try their hand at summarizing their new knowledge and in the *Application* phase, apply their new analytical skill to additional examples from the repertoire.²⁶ The cycle begins anew as students move forward to the next topic which, in turn, relies on skills built in the previous cycle.

²³ Rogers (2004, 80-81).

²⁴ Ibid., 75-76.

²⁵ Activities that resemble those undertaken by professional theorists, such as scholarly writing, gathering and/or analyzing primary sources, reading scholarly literature, and critical thinking/argumentation are common, and highly useful, active learning techniques. See Bakker and Chenette (2014); Bribitzer-Stull (2003); Colletti (2013); Dean (2015); Duker, Shaffer, and Stevens (2014); Ferenc (2015); and Johnson (2013). By contrast, the activities described in my approach may appear on their face to be *unlike* analyses as they would be done by a professional scholar, not least because they are scaffolded by a series of leading questions (which obviously would not be present in a "real" analysis). Instead, what I hope to replicate are the critical thinking skills deployed in true analysis.

²⁶ Eberlein et al., (2008, 263).

Guided Inquiry Learning in the Theory Classroom

Table 1 illustrates how the two activities presented here lead students through the learning cycle. Each begins by asking students to think about the aural experience of the music. Simply put, students enter our classrooms because they love music and want to know more about it; the exploration phase of the model seeks to engage them by underlining the link between music’s expressive power and the theoretical concepts to be explored.

Part 1: Exploration	
❖ Begins with “the music first,” shows students the link between expressive effect of the music and theoretical concepts under examination.	
Minor mode activity: Presents four listening examples (questions 1 and 2): an original melody in c minor, the same melody in C major, and two well-known minor mode pieces from pop culture.	Mode mixture activity: Presents two versions of <i>Maple Leaf Rag</i> recomposed in diatonic A♭ major and diatonic A♭ minor. Students react to what appears to be “wrong” with the versions (questions 1-3).
❖ Pushes students towards “disequilibrium” by nudging them to see how they do not, yet, have the theory skills to explain the passage.	
Minor mode activity: Students are familiar with major mode key signatures and analysis of tendency tones. In the c minor excerpt, students discover the key signature “should” be E♭ major but that the tendency tones counteract this conclusion (questions 3-6).	Mode mixture activity: Students are familiar with analysis of applied chords but have not encountered another form of chromaticism. Questions 4-5 asks them to sort out how they can tell this chromaticism is <i>not</i> applied harmony based on chord quality and root motion in the passage.
Part 2: Concept Formation	
❖ The musical data described in the Exploration phase are constructed into a pattern that explains how the music is working.	
Minor mode activity: Students use aural and written theory information to form a hypothesis of the pitch acting as true tonic in this excerpt (questions 7-8). Students write out the new scale and examine tendency tones to confirm they are acting as expected in the new key (questions 9-10).	Mode mixture activity: Students uncover that overall harmonic function is not changed by mixture and the structure of the phrase remains unaltered (question 6). Students place the two recompositions into relationship with the actual piece to see how the piece’s harmony is generated by overlaying the parallel keys (questions 7-8).
❖ Students define terminology and sum up the concept in their own words, synthesizing all of the different pieces of the activity.	
Minor mode activity: Students theorize the minor mode, tying together its expressive potential, and compare and contrast it with the major mode (question 11).	Mode mixture activity: Students theorize how the system of Roman numeral analysis may be logically extended to encompass the new chromatic harmony (question 9). Students synthesize their knowledge and propose definitions of key terminology.
Part 3: Application	
❖ Future homework and classroom activities may include analyses of more complicated examples, composition assignments, and extensions of theoretical principles.	

Table 1
Musical guided inquiry activities, based upon the Exploration – Concept Formation – Application learning cycle.

Work in groups of 2-3 students to answer the questions below. Audio for all examples may be found in the “Course Documents” section of CourseWeb.

Exploration

- 1) Listen to excerpt 1 and excerpt 2 on CourseWeb and notice that while the two excerpts are similar in rhythm and melodic contour, the mood created by each is quite different. Use descriptive, plain-English language (no music terminology yet!) to characterize the difference between the two excerpts. What is the mood (or “affect”) created by excerpt 1 and how is it altered in excerpt 2?
- 2) Listen to excerpt 3 (“Cry Me a River” by Justin Timberlake) and excerpt 4 (“Imperial March” from *Star Wars*) and use descriptive, plain-English language to describe the mood or affect of each excerpt. Does the affect in these two excerpts seem closer to that of excerpt 1 or excerpt 2? Explain your thinking.

Tonic & Tendency Tones

Now, examine the melody used in excerpt 2:

Flowing ♩ = 104

The musical score consists of two staves. The first staff begins with a treble clef, a key signature of two flats (B-flat and E-flat), and a 3/4 time signature. The tempo is indicated as 'Flowing' with a quarter note equal to 104 beats per minute. The first measure contains a half note G4 and a quarter note A4, both marked with an accent (>) and a forte (f) dynamic. The second measure contains a half note B-flat4 and a quarter note C5, also marked with an accent (>) and a forte (f) dynamic. The third measure contains a half note D5 and a quarter note E5, marked with an accent (>) and a forte (f) dynamic. The fourth measure contains a half note F5 and a quarter note G5, marked with an accent (>) and a forte (f) dynamic. The fifth measure contains a half note A5 and a quarter note B5, marked with an accent (>) and a forte (f) dynamic. The sixth measure contains a half note C6 and a quarter note D6, marked with an accent (>) and a forte (f) dynamic. The seventh measure contains a half note E6 and a quarter note F6, marked with an accent (>) and a forte (f) dynamic. The eighth measure contains a half note G6 and a quarter note A6, marked with an accent (>) and a forte (f) dynamic. The ninth measure contains a half note B6 and a quarter note C7, marked with an accent (>) and a forte (f) dynamic. The tenth measure contains a half note D7 and a quarter note E7, marked with an accent (>) and a forte (f) dynamic. The eleventh measure contains a half note F7 and a quarter note G7, marked with an accent (>) and a forte (f) dynamic. The twelfth measure contains a half note A7 and a quarter note B7, marked with an accent (>) and a forte (f) dynamic. The thirteenth measure contains a half note C8 and a quarter note D8, marked with an accent (>) and a forte (f) dynamic. The fourteenth measure contains a half note E8 and a quarter note F8, marked with an accent (>) and a forte (f) dynamic. The fifteenth measure contains a half note G8 and a quarter note A8, marked with an accent (>) and a forte (f) dynamic. The sixteenth measure contains a half note B8 and a quarter note C9, marked with an accent (>) and a forte (f) dynamic. The seventeenth measure contains a half note D9 and a quarter note E9, marked with an accent (>) and a forte (f) dynamic. The eighteenth measure contains a half note F9 and a quarter note G9, marked with an accent (>) and a forte (f) dynamic. The nineteenth measure contains a half note A9 and a quarter note B9, marked with an accent (>) and a forte (f) dynamic. The twentieth measure contains a half note C10 and a quarter note D10, marked with an accent (>) and a forte (f) dynamic. The first staff ends with a double bar line. The second staff begins with a treble clef, a key signature of two flats (B-flat and E-flat), and a 3/4 time signature. The tempo is indicated as 'poco rit.' (ritardando). The first measure contains a half note G4 and a quarter note A4, both marked with an accent (>) and a piano (p) dynamic. The second measure contains a half note B-flat4 and a quarter note C5, marked with an accent (>) and a piano (p) dynamic. The third measure contains a half note D5 and a quarter note E5, marked with an accent (>) and a piano (p) dynamic. The fourth measure contains a half note F5 and a quarter note G5, marked with an accent (>) and a piano (p) dynamic. The fifth measure contains a half note A5 and a quarter note B5, marked with an accent (>) and a piano (p) dynamic. The sixth measure contains a half note C6 and a quarter note D6, marked with an accent (>) and a piano (p) dynamic. The seventh measure contains a half note E6 and a quarter note F6, marked with an accent (>) and a piano (p) dynamic. The eighth measure contains a half note G6 and a quarter note A6, marked with an accent (>) and a piano (p) dynamic. The ninth measure contains a half note B6 and a quarter note C7, marked with an accent (>) and a piano (p) dynamic. The tenth measure contains a half note D7 and a quarter note E7, marked with an accent (>) and a piano (p) dynamic. The eleventh measure contains a half note F7 and a quarter note G7, marked with an accent (>) and a piano (p) dynamic. The twelfth measure contains a half note A7 and a quarter note B7, marked with an accent (>) and a piano (p) dynamic. The thirteenth measure contains a half note C8 and a quarter note D8, marked with an accent (>) and a piano (p) dynamic. The fourteenth measure contains a half note E8 and a quarter note F8, marked with an accent (>) and a piano (p) dynamic. The fifteenth measure contains a half note G8 and a quarter note A8, marked with an accent (>) and a piano (p) dynamic. The sixteenth measure contains a half note B8 and a quarter note C9, marked with an accent (>) and a piano (p) dynamic. The seventeenth measure contains a half note D9 and a quarter note E9, marked with an accent (>) and a piano (p) dynamic. The eighteenth measure contains a half note F9 and a quarter note G9, marked with an accent (>) and a piano (p) dynamic. The nineteenth measure contains a half note A9 and a quarter note B9, marked with an accent (>) and a piano (p) dynamic. The twentieth measure contains a half note C10 and a quarter note D10, marked with an accent (>) and a piano (p) dynamic. The second staff ends with a double bar line.

- 3) Write out your definition of what the “tonic” pitch in any given piece is.
- 4) When the tonic pitch is arrived at, how should it sound to the listener?
- 5) Based on what you know about the key signatures of major keys, what should the tonic of this piece be? On staff paper, write out the scale that corresponds to this tonic; be sure to indicate the correct key signature before writing out the scale. Label scale degrees.
- 6) Based on what major key signature you described in question 5, which pitches are the tendency tones in this melody, and to where should they progress? Are they acting as you would expect them to in this melody? Explain why or why not.

Example 1

Activity: Introduction to the Minor Mode.

Concept formation

- 7) This excerpt will turn out to have a tonic *other* than what we would expect based on what we know about key signatures so far. Use your listening, singing, and performance skills to determine what the tonic *actually* is by doing the following:
 - As a group, listen to the excerpt and then collectively hum the note that feels like tonic. Have a group member identify the pitch at the piano. Experiment to see if other pitches can feel like tonic or if the one you've identified is the best choice.
 - Examine the notated music and recall *where* in a melody we are *most likely* to hear/see the tonic pitch. Based on the tonic you identified above, does the notated music appear to confirm your hypothetical tonic?
- 8) What do you believe the tonic pitch in this excerpt to be?
- 9) Based on where you believe the tonic (i.e., scale degree 1) to be, write out all eight pitches of the scale; note that the key signature will remain the same as it did when you wrote out the major scale in question 5. Label scale degrees.
- 10) Based on what you now believe tonic to be and the scale you have written out, what pitches should be the tendency tones in this scale and how should they progress? Are these pitches acting as they normally would in the melody?
- 11) The scale you've written out is known as the *natural minor scale*. Write a brief paragraph that summarizes what you know so far. Include the following:
 - The affect created by the use of the minor scale.
 - How the key signature of a *major key* can also be the key signature of a *minor key* starting on a different tonic.
 - *Hint:* What scale degree of a major key becomes the tonic of the new minor key with the same key signature?
 - How tendency tones work to create a feeling of resolution and stability on tonic in both major and minor scales.
 - Work out the interval content of this natural minor scale (i.e., the alternation of half-steps and whole-steps) and explain how the natural minor scale differs from the major scale in terms of interval content.

Application (for homework)

- 12) Write a short melody (4 measures) using the major or natural minor scale. Why did you, as a composer, choose this scale? What mood or affect were you trying to create?
- 13) Write out the melody from Excerpt 2, but change it so that it now uses an *E $\flat$ major scale* instead of a *c minor scale*.
- 14) Write out the melody from Excerpt 2, but change it so that it now uses a *C major scale* instead of a *c minor scale*.

Example 1 (continued)

Activity: Introduction to the Minor Mode.

Work in groups of 2-3 to answer the questions below. Audio of the three examples may be found on the “Pages” section of CourseWeb for Theory III.

Exploration

- 1) Listen to and look at two versions of Scott Joplin’s *Maple Leaf Rag* (1899). Both are “recompositions”—neither is the real version, which you’ll examine shortly. If you know this piece, jot down a sentence or two about what appears to be “wrong” with these two versions; if you don’t know the piece, provide a sentence or two on how one or both versions might be improved to more accurately reflect the ragtime style.

Joplin, “Maple Leaf Rag,” mm. 1-8, RECOMPOSITION No. 1

Tempo di marcia

Joplin, “Maple Leaf Rag,” mm. 1-8, RECOMPOSITION No. 2

Tempo di marcia

Example 2

Activity: Mode Mixture and Borrowed Chords.

2) What is the term for the relationship between the keys of the two versions?

3) List the qualities of all diatonic chords in both major and minor keys:

Major key

Minor key (natural minor)

“one” chord:
 “two” chord:
 “three” chord:
 “four” chord
 “five” chord
 “six” chord
 “seven” chord

4) Note the sonorities marked with boxes in each excerpt. Label the function (T, PD, or D) of each of these chords.

5) Examine the original version of *Maple Leaf Rag* below and note in particular the two chords marked with boxes.

Tempo di marcia

The musical score for the first eight measures of 'Maple Leaf Rag' is shown. It is in 2/4 time and the key of D-flat major (three flats). The tempo is 'Tempo di marcia'. Measures 1-4 are marked with a forte (f) dynamic. Measures 5-8 are marked with a piano (p) dynamic. Two chords are boxed: one in measure 5 (F major triad) and one in measure 7 (B-flat major triad).

These two chords contain chromatic pitches but they are not applied dominant chords. Explain how you can tell this is true, based on chord quality and/or root motion.

a)

b)

Concept Formation

6) What appears to be the function of each of these two chords in the original piece? Label them with T, PD, or D.

Example 2 (continued)

Activity: Mode Mixture and Borrowed Chords.

- 7) These two chords are known as *borrowed chords*. Look back at your answers to questions 1 and 2 and the two recomposed versions of *Maple Leaf Rag*. Explain where these chords are “borrowed” from.
- 8) Related to the idea of borrowed chords is the concept of *mode mixture*. Which two modes are being “mixed” in the original version of *Maple Leaf Rag*?
- 9) Label the two borrowed chords in the original version of *Maple Leaf Rag* with Roman numerals. Remember, two factors go into a Roman numeral label:
 - a) the scale degree upon which the chord has its root
 - b) the quality of the chord
- 10) Define “mode mixture.”
- 11) Define “borrowed chord.”

Application (for homework)

- a) Write two short chord progressions (8-10 harmonies) in a major key for the instrumentation of your choice. Each progression should include at least one example of mode mixture. Explain what the expressive effect is for each example of mode mixture—that is, how does the emotional/narrative effect of the progression change compared to its diatonic version?
- b) Listen to and transcribe the opening chord progression to Death Cab for Cutie’s “I Will Follow You Into the Dark.” Locate the mode mixture in the progression.
- c) Analyze the opening passage for brass and winds in the second movement of Dvorak’s “New World” symphony (mm. 1-5). The passage is highly chromatic and difficult to analyze with functional harmony. Nevertheless, mm. 3-5 can be analyzed in $D\flat$ major, *if* we account for mode mixture. Complete a Roman numeral analysis of those two measures.

Example 2 (continued)

Activity: Mode Mixture and Borrowed Chords.

Activity 1 gives students four listening examples that demonstrate how minor mode pieces create a generally negative affective valence, while intertwining subtly with rhythm, timbre, and texture to create the specific “feel” of the piece. Activity 2 takes a similar tack, deriving its examples from two recompositions of the opening passage of Scott Joplin’s *Maple Leaf Rag* (1899).²⁷ Measures 1-8 derive much of their punch from mode mixture, creating a juxtaposition between the jaunty rhythms and bright opening theme in mm. 1-4 with the sudden dark shift in mm 5-8. The first recomposition places the passage entirely in diatonic A♭ major, thereby depriving it of any of the tongue-in-cheek drama of the original; the second recomposition in diatonic A♭ minor sounds hopelessly melodramatic. Recomposition, as Shersten Johnson notes, “directs attention to the original passage, sparking new understanding of relationships within the piece.”²⁸ Students can see here that what they are investigating is the very crux of the sound of this most well-known of rag tunes.

The exploration phase must also develop a productive tension that lies at the heart of the guided inquiry exercise: it stimulates students’ interest by nudging them to see how they do not, yet, have the theory skills to explain the passage, presenting it to them as a mystery to be solved by investigation. It thus duplicates the “pull” of the scientific method and captures something of the feeling researchers have when pursuing their own professional work. In doing this, it provides motivation to learn through the concept of “disequilibrium,” described by Donald Finkel this way: “The frustration or disequilibrium that arises from the disruption of an ongoing interaction with our world is what motivates learning. We are trying to do something and we have been stopped. We *need* to find our way around the obstacle and continue toward our goal. Suddenly we have become *interested* in solving a problem (how to get around the obstacle).”²⁹

In the minor mode activity, students arrive at an impasse: what they know so far of major key signatures tells them that E♭ should be tonic, but their knowledge of tendency tones clearly counteracts this. This is a moment in which students can do theory, rather than simply learn it. Having used the descriptive tools they possess (i.e., identification of scale degrees and tendency tones), students can now articulate where the gaps in their knowledge are. In the concept formation phase, they will think

²⁷ As a useful by-product, the activity therefore introduces students to the idea of recomposition as an analytical tool. See BaileyShea (2007) for a more detailed discussion of successful uses of recomposition as analysis in the professional literature.

²⁸ Johnson (2014).

²⁹ Finkel (2000, 53).

analytically to describe the relationships and patterns which form the minor mode.

If the two diatonic recompositions of *Maple Leaf Rag* sound distinctly uninspiring, they are, at least, easy enough to analyze. The real version of the piece is altogether more thorny. As mentioned above, this activity is likely to be the first example students have seen of chromaticism other than an applied dominant—how are we to tell them apart? After the prelude of listening and thinking expressively about the excerpts, students are oriented towards the analytical tools they will need to bring to bear on these passages. Using their knowledge of diatonic Roman numeral analysis, chord function, and chord qualities in major and minor keys, students make a distinction between a concept with which they are already familiar, applied chords, and the new concept of mixture chords, thereby incorporating it alongside the older one. What at first may have seemed like a threatening jumble of chromaticism begins to resolve into something more manageable and patterned. Again, as students complete the exploration phase, they are left with a mystery: we know what is *not* happening in this piece (applied harmony), but we have so far only begun to glimpse what *is*.

The concept formation phase begins a process of higher-level analysis. The exploration phase of the learning cycle is akin to (borrowing from the scientific method) a “data gathering phase” in which students use their descriptive tools to take in what they can about the model under investigation.³⁰ Now, the data are constructed into a pattern by pointing students to particular elements of the composition and asking them to theorize how they are working. Ultimately the prompts ask students to uncover how the principles of music theory can be extended to encompass a description of the passages under investigation. Students are given terminology only in the final stage of the activity and asked to sum up the concept in their own words, integrating all of the different pieces of the activity.

In the minor mode activity, students use aural and conceptual information to form a hypothesis of the true tonic in the excerpt, which is confirmed by the action of tendency tones. They then theorize the minor mode, tying together its expressive potential and its similarities and differences to the major mode. In the mixture activity, students begin the concept formation phase by synthesizing their investigation and posing their own definitions and Roman numeral analyses for the new chords.

The “application” begins in homework assignments and subsequent class meetings. Armed with a solid conceptual understanding of the topic, students explore more complex examples that ask them to demonstrate their understanding in different ways via analysis, composition, performance, or any of the active learning techniques developed by other scholars.

³⁰ Abraham (1997).

Student Engagement in the Heterogeneous Classroom

I believe the root goal of our pedagogy must be that of *student engagement*, emerging at the intersection of a student's active learning and motivation.³¹ As discussed above, the groupwork-based guided inquiry method creates an environment for active learning in keeping with best practices as described by current research. I hope I have shown, too, that it promotes student motivation by linking theory concepts to the sound and feel of music, as well as by stimulating students' curiosity in their thinking around theory by pushing them towards disequilibrium. A final element to be addressed is the groupwork design of the activities, which is also useful in motivating students. Groupwork is a central component of many active learning activities, taking advantage of students' enjoyment of collaborative and social learning opportunities, as well as being consistent with a constructivist stance that sees knowledge as socially constructed.³²

Of particular interest is groupwork's ability to stimulate active learning and motivation in a classroom that is heterogeneous with regard to academic ability.³³ Students who are used to achieving success in a traditional, lecture-based classroom often have no difficulty supplying both their own motivation and active learning. Such students, too, are often comfortable approaching a professor if they are having trouble with course material. Weaker students may not follow and synthesize a lecture as readily and may also struggle to remediate their lack of understanding, particularly if they are "failure avoiders," who are unwilling to ask questions in front of the class at large.³⁴

Groupwork can begin to address these issues. Pamela Pike notes that in her own use of collaborative learning, the "small group became a safe space for subjects to

³¹ Barkley (2010, 7).

³² Schubert (2015). See note 7, above, for previous work on collaborative and groupwork-based approaches to music pedagogy.

³³ A complete discussion of the heterogeneous classroom is beyond the scope of this paper, but it should be noted that the techniques described by Cohen et al. (2014) can be usefully implemented in any situation in which an instructor is working with a population that is heterogeneous in terms of academic ability, class, race, ethnicity, or other measures. Furthermore, as college populations grow more diverse, the urgency and opportunity to make our teaching more inclusive grows. In advocating a post-structuralist analysis of higher education, Kezar (2011) urges us as faculty to be aware of how pedagogical approaches, among other things, may be creating structures which exclude non-majority culture students who are not normed to the traditional policies and practices of higher education.

³⁴ Barkley (2010, 19).

experiment, make mistakes, and persist.”³⁵ Moreover, if a groupwork activity provides opportunities for contribution from all group members, it can greatly increase low-achieving students’ confidence and enthusiasm for learning. In discussing the concept of the *multiple ability classroom* Cohen et al. stress the importance of designing groupwork activities which rely on multiple skills, of which the professor can say: “None of us have all of these abilities; all of us have some of these abilities.”³⁶ Because success in music encompasses so much more than traditional academic skills such as fact recall and note-taking, the study of music provides a powerful opportunity to empower students all along the spectrum of academic ability.

The two activities presented here take advantage of music’s multiplicity by encouraging students with different strengths to explore the music in different ways. In addition to having access to musical examples as they are written on the page, students can hear recordings of them from their phones on the course management website and play them at the piano if they wish (I generally reserve practice rooms during class time to allow groups to break out into different workspaces). A student possessed of well-developed interpersonal skills may become a natural leader and spokesperson for her group, while an introspective student usefully aware of his thoughts and feelings can more readily identify his own confusions about the topic and raise them as a subject for group discussion. Students with strengths in logical and linguistic prose writing contribute toward the group synthesis and definition of new terminology at the end of the task.

The benefits of implementing a guided inquiry approach can, I believe, be felt throughout students’ time in the core theory sequence. Gordon Sly notes that as students move forward in this sequence, they often have difficulty making the transition from description to analysis, saying: “for the sort of analysis whose goals are less clearly prescribed—when we ask students to make an argument about a work’s striking qualities, its particularly beautiful or eccentric events, about what gives it its special character—here, I would maintain...the typical Freshman-Sophomore sequence proves largely inadequate as a preparation for analysis.”³⁷

The approach described here provides a remedy to this problem by recreating the experience of analysis even at the early stages of the curriculum. As students uncover basic concepts, they are gaining a sense of how the discipline functions,

35 Pike (2014, 84).

36 Cohen et al. (2014, 123-27).

37 Sly (2005, 51).

what its standards and burdens of proof are, the language used to justify arguments. Webster points out that social constructivism sees disciplines, like all forms of knowledge, as social constructs.³⁸ Emphasizing the constructed nature of disciplines and disciplinary knowledge allows students to understand how theory is positioned within the constellation of fields they encounter in their college study.

As they progress through the theory curriculum, Elizabeth West Marvin writes, “we want students to internalize musical structure through study of masterworks, through style composition and improvisation, by speaking and writing about music, and through performance; and we want their structural understanding to translate into performance decisions that influence interpretation and foster ever greater artistry.”³⁹ By making learning active, by asking students to think analytically even as they grapple with the most basic concepts in the apparatus of description, and by empowering those with different abilities to participate in their learning, this approach builds an expansive, nuanced view of what the discipline of theory has to offer: far from a set of rules to be memorized or a game of plug-and-chug, analysis is revealed to be a creative and fulfilling practice, deeply integrated with that pursuit of “ever greater artistry” we all seek.

³⁸ Webster (2011, 38).

³⁹ Marvin (2012, 263).

Works Cited

- Abraham, Michael. 1997. "The Learning Cycle Approach to Science Instruction." *Research Matters - to the Science Teacher*, 9701. Published electronically January 2, 1997.
<https://www.narst.org/publications/research/cycle.cfm>.
- Alegant, Brian. 2008. "Listen Up!: Thoughts on iPods, Sonata Form, and Analysis without Score." *Journal of Music Theory Pedagogy* 22: 149-176.
- Alegant, Brian, and Barbara Sawhill. 2013. "Making the Grade (or Not): Thoughts on Self-Design, Self-Assessment, and Self-Grading." *Engaging Students: Essays in Music Pedagogy* 1.
<http://flipcamp.org/engagingstudents/alegantSawhill.html>.
- Aziz, Andrew. 2015. "Recomposition and the Sonata Theory Learning Laboratory." *Music Theory Pedagogy Online* 5. <https://music.appstate.edu/about/jmtp/recomposition-and-sonata-theory-learning-laboratory>.
- BaileyShea, Matthew L. 2007. "Filletted Mignon: A New Recipe for Analysis and Recomposition." *Music Theory Online* 13 (4).
<http://www.mtosmt.org/issues/mto.07.13.4/mto.07.13.4.baileyshea.html>.
- Bakker, Sara, and Timothy Chenette. 2014. "Writing across the Music Theory Curriculum." *Engaging Students: Essays in Music Pedagogy* 2.
<http://flipcamp.org/engagingstudents2/essays/bakkerchenette.html>.
- Barkley, Elizabeth F. 2010. *Student Engagement Techniques: A Handbook for College Faculty*. The Jossey-Bass Higher and Adult Education Series. San Francisco: Jossey-Bass.
- Berrett, Dan. 2015. "How 'Flipping' the Classroom Can Improve the Traditional Lecture." In *A Guide to the Flipped Classroom*, Chronicle of Higher Education.
<http://chronicle.com/article/A-Guide-to-the-Flipped/151039/>.
- Bransford, John, Ann L. Brown, Rodney R. Cocking, and the Committee on Developments in the Science of Learning. 1999. *How People Learn: Brain, Mind, Experience, and School*. Washington, D.C: National Academy Press.
- Bribitzer-Stull, Matthew. 2003. "Contention in the Classroom: Encouraging Debate and Alternate Readings in the Undergraduate Theory Class." *Journal of Music Theory Pedagogy* 17: 21-45.
- Burstein, L. Poundie, and Joseph N. Straus. 2016. *Concise Introduction to Tonal Harmony*. First ed. New York: W.W. Norton & Company.
- Callahan, Michael. 2012. "Teaching Baroque Counterpoint through Improvisation: An Introductory Curriculum in Stylistic Fluency." *Journal of Music Theory Pedagogy* 26: 61-99.
- Chenette, Timothy. 2016. "Creativity in the College Music Classroom: Guidelines for Effective Integration." *College Music Symposium* 56.
doi: <http://dx.doi.org/10.18177/sym.2016.56.sr.11145>.
- Clendinning, Jane Piper, and Elizabeth West Marvin. 2016. *The Musician's Guide to Theory and Analysis*. Third ed. New York; London: W.W. Norton & Company.
- Cohen, Elizabeth G., Rachel A. Lotan, Linda Darling-Hammond, and John I. Goodlad. 2014. *Designing Groupwork: Strategies for the Heterogeneous Classroom, a New Edition*. Third ed. New York, NY: Teachers College Press.

- Colletti, Carla R. 2013. "The Silent Professor: Enhancing Student Engagement through the Conceptual Workshop." *Engaging Students: Essays in Music Pedagogy* 1. <http://flipcamp.org/engagingstudents/colletti.html>.
- de Clercq, Trevor. 2013. "Towards a Flipped Aural Skills Classroom: Harnessing Recording Technology for Performance-Based Homework." *Engaging Students: Essays in Music Pedagogy* 1. <http://flipcamp.org/engagingstudents/deClercq.html>.
- Dean, Terry L. 2015. "Promoting Contemporary Music Engagement through the Composer Interview Project." *Engaging Students: Essays in Music Pedagogy* 3. <http://flipcamp.org/engagingstudents3/essays/dean.html>.
- Duker, Philip. 2013. "Capturing Thinking in Time – Using 'Clickers' to Measure Student Understanding." *Engaging Students: Essays in Music Pedagogy* 1. <http://flipcamp.org/engagingstudents/duker.html>.
- Duker, Philip, Kris Shaffer, and Daniel Stevens. 2014. "Problem-Based Learning in Music: A Guide for Instructors." *Engaging Students: Essays in Music Pedagogy* 2. <http://flipcamp.org/engagingstudents2/essays/dukerShafferStevens.html>.
- Eagan, Kevin, Ellen Bara Stolzenberg, Jennifer Berdan Lozano, Melissa C. Aragon, Maria Ramirez Suchard, and Sylvia Hurtado. 2014. "Undergraduate Teaching Faculty: The 2013–2014 HERI Faculty Survey." Los Angeles, CA: University of California, Los Angeles.
- Eberlein, Thomas, Jack Kampmeier, Vicky Minderhout, Richard S. Moog, Terry Platt, Pratibha Varman-Nelson, and Harold B. White. 2008. "Pedagogies of Engagement in Science." *Biochemistry and Molecular Biology Education* 36 (4): 262–73.
- Ferenc, Anna. 2016. "Promoting Metacognitive Reflection in Music Theory Instruction." *Journal of Music Theory Pedagogy* 30: 23–85.
- . 2015. "Engaging Students as Disciplinary Practitioners in an Introductory Theory Course." *Engaging Students: Essays in Music Pedagogy* 3. <http://flipcamp.org/engagingstudents3/essays/ferenc.html>.
- Finkel, Donald L. 2000. *Teaching with Your Mouth Shut*. Portsmouth, NH: Boynton/Cook Publishers.
- Follet, Diane. 2013. "The Power of Prediction: Ear Training and the Scientific Method." *Music Theory Pedagogy Online* 2. <https://music.appstate.edu/about/jmtp/power-prediction-ear-training-and-scientific-method>.
- Freeman, Scott, Sarah L. Eddy, Miles McDonough, Michelle K. Smith, Nnadozie Okoroafor, Hannah Jordt, and Mary Pat Wenderoth. 2014 (June 10). "Active Learning Increases Student Performance in Science, Engineering, and Mathematics." *Proceedings of the National Academy of Sciences* 111 (23): 8410–15.
- Green, Bradley. 2014. "iPad Apps for the Music Theory Classroom." *Music Theory Pedagogy Online* 3. <https://music.appstate.edu/about/jmtp/ipad-apps-music-theory-classroom>.
- Heap, Matthew. 2017. "We've Taken the World Apart but We Have No Idea What to Do with the Pieces: Overhauling the Theory Curriculum." Paper presented at *Pedagogy Into Practice: Teaching Music Theory in the 21st Century*, Lee University, Cleveland, TN.
- Hoag, Melissa. 2013. "Hearing 'What Might Have Been': Using Recomposition to Foster Music Appreciation in the Theory Classroom." *Journal of Music Theory Pedagogy* 27: 47–69.
- Hoffman, Brian D. 2015. "Crowdsourcing with Spotify in the Music Classroom." *Engaging Students: Essays in Music Pedagogy* 3. <http://flipcamp.org/engagingstudents3/essays/hoffman.html>.

- Holm-Hudson, Kevin. 2017. *Music Theory Remixed: A Blended Approach for the Practicing Musician*. New York: Oxford University Press.
- Johnson, Shersten. 2014. "Recomposition as Low-Stakes Analysis." *Engaging Students: Essays in Music Pedagogy* 2. <http://flipcamp.org/engagingstudents2/essays/johnson.html>.
- Johnson, Timothy A. 2013. "The Film Philadelphia and Umberto Giordano's Opera Andrea Chénier: A Contextual Approach to Analytical Writing." *Engaging Students: Essays in Music Pedagogy* 1. <http://flipcamp.org/engagingstudents/johnson.html>.
- Jones, Evan Allan, Matthew R. Shaftel, and Juan Chattah. 2014. *Aural Skills in Context: A Comprehensive Approach to Sight-Singing, Ear Training, Keyboard Harmony, and Improvisation*. New York: Oxford University Press.
- Kezar, Adrianna J. 2011. "Rethinking Postsecondary Institutions for Low-Income Student Success: The Power of Post-Structural Theory." In *Recognizing and Serving Low-Income Students in Higher Education: An Examination of Institutional Policies, Practices, and Culture*, edited by Adrianna J. Kezar. New York: Routledge, 3-26.
- Laitz, Steven G. 2016. *The Complete Musician: An Integrated Approach to Theory, Analysis and Listening*. Fourth ed. Oxford; New York: Oxford University Press.
- Latartara, John. 2008. "Pedagogic Applications of Fourier Analysis and Spectrographs in the Music Theory Classroom." *Journal of Music Theory Pedagogy* 22: 61-90.
- Leupold, John, and Jennifer Snodgrass. 2014. "Concurrent Collaborative Analysis: Integration of Technology for Peer-Learning." *College Music Symposium* 54. doi: <http://dx.doi.org/10.18177/sym.2014.54.itm.10846>.
- Lyons, Megan. 2015. "Training Ears with Peers: Establishing an Aural Skills Peer Tutoring Center." *Engaging Students: Essays in Music Pedagogy* 3. <http://flipcamp.org/engagingstudents3/essays/lyons.html>.
- Marvel, David. 2017. "Contracting Grades in Aural Skills: An Updated Model for Instruction and Evaluation." Paper presented at *Pedagogy Into Practice: Teaching Music Theory in the 21st Century*, Lee University, Cleveland, TN.
- Marvin, Elizabeth West. 2012. "The Core Curricula in Music Theory: Developments and Pedagogical Trends." *Journal of Music Theory Pedagogy* 26: 255-263.
- McCandless, Gregory R., and Anna Stephan-Robinson. 2014. "Video and Podcasting Tools for Blended, Flipped, and Fully-Online Music Theory Courses." *Music Theory Pedagogy Online* 4. <https://music.appstate.edu/about/jmtp/video-and-podcasting-tools-blended-flipped-and-fully-online-music-theory-courses>.
- McConville, Brendan. 2012. "Noteflight as a Web 2.0 Tool for Music Theory Pedagogy." *Journal of Music Theory Pedagogy* 26: 265-289.
- Michaelsen, Garrett. 2014. "Improvising to Learn/Learning to Improvise: Designing Scaffolded Group Improvisations for the Music Theory Classroom." *Engaging Students: Essays in Music Pedagogy* 2. <http://flipcamp.org/engagingstudents2/essays/michaelsen.html>.
- Molumby, Nicole L. 2014. "An iPad Masterclass: Mobile Technology in a University Aural Skills Class." *College Music Symposium* 54. doi: <http://dx.doi.org/10.18177/sym.2014.54.itm.10847>.
- Ng, Samuel. 2014. "Recorded Performances as Text in the Music Theory Classroom." *Journal of Music Theory Pedagogy* 28: 87-119.

- Palmer, C. Michael. 2014. "Learning Basic Music Theory through Improvisation: Implications for Including Improvisation in the University Curriculum." *College Music Symposium* 54. doi: <http://dx.doi.org/10.18177/sym.2014.54.sr.10844>.
- Peebles, Crystal. 2013. "Using Audacity to Participate in Active Musical Listening." *Engaging Students: Essays in Music Pedagogy* 1. <http://flipcamp.org/engagingstudents/peebles.html>.
- Pike, Pamela D. 2014. "An Exploration of the Effect of Cognitive and Collaborative Strategies on Keyboard Skills of Music Education Students." *Journal of Music Teacher Education* 23 (2): 79-91.
- POGIL Project, The. "POGIL: Process Oriented Guided Inquiry Learning." www.pogil.org.
- Ravenscroft, Brenda, and Victoria Chen. 2015. "Enhancing Learning in an Advanced Analysis Course: The Flipped Model, Peer Learning, and the Mode Effect." *Journal of Music Theory Pedagogy* 29: 73-100.
- Renihan, Colleen. 2015. "Unraveling the Narrative Approach: Twine as Music Pedagogy." *Engaging Students: Essays in Music Pedagogy* 3. <http://flipcamp.org/engagingstudents3/essays/renihan.html>.
- Rifkin, Deborah. 2014. "Cultivating Creativity in the Music Theory Classroom: Telling Tales with Texture and Timbre." *Engaging Students: Essays in Music Pedagogy* 2. <http://flipcamp.org/engagingstudents2/essays/rifkin.html>.
- . 2013. "From Distress to Success: Collaborative Learning in Music Theory Assessments." *Engaging Students: Essays in Music Pedagogy* 1. <http://flipcamp.org/engagingstudents/rifkin.html>.
- Ripley, Angela. 2016. "Surviving Set Theory: A Pedagogical Game and Cooperative Learning Approach to Undergraduate Post-Tonal Music Theory." *Music Theory Pedagogy Online* 6. <https://music.appstate.edu/about/jmtp/surviving-set-theory-pedagogical-game-and-cooperative-learning-approach-undergraduate>.
- Rogers, Michael R. 2004. *Teaching Approaches in Music Theory: An Overview of Pedagogical Philosophies*. 2nd ed. Carbondale: Southern Illinois University Press.
- Rogers, Nancy. 2013. "Modernizing the Minuet Composition Project." *Journal of Music Theory Pedagogy* 27: 71-109.
- Schubert, Peter. 2015. "Foreword: Time to Change Your Mind." *Engaging Students: Essays in Music Pedagogy* 3. <http://flipcamp.org/engagingstudents3/essays/schubert.html>.
- . 2014. "Teaching Music Analysis through Improvisation." *Engaging Students: Essays in Music Pedagogy* 2. <http://flipcamp.org/engagingstudents2/essays/schubert.html>.
- . 2013. "My Undergraduate Skills-Intensive Counterpoint Learning Environment (MUSICLE)." *Engaging Students: Essays in Music Pedagogy* 1. <http://flipcamp.org/engagingstudents/schubert.html>.
- Segall, Christopher. 2015. "You, Y'all, We: A Framework for Cooperative Learning." *Engaging Students: Essays in Music Pedagogy* 3.
- Shaffer, Kris. 2013a. "The Basic Flip." *Engaging Students: Essays in Music Pedagogy* 1. <http://flipcamp.org/engagingstudents/shafferpt1.html>.
- . 2013b. "Inquiry-Based Learning." *Engaging Students: Essays in Music Pedagogy* 1. <http://flipcamp.org/engagingstudents/shafferpt3.html>.
- Silberman, Peter. 2012. "Teaching Classic Era Style through Keyboard Accompaniment." *Journal of Music Theory Pedagogy* 26: 141-88.

- Slunt, Kelli M., and Leanna C. Giancarlo. 2004 (July 1). "Student-Centered Learning: A Comparison of Two Different Methods of Instruction." *Journal of Chemical Education* 81 (7): 985.
- Sly, Gordon. 2005. "Developing the Analytical Point of View: The Musical 'Agent.'" *Journal of Music Theory Pedagogy* 19: 51-63.
- Snodgrass, Jennifer. 2013. "Undergraduate Learning and Teaching 'in the Trenches' - the Development of a Peer Run Music Tutoring Center." *Music Theory Pedagogy Online* 1.
<https://music.appstate.edu/about/jmtp/undergraduate-learning-and-teaching-trenches%C2%9D-development-peer-run-music-tutoring-center>.
- Stephan-Robinson, Anna. 2014. "Enhanced Podcasts as a Tool for the Academic Music Classroom." *Engaging Students: Essays in Music Pedagogy* 2.
<http://flipcamp.org/engagingstudents2/essays/stephanRobinson.html>.
- Stevens, Daniel B. 2015a. "Breaking (Musical) Stuff as an Act of (Music) Criticism." *Engaging Students: Essays in Music Pedagogy* 3.
<http://flipcamp.org/engagingstudents3/essays/stevens1.html>.
- . "Inverting Analysis." 2015b. *Engaging Students: Essays in Music Pedagogy* 3 (2015).
<http://flipcamp.org/engagingstudents3/essays/stevens2.html>.
- VanHandel, Leigh. 2012. "What Can Music Theory Pedagogy Learn from Mathematics Pedagogy?" *Journal of Music Theory Pedagogy* 26: 191-213.
- Vassilakis, Pantelis N. 2009. "Assessment-Driven Collaborative Learning." *College Music Symposium* 49: 207-216.
- Webster, Peter R. 2011. "Construction of Music Learning." In *MENC Handbook of Research on Music Learning*, edited by Richard Colwell and Peter Richard Webster. New York: Oxford University Press, 35-83.

Teaching Analytic Writing in the Form Classroom

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Courses on form can impart valuable skills in analytic writing through strategic scaffolding of writing assignments. Part I of this article provides six steps toward their first essay: teach the basic theoretical concepts; discuss the process for writing an analytic essay; model good analytic writing; assign the prompt; comment on a draft of the form diagram; and give precise feedback. Part II of this article divides the work of a larger final paper into five tasks: a proposal, a draft of the form diagram, an individual consultation, a rough draft, and the completed paper. Although among one of the most difficult skills to master, analytic writing remains an indispensable tool for synthesizing and applying theoretical concepts. Student gains in depth of understanding of the principles and repertoire at hand merit the time and effort of teaching analytic writing in the undergraduate form classroom.



Introduction

The general challenges of writing combined with the particular difficulties of writing about music intimidate many undergraduates. Even for those students comfortable with the types of research assignments given in a typical music history course, the jump to meaningful discussion about the technical and expressive attributes of a given piece of music proves difficult.¹ Without guidance, student analytic writing tends to lapse into tedious blow-by-blow lists padded with far too much historical information.² Transforming a disjunct list of analytic observations about a piece into an essay that forges meaningful connections supporting a focused thesis requires practice. Indeed, developing students' skill in analytic writing benefits from systematic pedagogy.

The undergraduate course in form provides an ideal arena to teach such analytic writing. Previous completion of core music theory ensures that students have already acquired some skill in theory and analysis even as they delve into a deeper understanding of the patterns and procedures of form. Moving beyond the brief excerpts populating the typical core course, the exploration of entire movements opens up numerous possible lines of inquiry, including harmony, rhythm, motive, expression, and text as

¹ "Unfamiliarity with the assigned task" is one of the two main causes of poor student writing identified in Gottschalk and Hjortshøj (2004, 4).

² Music theorists have long noted such weaknesses in student writing. For one such description, see McGee (1993, 87).

well as form. Writing as part of a course in form analysis assists in the application and synthesis of analytic skills, bringing together most concepts from the typical undergraduate tonal theory curriculum. Furthermore, writing encourages moving past the black and white facts about a piece to forge more meaningful connections, possibly entertaining multiple viewpoints and delving deeply into ambiguities. More generally, incorporating writing into the form course embraces the aims of the Writing Across the Curriculum movement, which posits “that writing and thinking are closely allied, that learning to write well involves learning particular discourse conventions, and that, therefore, writing belongs in the entire curriculum, not just in a course offered by the English department.”³ While some instructors have successfully taught writing even in large-lecture classes,⁴ the smaller enrollment typical of upper-level form classes even at large public universities makes writing assignments particularly feasible.

Structuring a writing-intensive theory course demands consideration of the progression of writing assignments. After experimenting with different numbers and types of assignments in my form course, I have found that combining one short essay with a detailed prompt with one longer paper with an open-ended prompt works well for my goals.⁵ I used to require more short essays, but reducing the number of assignments allows more time for scaffolding and feedback of works in progress, improving the final products without becoming unduly burdensome for either students or instructor. The short essay focuses on a minuet and trio movement, typically one I choose from Haydn’s string quartets. This requires the students to demonstrate their fluency with the smaller building blocks of form covered by that point in the course, including motive, sentence, period, binary, and ternary. In contrast, the students select repertoire for the longer paper. As numerous other instructors have done, I strongly encourage the students to pick music written for their instrument, which generally increases student interest in the project.⁶ Part I of this article outlines the steps towards writing the short essay, while Part II describes the process for the term

3 McLeod (1992, 6).

4 Everett 2014 presents strategies for incorporating writing specifically into large-lecture theory courses. For a more general resource, see Gottschalk and Hjortshøj (2004, 145-161).

5 My assignments are designed to develop the specific skill of analytic writing. Instructors more concerned with developing general writing skills have more options, including the less formal exercises described in the following: Bakker and Chenette (2014); McGee (1993, 85-104); and Miyake (2014).

6 For a sample assignment with similar repertoire requirements for similar reasons, see McGee (1993, 86).

paper. While the first writing assignment of the semester focuses on teaching the technique of analytic writing, the last assignment emphasizes application of analytical and writing skills to a project tailored to the interests and strengths of each student.



Part I: The Short Analytic Essay

Although the idea of using shorter assignments to prepare students for longer, more complex projects is well known, particular strategies for preparing the students for the very first analytic writing assignment have received less attention. The following commentary specifies the activities in the first third of my course, illustrating the progression towards writing the first analytic essay in six steps. While the details in assignments and organization relate specifically to my course, the principles presented here easily transplant to other courses in form or even other upper-undergraduate level classes organized any number of ways.

Step 1: Teach and apply the basic theoretical concepts

Students need to master basic information and analytic skills before writing. As educator James M. Lang paraphrases cognitive psychologist Daniel Willingham, “you can’t think creatively about information unless you have information in your head to think about.... We have to know things...to think critically about them.”⁷ Furthermore, both Willingham and Lang argue that some lower-level tasks need to be automated in order to free up enough working memory to tackle higher-level tasks.⁸ To that end, the first few weeks of the course focus exclusively on engaging with repertoire, discussing examples of each formal category together in class. Most homework assignments I assign at this stage focus primarily on elements that do, given the terminology introduced in class, have fairly objective answers. Asking students to mark cadences, identify sequence types, and name forms of specific movements focuses on acquiring fundamental vocabulary and score reading skills. Such fundamentals must be instilled before attempting more sophisticated analytic projects. Particularly when covering more advanced topics, I often ease students into the new form by having them complete a diagram of a particular piece I have started for them. Such an approach

⁷ Lang (2016, 18). The quote is in reference to findings in ch. 2 of Willingham 2009, which Willingham summarizes as “Factual knowledge must precede skill” (19).

⁸ Lang (2016, 75-76).

gives the students enough clues to make progress even while their understanding is of yet incomplete. Later assignments remove these safeguards, assessing how much has been internalized.

Step 2: Discuss the process for writing an analytic essay

Once the students have some understanding of the basic vocabulary and procedure, the next stage involves outlining how to weave the analytic threads they now have the ability to spin into the tapestry of an articulate analytic essay. There are a number of ways an instructor might choose to initially engage this topic, but I typically assign my students to read William Marvin's "Introduction to Writing Analytical Essays" due to its clarity, brevity, and practicality.⁹ Marvin's six steps listed in Figure 1 provide a concrete procedure, something the students greatly appreciate.¹⁰ Students generally respond well to the admonition to get to know the piece intimately before attempting any writing, and they particularly appreciate the parallels Marvin draws between analysis and performance. In the end, the students come away with concrete actions to take and, ideally, a dawning realization of how the discipline and art of analytic writing might complement their other musical activities.

- | |
|---|
| <ol style="list-style-type: none"> 1. Learn the piece. 2. Begin to Analyze. 3. Research (when possible). 4. Form a Thesis. 5. Write. 6. Revise, revise, revise! |
|---|

Figure 1
William Marvin's Steps to Writing an Analytic Essay.

Step 3: Model good analytic writing

As Jonathan Bellman has aptly noted, "In explaining the nature of analysis, strong models will serve better than directives and proscriptions."¹¹ Indeed, most students need at least one good example to internalize the general concepts and procedure discussed above. Instructors might turn to any number of extant resources as great

⁹ Marvin (2005, xi-xiv).

¹⁰ For the assignments in this undergraduate course, I generally make the research mentioned in Marvin's Step 3 optional for my students.

¹¹ Bellman (2000, 46).

exemplars, including the essays from *Engaging Music* compiled for this purpose or a sample essay from one of the numerous guides to writing about music, among others.¹² However, writing a model essay tailored to a specific course by a specific instructor might be the most efficient approach for two reasons.¹³ First, it is much easier to model the desired style, organization, length, topic, and terminology for your particular students. Second, it facilitates integration into the content of the course.

For my purposes, I explicitly model the process leading up to writing through analysis of the second movement of Brahms' Clarinet Sonata Op. 120, No. 1.¹⁴ I ask the students to listen to the work before coming to class, encouraging them to gain some familiarity with the piece, as in Marvin's Step 1. Once in class, we turn to the formal analysis of Marvin's Step 2, identifying cadences and global and nested forms drawing on the technical vocabulary that had been covered in previous meetings. I then have the students help me list the facts we uncovered about the piece, asking how we might effectively organize them for an essay. I ask the students to propose tentative thesis statements based on these groupings, modeling Marvin's Step 4. Last but not least I provide them with a short essay on the movement, giving them a model comparable to the length and sophistication of their upcoming essay assignment. We discuss this model in detail, focusing on the process of turning the raw analytic data we discovered together into a polished essay.

The Appendix contains the sample essay itself interleaved with a detailed commentary. This commentary outlines aspects to consider when writing a model for students and summarizes the lessons I actively discuss with the students, though in a much more orderly and linear manner than a typical class discussion would proceed. Nearly all of the ideas emerge naturally in the class discussion via student observations and questions. I prompt the remainder through strategic questions, getting the students to notice underlying patterns they may have missed on first reading.

While not every short analytic essay assignment easily lends itself to the five-paragraph layout illustrated here, the model does clearly illustrate how this pattern familiar from English class can be applied to technical writing about music. Each paragraph features a focused topic sentence. Active voice dominates, and precise verbs replace weak linking verbs (such as "is") wherever possible. While student

12 See Stein (2005); Irving (1999, 227-41); and Ch. 3 of Wingell (2001).

13 I am far from the first to advocate such customized modeling. For example, see the model essay on a passage from *Aida* in the handout for Marvin (2014).

14 For a compelling analytic study of this work, see Klorman (2014).

writers often use the composer as the subject of far too many sentences, this essay only mentions Brahms in the introduction and conclusion. Even there, the references serve only to identify the composer and piece, not use Brahms as the primary agent driving the entire analysis. The text also purposefully includes standard abbreviations students should use in their own essays: “m.” for “measure,” “mm.” for “measures,” “PAC” for “perfect authentic cadence,” and so on. Particularly if future assignments specify page length rather than word count, insisting on use of these abbreviations eliminates another potential strategy for meaningless filler. Furthermore, use of the correct symbols contributes to a more elegant final product free of unnecessary distractions.

Step 4: Assign the prompt

At this point, the students should be ready for a well-crafted essay assignment. Designing an effective prompt starts with selecting a piece of an appropriate level that contains both low-hanging and high-hanging fruit. Figure 2 shows one prompt regarding Joseph Haydn’s String Quartet Op. 54, No. 1/III. While the basic form of the movement follows conventions, numerous details of this delightful dance benefit from closer examination. The instructions shown in Figure 2 contain numerous specific reminders about good writing, including the importance of topic sentences, the introduction, and the conclusion. The prompt specifies both the required supporting figures and contains reminders that these must actually be discussed in the body of the essay. This directs the students to think carefully about the relationship between text and supporting material, reminding them that both must be used in conjunction for an effective presentation. The remaining instructions direct their attention to some of the elements unique to this minuet, and the three basic headings suggest one possible means of organization. Given the detail of the provided questions, the main challenge of the assignment involves creating clear topic sentences and assembling the findings of their analysis into a meaningful whole.¹⁵

¹⁵ Two sources deal specifically with the development and use of effective questions in the theory classroom: Dirkse (2014, 69-84); and Rogers (2014).

Write an 800-1,000-word essay on the minuet and trio movement from Joseph Haydn's String Quartet Op. 54, No. 1. Format your typed essay with 12-point font, double-spaced lines, and 1-inch margins on all four sides. Please do not put extra space between paragraphs. Although the organization of your essay is up to you, you must engage each of the following elements. Write for someone who understands the terminology we have been using in class but has not read this essay prompt. Develop a single thesis statement that will serve as the focal point for your discussion. Remember to include a topic sentence in each individual paragraph as well as an introduction and conclusion within the essay.

Required Figures

1. Create a **form diagram** of the movement that shows the following elements:
 - Overall form of the movement
 - Nested forms (the minuet and the trio)
 - Phrases and cadences (with measure numbers)
 - Periods and sentences (only if and where applicable)
 - Note: Do NOT try to force every phrase into a sentence or period.
2. Include an annotated score (See specified items below.)

Required Topics

1. Form

Guide your reader through your form diagram, remembering to include the specific names for the overall form, the form of the minuet and trio, and any nested periods or sentences. Use technical vocabulary without unnecessarily quoting definitions of terms. Do NOT try to regurgitate the entire diagram, but rather use phrases such as "As the form diagram shows" or "Figure 1 indicates." Consider phrase length, thematic return, and proportion between sections.

2. Motive

Identify at least one motive in the minuet and one motive in the trio, and discuss how each is used throughout the movement. Give each motive a name (i.e., motive x and motive y), and bracket each appearance of the motive on the score. Refer to your annotations on the score in your prose.

3. Harmony

Compare the harmonic structure of the minuet with that of the trio. Provide a roman numeral/figured bass analysis of mm. 10-24 and mm. 53-60 on the score. Specifically discuss the relationship between these two digressions, exploring how each prepares for the next section. Consider the impact of both sequence and harmonic rhythm. Refer to your annotated score without regurgitating the entire harmonic progression in your prose. Identify and discuss at least one other harmonic surprise in both the minuet and the trio.

Figure 2
Sample Essay Prompt.

Step 5: Comment on a draft of the form diagram

Requiring students to submit a form diagram for commentary before the essay is due both lessens the difficulty of the assignment and improves the quality of the final product. The form diagram draft all but forces the students to analyze the piece before attempting to write, thus ensuring that the first two steps from Figure 1 are indeed the first actions the students take. I award these a small completion grade (usually 10% of the essay), which encourages submission while making it clear that the point of the activity is for me to provide feedback useful for the final version, which will be graded on quality. On these drafts, I circle errors and comment on concepts that the particular student has misunderstood without making the corrections for them. Students receive their marked form diagrams a week before the essay is due. This provides students with the opportunity to refine the basic elements of the analysis and clarify any conceptual issues before turning to the challenge of writing their ideas about the piece.

Step 6: Give precise feedback and pointers for improvement

Effectively grading the completed essays requires providing feedback in three areas. First, students need an assessment of the validity of their analytic claims. Fundamentally, misunderstandings regarding terminology need clarification, and mistakes in identifying cadences or harmonies or formal divisions need correction. Higher-level comments assess the strength of evidence presented in favor of a particular interpretation. Second, mechanics and style must be taken into account. Even students generally using correct spelling, punctuation, and grammar occasionally lapse into awkward word choices or sentence constructions. Many grasp the difference between passive and active voice only when shown examples in their own writing, and most need to continue pursuing more precise language, particularly when use of synonyms could easily reduce clunky repetitions of the same word. Two other common traps include making the composer the topic of nearly every sentence and overuse of personal pronouns. Third, students need feedback on the clarity of their topic sentences and the efficacy of the essay's overall organization. Giving each student extensive comments on this initial foray into analytic writing teaches valuable skills that the students can apply in future writing both within the course and beyond.

Some strategies aid in providing commentary in a timely manner. First and foremost is to prioritize the types and nature of feedback. Of the three categories mentioned above, correcting conceptual misunderstandings demands the most attention given

their importance to student success later in the course. Notes on mechanics and style can be productively limited to a few strategic examples of types of errors, perhaps commenting extensively on a single paragraph or a few sentences that contains types of problems that recur throughout.¹⁶ Feedback on organization requires one or more specific examples, perhaps showing how a particular paragraph would have worked more effectively in a different place. Second, most learning management systems have a dropbox feature. Requiring the students to submit papers through this dropbox simplifies organization and streamlines providing feedback through typed comments, which for me at least take far less time to produce than the same comments written by hand. Third, whether or not to use a rubric with a set number of points assigned to different elements to assign the final grade depends on the individual instructor, as convincing arguments have been made both for and against this practice.¹⁷ My own attempts to craft a detailed rubric usually result in grades lower than what I think the students deserve, so I prefer to assess the essay more holistically. Regardless of the chosen method of grade calculation, the goal is to instruct the student in skills that will transfer to future writing.



Part II: The Term Paper

While the specific requirements of the short essay allow the students to focus on writing technique, the longer paper encourages greater creativity and depth. I release the prompt for the final project about two-thirds of the way through the semester, after the students have received feedback on the short essay and after we have covered rondo, sonata, sonata-rondo, and concerto form in class. Specifications include writing an analytic paper with 1,500-2,000 words on one or more complete movements or works. The entire process involves five tasks: a proposal, a draft of the form diagram, an individual consultation, a rough draft, and the completed paper. This progression guides the student to think about the motivation for the project, get to know the piece well before writing, and start the writing process before the

¹⁶ For a warning against turning grading into time-consuming copy editing, see Gottschalk and Hjortshøj (2004, 51-52).

¹⁷ Two quotes illustrate this divide. “Avoid mathematical systems...Such systems, in design and execution, are at best arbitrary, and the categories rarely can be cleanly separated” [Gottschalk and Hjortshøj (2004, 57)]. “Rubrics...were one of the handiest aids to educators since the invention of the blackboard. They save us hours of time when used for grading while providing timely, meaningful feedback to our students” [Stevens and Levi (2005, vii)].

final product is due, thus infusing the steps listed in Figure 1 into the structure of the project.¹⁸ The first four tasks are low-stakes completion assignments (5% of the project grade each) that involve feedback, while the final product is graded for quality.

Task 1: Proposal

Students sometimes need assistance finding a topic of appropriate scope, so requiring a brief proposal allows the instructor to head off major problems before they begin. While far less formal than a conference paper proposal, this task involves a typed paragraph that specifies title and composer of the chosen work(s), motivation for writing about this repertoire, and preliminary observations regarding the basic form of each movement to be discussed. Grading these takes little time and helps me identify the handful of students who need assistance at this early stage. Most student selections are appropriate; instrumentalists often chose the first movement of a concerto they are learning, while vocalists often compare three songs from the same cycle or opera. Some percussionists, saxophonists, and brass players need reminding that transcriptions provide an important resource for pertinent common-practice repertoire. Typically, one or two of the weakest students in the class propose something that is either far too long or too short for the specified length of paper, but a brief meeting in my office is usually all that is needed to redirect the student to something more feasible.

While the main function of the proposal is to ensure a smooth beginning to each project, the secondary function is to provide me with information useful to tailoring the last few weeks of class meetings. The last third of the semester often is a bit eclectic, exploring topics such as ritornello forms, fugue, variation, song cycles, aria forms, and popular songs. Given that time often prohibits probing all of these, I adjust the selection, order, and time of these final topics according to which will benefit the most students on their final projects.

Task 2: Form Diagram Draft

As with the short essay, requiring submission of form diagrams of all chosen movements for the final paper insists that students begin with analysis well before writing. Given the variety of repertoire selections, I typically have to allocate at least a week to work through all of these in detail. Students are responsible for providing

¹⁸ Many general guides on teaching writing advocate a similar division of tasks, including Gottschalk and Hjortshøj (2004, 110-117).

me with a score with measure numbers. This both saves me time needed to track down scores I do not happen to have on hand and also allows me to quickly identify where a student misnumbered measures, which happens all too frequently. In addition to correcting errors in the diagram, I often briefly note one or two facets of the piece the student might pursue in depth in the paper. Such commentary is particularly helpful to students who become so fixated on correctly categorizing the large-scale form that they forget elements such as sequences, motivic development, unusual key relations, text painting, orchestration, and any number of other features that also contribute to the shape of the work.

Task 3: Individual Consultations

At this stage in the process, individual meetings serve as the most effective means of providing substantial assistance to each student. I schedule these after providing students with feedback on their diagrams, instructing students to come to their ten-minute appointment with specific questions. Replacing two or three class meetings with these consultations both gives the instructor sufficient time to meet with each student and gives each student time to continue working on their projects without having to grapple with new concepts in class. In my experience, students come reasonably well prepared for these meetings and leave with greater direction and confidence.

Task 4: Rough Draft Peer Review

Requiring students to submit a partial rough draft for peer review has several benefits. As with any rough draft, this assignment requires students to start writing earlier than the day before the final paper is due, thus encouraging them to save some time for revision. Using peer review provides feedback to the students on their writing with minimum necessary involvement from the instructor. Given that students already receive extensive feedback directly from me on their form diagrams and in their meetings, shifting reading of drafts to peers allows flexibility without significantly lengthening the total time needed to complete the project. This allows the option of using the same week for both individual meetings and peer review. While peer review can be done in person, I recently tried grouping students into trios through my school's learning management software.¹⁹ Each student was required to

¹⁹ For further information on options for peer review, see Gottschalk and Hjortshøj (2004, 71-75). I followed their advice to use groups of three so “no one gets stuck with just one, possibly ineffective or

post at least two and a half pages of prose as well as diagrams and a score on a discussion board. Two days later, each student was responsible for posting a paragraph of commentary on each of the two other drafts in their assigned group, noting at least two strengths and two weaknesses. Students were awarded points both for submitting their own materials on time and for the quality of their comments on drafts of their peers. This activity was generally successful, with students reminding each other to avoid excessive historical context, to organize topically, to transition smoothly, and to proofread thoroughly. Each student benefitted not only from direct feedback from their peers, but also through seeing additional models for how to approach writing.

Task 5: Final Paper

All of the preceding assignments serve to increase the quality of the final paper, the last component of the course. Given the extensive scaffolding and the opportunity to write on a piece they love, most students do well on this assignment. As with the essay, I require students to submit the final paper through a dropbox. In addition to reducing the time necessary for grading as mentioned above, the dropbox provides a platform through which students can receive feedback without having to physically return to my office, something that is always a concern at the end of the semester. The act of writing the final paper teaches students how to connect concepts from the course to the repertoire they encounter in their everyday lives as musicians, which constitutes perhaps the most important lesson of the course. On a practical level, the finished paper serves as a good writing sample, potentially useful for those students applying for graduate study.



Conclusion

Courses on form can impart valuable skills in analytic writing through strategic scaffolding. In my experience, a short essay with detailed questions adequately prepares students for the formidable challenge of writing a longer analytic paper on a piece of their choice. Regardless of the total number of writing projects in a given course, the six steps presented in Part I provide a framework for systematically introducing students to the elements needed to maximize learning from their first attempt in this idiosyncratic genre. The five tasks towards the final paper presented

in Part II illustrate one approach to guidance through a larger project that could be easily modified to suit different classes and preferences.²⁰ Although among one of the most difficult skills to master, analytic writing remains an indispensable tool for synthesizing and applying theoretical concepts. Student gains in depth of understanding of the principles and repertoire at hand merit the time and effort of teaching analytic writing in the undergraduate form classroom.

²⁰ For instance, in classes smaller than mine, class presentations might easily replace peer review of rough drafts.

Appendix: Sample Essay with Commentary

Italics = Sample Essay; Regular Font = Commentary

The Classical Romantic: Brahms and the Clarinet Sonata Op. 120, No. 1/II

Two important lessons appear before the reader even reaches the first complete sentence. First, there is a title. As someone who has enjoyed crafting titles for each and every writing activity since grade school, I used to be surprised at the number of my students who submit this assignment with either “Essay 1” or nothing at the top of the page. Titling the model essay encourages the students to do the same for their own work, reminding them that creativity can be in play even in this detail. Second, this title effectively executes the most important task of a title: encapsulating the topic at hand. Indeed, this single line specifies the composer, the piece, and the main binary that will drive the discussion before even reaching the first complete sentence.

The music of Johannes Brahms (1833-1897) abounds with references to formal processes of earlier eras. Sometimes this involves conscious modeling on a particular composition, such as in the well-known references to Ludwig van Beethoven's Symphonies No. 5 and No. 9 in Symphony No. 1 by Brahms.²¹ Other compositions may lack a specific model while retaining the clarity and hierarchy of classical form. Exemplifying this strategy, the second movement of Brahms' Clarinet Sonata Op. 120, No. 1 combines a staunchly classical design with a thoroughly romantic use of harmony and rhetoric.

A well-formed essay requires a well-formed introduction, something many students find difficult to write. The two most important concepts here are clarity and economy: by the end of paragraph 1, the reader should know the topics at hand and the basic structure of the body of the essay. Often, novices in analytic writing are tempted to include extraneous information, typically in the form of excessive historical context. This model eschews a summary of Brahms' career or a copious commentary of his clarinet works, both of which would be inappropriate in an essay of this length and type.

Perhaps more than in any other part of the essay, each sentence of the introduction must contribute something essential to establishing the main themes of the text. In the provided model, Sentence 1 announces the composer at hand, alluding to Brahms' historical consciousness in formal procedures. Sentence 2 reinforces this concept by

²¹ See the “Orchestral works and concertos” section of Bozarth and Frisch (2016).

citing the most well-known examples, symphonies that most undergraduate music majors have heard if not played or studied by junior year. Turning toward the specific topic of the essay, Sentence 3 introduces a variant of this broad principle. Most importantly, Sentence 4, the topic sentence, names the specific piece under discussion and clearly articulates the classical vs. romantic binary that drives the remainder of the essay.

This slow movement constitutes a simple sectional ternary form as summarized in Figure 3.²² The outer sections are not identical; alterations for A' include softer dynamics, a lower register for much of the clarinet line, and additional arpeggios in the piano's texture. However, with the exception of a one-bar phrase extension at the very end of A', these subtle adjustments preserve the length and cadences from the opening. Sections A and A' thus share the same design, namely a parallel interrupted period with nested sentences. The B section envelopes a parallel progressive period with nested sentences, a formal plan differing only in harmonic type from that used in A and A'. In the retransition, the piano twice attempts to imitate the clarinet's main melody from A, each time breaking off into a melisma of sixteenths and proving unable to regain the tonic key until the arrival of A' in m. 49. The short coda contains echoes of both main thematic blocks; mm. 71-74 return to material from the opening of section B, while mm. 75-81 contain one final statement of the melancholy clarinet line from A over a tonic pedal.

While brief, this paragraph models several basic principles. First, the opening sentence directs readers to the form diagram, something that many students neglect. The lesson here is that the reader needs to be told not only to look at any visual materials but also what specifically the reader should learn from looking at said figures. In this case, the form diagram provides an overview essential for understanding the classical elements of the composition unpacked in this paragraph. Second, strategic use of technical language enables succinct communication. Terms such as “simple sectional ternary” and “parallel progressive period with nested sentences” replace what could have been laborious (and boring) longwinded descriptions. Also, clarifying that this essay is intended for literate musicians renders regurgitations of term definitions unnecessary. All too many students succumb to this temptation, either out of uncertainties regarding their analysis and their understanding of the technical vocabulary or as part of a strategy to take up space. Third, this single paragraph deals with the form of the entire movement with maximum efficiency, departing from the chronology of the piece where expedient. For example, the A and A' sections are

²² The terms used in this essay follow definitions from Laitz (2016).

discussed together, enabling brief commentary on their differences without requiring restatement of identical principles. The commentary on section B and the coda likewise emphasizes their connections to A. Mentions of specific measures are kept to a minimum, as the job is to clarify and supplement the ideas represented in the form diagram rather than duplicate all of its information in prose.

While sentences typically propel the music forward, pointing undeniably to their conclusion, the sentences within sections A and A' seem unusually hesitant, partially due to harmony and phrase length. Eschewing the typical I-V-I harmonization common in the presentation stage of a typical classical sentence, mm. 1-4 contain a chord progression that shifts ever so slightly with each bass note added, as shown in Figure 4. Two of these bass notes seem displaced; as shown with diagonal lines, the B $\flat$ in m. 1 anticipates the root of the chord in m. 2, and the A $\flat$ in m. 3 anticipates the arrival of the fm $\acute{7}$ in m. 4. The proliferation of sevenths combined with the tonicization of the submediant contributes to the mellow nature of this opening. A four-measure presentation most often leads to a four-measure continuation, but this continuation beginning in m. 5 lasts longer than expected, meandering into the dominant key. The music attempts to cadence in m. 10, yet substitutes a deceptive cadence for the expected authentic cadence. After this setback, the clarinet attempts to recover the situation by reiterating its motive from m. 9 in m. 11, this time successfully leading to the PAC of m. 12. The consequent phrase replays much of this drama in tonic, complete with the tentative deceptive cadence in m. 20 being corrected to the PAC of m. 22.

The second body paragraph again picks up the idea of sentences, using this basic element as a springboard to a detailed discussion of harmony, phrase length, and cadences in the A and A' sections. The overview of the form earlier in the essay frees this paragraph to isolate features unique to this piece. The annotated musical example allows quick isolation of the most interesting harmonic aspects of the passage, avoiding tedious listing of numerous Roman numerals in the prose. Specific analytic data grounds each observation regarding affect and narrative, rendering the latter far from arbitrary.

Other harmonic processes create delightful moments of disorientation within section B and the retransition. The B passage opens in D $\flat$ Major, selecting the subdominant key common for the middle sections even in much earlier ternary forms. The beginning harmonic progression, however, is clearly nineteenth-century. Figure 5 shows the opening sequence. The model serving as the first basic idea in mm. 23-24 ends on a back-relating dominant (BRD), and the entire segment is transposed down a major second for the second iteration of the basic idea. The continuation opens yet another whole step lower, soon breaking

the chromatic sequence. The phrase concludes on a G# major chord in m. 30, which is really functioning as an enharmonic A♭ Major triad marking a HC in D♭ Major. The consequent then opens with material parallel to the antecedent in a different orchestration, with the piano and clarinet trading parts. However, further enharmonic games soon create more pronounced differences from the antecedent. While the PAC in m. 41 is spelled in E major, this passage functions as respelled F♯ major, ♭VI in the context of the entire movement. Thus, even the concluding key of the passage emphasizes a chromatic mediant key favored in the nineteenth century. The retransition (RT) continues the emphasis on motion by equal intervals, modulating from E major and minor down by major third to C major and minor down by major third again to reach A♭ major for the start of Section A'.

The third body paragraph resembles the second, this time focusing on the B section and the retransition. The specific topics pertinent to the B section differ from those in the A section, and the prose reflects this accordingly. The discussion of harmony emphasizes sequence, back-relating dominants, and traces modulations without getting bogged down in individual chords. The prose stresses the significance of the particular harmonic relations uncovered, clearly connecting each idea back to the thesis of the essay.

Brahms' Clarinet Sonata Op. 120, No. 1/II features a delicately Romantic work built on a stable Classical scaffold. Eighteenth-century elements include the use of sectional ternary, periods with nested sentences, and the subdominant key for the beginning of the middle passage. Nineteenth-century elements include the use of tall-tertian sonorities, the lack of clear V-I resolutions early in phrases, phrase extensions, deceptive resolutions, chromatic sequence, enharmonicism, and the use of the flattened submediant key. These elements combine with deft use of orchestration and thematic recall to create a movement of surpassing beauty and nostalgia, breathing new character into old forms.

The conclusion reviews and clarifies the entire argument of the essay. Since many students are tempted to skip writing a conclusion or to treat it as a throwaway passage, it can be helpful to illustrate the important work this paragraph achieves. The opening sentence constitutes the expected restatement of the thesis, but a colorful metaphor enlivens what could have been a pedantic reshuffling of words. The lists of elements both review the highlights from the analysis while clearly sorting factors into the two categories underpinning the entire essay. The final sentence—often one of the most difficult to write in an essay—combines further review with a clear expression of the writer's enjoyment of the piece that motivates the essay.

Section	A									
	a (antecedent)					a' (consequent)				
	BI	BI	continuation			BI	BI	cont.		
mm.	1	3	5	10	12	13	15	17	20	22
Cadence				DC	PAC				DC	PAC
Key	A♭M			E♭M		A♭M				
	I			V		I				

Section	B							RT	
	b (antecedent)				b' (consequent)			a''	a'''
	BI	BI	cont.		BI	BI	cont.		
mm.	23	25	27	30	31	33	35	41	45
Cadence				HC				PAC	
Key	D♭M							EM (F♭M)-em	CM-cm
	IV							♭VI ♭vi	III♯-iii

Section	A'										Coda	
	a (antecedent)					a' (consequent)					b''	a'''
	BI	BI	cont.			BI	BI	cont.				
mm.	49	51	53	58	60	61	63	65	68	71	75	81
Cadence				DC	PAC				DC	IAC	IAC	
Key	A♭M			E♭M		A♭M						
	I			V		I						

Figure 3

Brahms, Op. 120, No. 1/II, Form Diagram.

While possible formats for form diagrams abound, students benefit from seeing models of the layout preferred by the instructor. The vertical alignment illustrated in Figure 3 conveys a great deal of information in a small amount of space. Once students have seen this presentation and completed a homework assignment that involves finishing such a diagram that I have started for them, they typically have few difficulties constructing similar diagrams for other pieces in the remainder of the course. Sections, subsections, and cadences are usually quite straightforward, though the representation of key areas occasionally proves more difficult for some. Towards the end of the semester, I usually have at least one student who is still struggling with the concept of using a roman numeral to represent a key area rather than a specific chord. However, insisting on this representation reinforces the significance of key relationships in a tonal work, contributing to the overall technique of summarizing the main features of a movement in a diagram.

Andante un poco Adagio

Cl. *poco f*

Pno. *poco f*

AbM: I vi⁷ ii⁴₂ ⁴₃ ⁶₅ vii⁷ vii⁷/vi vi ⁴₂ ⁷

Figure 4

Brahms, Op. 120, No. 1/II, Section A, mm. 1-4.

Cl. Sequence Model Copy Copy (partial)

Pno. *p dolce* *pp* *p*

BRD (Back-Relating Dominant) BRD BRD BRD

Whole-step Descent

Figure 5

Brahms, Op. 120, No. 1/II, Section B, mm. 23-27.

Works Cited

- Bakker, Sara and Timothy Chenette. 2014. "Writing Across the Music Theory Curriculum." *Engaging Students: Essays in Music Pedagogy* 2: <http://flipcamp.org/engagingstudents/>.
- Bellman, Jonathan. 2000. *A Short Guide to Writing About Music*. New York: Longman.
- Bozarth, George S. and Walter Frisch. 2016. "Brahms, Johannes." *Grove Music Online*. Oxford Music Online. Oxford University Press.
- Dirkse, Scott. 2014. "Effective Questioning Strategies for the Music Theory Classroom." *Journal of Music Theory Pedagogy* 28: 69-84.
- Everett, Walter. 2014. "Teaching Writing as a Music Theorist." Paper presented as part of the Professional Development Committee Session at the Joint meeting of the American Musicological Society and the Society for Music Theory, Milwaukee, WI, November 6.
- Gottschalk, Katherine and Keith Hjortshoj. 2004. *The Elements of Teaching Writing: A Resource for Instructors in All Disciplines*. New York: Bedford/St. Martin's.
- Irving, Demar. 1999. *Irvine's Writing about Music*. 3rd edition revised and enlarged by Mark A. Radice. Portland, OR: Amadeus Press.
- Klorman, Edward. 2014. "On the Slow Movement of Brahms's F-Minor Clarinet Sonata: Thirds-Cycles, Diatonic, and Todesangst." *Gamut* 7 (1): 126-150.
- Laitz, Steven G. 2016. *The Complete Musician: An Integrated Approach to Tonal Theory, Analysis, and Listening*. 4th edition. Oxford: Oxford University Press.
- Lang, James M. 2016. *Small Teaching: Everyday Lessons from the Science of Learning*. San Francisco: Jossey-Bass.
- Marvin, William. 2005. "Introduction to Writing Analytical Essays." In *Engaging Music: Essays in Music Analysis*, edited by Deborah Stein, xi-xiv. Oxford: Oxford University Press.
- _____. 2014. "Teaching Writing as a Music Theorist: Assignments for Aural and Written Classes." Paper presented as part of the Professional Development Committee Session at the Joint meeting of the American Musicological Society and the Society for Music Theory, Milwaukee, WI, November 6.
- McGee, Deron L. 1993. "The Power of Prose: Writing in the Undergraduate Music Theory Curriculum." *Journal of Music Theory Pedagogy* 7: 85-104.
- McLeod, Susan H. 1992. "Writing Across the Curriculum: An Introduction." In *Writing Across the Curriculum: A Guide to Developing Programs*, 1-11. Newbury Park, CA: Sage Publications, Inc.
- Miyake, Jan. 2014. "Weekly (or more) Writing in the Music Theory Classroom." *Engaging Students: Essays in Music Pedagogy* 2: <http://flipcamp.org/engagingstudents/>.
- Rogers, Lynne. 2014. "Crafting Good Questions." Paper presented as part of the Professional Development Committee Session at the Joint meeting of the American Musicological Society and the Society for Music Theory, Milwaukee, WI, November 6.
- Stein, Deborah, ed. 2005. *Engaging Music: Essays in Music Analysis*. Oxford: Oxford University Press.
- Stevens, Dannelle D. and Antonia Levi. 2005. *Introduction to Rubrics: An Assessment Tool to Save Grading Time, Convey Effective Feedback, and Promote Student Learning*. Sterling, VA: Stylus Publishing.

- Wingell, Richard J. 2001. *Writing About Music: An Introductory Guide*. 3rd edition. Upper Saddle River, NJ: Prentice Hall.
- Willingham, Daniel T. 2009. *Why don't Students Like School?: A Cognitive Scientist Answers Questions about how the Mind Works and what it Means for your Classroom*. San Francisco, CA: Jossey-Bass.

Chorales in J. S. Bach's Pedagogy: Recasting the First Year Undergraduate Music Theory Curriculum in Light of a New Source

DEREK REMEŠ

Inspired by new evidence about J. S. Bach's teaching method, this article offers an historically informed perspective on teaching part writing while striving to achieve the College Music Society's curricular goals of integration, creativity, and diversity. The key is an emphasis on transferrable skills, which are honed in the simplified context of hymn tune harmonization and then applied to more diverse settings through analysis and model composition. Transferrable skills sharpened in this method range from basic (figured bass, chord spelling, voice-leading, harmonic analysis, and vocal and keyboard experience) to more advanced (formal and cadential analysis, ornamentation, composition with compound melody, and reductive analysis). The resulting method is historically informed, pedagogically appropriate, internally consistent, fundamentally musical, and always contextualized.



Introduction

Long-standing curricular assumptions in music theory and musicology have been increasingly questioned in recent decades in favor of a more culturally inclusive and less technical curriculum. We see such concerns raised in the 2014 College Music Society (CMS) manifesto (Myers et al. 2014), numerous articles,¹ and in recent curricular changes at Harvard.² Part writing, often described as unnecessary and outdated, is one of the most common targets in this debate. For instance, the CMS manifesto states that “both the effectiveness of [four-part, Bach-style part writing] and the narrow horizons toward which it aims need to be carefully assessed from a contemporary, creative vantage point” (Myers et al. 2014, 36). And Kulma and Naxer (2014) write that “musicians in the past century have moved beyond part writing as the only model of good music making. [A modern] view of music history and style requires a more general approach, and de-emphasizes the centrality of eighteenth-century part writing.” Clearly part writing and other traditional music-theoretical

¹ See Schubert (2011), Freeman (2014), Covach (2015), Kulma and Naxer (2014), Lowe (2015), and Richards (2015).

² As of fall 2017, the traditional theory and history sequences at Harvard are no longer required of music majors. See Leifer (2017) and Robin (2017).

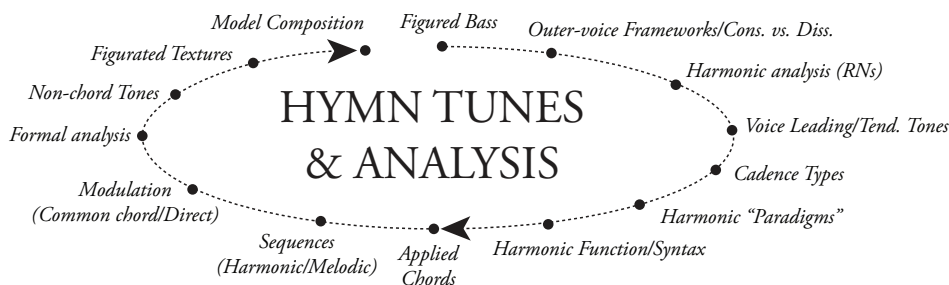
topics lay in the crosshairs of curricular reform. So, Why learn part writing? What use, if any, does it serve today?

To answer these questions, let us begin with the CMS manifesto's laudable pillars of integration, creativity, and diversity (Myers et al. 2014, iii). In accordance with these goals, I propose a method of teaching part writing that aims to integrate various basic skills in order to enable creativity later in diverse contexts. Ironically, this "new" method does not take "a more general approach," as Kulma and Naxer propose, but instead has its roots in the most traditional of sources: J. S. Bach's chorales. I argue that chorales are ideal tools for teaching transferrable skills. A focus on transferrable skills is among the best strategies for preparing students to succeed in our pluralistic musical culture, because no single curriculum can teach everything that each student needs. But before a concept can be transferred to a new context, it is helpful to introduce the idea first in a simple environment. This environment functions like a conceptual "home base" against which to understand other styles.³ However, this pedagogical strategy, which relies on a stable stylistic reference point (chorales), works against the important goal of curricular diversity. To counteract this, I supplement my part writing method with the analysis of a diverse range of music. In this way, analysis—defined here as the recognition of a pattern in a new context—is the student's first act of transfer. Similarly, model composition is another, more creative act of transfer. Therefore, at the center of my proposed curriculum is the interplay between part writing, analysis, and composition as tools for promoting integration, creativity, and diversity through transferrable skills.⁴

Example 1 outlines this interplay more specifically. Hymn tunes (i.e., modern chorale melodies) and the analysis of a wide range of repertoire form the axis around which numerous other tonal theory topics revolve. Like J. S. Bach's teaching, this first-year curriculum begins with figured bass, shown here at the 12 o'clock position. But the more significant similarity with Bach is the use of outer-voice frameworks (as described below), together a harmonic outlook informed by eighteenth-century German figured-bass theory. Beginning at 12 o'clock in Example 1, my two-semester curriculum proceeds clockwise through progressively more advanced topics,

³ My intent is not to suggest that Bach's chorales are the fount from which all other styles and genres spring (as his student Kirnberger believed). Rather, in my experience, students benefit from consistent, concrete points of reference, and chorales are useful tools in this regard.

⁴ It should be noted that the CMS manifesto was in part responding to the changing needs of music curricula which often serve non-musicians. The method proposed here is intended for the professional training of future musicians (be it at a conservatory or elsewhere), not for music appreciation courses.



Example 1

Hypothetical First-Year Tonal Theory Sequence Revolving Around Hymn Tunes and Analysis.

concluding with model composition.⁵ Some readers may feel a year is too long to wait for composition, especially in a curriculum which supposedly values creativity. My personal experience, however, has been that students are too often asked to be creative before honing the technical parameters to enable creativity in the context of model composition. The results are often mediocre, in part because of a lack of restricting guidelines. Hymn tunes, which act as a curricular through-line in my method, are an ideal environment for introducing the technical parameters and guidelines to enable creativity, because hymn tunes are simple, singable, playable, complete pieces of music that nevertheless conform to pedagogical needs.⁶ That is, hymn tunes are like miniature laboratories where I introduce theoretical concepts first in a simplified context, later applying and developing these concepts in the analysis of at times drastically different repertoire. Though this article focuses primarily on my part writing method, analysis also occurs in tandem with part writing throughout my one-year curriculum. Analysis can encompass any kind of music—the guiding idea is simply that the hymn tunes introduce the analytical parameters. In sum, my curriculum takes Bach's outer-voice part-writing method as its starting point and uses hymn tunes to consolidate many basic theoretical topics in an integrated way, later applying these concepts more creatively in analysis and composition.

Thus far I have made strong claims for what may seem like a rather unoriginal method. As we will see, my approach borrows ideas from many sources, but it also differs

⁵ I have tried to list the topics in Example 1 in order of increasing difficulty, but naturally one may choose to order them differently.

⁶ The reader may wonder why a method that claims to be rooted in J. S. Bach's pedagogy does not use the same chorale melodies that Bach used. I describe my reason for preferring more modern hymn tunes in Part II below.

from current part writing methods in at least seven important ways: 1) my approach uses hymn tunes, which are tonally closed, complete pieces of music, not fragments; 2) unlike Bach's chorale melodies, the hymn tunes I use lack non-chord tones and are never modal, which simplifies the harmonization process; 3) unlike Bach's chorales, hymn tunes are often periodic or sentential, allowing for simple formal analyses; 4) unlike many part writing exercises today, hymn tunes are especially designed for singing and are simple enough to play at the keyboard—singing and playing keyboard are both important transferrable skills; 5) in my method, students work either from an outer-voice structure or a melody, and are never asked to simply compose a chord progression out of nothing; 6) my hymn harmonizations constantly recycle five voice-leading patterns which serve as “chunks” (see Exx. 13 and 14), encouraging pattern recognition; and 7) my method borrows from eighteenth-century German figured-bass theory by focusing on bass scale degrees as harmonic determinants. Therefore, the resulting method is contextualized (1), relatively simple (2), conducive to formal analysis (3), fundamentally musical (4), concrete (5), internally consistent (6), and historically informed (7). The impetus for the development of this new method was the recent re-identification of a source from Bach's students.

Part I: Bach's Method and a New Source

Harmonic analysis of Bach's published vocal chorales and harmonization of chorale melodies have been mainstays of theory and composition classrooms for centuries. However, a recently rediscovered source suggests that we can come closer to imitating Bach's method (Leaver 2016).⁷ The anonymous manuscript, held in the Eastman School of Music's Sibley Music Library, likely originates from Bach's students in Dresden from about 1740. The “Sibley Choralbuch” contains 227 figured-bass chorales and may be a copy of the chorale book Bach used with his students (Leaver 2016, 31). This finding implies that Bach began his students not with the harmonic analysis of ornamented chorales, as we often do today, but with the realization of figured-bass chorales in a simple, unornamented, homophonic manner that I call the *Choralbuch* style. This term is intended to differentiate the homophonic, keyboard-oriented style from Bach's more ornamented vocal chorale settings, or *Choralgesänge*.⁸

⁷ The “Sibley Choralbuch” was already known to Hans-Joachim Schulze (1981), but Schulz identified it as not coming from Bach's students. See Remeš (2017).

⁸ C. P. E. Bach uses the word *Choralgesänge* in his publications of his father's vocal chorales. Instead of “*Choralbuch*” and “*Choralgesang*,” Leaver (2001) calls these styles “keyboard” and “vocal” because of the settings in which they occur in Bach's writings. I prefer the former names because I do not wish to

I describe the “Sibley Choralbuch” and Bach's pedagogy in greater detail in Remeš (2017), which is summarized below.

We know figured-bass chorales featured prominently in Bach's teaching because of Emanuel Bach's description of his father's pedagogy:

In composition [J. S. Bach] started his pupils right in with what was practical, and omitted all the *dry species* [i.e., decontextualized exercises] of counterpoint that were given by Fux and others. His pupils had to begin their studies by learning pure four-part thoroughbass. From this he went to chorales; first he added the basses to them himself, and they had to invent the alto and tenor [Stage 1]. Then he taught them to devise the basses [note the plural] themselves [Stage 2]. He particularly insisted on the writing out of the thoroughbass in parts [*Aussetzen der Stimmen im Generalbasse*]. [Presumably later,] In teaching fugues, he began with two-part ones, and so on. / The realization of a thoroughbass and the introduction to chorales are without doubt the best method of studying composition, as far as harmony is concerned.⁹

This description suggests that Bach used chorales in two stages, as outlined in Example 2. In Stage 1, the student receives a chorale melody, bassline, and figures, and supplies the inner voices. Later, in Stage 2, only the chorale melody is given and the student supplies the bassline, figures, and inner voices, often supplying multiple basslines to a given chorale melody.¹⁰

	STAGE 1	STAGE 2
STUDENT RECEIVES	Chorale, Bassline, and Figures	Chorale only
STUDENT PROVIDES	Inner voices	Bassline, Figures, and Inner voices
PEDAGOGICAL FOCUS	Texture	Harmony & Two-Voice Counterpoint
TYPES OF SOURCES	Single-Bass Sources	Multiple-Bass Sources

Example 2

Overview of J. S. Bach's Two-Stage Pedagogical Method and Source Types.

imply that each style is necessarily bound to a specific instrument, though it often is.

⁹ Wolff (1998, 399), commentary added by the author of this article. Interestingly, C. P. E. makes no mention of chorales in his *Versuch über die wahre Art das Clavier zu spielen* (1753/62). Heinrich Christoph Koch, however, describes many styles of setting chorales in the section titled “On Counterpoint” in his *Versuch einer Anleitung zur Composition* (1782, 230–374).

¹⁰ Sarah McCormick (2015) surveys the majority of known multiple-bass sources from Bach's students.

As already mentioned, we can generalize two styles of chorale harmonization.¹¹ The *Choraltbuch* style (homophonic, keyboard-oriented) corresponds to that of the “Sibley Choraltbuch,” as shown in modern transcription in Example 3. In general, the *Choraltbuch* style is more triadic, consonant, disjunct, diatonic, vertically oriented, has a half-note pulse, is often improvised at the keyboard, and is used for organ congregational accompaniment where only the chorale is sung. In contrast, Example 4 presents Bach’s *Choralgesang* setting (ornamented, vocal-oriented) of the same chorale from Cantata 165. The *Choralgesänge* use more dissonant figures, suspensions, and faster values, are more conjunct, chromatic, horizontally oriented, have a quarter-note pulse, and are written out for concerted music where all four voices are sung.

Choraltbuch Style
(homophonic)

1 Nun laßt uns Gott dem Herren dank sagen und ihm ehr - en. Von weg - en sein - er Gab - en, Die wir emp - fang - en hab - en.

2 3 4 5 6 7 8 9 10

11 Von weg - en sein - er Gab - en, Die wir emp - fang - en hab - en.

12 13 14 15 16 17 18 19 20

“Now let us give thanks to the Lord and honor him on account of his gifts which we have received.”

Example 3
Nun laßt uns Gott dem Herren for Keyboard from the *Sibley Choraltbuch*
(anon. ms., likely Dresden, ca. 1740).

Choralgesang Style
(ornamented)

Original Key: G major. Text replaced for comparison with Ex. 3

S. [Nun laßt uns Gott dem Herren dank sagen und ihm ehr - en. Von weg - en sein - er Gab - en, Die wir emp - fang - en hab - en.]

A. [Nun laßt uns Gott dem Herren dank sagen und ihm ehr - en. Von weg - en sein - er Gab - en, Die wir emp - fang - en hab - en.]

T. [Nun laßt uns Gott dem Herren dank sagen und ihm ehr - en. Von weg - en sein - er Gab - en, Die wir emp - fang - en hab - en.]

B. [Nun laßt uns Gott dem Herren dank sagen und ihm ehr - en. Von weg - en sein - er Gab - en, Die wir emp - fang - en hab - en.]

[Continuo doubles bass, but includes no figures]

Example 4
J. S. Bach’s Vocal Setting of *Nun laßt uns Gott dem Herren*
from Cantata BWV 165, *O heiliges Geist und Wasserbad*.

¹¹ Ulrich Kaiser (2002) makes a similar pedagogical division between *Kantionalsatz* (homophonic, as exemplified by Heinrich Schütz) and *Choralsatz* (ornamented, as exemplified by J. S. Bach’s vocal chorales).

In sum, Bach's two-stage method begins with an outer-voice figured-bass structure while students supply the inner voices. Later, students write multiple basslines and harmonizations to a given chorale melody. The goal of each stage was likely to provide a pedagogical bridge between *Choralbuch* to the *Choralgesang* styles through increasingly embellished realizations.

Part II: Adapting Bach's Method for Today's Classroom

To adapt Bach's method for the today's classroom, I present hymn tunes in five ways.¹² They form a sequence of increasingly difficult part-writing activities in order to build creative independence on a small scale. I begin with a complete harmonization, which acts as a model. Each subsequent type removes a "support," first omitting the inner voices, then the harmonic analysis, and finally, the bassline. Thus, the five ways imitate Bach's Stages 1 and 2. This sequence requires the student to take on first more analytical and then more creative decision-making responsibility. Creative freedom culminates in the still relatively restricted environment of the model composition project (Part IV). Later composition projects in year two are of course necessary. The fifth and final way of presenting hymn tunes is the solution with full realization and analysis.

Example 5 outlines the five ways of presenting hymn tunes in the classroom, which I designate "Types." The types progress through the preparatory model (Type 1), the easiest activity (Type 2), the intermediate activity (Type 3), the target activity (Type 4),¹³ and finally the solution (Type 5). Students receive a variety of different hymn tunes at each stage—I use the same tune in the following examples only for demonstration purposes. Teachers might introduce a hymn tune in Type 1 during class and assign it as homework to analyze, play, and sing. Later, when students are ready, they can begin Type 2 and so on. At each stage, the "answer" (Type 5) can provide quick correction and a point of departure for discussion, though there are sometimes multiple correct solutions.

¹² My website provides a freely accessible database of hymn tunes for use in my proposed curriculum (<http://derekremes.com/teaching/partwritingresources/>). All tunes are organized into five types and employ the same set of harmonic paradigms and cadences throughout with slurs indicating phrase divisions (in order to simplify harmonic analysis).

¹³ One reason that Type 4 is an appropriate target activity is that the addition of a bassline to a given melody is the main component of the "Free Response Question 7" on the Advanced Placement (AP) Music Theory Exam.

TYPE	DIFFICULTY	STUDENT IS GIVEN	STUDENT PROVIDES
1	Preparatory	Four voices only	Figures and Roman Numerals
2	Easier	Outer voices with Figures and Roman Numerals	Inner voices
3	Intermediate	Outer voices with Figures	Roman Numerals and Inner Voices
4	Target Activity	Soprano only	Alto, Tenor, Bass, Figures, and Roman Numerals
5	n/a (solution)	Four voices, RN's, figures, formal labels	Nothing (for modeling, correction, and singing)

Example 5

Five Ways of Using Hymn Tunes in Today's Undergraduate Theory Classroom.

Examples 6 through 10, all of which use the same hymn tune (again, merely for demonstration purposes), correspond to the five types in Example 5. Example 6 demonstrates the preparatory Type 1, where students are given a four-voice realization as a model and supply only the figures and Roman numerals. Here the student becomes familiar with hymns through singing, playing, and harmonic analysis (figured bass plus Roman numerals). A formal analysis is optional in Type 1. Example 7 illustrates the preparatory Type 2, in which students compose only the alto and tenor voices to a given outer-voice framework that includes an harmonic analysis. Phrases, which are always marked with slurs, begin with given complete, four-voice chords. By starting in the same position, students' solutions are more likely to correspond with the given answer, streamlining both realization and grading.¹⁴

Example 8 shows Type 3, the intermediate activity, which resembles the given outer voices and figures in Bach's Stage 1. Type 3 differs from Type 2 only in that the Roman numerals are not given. Here students supply the inner voices, Roman numerals, and formal analysis themselves. Example 9 displays Type 4, the target activity, and is similar to Bach's Stage 2, in which he only provides the chorale melody. (I describe the process of adding a bassline to a given chorale melody in Part IV below.)

Example 10 gives the full solution, or Type 5.¹⁵ Admittedly, the solutions are

¹⁴ Some may object that giving the starting chord of each phrase makes it too easy. If this is the case, then simply assign more exercises or bump students up to Type 3 or 4. My philosophy is to make tasks easier in the beginning stages so that students perceive their progress more readily.

¹⁵ The solutions for Type 5 include function symbols because I believe they are helpful to students when combined with the identification of the bass scale degree, shown as a superscript. The dual function of a harmony in a common-chord modulation is shown with two adjacent symbols. I would not require that students add function symbols in Types 1–4; I include them in the answers simply for reference.

somewhat cluttered, but this is a byproduct of their analytical comprehensiveness. Eventually students can describe every aspect of each hymn—a miniature composition—using figured bass and Roman numerals,¹⁶ as well as labels for cadences, harmonic paradigms (see Example 13), sequences, modulation, and form. Most importantly, students gain an intuitive sense of these concepts through the physicality of singing and playing keyboard. Both are invaluable because they provide students with immediate aural feedback, helping to match an harmonic phenomena with an analytical label. I also advocate for “self-accompaniment” at the keyboard in private.¹⁷

Tune: MORGANSGATE

HOMOPHONIC

Example 6

Type 1—Student supplies figures and Roman numerals (optional: form analysis).

Tune: MORGANSGATE

Example 7

Type 2—Student is given outer voices, figures, and RNs; student supplies the inner voices (optional: form analysis).

¹⁶ I use an arrow to point to a secondary dominant's resolution. This is problematic, however, in the case of a deceptive resolution. In the latter case I would use “slash” notation (e.g., V/vi).

¹⁷ My harmonizations are in chorale style, where the tenor is written in the bass staff and is generally lower than in keyboard style, where it is written in the upper staff. Chorale style is difficult for non-

Tune: MORGANSGATE

Example 8

Type 3—Student is given outer voices and figures;
student supplies RNs and inner voices (optional: form analysis).

Tune: MORGANSGATE

Example 9

Type 4—Student is given the melody only and supplies the
lower three voices, figures, and RNs (optional: form analysis).

Tune: MORGANSGATE

Example 10

Type 5—Full solution (for modeling, correction, singing, and playing).

keyboardists to read and to play, which is a hindrance to self-accompaniment. Should chorale style prove too difficult, students can sing one voice while playing two others.

Part III: Summary of Supporting Topics

The outer rim of Example 1 includes what I call “supporting topics.” These analytical topics form the students’ introduction to the technical parameters which enable creativity in the context of model composition: vocal ranges, 6/4 chords, harmonic paradigms, the “Big 25,” cadence types, non-chord tones and ornaments, and formal analysis. Before I explain these further, I wish to emphasize that my definitions outlined below do not claim applicability for all styles of music. Rather, they hold true most of the time in the artificial pedagogical context of my original hymn harmonizations. However, as I will show at the end of Part IV, the end goal of analysis is eventually to break out of this artificial system so that students can grapple with the ways in which composers depart from expected norms, thereby producing expressive effects.

1) **Vocal Ranges:** Though the outer voices are given in Type 3 (in effect reducing the chances students will exceed vocal ranges), I still consider it important for students to know the range of each voice part. Example 11 proposes a simplified model of SATB ranges that makes them easier to memorize: each range is an octave plus a sixth, and the soprano/tenor and alto/bass pairs relate by octave. (For this simplicity I am willing to sacrifice an alto range that goes too low and tenor that goes too high.)



Example 11
Simplified Vocal Ranges for Part Writing.

2) **6/4 Chords:** Example 12 illustrates types of 6/4 chords. I focus on the same three types that Nadia Boulanger taught her students: neighboring (i.e., pedal), passing, and cadential.¹⁸ All of my hymn harmonizations use only these three types. I recommend that students practice writing, singing, and playing these three 6/4-usages in isolation in a few different keys as a preparatory activity to Type 1 exercises, in which students can later practice identifying these 6/4 chords in Type 1 exercises. Note that the upper three voices of Example 23 are invertible at the octave.

¹⁸ Nadia Boulanger's teaching is preserved to some extent by her long-time student, Narcís Bonet. See Bonet (2006, 110–112). For a thoughtful recent reassessment of 6/4 chords, see Temperley (2017).

Upper three voices (S, A, T) are invertible.

C Major: I I V I

Example 12

Three Types of 6/4 Chords (Bonet 2006, 110–112).

In order to help students understand the harmonic syntax outlined in this curriculum, the teacher should emphasize that 6/4 harmonies rarely receive their own Roman numeral (or functional symbol) because they are dissonant contrapuntal elaborations.¹⁹ This is also true of the cadential 6/4; even though the Roman numeral “V” is placed under the 6/4 figure, it actually applies to the 5/3 harmony. The interval of a fourth in the cadential 6/4 is always some kind of non-chord tone: either a suspension, passing tone, or appoggiatura (i.e., incomplete neighbor).

3) **Harmonic Paradigms:** The passing 6/4 also serves as one of the three voice-leading “paradigms” in Example 13, the other two being “Parallel 10ths”²⁰ and “10ths the Long Way.” Like schemata, paradigms identify common voice-leading patterns.²¹ Together, the five patterns in Examples 12 and 13 help simplify the harmonization process because they occur over and over in my collection of hymn tune harmonizations. If students can recognize the outer-voice scale degrees, keeping in mind the possibility that the upper voices are inverted (but usually not in my harmonizations), it becomes easier to fill in the inner voices through the process of “chunking.”

¹⁹ Advanced students may be curious to know why this is so. Without going into the controversial status of the fourth throughout music history, I have found it helpful to explain that fourths that include the bass are considered “primary” and therefore dissonant, whereas fourths between upper-voice are considered “secondary” and therefore are tolerated.

²⁰ While the “Parallel 10ths” paradigm includes a dissonant 6/4, I make an exception to my above-stated rule and do include a Roman numeral and function symbol for this chord. Note also the non-standard figured-bass symbol for the cadential 6/4 resolving to a 4/2 chord in Example 15. I have found that students struggled to compose upper voices to this progression because of the change of bass. For this reason, I prefer the notation: 6/4-6/4/2. The two horizontal lines (6-6 and 4-4) indicate the motion of individual voices above the bass and clarify the unusual circumstance that the dissonant fourth resolves to another (augmented) fourth.

²¹ “Paradigm” is roughly equivalent to “schema” in its focus on outer-voice scale degrees, but lacks the latter’s cognitive connotations.

Upper three voices (S, A, T) are invertible.

Voice Exchange/Passing Parallel 10ths 10ths the Long Way

C Major: I I V I I IV I

Example 13
Three Primary Voice-Leading “Paradigms.”

4) The **“Big 25”**: Example 14 presents the “Big 25.”²² This table aims to simplify the harmonization process by limiting the available chords. As in Heinichen’s 1728 treatise, *Generalbass in der Composition* (which Bach knew), the scale degree of the bass voice provides the primary organizing factor in this table (given across its top row).²³ Yet unlike Heinichen, Example 14 also categorizes each harmony into rows according to harmonic function. Students may use this table as a reference

		BASS SCALE DEGREE						
		$\hat{7}$	$\hat{1}$	$\hat{2}$	$\hat{3}$	$\hat{4}$	$\hat{5}$	$\hat{6}$
FUNCTION	TONIC (T) (I, iii, vi)	—	I, I $\frac{3}{4}$ - $\frac{6}{5}$	—	I $\frac{6}{5}$, iii	—	—	vi
	SUBDOMINANT (S) (ii, IV, vi)	—	ii $\frac{4}{2}$	ii, ii $\frac{7}{4}$	—	ii $\frac{6}{5}$, IV, ii $\frac{6}{5}$	—	vi, IV $\frac{6}{5}$, ii $\frac{4}{3}$
	DOMINANT (D) (V, vii $\circ$)	V $\frac{6}{5}$, V $\frac{6}{5}$	—	V $\frac{6}{5}$, vii $\circ$ $\frac{6}{5}$, V $\frac{4}{3}$	—	V $\frac{4}{2}$	V, V $\frac{7}{4}$, V $\frac{6}{5}$ - $\frac{5}{4}$ V $\frac{4}{2}$ $\frac{4}{2}$, V $\frac{8}{7}$ - $\frac{7}{4}$ $\frac{2}{4}$	—

*In the minor mode, only chord qualities change.

Example 14
The “Big 25” (Primary chords in common practice style—model composition is limited to these in Step 3, Ex. 21).

22 I borrowed the idea of restricting students’ harmonic vocabulary from Seth Monahan’s “Big 18” as taught at the Eastman School of Music. I thank the anonymous reviewer who pointed out the similarities between Example 14 and Figure 1.1 in Gauldin (1988, 11), the now-dated zig-zag model of Roman numerals. While both Example 14 and Figure 1.1 use Roman numerals and label function, the organization of Example 14 by bass scale degree fundamentally changes how students interact with the table. Example 14 is therefore less abstract than Figure 1.1 and more closely connected with figured-bass theory, specifically the rule of the octave.

23 Bach sold Heinichen’s treatise out of his home. Johann David Kellner’s treatise, *Treulicher Unterricht* (2nd ed., 1737), borrows much from Heinichen and includes a table similar to Example 14 (96–97). The first English translation of Kellner’s treatise is forthcoming (Remeš and Leaver, eds. 2018).

when composing their own basslines in Type 4 and during the composition project, discussed below in Part IV. The top left corner of the table identifies three functionally normative progressions: 1) T-S-D-T; 2) T-D-T; or 3) T-S-T (but not ii-I).²⁴

5) **Cadence Types:** Students often ask “What is the difference between tonicization and modulation?” The table in Example 15 provides a brief (albeit overly simplified) answer to this question that I have found pedagogically appropriate. It shows eight common cadence types on a continuum of varying degrees of finality. The faded color in the left-most column shows that the difference between tonicization and modulation is one of degree and not kind. Four cadences—perfect authentic, imperfect authentic, plagal, and stepwise-base—result in a modulation when they occur in a non-tonic key. In addition, a tonicized half cadences are stronger (or more conclusive) than applied chords, which typically occur mid-phrase and therefore do not form cadences. (I define cadences here as phrase-ending events.) I exclude the deceptive cadence/deceptive motion from the continuum, as its effect is ambiguous regarding tonicization. I would encourage students to use this table (as with Example 14) as a

	CADENCE TYPE	PHRASE ENDS WITH...	FINALITY
Modulation (when in a new key)	Perfect Authentic (PAC)	$V^{(7)} - I$ with $\hat{1}$ in soprano	More conclusive (generally) ↑
	Imperfect Authentic (IAC)	$V^{(7)} - I$ with $\hat{3}$ or $\hat{5}$ in soprano	
	Plagal Cadence (PC)	$IV^{(6)} - I$	
	Stepwise-Bass Cadence (SBC)	$V^{(7)} - I$ with either chord in inversion	
Tonicization	Tonicized Half Cadence (Ton. HC)	$V^{(7)} \rightarrow V$ (applied chord may be inverted)	↓ Less conclusive (generally)
	Phrygian Half Cadence (PHC)	$iv^6 - V$	
	Half Cadence (HC)	$V^{(7)}$ (preceding chord not specified)	
	Applied Chords *	$V^{(7)} ?$	
	Deceptive (DC) / Dec. Motion (DM)	$V^{(7)} - \text{“not I”}$ (usually vi)	

*Not actually cadences because they occur within phrases.

Example 15
Categorization and Description of Cadence Types.

²⁴ In practice, these three models are over-simplifications that admit many exceptions. Moreover, they are secondary to the contrapuntal motion of the bass voice when it comes to determining inner voices. Lastly, the theory of harmonic function arose in the late nineteenth century with the work of Hugo Riemann and thus is ahistorical in a study based on Bach’s teaching. Despite all this, I nevertheless think the idea of functionally normative progressions is useful, so long as students do not become bound to it.

reference when identifying cadence types in Types 1–3, writing their own basslines in Type 4, and analyzing pieces. For instance, in Type 4, students might first determine the cadential notes and then fill in the remainder of the bassline.

6) **Non-Chord Tones and Ornaments:** Example 16 outlines four types of non-chord tones: neighbor (N), passing (P), suspensions (SUS), and pedal points (PED). Chordal leaps (CL), which are by definition chord tones, are included as additional embellishments. Varying factors are shown on the right, providing some notion of the sheer variety of non-chord tone types. These concepts will be applied in the composition project.

NON-CHORD TONES / EMBELLISHMENTS	VARYING FACTORS			
Neighbor (N)	Accented/ Unaccented	Diatonic/ Chromatic	Complete/ Incomplete	Upper/ Lower
Passing (P)	Accented/ Unaccented	Diatonic/ Chromatic	n/a	
Suspension (SUS)	Consonant/ Dissonant	Prepared/ Unprepared	Upward/ Downward Resolving	n/a
Pedal Point (PED)	(usually) tonic or dominant		soprano, inner, or (most often) bass voice	
Chordal Leap (CL)	(By definition these are chord tones, but are included as embellishments.)			

Example 16

Types of Non-Chord Tones & Ornaments.

7) **Formal Analysis:** Example 17 sketches a three-tiered formal hierarchy using the phrase as the primary formal unit.²⁵ In this curriculum, I define a phrase as a 2- to 4-bar grouping ending with a cadence. To simplify analysis, I always identify phrases using slurs in my harmonizations. Therefore, the primary analytical activity regarding form in my method is not the determination of phrase boundaries, but rather in determining how phrases combine into larger formal units like periods, sentences, or phrase groups. Periods are defined as consisting of two phrases (either 4 + 4 or 2 + 2 bars) in the pattern $a + a'$ or $a + b$. Sentences have three phrases (either 2 + 2 + 4 or 1 + 1 + 2 bars), usually displaying the pattern $a + a' + a''$ or $a + a' + b$. A “phrase group” usually has three phrases and acts as a catch-all term for sections that are not periods

²⁵ I recognize that my definitions of “sentence,” “period,” and “phrase group” will not satisfy everyone. In my opinion, clarity and consistency are overriding concerns in a pedagogical context.

or sentences.²⁶ In each category, the last phrase is usually the strongest, according to the hierarchy given in Example 15. Phrases may be also broken down into (usually melodic) sub-units that may not end with a cadence. Each level of the hierarchy has its own labeling scheme, which the reader will recognize from Example 10.²⁷

NAME	SIZE	LABEL	DESCRIPTION
Period, Sentence, or Phrase Group	Larger ↑ ↓ Smaller	A , A' , A'' , B , C	Period: 2 phrases; usually 4 + 4 or 2+ 2; a + a' (ant. + cons.) or a + b Sentence: 3 phrases; either 2 + 2 + 4 or 1 + 1 + 2 Phrase group: 3 phrases (i.e., neither of above) Periods, sentences, and phrase groups: last cadence is usually the strongest Variants: Double Period (4 phrases) and Nested Sentences
→ Phrase		<i>a, a', a'', b, c</i>	2- to 4-bar grouping ending with a cadence (I identify phrases with slurs.)
Sub-phrase		<i>x, x', x'', y, z</i>	(Melodic) sub-units within phrase that may or may not end with cadence (often 1 or 2 bars)

Example 17
Three-Tiered Form Hierarchy for Hymn Tune Analysis.

Part IV: Synthesis through Composition and Analysis

The model composition project is the capstone of my two-semester curriculum. It aims to integrate all the preceding concepts outlined in Example 1 in a creative, yet still appropriately restricted, context. The composition project has seven steps which progress from a single-line melody to the harmonization of that melody and, finally, to the ornamentation of this four-voice texture in a variety of ways. Although I created this method, it mirrors Bach's pedagogical strategy by progressing from homophony to ornamentation. One important difference, however, is that I tried to make this approach more applicable to the average student today by tailoring it specifically to single-line instrumentalists.

Example 18 presents a hypothetical prompt as a 16-bar rounded binary form, similar to eighteenth-century minuet-trio instrumental movements (except that the texture is chorale-like). Students fill in the missing bars with a single-line melody (Step 1). Beginning with a single line provides the opportunity to address basic melodic issues of contour and gap-fill (the principle by which a leap is followed by a step in the opposite direction). By defining the last pitch of each phrase, melodies are guaranteed to conform to the prescribed cadences. Moreover, the first, second, and

²⁶ Many of these ideas are borrowed and adapted from Laitz (2016).

²⁷ I identify mm. 1–8 and 9–15 as sentences in my formal analysis of Example 10. At a higher formal unit the entire hymn tune could be interpreted as a parallel period consisting of two 8-bar sentences.

fourth phrases all begin with scale degrees “three-four-five,” ensuring a sufficient degree of similarity to warrant the formal labels a , a' , a'' . Example 19 is my realization of the given prompt. Students may write multiple melodies, choosing the most singable and interesting one for the next step.

Figure 10 shows two musical examples, A and B, illustrating the use of the 'a' and 'a'' rhythmic values. Example A shows a phrase starting with a quarter note, followed by a half note, and then a quarter note, with a '5' indicating a fifth interval. Example B shows a phrase starting with a quarter note, followed by a half note, and then a quarter note, with a '13' indicating a thirteenth interval. Both examples end with a 'PAC in V' (Phrase Accented in V) marking.

Example 18

Hypothetical Model Composition Prompt (Miniature Rounded Binary Form).

A *a* HC 5 *a'* PAC in V

B *b* HC 13 *a''* PAC in I

must tonicize ii, IV, or vi in this phrase

Example 19
Hypothetical Realization of Ex. 18 (Step 1).

Step 2 is to add a bassline, as shown in Example 20. First, students should complete the cadences, since these are predetermined. Second, students should look for soprano scale degree patterns that match the five paradigms in Examples 12 and 13. For instance, the succession $\hat{3}\text{--}\hat{4}\text{--}\hat{5}$ allows for both “Parallel 10ths” and “10ths the Long Way.” Lastly, students should use consonant intervals (3, 5, 6, and 8) to fill in the remainder of the bassline.²⁸ Note the string of four parallel 6-chords in mm. 7–8, which is usually not allowed in species counterpoint: like Bach’s, my approach does not subscribe to species counterpoint methodology.

Students should be aware that consonant/dissonant status is independent of diatonicism/chromaticism. That is, consonance can be chromatic and dissonance diatonic. If students choose to use dissonance, it must be one of the figures in the “Big 25” and exhibit correct resolution of tendency tones (Ex. 20, m. 3). Interval identification helps identify parallel and direct fifths and octaves. It also aids students

28 Another useful idea may be the “PIP principle”—begin with a perfect consonance, use imperfect consonances in the middle, and end with a perfect consonance. The “PIP principle” was coined by Markus Jans, who extended an idea by Klaus-Jürgen Sachs [Sachs (1974, 121)]. In practice, its applicability to hymn tune harmonization may be limited because it was originally developed to describe Renaissance duets.

1, 3, 5, 6, 8 are consonant; 2, 4, 7, 9, aug./dim. are dissonant

Example 20
 Baseline and Intervals Added to Ex. 19 (Step 2).

in understanding that figured bass indicates intervals and not chord-tones (a common source of confusion in my experience). In an imitation of Bach's multiple-bass method, where multiple basslines are written to a given chorale melody (Stage 2), students could write at least three basslines and choose their favorite one for the next step. Students might even patch together the best passages from their various basslines to make a superb one.

Example 21 adds inner voices, figures, and Roman numerals (Step 3).²⁹ This is equivalent to Type 3, except here, students harmonize and analyze their own bassline without figures provided. This is where the “Big 25” is especially useful in narrowing down the possible chords available for a given bass scale degree. The fact that the soprano line is also given restricts chord choice even further, simplifying the task.

Example 21
 Middle Voices, Figures, and RNs Added to Ex. 20 (Step 3).

²⁹ Example 21 omits an analysis of functions to conserve space. As mentioned earlier, I include function symbols in Type 5 solutions, but would not normally require students to produce them.

Now we begin to add ornamentation, as shown in Example 22 (Step 4). Students follow a simple procedure, as shown in the box above the staff:

- 1) Fill in any interval of a third with a passing note;
- 2) Tie over any note that descends by step, creating a suspension;
- 3) Tie any repeated note.

In my opinion, this method of writing suspensions is significantly easier than that in species counterpoint. Given a consonant structure, almost any voice can be suspended by delaying descending stepwise motion, allowing the teacher to skip complex discussions about the three events in a suspension (preparation, suspension, resolution) and their consonant/dissonant status. Still, the three steps outlined above may result in parallel fifths or octaves (for instance, when direct motion is filled in by step), requiring some additional proofreading. The kind of simple ornamentation illustrated in Example 22 proves ideal for both singing as a choir or performance by a brass ensemble. Students might also add text to their hymns if they wish.

Example 22
Simple Ornamentation (Step 4).

The next step increases creative independence by introducing more complex instrumental textures. Example 23 adds yet more ornamentation to Example 22, creating an instrumental trio. This step is more difficult because it is less restricted, but therefore also offers more creative possibilities. As shown in the box above the score, there are four ways a *suspirans* figure can ornament a given pitch. I applied these patterns to the soprano line of Example 22 while ornamenting the other voices in a similar style. The middle voice in Example 23 combines the alto and tenor voices in Example 22. This type of texture is ideal for a string or woodwind trio, providing an opportunity to engage single-line instrumentalists, hopefully increasing their “buy-in” as to the value of hymn tune harmonization.

Example 23

Complex Ornamentation—Figured Instrumental Trio from Ex. 22 (Step 5).

Alternate Ornamentation Possibilities

The next three examples (Exx. 24–26) outline an alternate, simpler method of ornamenting Example 21 specifically for a single-line instrument. First, students transpose their harmonizations into a suitable range and key for their primary instruments (Step 6)—Example 24 is for cello.³⁰ (Note that the slurs here are rewritten to occur every two bars instead of every four; an alternate formal analysis is given.)

Example 24

Transposition of Ex. 21 to Suit Student's Primary Instrument (Step 6).

Example 25 gives five hypothetical patterns for the single-line embellishment of a chord, shown in the lower and upper staves, respectively. The patterns use neighbor tones, passing tones, and chordal leaps, which are described in Example 16. Students may first find it helpful to determine the overall contour of the figure they wish to use, as shown by arrows beneath the staff in Example 25.

With Example 26 (Step 7) we finally reach both the culmination of the composition project and the fruition of my two-semester curriculum. Each chord from Example 24 now takes up the space of one measure, which is repeated in the style of a Baroque prelude.³¹ The specifically Bachian contribution that my method makes available is that,

³⁰ String players will prefer sharp keys, while brass and woodwind players will prefer flat keys. Single notes or entire passages may be transposed if range is an issue.

³¹ Some chords are omitted to make the phrase flow more naturally. It is not necessary to use the

Example 25

Patterns for Single-Line Ornamentation using N, P, and CL's (see Ex. 16)
applied to the first chord of Ex. 24.

while other current theory textbooks make similar paradigms and harmonic concepts available to students, they do not streamline them as a vehicle toward model composition where virtually any configuration of instruments and textures is available. Another advantage of my method is that the entire seven-step composition project is prescriptive enough for those without prior experience composing, yet also flexible enough to allow for an enormous range of possible ornamental figures; thus creativity is fostered within guidelines. One important transferrable skill especially targeted in the project is to show the immense variety possible from a limited stock of underlying patterns. Another skill is an understanding of how a single melodic line (Example 26) can project multiple voices that obey voice-leading norms (Example 24). This connection is crucial because the majority of music students (at least the performance majors) play single-line instruments.³² Ideally, students would perform their compositions in a public concert at the end of the year. This kind of public accountability is a strong motivator for producing excellent work and mastering concepts. Although the composition project ends with a Baroque prelude, my intent is that students would continue to compose in less restricted contexts in the second year of theory.

Example 26

Final Result: Hypothetical Application of an Ornamentation Pattern to Ex. 24 (Step 7).

entire excerpt of Example 24, since the resulting piece would be quite long. The first two and last two phrases could suffice.

³² Vocalists can also perform original ornamented compositions that resemble Example 26, albeit with simpler figures that will allow for more time to breathe (compare Example 25). The same principle applies to wind and brass players.

Analytical Application

Up to this point I have largely ignored the analytical applications of my method. It is important to emphasize, however, that my curriculum applies the analytical tools developed with hymn tunes to diverse tonal styles throughout the two-semester sequence. This could include Baroque suites and chamber music, Classical symphonies and sonatas, and Romantic character pieces and Lieder, as well as the Great American Songbook, jazz, Broadway, rock, blues, electronic music, folk, Top-40 charts, film music, or minimalism. Though no one example will please every reader, I offer Example 27, the “Song of the Evening Star” from Wagner’s *Tannhäuser*, to show one possible analytical application. Advanced students could create their own reductions, but I would supply one (or portions thereof) to the average student. Then, I would ask students to supply the harmonic, cadential, non-chord tone, and formal analyses. In this aria, theoretical concepts easily support questions for discussion, such as:

- Could the five deceptive cadences symbolize Wolfram’s unrequited love for Elizabeth?
- Are the parallel fifths in m. 28 ‘wrong’? (and can music be ‘wrong’?)
- Is the downbeat of m. 3 a modally distorted cadential 6/4 chord or flat-III in first inversion (or both)?
- Is the 6/4 chord on the downbeat of m. 30 cadential, passing, or does it change?
- Does Wagner use an A# and Bb on the last eighth of m. 30 to suggest the enharmonic reinterpretation of the diminished seventh?

Such topics make this aria ideal for about the third semester of a two-year sequence.

A (Double Period) *a* (III) DC (with mixture) *b* IAC *a'* (III) DC (with mixture)

Four-voice Hymn-like Reduction

Wolfram (Baritone)

Reduction

strings piz./harp

13 *b'* DC (no mixture) **B** (Period) *c* DC (no mixture) *d* PHC

21

23 DC (no mixture) **C** (Sentence) PHC 27 IAC 29 Promise of E Major...dashed! 5-bar (extended) consequent (Only!) PAC

un poco ritard. cross relation *ppp* poco cresc: più ritard. cross relation Lento a tempo

aristrem. *ppp* *pizz.*

Example 27

Wagner, *Tannhäuser* "Song of the Evening Star" (Act III, Scene 2, 25 bars after reh. A).

Summary and Conclusion

My goal has been to defend part writing by clarifying its goals and revitalizing its methods. The goal of part writing is not to perpetuate itself; rather, like all good pedagogy, its aim should be to teach transferrable skills. Among these skills is an understanding of how embellished textures, and especially single ornamented lines, can project multiple implied voices (i.e., compound melodies). This knowledge opens the door to simple reductive analysis (like Example 27), which asks whether pitches that are near in register yet separate in time are related, and if so, what this might mean in performance. Other more basic transferrable skills honed in my method include chord spelling, tuning one's voice within a chord, hearing multiple voices simultaneously, perceiving modulation, acquiring basic singing and keyboard skills, recognizing melodic similarity between phrases, assessing degrees of cadential closure, and harnessing the expressive potential of non-chord tones (especially suspensions) in composition. My method, which recasts Bach's "outer-voices plus figured bass" approach in a new light, integrates these skills and other music-theoretical topics within the simplified context of hymn tunes. This simpler pedagogical environment lays a solid foundation so that student can apply concepts creatively in more diverse analytical and compositional settings. Thus, rather than throwing out part writing, we can use this time-honored tradition to promote integration, creativity, and diversity in an historically informed way. With this article I hope to have rebuked the CMS manifesto's claim as to the "narrow horizons" of part writing—when taught properly, part writing can in fact help us define the horizon by giving us a concrete stylistic and conceptual vantage point.

Works Cited

- Bach, Carl Philipp Emanuel. [1753/62] 1949. *Versuch über die wahre Art das Clavier zu spielen*. Berlin: the Author. Trans. and ed. William J. Mitchell as *Essay on the True Art of Playing Keyboard Instruments*. New York: Norton.
- Bach, Johann Sebastian. [1725] 1994. *Einige Regeln vom General Bass*. In *Klavierbüchlein für Anna Magdalena Bach*, 124–26. Unpublished ms. D-B Mus. ms. Bach P22. Trans. and ed. Pamela L. Poulin in *J. S. Bach's Precepts and Principles For Playing the Thorough-Bass or Accompanying in Four Parts, Leipzig, 1738*. Oxford: Clarendon Press, 105–107.
- . 1784–1787. *Johann Sebastian Bachs Vierstimmige Choral-Gesänge*. 2 vols. Ed. C. P. E. Bach. Leipzig: Breitkopf.
- . 1893. *Lieder und Arien aus Schemelli's Gesangbuch und aus dem Notenbuch der Anna Magdalena Bach*. Ed. Franz Wüllner. Bach-Gesellschaft Ausgabe, Band 39. Leipzig: Breitkopf und Härtel.
- . 1941. *371 Harmonized Chorales and 69 Chorale Melodies with figured bass by Johann Sebastian Bach*. Ed. Albert Riemenschneider. New York: Schirmer.
- Bonet, Narcís. 2006. *Les principes fondamentaux de l'harmonie: En annexe "Cours d'harmonie" Texte inédit de Nadia Boulanger*. Barcelona: Dinsic Publications Musicals, S.L.
- Buelow, George J. [1966] 1986. *Thoroughbass Accompaniment According to Johann David Heinichen*. Nebraska: University of Nebraska Press; rev. ed.
- Byros, Vasili. 2015. "Prelude on a Partimento: Invention in the Compositional Pedagogy of the German States in the Time of J. S. Bach." *Music Theory Online* 21 (3).
- Callahan, Michael. 2010. "Improvising Motives: Applications of Michael Wiedeburg's Pedagogy of Modular Diminution." *Intégral* 24: 29–56.
- . 2012. "Teaching Baroque Counterpoint Through Improvisation: An Introductory Curriculum in Stylistic Fluency." *Journal of Music Theory Pedagogy* 26: 61–99.
- . 2015. "Teaching and Learning Undergraduate Music Theory at the Keyboard: Challenges, Solutions, and Impacts." *Music Theory Online* 21 (3).
- Covach, John. 2015 (Feb. 2). "Rock Me Maestro." *The Chronicle of Higher Education*. <http://www.chronicle.com/article/Rock-Me-Maestro/151423>.
- Dirst, Matthew. 2012. "Inventing the Bach Chorale." In *Engaging Bach: The Keyboard Legacy from Marpurg to Mendelssohn*. Cambridge: Cambridge University Press, 34–54.
- Freeman, Robert. 2014 (Aug. 29). "Needed: a Revolution in Musical Training." *The Chronicle of Higher Education*. <http://www.chronicle.com/blogs/conversation/2014/08/29/needed-a-revolution-in-musical-training/>.
- Gauldin, Robert. 1988. *A Practical Approach to 18th Century Counterpoint*. Upper Saddle River: Prentice-Hall.
- Gross, Austin. 2013. "The Improvisation of Figuration Preludes and the Enduring Value of Bach Family Pedagogy." *Journal of Music Theory Pedagogy* 27: 19–45.
- Heinichen, Johann David. 1728. *Der General-Bass in der Composition*. 2 vols. Dresden: the Author.
- Kaiser, Ulrich. 2002. *Der vierstimmige Satz: Kantionalsatz und Choralsatz*. Kassel: Bärenreiter.

- Kellner, David. 1732/37. *Treulicher Unterricht im General-Bass*. 2nd ed. with preface by Telemann. Hamburg, Herold.
- Kirnberger, Johann Philipp. [1771/1776–] 1982. *Die Kunst des reinen Sazes in der Musik, aus sicheren Grundsätzen hergeleitet und mit deutlichen Beyspielen erläutert*. 2 vols. Berlin und Königsberg: Decker und Hartung. Trans. David Beach and Jürgen Thym as *The Art of Strict Musical Composition*. New Haven: Yale University Press.
- . [1773] 1979. *Die wahren Grundsätze zum Gebrauch der Harmonie, darinn deutlich gezeigt wird, wie alle möglichen Accorde aus dem Dreyklang und dem wesentlichen Septimenaccord, und deren dissonierenden Vorhåften, herzuleiten und zu erklären sin, als ein Zusatz zu der Kunst des reinen Satzes in der Musik*. Berlin and Königsberg: Decker and Hartung. Trans. David Beach and Jürgen Thym as “The True Principles for the Practice of Harmony” *Journal of Music Theory* 23 (2): 163–225.
- . ca. 1781. *Grundsätze des Generalbasses als erste Linien zur Composition*. 2 vols. Berlin: Hummel.
- Kulma, David and Meghan Naxer. 2014. “Beyond Part Writing: Modernizing the Curriculum.” In *Engaging Students: Essays in Music Pedagogy* 2. <http://flipcamp.org/engagingstudents2/essays/kulmaNaxer.html>.
- Laitz, Steven. 2016. *The Complete Musician: An Integrated Approach to Theory, Analysis, and Listening*. Fourth ed. New York and Oxford: Oxford University Press.
- Leaver, Robin A. 2001. “Suggestions for Future Research into Bach and the Chorale: Aspects of Repertoire, Pedagogy, Theory, and Practice.” *BACH: Journal of the Riemenschneider Bach Institute* 42 (2): 40–63.
- . 2016. “Bach’s Choral-Buch? The Significance of a Manuscript in the Sibley Library.” In *Bach Perspectives* 10, ed. Matthew Durst Urbana: University of Illinois Press, 16–38.
- Leaver, Robin A. and Derek Remeš. 2018. “J. S. Bach’s Chorale-Based Pedagogy: Origins and Continuity.” *BACH: Journal of the Riemenschneider Bach Institute* 48 (2) and 49 (1): 116–150.
- Leifer, Valia P. 2017. “Music Department to Adopt New Curriculum Beginning Fall 2017.” *The Harvard Crimson*. <http://www.thecrimson.com/article/2017/3/22/music-concentration-changes/>.
- Lester, Joel. 1998. “How J. S. Bach Teaches Us to Compose: Four Pattern Preludes of the “Well-Tempered Clavier.” *College Music Symposium* 38: 33–46.
- . 2007. “Thoroughbass as a Path to Composition in the Early Eighteen Century.” In *Towards Tonality: Aspects of Baroque Music Theory*. Collected Writings of the Orpheus Institute. Ghent, Belgium: Leuven University Press: 145–168.
- Lowe, Melanie. 2015. “Rethinking the Undergraduate Music History Sequence in the Information Age.” *Journal of Music History Pedagogy* 5 (2): 65–71. <http://creativecommons.org/licenses/by/3.0/>.
- Mann, Alfred. 1985. “Bach and Handel as Teachers of Thorough Bass.” In *Bach, Handel, Scarlatti, Tercentenary Essays*. Cambridge: Cambridge University Press: 245–57.
- Marshall, Robert L. 1970. “How J. S. Bach Composed Four-Part Chorales.” *The Musical Quarterly* 56: 198–220.
- . 1972. *The Compositional Process of J. S. Bach: A Study of the Autograph Scores of the Vocal Works*. Princeton: Princeton University Press.

- McCormick, Susan Rebecca. 2015. "Johann Christian Kittel and the Long Overlooked Multiple Bass Chorale Tradition." PhD diss., Queen's University Belfast.
- Myers et al. 2014. "Transforming Music Study from its Foundations: A Manifesto for Progressive Change in the Undergraduate Preparation of Music Majors." *The College Music Society*. <http://www.mtosmt.org/issues/mto.16.22.1/manifesto.pdf>.
- Niedt, Friedrich Erhart. [1700/1721] 1989. *Musikalische Handleitung*. Trans. Pamela L. Poulin and Irmgard C. Taylor as *The Musical Guide*. Oxford: Clarendon Press.
- Remeš, Derek. 2017. "J. S. Bach's Chorales: Reconstructing Eighteenth-Century German Figured-Bass Pedagogy in Light of a New Source." *Theory and Practice* 42: 29-53.
- . 2018. "Teaching Figured-Bass with Keyboard Chorales and C. P. E. Bach's *Neue Melodien zu einigen Liedern des Neuen Hamburgischen Gesangbuchs* (1787)." *BACH: Journal of the Riemenschneider Bach Institute*. Forthcoming.
- Remeš, Derek and Robin A. Leaver, eds. 2018. *Realizing Figured-Bass Chorales in Bach's Circle*. 3 Vols. Colfax, NC: Wayne Leupold Editions. Forthcoming.
- Richards, Sam L. 2015. "Rethinking the Theory Classroom: Towards a New Model for Undergraduate Instruction." In *Engaging Students: Essays in Music Pedagogy* 3. <http://flipcamp.org/engagingstudents3/essays/richards.html>.
- Robin, William. 2017. "What Controversial Changes at Harvard Mean for Music in the University." *The Log Journal*. <http://thelogjournal.com/2017/04/25/what-controversial-changes-at-harvard-means-for-music-in-the-university/>.
- Sachs, Klaus-Jürgen. 1974. *Der Contrapunctus im 14. und 15. Jahrhundert: Untersuchungen zum Terminus, zu Lehre und zu den Quellen*. Wiesbaden: Steiner.
- Schubert, Peter. 2011. "Global Perspectives on Music Theory Pedagogy: Thinking in Music." *Journal of Music Theory Pedagogy* 25: 217-234.
- Schulze, Hans-Joachim. 1981. "'Sebastian Bachs Choral-Buch' in Rochester, NY?" *Bach-Jahrbuch* 67: 123-30.
- Temperley, David. 2017. "The Six-Four as Tonic Harmony, Tonal Emissary, and Structural Cue." *Intégral* 31:1-25.
- Wolff, Christoph, ed. 1998. *The New Bach Reader*. New York: Norton.

Asking Good Questions: A Way Into Analysis and the Analytical Essay

LYNNE ROGERS

Developing an analytical conception of a musical work is typically difficult for students. A fruitful and rewarding way to address this challenge is to teach students to ask good questions about compositions, that is, questions that lead to further and more profound analytical investigation. In this article, I explain the four-step pedagogical procedure that I developed to teach students this skill. Tested repeatedly in many of my courses, this procedure has consistently yielded exciting class discussions and notable improvements in students' essays and presentations.



Introduction

Familiar to many music theory instructors are the dreaded words “In measure 1” at the opening of a student’s analytical essay. Experience tells us that we are in for a monotonous, measure-by-measure recitation of minimally contemplated details. Much more significant than the instructor’s dismay at having to read such an assignment, however, is what such a plodding account implies: that the student who wrote the essay lacks an analytical conception of the musical work under study.

Finding a general topic of interest or a fascinating piece to discuss is usually unproblematic for music students. After all, they gravitate to the discipline because of their passion for it. In contrast, forging a path within the broader landscape of a chosen topic to the development of a well-defined and compelling claim is typically difficult for students, including for those with an aptitude for analysis. Even more seasoned scholars know the challenge of distilling from many interesting observations a focused idea that provides a reason for making them.

One way to address this challenge is to teach students to ask good questions about pieces, that is, questions that can lead to further and more profound analytical investigation and thought. There are many motivations for instructors to teach this skill. When students ask probing questions, they apply their natural curiosity to music. Doing so can be highly pleasurable; indeed, many reading this article might be able to trace their desire to specialize in music theory to such undeniably gratifying experiences. In addition, students can transfer their interrogative skills to works they are preparing for performance, thus becoming more mature and

independent interpreters. In theory courses, thoughtful questions posed by students convey that something important is at stake and create excitement that invigorates class discussions. Furthermore, because the answers to good questions can become analytical claims, developing such a question can be the important step that launches a thoughtful presentation or a dynamic essay. To foster the posing of such penetrating questions, I developed the pedagogical procedure presented in this article. First, however, I offer a brief discussion of the role of asking questions in learning.¹

The value and challenge of asking good questions

The ability to pose good questions is an important component of developing critical thinking. According to Lucy McCormack Calkins (1994, 492), “the ability to ask appropriate and probing questions is a crucial part of comprehension.”² For Max Wertheimer, the formation of questions both serves the thinking process and is a goal of that process: “the function of thinking is not just solving an actual problem, but discovering, envisaging, going into deeper questions.”³ Indeed, the authors of *The Craft of Research* so value this skill that they devote numerous pages to the functions of questions in research and writing and to their formulation.⁴ For those involved in music, learning to ask perceptive questions about pieces enhances musical growth by demanding collaboration between the intellect and emotional, aesthetic, and physical awareness.

How might an instructor teach students to create questions that require deeper and broader exploration? In his work on teaching critical thinking, Chet Meyers asserts that children are inherently curious; however, because children often learn to suppress this curiosity as they grow to adulthood, “college instructors must strive to create a classroom atmosphere in which students’ natural inquisitiveness can once again come to the fore.”⁵ Fostering curiosity is an important initial step, and one that may require extra effort by the theory instructor because pre-college music instruction tends to emphasize how to play music rather than how it might be contemplated. Thus,

1 The focus of this essay is the crafting of good analytical questions. For a discussion of and procedure for teaching the creation of music-historical research questions, see Haefeli (2016). Many of Haefeli’s ideas are also pertinent to music theory courses.

2 Although Calkins’s subject is teaching writing to children, many of her observations about the writing process apply equally well to college students.

3 Wertheimer (1945, 123).

4 Booth, Colomb, Williams, Bizup, and Fitzgerald (2016), esp. Chapters 3 and 4.

5 Meyers (1986, 9).

inquiry about musical compositions, especially analytical inquiry, may strike many students initially as mysterious or make them uncomfortable. Indeed, students may be passionate about a particular piece without ever stopping to wonder about it. The practice of asking good questions can be what sparks the desire to look more closely at a work and thus to meet the obstacles posed by music's essential abstraction, that is, its non-representational nature. A significant challenge for theory instructors, then, is to teach students how to build upon their feelings, intuitions, and "favorite moments" to craft questions that demand continued analytical exploration and a view of the work that is both deeper and broader.

Within the context of the course

The pedagogical procedure I offer below guides students to develop good analytical questions. I developed it as an antidote to students' papers and presentations that offered one observation after another without being guided by a main point. I used the procedure initially in upper-division undergraduate courses in music theory while teaching at a small state university. Most students in these courses were music majors who focused on repertoires other than classical music, although learning the history and theory of classical music was a mainstay of the core curriculum. In contrast, at the conservatory where I now teach, students are immersed in classical music—many since childhood. I adapted the procedure for use in my current theory courses, which range from the core through master's level. In neither institution, however, are analytical writing and presentations routinely incorporated into all sections of the theory core; thus, it is not unusual for students to make their first attempt at extensive verbal analysis in an upper-division course.

I describe the procedure here as it is used in my upper-division and master's-level courses on tonal form and analysis. The main focus of these courses is music, not prose writing. Writing, however, is essential to the curricula and serves two extremely important functions. First, it enhances critical thinking in the discipline, involving the development of music-analytical skills and analytical rigor, and helps students refine their musical judgment and ability to evaluate their own observations and ideas. Second, writing in music theory courses, which nearly always addresses some level of abstraction, can improve skills in verbal communication, including making and asserting a claim, and provides practice in choosing and applying appropriate technical terminology accurately.⁶

6 Although developing a good question is an essential step in the process of writing a sound analytical

Because so many students come to the courses in tonal form and analysis with little or no experience in music-analytical writing—and some students with little background in prose-writing generally—I typically begin by assigning very brief essays from one-half to one page in length and progress during the first half of the semester to essays of two to three pages. During this period, I review (or, if necessary, introduce) important components of the analytical essay, including overall structure, the thesis statement, support for the thesis, charts and musical examples, conclusions, and titles. Neither time nor the necessary emphasis on musical topics permits detailed exposition of these elements of writing; thus, I typically discuss those issues and features that affect the assignments most directly. In addition, the students and I discuss the application of technical musical terminology and the implications for wording of tricky discipline-specific issues, including musical agency, compositional intention, and the use of metaphor. For these early essays, I provide the questions for students to answer. I design them so that their answers, if thoroughly considered, can become the essays' claims.

About halfway through the courses, I begin to teach the students to develop the questions that they will address in their essays. The essays remain frequent and short—generally two to four pages—so that students have multiple opportunities to receive comments and thus improve their writing and analysis skills. The procedure for creating effective questions, however, could work easily for lengthier documents.

The remainder of this article explains my pedagogy for prompting students to ask effective analytical questions. Although developing the skill of asking good analytical questions serves many purposes both inside and outside the classroom, the four-step procedure presented below is geared to what is, perhaps, its most challenging goal: preparing students to write an analysis paper. This orientation is most obvious in steps three and four. In addition, although each of the procedure's steps gains in value from succeeding the previous one, the individual steps can be modified to be useful on their own. Readers can, as I have done, easily tailor the procedure to fit their own aims, courses, and pedagogical styles.

As a demonstration of the use of the procedure, I provide questions authored by students in reference to the rondo finale of Beethoven's Piano Sonata in E $\flat$ Major, Op. 7, a movement that has consistently yielded fruitful inquiries and persuasive essays in my upper-division and graduate courses. This article supplies as an example

essay, prose-writing is not the main focus of this article. For discussions of prose-writing—both formal and informal—in the music theory classroom, see Attas (2016); Bakker and Chenette (2014); Davidson, Scripp, and Fletcher (1995); Kelley (1999); McGee (1993); Miyake (2014); and, Rogers (2018).

only the first sixteen bars of the movement; readers may wish to have a complete score available for consultation.

Step One: Preparatory Assignment

The procedure's first step is an assignment on a specified movement or song. The assignment, which students complete outside of class, prepares for discussion that typically takes place at the next class meeting. The assignment involves three tasks: listening to the chosen work; making note of first impressions, which frequently provide fertile ground for questions; and acquiring accurate analytical information about the basic elements of the work.⁷ Students carefully record their answers in writing. Depending upon the specific work and the stage of the semester, students may be encouraged to do the assignment in collaboration with classmates, which can jump-start the learning process. Conversely, they may be required to complete the assignment on their own to foster independent thinking.

To temper the anxiety sometimes associated with the analysis of an entire movement, I grade this assignment on a relatively liberal Pass/No-Pass basis. Nonetheless, because the assignment is a prerequisite for successful class discussion, it must be completed on time to be eligible for credit. I check the assignments quickly at the beginning of class on the due date; those that are complete and look like serious attempts—even if they contain errors—receive credit. I find consistently that most, and often all, students complete the assignment carefully and on time.

As shown in Example 1, the assignment begins by asking students to describe briefly the events or features that most vividly caught their attention while listening. “Describe” should be taken quite literally here; at this stage, students are not expected to analyze what engages them, but rather to portray it verbally so that what they’ve noticed is clear to others in the class. Students are encouraged to value their intuitions and the feelings evoked by the music; how one reacts to a specific moment often provides an effective starting point for further study of a work. What students choose to describe must be sufficiently concrete, whether stated plainly or in a combination of literal and figurative language. Saying that a piece overall is “beautiful” or “surprising” would be appreciated as a sincere sentiment but, because it is too general, not as an adequate answer; however, choosing a specific event that the student finds beautiful or surprising would be.

⁷ For a preparatory assignment that includes both the acquisition of information and the creation of research questions, see the “Guided Analysis Assignment” in Attas (2016, 10–13). Attas’s assignment is one step in a well-designed capstone project for fourth-semester music theory.

BEETHOVEN, PIANO SONATA IN E♭ MAJOR, OP. 7, IV

Striking events and/or features

On a separate sheet, describe briefly any events and/or features in the movement that caught your attention and list the numbers of the measures in which they occur. No analysis is required; just describe the events and/or features so that others can understand what you hear.

The “Play-by-Play”

ROTATION 1

1. Key and form of opening refrain:
2. On your score, mark the cadences that occur within the opening refrain.
3. Measure in which the transition begins:
4. Measure in which the first episode begins:
5. Key and form of the first episode:
6. First measure of the retransition:

ROTATION 2

7. Measure in which the first return of the refrain begins:
8. Key of the return of the refrain:
9. The first return alters the original refrain significantly. Explain briefly, referring to the relevant measures in the return and in the original refrain.
10. Measure in which the second episode begins:
11. If you hear a transition to the second episode, list the measure(s) in which it occurs:
12. Key and form of the second episode:
13. First measure of the retransition:

ROTATION 3

14. Measure in which the second return of the refrain begins:
15. Key of the return:

Example 1

First page of a two-page preliminary assignment on the last movement (Rondo) of Beethoven’s Piano Sonata No. 4 in E♭ major, Op. 7.

After describing one or more striking events or features, students write responses to the “play-by-play” exercise, a list of standard questions designed to elicit the analytical fundamentals of the piece.⁸ Other formats, such as charts or tables with blanks to be filled in, also work well. In Example 1, each item of the play-by-play provides the name of a section or event and asks for other information, primarily about key, location, or form. Other formats for questions might provide a different feature, such as location, and expect a name as part of the answer. A play-by-play could also include questions about motives, harmonies, rhythms, textures, and other aspects. Alternatively, the instructor could leave such questions to arise in discussion. So that the assignment isn’t overwhelming, I generally limit the play-by-play to a moderate length.

The play-by-play is chiefly a “just-the-facts-ma’am” document, with the caveat that the word “fact” may not always be the optimal term for the findings of even basic analysis. A thorough and accurate assemblage of such findings is an essential step in the mental process required for more profound analysis and the writing of an analytical essay. As cognitive psychologist Daniel Willingham notes, “it... makes no sense to try to teach critical thinking devoid of factual content.”⁹

I learned this lesson the hard way early in my career, when reading my first batches of student papers forced me to reconsider the assumption that all or even most students would note a work’s basic attributes before beginning to make claims about it. As a young teacher, I optimistically assigned analytical essays without having students engage in any preparatory activities, thinking that they would be excited to make all discoveries independently and would find professorial guidance intrusive. Although that was true of the occasional student, most by far were insecure about their abilities in certain crucial but sometimes difficult areas—commonly (and unfortunately) form, harmony, and the identification of keys—and would ignore these as much as possible, routinely defaulting in their papers to a relatively context-free type of motivic analysis. Braver students would valiantly confront the more challenging musical components, although at times basing their claims on erroneous information, thereby invalidating much of their hard work. In the wake of such disheartening experiences with both undergraduate and graduate students, I began to develop preliminary exercises that would give students the knowledge and ensuing confidence that might make further analysis and essay-writing more successful and satisfying.

⁸ Prior to beginning their project on this movement, students in the course would have learned the principles and terminology associated with rondo form and analyzed at least one other Classical-Era rondo in detail.

⁹ Willingham (2007, 10).

The obvious purpose of the play-by-play is to prompt students to discover what any analyst should know about a work; the accuracy of the findings is ensured through the class discussion that follows, to be described shortly. A less apparent but equally important aim of the exercise is to provide opportunities for students to discover the ambiguous and unexpected, which are inevitably brought to the fore during the discussion. A compelling bi-product of having students complete and discuss the play-by-play is that doing so seems to get that format out of their systems so that they are much less likely to make their essays into play-by-play documents as well. In sum, describing what drew their attention initially and answering the play-by-play give students a place to begin analysis, thus modeling a possible routine for when they must perform an analytical project independently.

Step Two: Discussion of the Preparatory Assignment

After I check each completed assignment for Pass/No-Pass at the beginning of the class meeting, I lead the discussion for which the assignment prepared. All students participate, offering brief depictions of what grabbed their attention and supplying answers to the play-by-play. We typically start by going around the room to encourage participation by the entire class and move later to a more spontaneous format. I encourage students to take notes during the discussion to correct errors in their answers and to record interesting ideas.

The always lively conversation about the answers to the play-by-play often circles back to the striking features noted initially and unearths additional aspects of interest that frequently speak to the individuality of a work, including—among many possibilities—formal ambiguities and expansions, metric conflicts, expressive harmonies and tonicizations, divergences between expectations and actual events, and, if the subject is a vocal work, text-music relationships. Indeed, even students most comfortable with “right-or-wrong” answers begin to feel the attraction of the musically ambiguous and unexpected. Thus, the apparently pedestrian play-by-play document, with its short answers, can yield more than initially meets the eye. As Douglass Green notes (1979, vii), “a label—that is, a name—can be very useful if the student grasps that it is no more than a means, never an end in itself. The search for a meaningful name necessitates asking questions and finding answers about the structure of the music that might otherwise never have been asked or answered.” In this way, the play-by-play and ensuing discussion prepare the ground for the development of promising questions.

The assignment and discussion boast another advantage: they encourage all students to contribute. For example, most instructors have taught students who are so shy that they never volunteer to speak and seem anxious when called upon. In the discussion of the preparatory assignment, however, all students know that they will respond at some point. Going around the room, at least when we begin review of the play-by-play, lets shyer students predict when it will be their turn to answer, which can increase their comfort in the situation. Furthermore, since class members have prepared their answers in writing, those who are habitually timid often feel bolder answering questions. Once the ice is broken, these same students may offer impromptu comments and even volunteer.¹⁰

The instructor's role in the class discussion is pivotal. Reframing students' statements for clarification and focus, inviting follow-up responses from other students, and posing additional questions to stimulate further thought and invite students to make connections among points raised: in these and other ways, the instructor subtly directs the discussion toward potentially rich issues, but without actually articulating them. That will be the students' job later on.

The instructor can also bring related matters and approaches into the mix as another way to plant seeds for future good questions. For example, in a discussion about a debatable phrase ending or an expansion of a phrase, the instructor might ask how a particular interpretation might be conveyed in performance. Or, during examination of proposed connections among temporally separated events, the instructor might invoke Edward T. Cone's "Three Hearings" ([1977] 1989, 85-87), and inquire if and how such analytical findings are likely to be heard by an actively engaged listener. Welcoming thinking that incorporates metaphor, agency, or narrative—application of which seems to come naturally to most musicians—can free students to uncover relationships and transformations of material and ideas.¹¹

Step Three: Crafting Good Questions

With the third step of the procedure, students compose effective questions, from which they will later choose when they write their essays on the movement. Thus, the

¹⁰ Some instructors advocate asking students to post their findings in advance of the class meeting on a discussion board available through their institution's learning management system. Reading these postings allows instructors to prepare for the in-class discussion by, for example, pinpointing areas of confusion or special interest and making note of answers that warrant further examination.

¹¹ For discussion of pedagogies involving agency and narrative, see BaileyShea (2011) and Sly (2005).

questions that the students craft must be directed to the class as a whole. Although a question that cites a personal reaction (e.g., Why does this passage give me goose bumps?) can be an excellent starting point for further analysis for the individual who made the inquiry, it can be too personal for use by others, who may not have experienced the work in a similar fashion.

To create good questions for use by the entire class, the students evaluate evidence; judge which points and observations made during the discussion might be important, interesting, and subject to support; and consider the activities required to provide sound answers. In other words, they think critically about a musical work and their own ideas. As Willingham (2007, 17) advises, critical thinking requires not only domain knowledge but also practice. The routine of creating and evaluating questions during class time provides opportunities to learn and strengthen this important thought process.

Especially fruitful for practicing the development of questions—particularly during the first attempts to do so—is cooperative learning, which, as defined by David W. Johnson, Roger T. Johnson, and Karl A. Smith, is “the instructional use of small groups so that students work together to maximize their own and each other’s learning.”¹² John C. Bean advocates such “goal-directed use of small groups” as “one of the best ways to coach critical thinking—and to promote the kind of productive talk that leads to thoughtful and elaborated writing.”¹³ Bean finds that “the use of small groups did not lead simply to a pooling of knowledge, as if each student held one piece of the solution. Rather, collaborative learning promoted argumentation and consensus building.”¹⁴ Another advantage of small-group work is that it models aloud the kind of internal argument that students can hold while working independently; in effect, while conversing with their peers, students can teach themselves how to think through a problem creatively and with discernment on their own.¹⁵

If the class meeting lasts for 75 minutes or longer, it may be possible to discuss the play-by-play and to craft questions during the same class meeting. This is ideal because the discussion of the play-by-play is fresh in the students’ minds. If the crafting of questions must occur during the subsequent class meeting, a brief review

¹² Johnson, Johnson, and Smith (2014, 87). The authors emphasize that their instructional methodology is based on extensive research studies within university environments (2014, 95–103).

¹³ Bean (2001, 183). For more on the use of small groups in the classroom, see Chapter 10.

¹⁴ *Ibid.*, 185.

¹⁵ For discussion of other important benefits of small-group work, see Johnson, Johnson, and Smith, (2014, 96–103 and 106–110); and Zbikowski and Long (1994, 153–56).

of the discoveries of the play-by-play will likely be necessary to refocus students' attention on the relevant elements of the musical work.

Immediately before the onset of the work in small groups, I offer an explanation of the upcoming activity: The students will divide into small groups of three or four to create one or two good questions about the work that could be answered effectively according to the requirements—including length—of the essay assignment. Students should expect to collaborate for about 20 minutes to produce the questions and devise clear, concise wording for them. A group-appointed scribe will record the questions, which will be read to the entire class for evaluation.

As part of this explanation, I summarize the nature of good questions, emphasizing that answering them should require analysis beyond the findings of the play-by-play and discussion. Questions should neither be so narrow that they can be satisfied with a simple fact (e.g., “the dominant”) nor so broad that their answers would, of necessity, be unable to go beyond the superficial. Perceptive questions should have the potential to yield answers that can help readers of the essay understand a work—or a passage within it—in a way they hadn't considered before. I encourage students to follow up on the observations and discoveries that intrigued them during the discussion of the play-by-play: the things that made them want to listen to the piece more closely. At this point, it can also be useful to scrutinize the questions designed by the instructor for essays assigned earlier in the semester. The class can analyze these as “model” questions, examining their structure, length, scope, implications for specific analytical actions, and other features.

After this preamble, the students form their groups and move their chairs so that they are facing each other. Instructors can ask students to choose their own trios and quartets—this has yielded good results in my courses—or can assign the groups to avoid having the participants become too sociable, to promote particular types of diversity, or for other reasons.¹⁶ I've noticed repeatedly that as students deliberate, the room hums quite audibly; Bean claims that this sound itself promotes intensified activity.¹⁷ I circulate regularly among the groups, paying short visits to check on progress and address concerns. As I do so, and overhear snippets of their discussions, I note how the students consistently take ownership of the musical work and the issues

¹⁶ For conditions necessary for cooperative learning, see Johnson, Johnson, and Smith, (2014, 92–95). For discussion of these conditions as specific to music theory courses at the post-secondary level, see Zbikowski and Long (1994, 137–41). Zbikowski and Long also offer four sample cooperative lessons appropriate to the music theory core (1994, 141–53). Regarding the formation of effective groups, see Bean (2001, 187 and 196–98).

¹⁷ Bean (2001, 188).

that intrigue them.¹⁸ Furthermore, the members of the groups take great pains with the wording of the questions.¹⁹

Step Four: Assessing the Questions

When the group work concludes, the entire class hears and assesses the questions. In the initial round, each group offers one question, read aloud by one of its members. Groups with additional questions read these during a second round. The class and I examine and—if necessary, suggest modifications to—each proposed question with the following criteria in mind: Is the question’s meaning clear? What tasks must be performed to answer the question? Given the time allowed for completion of the assignment, does the question require a reasonable amount of analysis or research beyond the answers to the play-by-play? Can the question be answered effectively in an essay of the specified length? Is the question appropriately focused, implying a suitable scope for inquiry? This last condition can make or break the question’s usefulness, as some students tend instinctively toward monumental queries, such as “What makes this Beethoven sonata different from all other Beethoven sonatas?” Generally, undergraduate and beginning graduate students’ knowledge of the repertory and compositional practice is not sufficient to permit meaningful answers to such grandiose questions.

The instructor’s function is essential to the discussion of the groups’ questions. Although students should be active in evaluating each question, usually the instructor is the only person present with the experience to address fully the issues raised in the preceding paragraph. Thus, the instructor can help students to understand whether a question defines an appropriate problem for analysis. Furthermore, the instructor can lead students through the process of refining and rewording potentially good questions. In this way, students learn what makes a question suitable, how it might be improved, and why word choice and other aspects of prose are essential to its effectiveness.

Although students’ skills in formulating and recognizing good questions improve

¹⁸ Similarly, Haefeli (2016, 7) claims for her courses in music history that “focusing on questions encourages the students to *own* their research projects.”

¹⁹ Although I have found small-group work to be extremely constructive and often exciting, other instructors may prefer different arrangements for the creation of questions, especially later in the semester. For example, individual students might create and pose questions during class. Small groups or individual students might create questions outside of class for in-class discussion, online discussion, or private comments from the instructor.

substantially with repetition of the procedure during the course of the semester, the first attempts may yield questions that require substantial refinement or even complete revision. Vague inquiries are especially common. They often arise when students already know which aspects or passages of the piece they wish to discuss and yet aren't objective enough to see that their question might not point a classmate to those aspects. For example, the query "What is special about this movement?" lacks focus and provides no context with which to understand the term "special." Asking "How is texture used in this movement?" at least provides a topic (texture); however, the question still fails to give adequate direction for further examination of the work. Modifying the question so that it specifies a relationship between texture and another component (e.g., formal structure) is one way to transform it into an effective query.

In contrast, some questions can be too limited in scope for the desired length of the essay. "How is expansion used in the first episode?" could prompt a satisfactory answer occupying one-to-two pages of text but would be unlikely to generate enough material for a longer essay. If, however, expansion is an important feature in the movement overall, the scope of the question could easily be enlarged.

Sometimes, students who are anxious about going beyond what was discussed in class may pose overly conservative questions. For example, "What makes this movement an example of rondo form?" calls for a rehashing of the play-by-play without going beyond it. This type of question is often worded ambiguously as "Why is this movement in rondo form?" leaving unclear whether it calls for a discussion of the features of rondo form or refers instead to the reasons for the composer's choice of form. Except for references to standard forms for final movements, however, the latter interpretation of the question is likely unanswerable without archival documentation or a musicologically-themed seance.

A further element of the instructor's role can be the raising of the "So what?" query, which asks why it's worthwhile to answer a proposed question. That is, a good question defines a "*conceptual* problem," which "arises when we do not understand something about the world as well as we would like."²⁰ Asking "So what?" goes beyond that original problem to its "consequence . . . a lack of understanding that keeps us from understanding something else even more significant."²¹ For example, a consequence of answering a perceptive question about the expansion of a particular phrase might be an inquiry into its expressive value, narrative function, or relationship to performance strategies. Asking the "So what?" question can help students direct their analytical

²⁰ Booth, et al. (2016, 51). Italics in the original.

²¹ Ibid., 55.

investigations and, once writing, to compose thesis statements for their essays.

It is essential to note that Step Four –the evaluation and polishing of the groups’ questions– eliminates a particular messiness inherent in the investigative process. As experienced scholars know, the question launching an inquiry is likely to be modified or even abandoned during the course of analysis and writing. In the procedure I propose here, the discussion of the questions replaces the frequently lengthy back-and-forth that leads investigators to revise their questions and potential claims as they learn more. I find that, given the time constraints of the semester and the quantity of repertory, skills, and knowledge that many of us wish to teach in a given course, this “assisted” version of the analytical process is appropriate and enhances learning. Instructors with more advanced students and longer projects, however, might prefer that students experience the analyst’s struggle fully and thus opt to alter the procedure.

In a class of twenty students or fewer, from three to six of the students’ suggested questions will likely emerge as fitting for an essay assignment. Immediately following the discussion, the groups submit the written versions of their questions to me. After class, I post the suitable questions (edited as necessary), along with the instructions for the essay, on the course’s website through the institution’s learning management system. Each student chooses one of the questions and answers it with an essay written to the specifications of the assignment. These specifications include information on the weighting and type of assignment (e.g., analytical), due date, number of pages, formatting details, requirements for musical examples, overall organization, and similar matters.

Questions about Beethoven’s Sonata in E $\flat$ Major, Op. 7, IV

To provide a sense of the types of questions that might result from the procedure just described, I’ll list some pertaining to the rondo finale of Beethoven’s Piano Sonata, Op. 7. Over the years, many of the classes preparing to write short essays—typically three to four double-spaced pages—on this movement arrived at the questions below in some form; moreover, these questions frequently yielded stimulating and convincing analyses. Each question appears in italics below. Explanatory comments for readers of this journal follow in regular typeface. Because a number of the questions require knowledge of the movement’s refrain (mm. 1–16), it appears below as Example 2.

6

11

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Example 2

Beethoven, Piano Sonata No. 4 in E $\flat$ major, Op. 7, IV (Rondo): mm. 1–16 (refrain).

The asterisk above m. 12 marks the quadrupled B $\flat$ cited in Question 3.

Boxes in mm. 2, 6, and 14 highlight the B $\flat$ [-B $\flat$]-C figure cited in Question 4.

1. *How do the returns of the refrain differ from its original appearance in mm. 1–16?* This question, which suits the fourth movement of Op. 7 very well, can also be applied to other movements in rondo form in which returns differ from the original refrain in notable ways. In addition, with slight adjustment, this question can be applied to any movement—no matter what its form—that includes a modified return. On the play-by-play document, students are asked to describe briefly differences between the opening refrain and any returns that alter it significantly. As geared for an essay, this question requests a more thoroughgoing examination, which can also include commentary on, for example, the effects of these changes on the design of the entire movement.

2. *How does the final appearance of the refrain differ from the first and what is the effect of these differences on the dramatic arc of the movement?* This two-part question, which also applies to certain other rondos, works well for this movement because the final return of the refrain is by far the most adventurous and expressive of its appearances. Since the question focuses on only two sections, its second part mandates a broader view as well. As with question #1, this question can be altered to accommodate movements in other forms that involve modified returns, such as a sonata-form movement in which the secondary theme undergoes notable expansion in the recapitulation.
3. *How does the quadrupled, sforzando B $\flat$ in m. 12 play a pivotal role when it returns at later points in the movement?* This movement-specific question uses the analytical strategy of seeing a surprising or disruptive event (starred on the example) as an instance of Cone's "unfinished business," one of a "variety of musical gestures that, by demanding eventual formal or rhetorical completion, make effective pledges for the future."²²
4. *Why might the refrain's B $\flat$ -B $\natural$ -C figure, heard in mm. 2, 6, and 14, be understood as the seed for important events later in the rondo?* This movement-specific question highlights a subtle melodic figure in the refrain (boxed on the example) that attains prominence at important junctures later in the movement. The analytical strategy here is to see the original appearances of the figure as "latent" in the sense described by Ramon Satyendra (2005) in reference to Chick Corea's "Starlight."²³ Similarly, one could understand the figure, seemingly innocent and hardly noteworthy when first introduced, as having unexpected narrative potential in the manner described by Susan McClary (1997) for the opening melody of Schubert's Impromptu, Op. 90, No. 2.
5. *What makes Episode 2 the dramatic peak of the rondo, and how is this episode related to the rest of the movement?* This two-part question, which also applies to certain other rondos, encourages students to consider both the second episode and its context, as well as the role of the episode within the trajectory

²² Cone ([1984] 1989, 201-02).

²³ Satyendra's focus is on latent elements in works harboring strong contrasts. In the finale of Op. 7, the passages that realize the potential of the figure do not consistently express a high level of contrast; however, the prominence and unexpectedness of the figure's manifestations could be understood to behave similarly to the music discussed in Satyendra's analysis.

of the entire movement. This question could be generalized to address the climax of a work in a form other than rondo.

6. *What are the functions of the movement's coda?* This generic question can apply to any movement with a coda. It expects students to consider the coda as a response to the main body of the rondo.

Conclusions

My awareness of the challenges to thinking analytically arose from reading student essays that lacked a clear claim and other evidence indicative of a well-defined analytical conception of a work. My development of the four-step procedure for asking good questions was thus aimed initially at helping students prepare to write better analytical essays, and in this it has succeeded consistently. I have found over many semesters that following the procedure yields significant improvements in students' essays in comparison to those produced when students are left primarily on their own. These "post-procedure" essays reliably contain more accurate information and exhibit evidence of increased engagement, focus, critical thinking, and creativity. They're also much more pleasant—and often even exciting—to grade. I emphasized the effect of the procedure on essays in this article because I've heard so many instructors describe student writing in their classes as—to use the PG-rated version—"the bane of my teaching." Yet, instructors persist in assigning writing because they know that students can learn so much from it, because it is a necessary skill that assists thinking and communication, or because they feel otherwise obligated to do so.

The skill of asking effective questions—those that beget other, even more important questions—is essential in music for much more than formal writing. In music theory courses, learning to create such questions can help students to generate insightful informal writing, such as in journals or in-class writing activities, and prepare focused and well-organized oral presentations. In addition, good questions from students can launch or intensify animated class discussions and debates in which the instructor learns as much as the students do. Furthermore, acquiring this important skill enhances critical thinking and increases facility with abstract concepts. The skill of posing probing questions supports student performers in becoming more self-reliant musical thinkers and interpreters. Lastly, asking good questions about musical works can engender great intellectual and musical satisfaction, whether the questions serve as the endpoint of contemplation or the beginning of a longer journey.

To be sure, the development of good questions for an assignment does not

guarantee an exciting debate, a strong thesis, or a thoughtful presentation. Nonetheless, it makes them more likely because, in order to arrive at such questions, students must engage seriously in critical and creative thinking about a musical work. Certainly, more effort will be required from students as they continue analysis to answer the chosen question, determine a claim, and design the presentation or craft the essay. Nevertheless, designing a good question can propel the process and make it easier and more productive. Some students may need guidance when moving from a good question to choosing lines of analytical investigation to pursue and from analytical findings to defining the main point of an essay or presentation. Meetings with individual students outside of class, class discussion, and in-class work in small groups all present opportunities for bridging these gaps effectively.

Students are the primary recipients of the benefits of the procedure described in this article. Nonetheless, teaching the skill of asking effective analytical questions also benefits their instructors, who must regularly devise questions for assignments, class discussions, exams, and other platforms.²⁴ As many instructors realize, crafting questions that yield the kinds of responses we desire is surprisingly difficult. This is especially true of queries intended to spur deeper analytical thinking. Indeed, some of us may be able to remember times when a question whose intent appeared perfectly clear to its author caused panic on an exam or confused looks during class discussion. Furthermore, the success of our scholarly work may also depend on the quality of questions we ask during investigative stages. When we teach our students the skill of asking good questions, we simultaneously teach ourselves and thus make our classrooms a place to share the thrill of collegial inquiry.

²⁴ Scott Dirkse's discussion of creating questions (2014, 73–76) focuses primarily on those intended to elicit short answers; however, some of his recommendations pertain as well to questions requiring longer responses.

Works Cited

- Attas, Robin. 2016. "Teaching What We Do and How We Do It: Using a Miniconference Assignment to Dig Deep into Musical Analysis." *Journal of Music Theory Pedagogy* 30: 5–21.
- Bakker, Sara and Timothy Chenette. 2014. "Writing Across the Music Theory Curriculum." In *Engaging Students: Essays in Music Pedagogy* 2. <http://flipcamp.org/engagingstudents2/essays/bakkerchenette.html>.
- BaileyShea, Matt. 2011. "Teaching Agency and Narrative Analysis: The Chopin Preludes in E Minor and E Major." *Journal of Music Theory Pedagogy* 25: 9–36.
- Bean, John. 2011. *Engaging Ideas: The Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom*. 2nd Ed. San Francisco: Jossey-Bass.
- Booth, Wayne C., Gregory G. Colomb, Joseph M. Williams, Joseph Bizup, and William T. Fitzgerald. 2016. *The Craft of Research*, 4th ed. Chicago: University of Chicago Press.
- Calkins, Lucy McCormick. 1994. *The Art of Teaching Writing*. New Hampshire: Heinemann.
- Cone, Edward T. [1984] 1989. "Schubert's Unfinished Business." In *Music: A View From Delft*, ed. Robert P. Morgan, 201–16. Chicago: The University of Chicago Press. Originally published under the same title in *19th-Century Music* 7 (3): 222–32.
- . [1977] 1989. "Three Ways of Reading a Detective Story Or a Brahms Intermezzo." In *Music: A View From Delft*, ed. Robert P. Morgan, 77–93. Chicago: The University of Chicago Press. Originally published under the same title in *The Georgia Review* 31 (3): 554–74.
- Davidson, Lyle, Larry Scripp, and Alan Fletcher. 1995. "Enhancing Sight-Singing Skills through Reflective Writing: A New Approach to the Undergraduate Theory Curriculum." *Journal of Music Theory Pedagogy* 9: 1–30.
- Dirkse, Scott. 2014. "Effective Questioning Strategies for the Music Theory Classroom." *Journal of Music Theory Pedagogy* 28: 69–84.
- Green, Douglass M. 1979. *Form in Tonal Music: An Introduction to Analysis*, 2nd ed. New York: Holt, Rinehart and Winston.
- Haefeli, Sara. 2016. "From Answers to Questions: Fostering Student Creativity and Engagement in Research and Writing." *Journal of Music History Pedagogy* 7 (1): 1–17.
- Johnson, David W., Roger T. Johnson, and Karl A. Smith. 2014. "Cooperative Learning: Improving University Instruction by Basing Practice on Validated Theory." *Journal on Excellence in College Teaching* 25 (3 and 4): 85–118.
- Kelley, Bruce C. 1999. "Part Writing, Prose Writing: An Investigation of Writing-to-Learn in the Music Theory Classroom." *Journal of Music Theory Pedagogy* 13: 65–87.
- McClary, Susan. 1997. "The Impromptu That Trod on a Loaf: Or How Music Tells Stories." *Narrative* 5 (1): 20–35.
- McGee, Deron L. 1993. "The Power of Prose: Writing in the Undergraduate Music Theory Curriculum." *Journal of Music Theory Pedagogy* 7: 85–104.
- Meyers, Chet. 1986. *Teaching Students to Think Critically*. San Francisco: Jossey-Bass Publishers.
- Miyake, Jan. 2014. "Weekly (or more) Writing in the Music Theory Classroom." *Engaging Students: Essays in Music Theory Pedagogy* 2. <http://flipcamp.org/engagingstudents2/essays/miyake2.html>.

- Rogers, Lynne. 2018. "Incorporating Writing into Music Theory Courses." In *The Norton Guide to Teaching Music Theory*, edited by Rachel Lumsden and Jeffrey Swinkin, 299–312. New York: W. W. Norton & Company.
- Satyendra, Ramon. 2005. "Analyzing the Unity within Contrast: Chick Corea's 'Starlight.'" In *Engaging Music: Essays in Music Analysis*, edited by Deborah Stein, 50–64. New York: Oxford University Press.
- Sly, Gordon. 2005. "Developing the Analytical Point of View: The Musical 'Agent.'" *Journal of Music Theory Pedagogy* 19: 51–63.
- Wertheimer, Max. 1945. *Productive Thinking*. New York and London: Harper & Brothers Publishers.
- Willingham, Daniel T. 2007 (Summer). "Critical Thinking: Why Is It So Hard to Teach?" *American Educator* (no volume number): 8–19.
- Zbikowski, Lawrence M. and Charles K. Long. 1994. "Cooperative Learning in the Music Theory Classroom." *Journal of Music Theory Pedagogy* 8: 135–57.

The Rule of the Octave in First-Year Undergraduate Theory: Teaching in the Twenty-First Century with Eighteenth-Century Strategies

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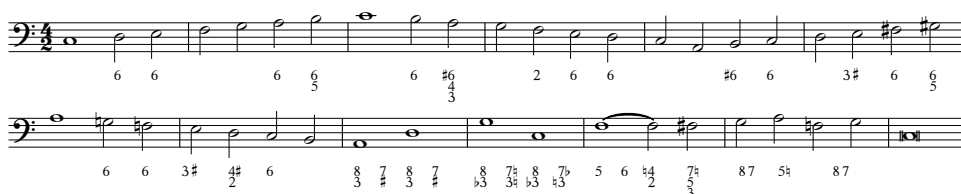
From the Neapolitan conservatories to Mozart's Vienna, eighteenth-century musicians commenced the study of harmony by learning a rule of thumb for the harmonization of scalar basses known as the Rule of the Octave. This article presents a series of strategies to incorporate the Rule into the core music theory curriculum, including activities for analysis, keyboard skills, and singing improvisations. I suggest a parallelism between the Rule of the Octave and linguistic collocations (groups of words that typically go together), and turn to recent research on second-language acquisition to defend the importance of memorizing the Rule of the Octave. This initial, apparently rudimentary step conduces to significant learning of tonal harmony. Sharing my personal experiences with the Rule of the Octave in the classroom, I illustrate the potential pedagogical benefits of recovering and updating a teaching resource crucial in the history of Western music.



For one of their composition lessons, Mozart assigned to Thomas Attwood a simple figured-bass exercise beginning with an ascending and descending C major scale, followed by the same process in the relative minor (the complete given bass is reproduced as Example 1). This exercise presents what eighteenth-century musicians called the *Rule of the Octave*, a rule of thumb for the harmonization of scalar basses. Once considered the most fundamental harmony lesson (second only to cadences) and a scaffold to much music-theoretical knowledge, the Rule of the Octave is absent from most music theory textbooks today.¹ In this article, I will discuss the benefits of teaching harmony with the Rule of the Octave, arguing that it represents a musical analogue to what linguists call *collocations*—which have been proven essential for second language acquisition. I will share my experiences teaching harmony to college freshman with the Rule of the Octave and suggest strategies for incorporating this historically-inspired pedagogical tool into the twenty-first-century classroom. I hope these ideas will inspire more teachers to include the Rule of the Octave in their music

¹ Exceptionally, the workbook for Clendinning and Marvin's *The Musician's Guide to Theory and Analysis* includes three figured-bass exercises inspired by the Rule of the Octave (2016, 173 and 207). For detailed historical and theoretical accounts of the Rule of the Octave, see Christensen (1992), Gjerdingen (2007, 467–70), and Sanguinetti (2012, 113–23). See also Callahan (2010) for a keyboard-oriented approach incorporating the Rule into 21st-century pedagogy.

theory curricula; those who already teach the Rule may find new ideas to exploit its great pedagogical potential.²



Example 1

Rule of the Octave as presented to Attwood by Mozart.

An analogy from second-language acquisition: The Rule of the Octave as a musical meta-collocation

Similarities between music and language—albeit loose—have motivated music scholars to draw on linguistic research to theorize musical structure.³ These parallelisms also apply from a pedagogical perspective, since teaching music theory and teaching a second language engage similar skills. The goals of both disciplines include listening (aural skills) and reading comprehension (analysis), as well as fluency in speaking (oral and keyboard skills) and writing (composition, part-writing). Second-language acquisition involves learning groups of words that typically go together, known in linguistics as collocations.⁴ For example, an English language student needs to learn how to use the verb ‘to break’ together with words such as ‘someone’s heart,’ ‘the news to someone,’ ‘a promise,’ ‘a leg,’ ‘the law,’ or ‘the ice.’ Learning such common

² The ideas, approaches, and teaching experiences that I present here have been inspired and developed in collaboration with my mentors and colleagues at Northwestern University. Robert Gjerdingen first introduced the Rule of the Octave in the undergraduate curriculum and Susan Piagentini has been largely responsible for materializing the idea into teaching practice. She developed the arpeggiation exercise (see Figure 1 below) and the introduction to harmonic dictation using excerpts from the Rule of the Octave; the rest of the materials and activities presented here are mine. I thank Susan Piagentini and Vasili Byros for their contributions to my development as a music-theory pedagogue and Robert Gjerdingen for introducing me to the Rule of the Octave and encouraging me to think about parallelisms between music and language. I extend my gratitude to Janet Bourne and my anonymous reviewers for their insightful comments and suggestions on an earlier version of this article.

³ See, for example, Monelle (1992), Feld and Fox (1994), and Agawu (2009, 15–29).

⁴ For a broader discussion of the musical implications of linguistic collocations, with an emphasis on galant schemata, see Gjerdingen and Bourne (2015). Their focus is on first-language acquisition and usage rather than second-language learning.

idiomatic phrases requires addressing and memorizing them individually: no amount of grammar and vocabulary can conduce to this type of knowledge. Teaching the Rule of the Octave to music students is not unlike teaching collocations to second-language learners.

A significant and increasing body of literature emphasizes the importance of teaching collocations in second-language acquisition. These scholars argue that progress beyond lower-intermediate level requires learning “a substantial amount of chunks” (De Knopp et al. 2010, 242), and that memorizing formulaic sequences increases fluency, accuracy, and variety in speaking and writing (Wray 2004, Ding 2007, Dai and Ding 2010). Some studies suggest that learners are not sufficiently aware of the significance of collocations, and that teachers need to increase their students’ awareness about frequent combinations of words (Vasiljevic 2014); other studies have found that rising awareness alone has little influence on learning formulaic sequences, which instead requires intentional memorization through announced tests or targeted activities (Boers and Lindstromberg 2008). One finding of this body of research—especially significant due to its implications for music theory pedagogy—is that memorized formulaic sequences are processed faster than the sum of their component parts (Wray 2002). Processing speed is essential for music students, who are expected not only to acquire theoretical knowledge of chords, functions, and voice-leading, but also to put this knowledge to practical use in playing, singing, listening, and analyzing. These skills require them to process their knowledge quickly, almost immediately, without having to rely on time-consuming retrievals from memory or logical derivations.

In the language of music, the Rule of the Octave is not exactly a collocation: musical utterances rarely feature complete scales in the bass. Instead, the Rule constitutes a meta-collocation of sorts, a chunk of chunks that contains shorter harmonic progressions that appear with high frequency in tonal music. As Sanguinetti observes, “one of the great advantages of the RO is that it can be used even for short segments” (2012, 114). But because the Rule also constitutes a whole progression with its own internal logic and musicality, students can learn, practice, and remember it as a unit, which makes the Rule of the Octave a cognitively efficient tool to teach its many subsets at once. Learning the Rule requires a memorization effort in the initial stage—as learning linguistic collocations—but then provides a solid scaffold to study the harmonic language of the common-practice period. The Rule of the Octave contributes to held together knowledge about tonal harmony and voice leading under one overarching concept, thus making this knowledge more memorable and easily

retrievable.

Harmonization and theoretical implications

The underlying logic behind the Rule of the Octave is that “each scale degree can be associated with a unique harmony, which reciprocally defines that scale degree” (Christensen 1992, 91). Because of this pairing between chords and scale degrees, the Rule of the Octave “is more than an ingenious tool for accompaniment of a scale; it is a powerful means of tonal coherence” (Sanguinetti 2012, 113). The association between scale degrees and chords conveyed by the Rule of the Octave derives from general principles regarding consonance, dissonance, and perceived stability. The Rule reflects the fluid compositional practice of eighteenth-century musicians and appears in different versions; the version popularized by Fedele Fenaroli, reproduced as Example 2, had become the standard by the second half of the eighteenth century (Sanguinetti 2012, 114).⁵ The basic theoretical underpinning of this version of the Rule is the pairing of the most stable degrees of the scale— $\hat{1}$ and $\hat{5}$ —with the most stable interval—the perfect fifth—, whereas the remaining scale degrees are associated with the less perfect sixth. To create momentum towards points of stability, the chords that precede $\hat{1}$ and $\hat{5}$ include dissonances. Because of this principle, the Rule takes different forms depending on whether we are ascending or descending: when approaching $\hat{1}$, $\hat{7}$ supports a $\frac{6}{5}$ and $\hat{2}$ a $\frac{6}{4}$; when leading to $\hat{5}$, $\hat{4}$ takes a $\frac{6}{5}$ and $\hat{6}$ a $\frac{\#6}{3}$ respectively. Finally, because $\hat{3}$ is considered somewhat stable, it is also preceded by a dissonant chord:

Example 2

Rule of the Octave for Major and Minor scales, after Fenaroli (1775).

⁵ It also coincides with François Campion’s earlier *Règle de l’Octave* (1719), quoted in Christensen (1992, 91).

a $\frac{6}{4}$ on $\hat{2}$ for the ascending scale and a $\frac{6}{2}$ on $\hat{4}$ for the descent.⁶

The principles and chord progressions that constitute the Rule of the Octave embody a wealth of knowledge about tonal harmony condensed in a concise formula. Members of the tonic triad divide the Rule of the Octave into subsets that appear frequently in the music of the common-practice period and cover several topics relevant for the core music theory curriculum:

- a) $\hat{1}-\hat{2}-\hat{3}/\hat{3}-\hat{2}-\hat{1}$: Tonic prolongation and the passing V_3^4 (or vii^{o6}) chord.⁷
- b) $\hat{3}-\hat{4}-\hat{5}$: Extended cadential progression, with ii_5^6 as a common predominant.
- c) $\hat{6}-\hat{7}-\hat{8}$: Contrapuntal cadence. (This segment appears less frequently in actual bass lines than all others.)
- d) $\hat{8}-\hat{7}-\hat{6}-\hat{5}$: The downward, stepwise approach to the dominant shares its harmonic progression ($I-V^6-V_3^4/V-V$) with the modulating Prinner from Gjerdingen's lexicon of galant schemata (2007). In minor, Fenaroli harmonizes descending $\hat{6}$ with an augmented-sixth chord.
- e) $\hat{5}-\hat{4}-\hat{3}$: Evaded cadence/passing V_2^4 .

Teaching the Rule of the Octave in the twenty-first-century classroom

My first experiences teaching the Rule of the Octave took place at Northwestern University within a music theory curriculum that unfolded in a historical manner, beginning with counterpoint and continuing with figured bass. Within this context, I presented the Rule of the Octave to my students after they had learned three-part species counterpoint, principles of keyboard-style harmonization, and common cadential progressions.⁸ Although teaching the Rule of the Octave is particularly

6 For a visual explanation of the generative principles of the Rule of the Octave see Robert Gjerdingen's website, "Monuments of Partimenti," <http://faculty-web.at.northwestern.edu/music/gjerdingen/partimenti/index.htm>. The simplest realization, by Alessandro Scarlatti, uses only triads in root position and first inversion and harmonizes $\hat{6}$ with a $\frac{5}{3}$; the version of Francesco Durante harmonizes $\hat{2}$ with a $\frac{5}{3}$ and ascending $\hat{4}$ with a $\frac{5}{3}$ (as in Mozart's exercise).

7 Comparison between versions of the Rule that harmonize $\hat{2}$ with either $\frac{5}{3}$ such as Scarlatti's or Mozart's) or $\frac{6}{4}$ (as Fenaroli's) highlights the functional similarities between vii^{o6} and V_3^4 chords. Interestingly, the passing V_3^4 —which current music theory textbooks often present before vii^{o6} and V_3^4 chords—did not participate in any of the eighteenth-century realizations of the Rule of the Octave.

8 I was fortunate to teach the honors section of music theory—coordinated by Vasili Byros—, which placed particular emphasis on species counterpoint, but the progression from counterpoint to figured bass to the Rule of the Octave characterizes the music theory curriculum at Northwestern University

appropriate in a historically-inspired curriculum of this kind, it is not necessary to fully commit to the historicist impulse to take advantage of the Rule's benefits. For example, within a more typical music theory curriculum, the Rule of the Octave can be smoothly incorporated after having introduced tonic and dominant chords, since I and V⁽⁷⁾ with their inversions account for seven of the ten different chords that appear in the standard version of the Rule. The harmonization of an ascending and descending scale in the bass presents, all at once, the most typical contexts for I⁶, V₃⁴, V₆⁶, and V₂⁴ chords. Two of the remaining chords of the Rule of the Octave—ii₅⁶ and V₃/V, yet to be theorized in this scenario—would provide a reasonable segue to the introduction of predominant function.⁹

Because the Rule of the Octave conveys a good deal of knowledge about chord grammar, one could spend significant time explaining its theoretical underpinnings. Instead, I suggest that in this case we may better serve our students by focusing on experience before conceptualization. I explain the basic principles underlying the harmonization of scale degrees based on their relative stability, but there is minimum theoretical commentary and no discussion of individual chords—the emphasis is on practice and memorization.¹⁰ I require my students to provide the figures corresponding to the Rule at a short quiz at the beginning of class, to write a four-part realization in a given key (including Roman numerals) for the exam, to arpeggiate the Rule from memory using movable Do solfège, and to play it in different keys at the keyboard.¹¹

Much of this memorization process takes place in the aural skills classroom, where we sing the Rule of the Octave by arpeggiating every chord, ascending and descending. First, students read from a sheet that shows solfège syllables for the complete Rule of the Octave (shown as Figure 1). Then, we encourage them to rely on

as a whole. I use “we,” to refer to activities or strategies common across sections and designed by the curriculum coordinator, Susan Piagentini. I reserve the first-person singular for those activities that I devised specifically for my students.

⁹ I am aware that the idea of introducing an applied dominant so early in the chord vocabulary may meet some resistance. In response, I would argue that putting it on hold until all diatonic chords have been introduced does not do justice to the statistical prominence of V/V in the common practice period. Instead, an early introduction of #4—with or without harmonic conceptualization—expands the universe of viable musical examples for analysis, sight-singing, and transcription significantly.

¹⁰ Some students find the amount of information overwhelming at first: approaching the Rule as a figured-bass exercise makes it fairly accessible, but I also tell students that my intention is to show the “bigger picture” before we delve into the details.

¹¹ The five-minute quiz simply provides an ascending and descending scale in bass clef; students are asked to annotate it with figures. In the written exam, I present a grand staff with a key signature; students write a four-part realization of the Rule of the Octave in keyboard style.



Example 3

Arpeggiation of the Rule of the Octave with a syncopated rhythmic pattern.

Although these arpeggiation exercises facilitate learning chord structure and building connections between bass lines and implied harmonies, they entail a risk of neglecting voice leading. To ensure that students remain mindful of the horizontal implications of the chord progression, I sing the Rule of the Octave with them in four-part harmony, rotating the parts so that everyone becomes familiar with every horizontal line.¹³ Requiring students to learn the Rule of the Octave at the piano provides a good reinforcement to the emphasis on voice leading, although it presents a challenge for those without previous keyboard experience. To facilitate the task, I focus on a limited number of keys and chord positions. For example, I asked my students to play the Rule of the Octave in major keys up to two sharps or flats always using the same position—so that they could focus on learning successions of hand shapes.¹⁴ I prefer to teach the position with Do in the soprano (previously shown as Example 2), because the alternation between Do and Ti emphasizes changes in harmonic function.¹⁵ With these parameters, playing the Rule of the Octave at the keyboard is an accessible goal regardless of individual differences in keyboard skills: although several students initially complained about the task being too difficult, everyone in the class was able to play the Rule (with various degrees of fluency) after two weeks of practice. As with the arpeggiation exercise, students submitted videos of their performances of the Rule of the Octave in different keys at the piano and eventually played it from memory in a keyboard-skills test.

To be sure, memorization and testing are neither alluring nor fashionable teaching strategies. Modern pedagogy and public opinion treat rote learning with skepticism, opposing it to “meaningful” or “deep” learning and challenging its pedagogical value (Meyer 2002, Novak 1990, Towler 2014). Risks and limitations notwithstanding, memorization through repetition is still considered a valuable tool (Arevalo 2015),

13 The Rule of the Octave teaches good voice-leading, with the caveat of the parallel fifths between alto and soprano at $\hat{6}$ – $\hat{7}$ on the ascent. All eighteenth-century treatises tolerated these parallel fifths in keyboard style.

14 The focus on the physical appearance of chords does not aim to substitute conceptual understanding of intervals and scale degrees, but I find it a useful teaching aid to develop keyboard skills.

15 Especially relevant when applying the Do-Ti test (see Stevens 2016) for harmonic hearing.

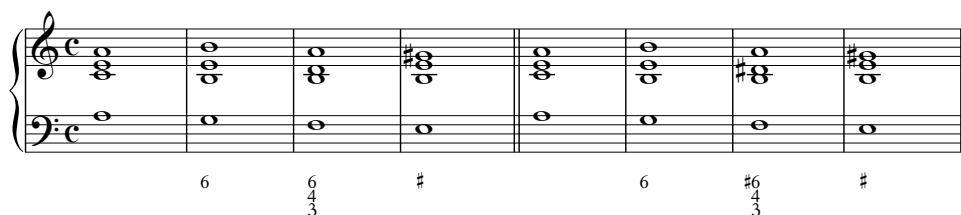
especially in second-language learning (Nasrollahi-Mouziraji and Nasrollahi-Mouziraji 2015)—a process not unlike that of learning a specific musical style, as I argued above. Educators in all fields and levels frequently face decisions regarding whether or how much content students should commit to memory. When teaching tonal harmony, I have found that memorizing the Rule of the Octave is worth the effort and that the reward of this initial learning step is momentous. Teaching the Rule scaffolds future learning of harmonic vocabulary, improves analytical skills, facilitates harmonic dictation, enhances keyboard performance, and allows structured improvisation.

a) From the Rule of the Octave to mastering tonal harmony

The Rule of the Octave teaches a significant subset of the vocabulary of tonal harmony efficiently (in the course of about two weeks). This musical knowledge need not be explicit from the beginning. At this stage, students interiorize, for example, that ii_5^6 precedes the dominant, that V_3^4 prolongs tonic, that V_2^4 resolves to I^6 , or that $\hat{3}$ should be generally harmonized as I^6 instead of as iii —before they have acquired the vocabulary and formal categories to describe these harmonic concepts. Later, when we make explicit the form and function of certain chords and harmonic paradigms, and discuss them in more detail, students can relate these concepts to their previous experience. This approach to teaching tonal harmony follows the principles of what pedagogues call, self-evidently, the Whole-Part-Whole learning model. By presenting first a simplified “Whole,” the model “introduces new content to learners by forming in their minds the organizational framework to effectively and efficiently absorb the forthcoming concepts” thus providing “a mental scaffolding to prepare the learners for the new instruction” (Swanson and Law 1993, 44–45). The Rule of the Octave, as a manageable compendium of limited yet varied chord progressions, provides an effective “first Whole” to the complete chord vocabulary and grammar of tonal music.

Teaching harmony with the Rule of the Octave implies changes to the typical order (as reflected by most music theory textbooks) in which certain chords are introduced. For example, based on this way of presenting material, students encounter the ii_5^6 chord before ii , ii^6 , or IV chords. There are obvious pedagogical reasons to organize instruction by order of difficulty, therefore teaching triads before seventh chords, root position chords before inversions, and diatonic chords before chromatic ones. The selection of chords that participate in the Rule of the Octave, although not exactly aligned with an organization of harmonic content in terms of conceptual difficulty, provides a fair representation eighteenth-century harmony based on frequency of

chord usage. Because of this way of prioritizing concepts, students encounter certain chromatic harmonies, such as the V_3^4/V chord, relatively early. Similarly, in the minor mode, Fenaroli's version of the Rule of the Octave harmonizes the same point of the scale—the descending approach to the dominant—with an augmented-sixth chord. When I formally introduce this chord (after the period of intensive study of the Rule of the Octave is over), I sing two different harmonizations of a stepwise descent in minor from $\hat{1}$ to $\hat{5}$ with my students: an earlier version of the Rule of the Octave by Dandrieu (1735) and the familiar one by Fenaroli (1775, both segments presented in Example 4). The comparison with a diatonic version of the chord helps students learn the function and contrapuntal implications of the augmented sixth.¹⁶ Previous knowledge of the Rule of the Octave is not necessary to establish such analogies, but repeated practice increases familiarity with the pattern, thus strengthening the effect of the comparison.



Example 4

Fragment of the descending Rule of the Octave after Dandrieu (left) and Fenaroli (right).

Exceptions to the Rule of the Octave—such as the harmonization of $\hat{2}$, $\hat{4}$, or $\hat{6}$ with a $\frac{5}{3}$ when approached or left by leap—provide a possible path to expanding harmonic vocabulary beyond the harmonies that appear in the Rule. Sequences follow nicely, inviting students to consider segments of basslines as members of one of two possible categories: those that move by step (largely explained by the Rule) and those that leap (largely explained as cadences and sequences). Obviously, students can acquire similar knowledge when content is presented in a different order. The advantage of using the Rule of the Octave is that it makes knowledge accessible and easier to remember by having it condensed under a single conceptual unit.

¹⁶ Presenting new content using analogy has been found an effective way to improve learning (Gentner 2010).

b) Incorporating the Rule of the Octave into music analysis

One of the lessons that students implicitly learn with the Rule of the Octave is the importance of bass lines and how to read their harmonic implications. Memorizing this standard harmonization enables students to infer harmonies from basslines with fluency and accuracy. During the process of learning the Rule of the Octave, I expose students to multiple examples of music that contain subsets of ascending or descending scales in the bass. To be sure, real basslines do much more than move stepwise but nevertheless subsets of the Rule of the Octave account for a substantial number of harmonic progressions found in eighteenth-century music. (As a sample, Example 7 shows the total number of appearances of each subset of the Rule in the expositions of Mozart's Piano Sonatas, computed by myself.)

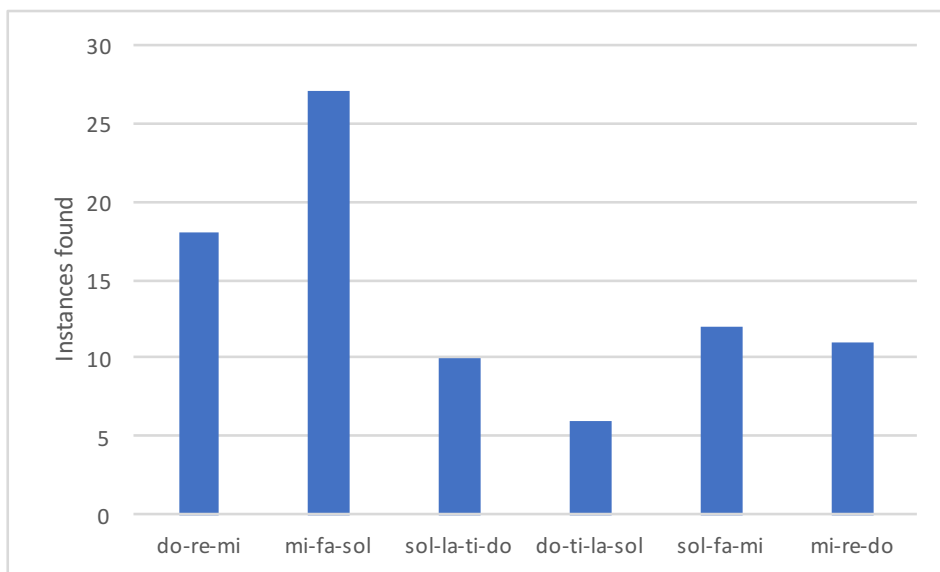


Figure 2
Number of instances of the subsets of the Rule of the Octave
in expositions of Mozart's Piano Sonatas.

Examples of baroque music with unfigured basses provide an opportunity to approach harmonic analysis with a practical question: how would you harmonize the bass line if you were the continuo player? This type of question addresses directly the kind of skill targeted by the Rule of the Octave in its original historical context. For

example, I present my students with the last six bars of the A section from Handel's aria "Piangerò la sorte mia" (Example 5). The class provides the figures implied by the Rule of the Octave, we confirm them with the violin parts, and then write a possible realization in keyboard style. After having examined this segment, which projects a standard realization of the Rule of the Octave, I bring students' attention to the beginning of this lament aria, where Handel uses the descending scale in the bass but harmonizes it differently at each occurrence (Example 6). The comparison exercise serves to present different ways of harmonizing the same bass line and offers an opportunity to engage students in questions of musical expression. At the onset of the aria, weeping Cleopatra lacks the momentum associated with the forward-driving succession of chords of the Rule of the Octave. Her first descent lacks $\sharp 4$ over $\hat{6}$; for the second iteration (m.6), she sings to the even more passive, downward sliding seventh in the bass instead of using the V^6 chord; and the third, incomplete descent (mm. 11–12) emphasizes the minor quality of the submediant chord. Only for the last iteration of the descent in the bass (Example 5), when Cleopatra is about to explode in anger for the contrasting section of this aria da capo, did Handel deploy the standard Rule of the Octave—perhaps finding the "correct" harmonization at the same time as Cleopatra finds her strength.¹⁷

Example 5

Handel, *Giulio Cesare*, "Piangerò la sorte mia," measures 38–47.

The Rule can also inform analysis of music beyond the eighteenth century. The "Enigma" theme of Elgar's Variations Op. 36 begins with a normative realization of the ascending Rule, interrupted as $\hat{5}$ is harmonized with a $\hat{6}_4$ that does not resolve

¹⁷ The beginnings from Bach's "Goldberg" Variations and Mozart's Piano Sonata in E-flat K. 282 provide good illustrations of the descending Rule of the Octave. Ascents are more likely to appear in segments than as a complete scale.

Violin I

Violin II

Cleopatra

Continuo

Pian - ge - rò, pian - ge - rò la sor - te mi - a,

si cru - de - le e tan - to ri - a, fin - chè vi - ta in pet - toa vrò;

Example 6

Handel, *Giulio Cesare*, “Piangerò la sorte mia,” measures 1–11.

to the expected V.¹⁸ This discrepancy serves to highlight the conspicuous absence of the dominant chord in the first phrase (one feature of the theme that students occasionally overstate, asking whether the absence of V constitutes Elgar’s “Enigma”). Even for those passages that do not adhere to the Rule of the Octave, knowledge of this standard harmonization provides students with a set of expectations to confirm or reject depending on musical evidence rather than approaching their analytical decisions from scratch. With nothing in their analytical toolkit other than cadences and the Rule of the Octave, students can make sense of a significant amount of music of the common practice period; when approaching different repertoires, the Rule remains a useful background for comparison that allows students to realize the nature of stylistic differences. For example, Janet Bourne uses the Rule of the Octave in a project where students harmonize current popular-music tunes in eighteenth-century style.¹⁹

¹⁸ I am grateful to Robert Gjerdingen for bringing this example to my attention.

¹⁹ Personal communication, May 2017.

Andante
legato e sostenuto ten.

p molto espress. pp cresc. p pp

Example 7
Elgar, Variations Op. 36, measures 1–7.

c) Using the Rule of the Octave to facilitate harmonic hearing

The set of harmonic expectations derived from the Rule of the Octave provides a scaffold to approach not only analysis but also harmonic dictation, which students tend to perceive as a difficult task at first. Our first harmonic transcriptions use combinations of scalar basses and cadences, thus removing the challenge of hearing harmony. Because harmonies are directly inferred from the bass line, the activity renders harmonic hearing somewhat trivial. Yet it provides a comfortable first step to introduce harmonic hearing by directing attention to bass lines, which some listeners find “at first puzzling and seemingly inscrutable” (Karpinski 2000, 120). Once they identify the bass, students find it reassuring that they can simply apply their knowledge of the Rule of the Octave to make educated guesses about chord identification. Surely, having a set of expectations on a given bass does not exhaust the skills for successful harmonic hearing but it does facilitate the task, enabling decisions that consider the aural input as well as a set of highly probable options within a given style. In the passage by Beethoven showed as Example 8, Karpinski suggests the following strategy to identify chords:

After determining the pitches of the bass line, listeners can move on to identifying the inversions of individual chords. Coupling bass line scale degrees with inversion yields root identification and Roman-numeral labels. Through deductive reasoning, the conjunction of bass scale degree and chord inversion leads logically to a single chord root (2000, 121).

Deductive reasoning need not follow the identification of inversions: it can participate in the process directly after the identification of the bass line, thus assisting in the determination of inversions. By mapping the passage onto the Rule of the Octave, students quickly discard ii or iii as viable chords in this context, and

**Example 8**

Beethoven, Piano Sonata in C Major Op. 2, No. 3, third movement, Trio, measures 17–21.

arrive at a $I-V_3^4-I^6$ for the first three measures. Certainly, teachers and students should use this type of stylistically-informed logic as an aid, not a substitute, of harmonic hearing. Students need to consider that $\hat{2}$ can support V_3^4 but also vii^{o6} (as in the version of the Rule of the Octave that Mozart taught to Attwood) or V_4^6 (Beethoven's choice for the passage, although during his time it was a less common alternative than the previous two). Harmonic listening is simplified to a choice between the three chords, depending on whether students hear $\hat{5}$ in the second measure—a task that Beethoven facilitates through register and texture—and/or $\hat{4}$. Similarly, for the $\hat{4}$ in the left hand in measure four, students may wonder whether to assign a ii_5^6 or a V_2^4 . To decide between predominant and dominant functions, I advise students to discriminate between the two alternatives applying the Do-Ti test (Stevens 2017).²⁰

d) Enhancing keyboard skills with the Rule of the Octave

I already mentioned that practice at the keyboard reinforces memorization of the Rule of the Octave while emphasizing proper voice leading. Additionally, learning to play the Rule of the Octave enables students to perform exercises in figured and unfigured bass of considerable difficulty for freshman without previous keyboard experience. After my students learned the Rule of the Octave, we analyzed the theme of Bach's *Goldberg Variations*—most of which can be explained as a succession of subsets of the Rule in G major and D major. Then, I presented them with a bass line that included only those figures *not* derived from the Rule of the Octave (as shown in Example 9) and asked them to play, sing, and harmonize it at the keyboard. This is a task of considerable difficulty for students without previous piano training but it was

²⁰ Students do learn that in this type of neighboring motion they should apply the Rule of the Octave to harmonize the bass depending on the point of arrival—although they do not always remember this rule when they encounter an example like the one from Beethoven's Sonata. The Do-Ti test allows students to locate dominant harmonies by singing (or audiating) either Do or Ti.

accessible to everyone in the class.²¹ Drawing on their knowledge of the Rule of the Octave, students also sang in solfège excerpts from Handel's arias (such as "Piangerò la sorte mia" or "Ombra mai fu") while accompanying themselves at the keyboard playing the continuo parts, which contain several segments of the Rule of the Octave.



Example 9

Bass line from Bach's Goldberg Variations, measures 1–16.

e) Improvising with the Rule of the Octave

The Rule of the Octave provides a starting point to create diverse, structured improvisation exercises. I begin by splitting the class into three groups and singing the three upper voices of the Rule of the Octave as I play the scale at the piano, using a slide (shown as Figure 3a) for visual support.²² Then, I remove part of the information—showing a second slide that contains no information regarding harmony but provides a visual aid for students to track in which point of the scale they are at every moment (Figure 3b)—and ask students to sing again. At this stage, the exercise combines memory with restricted improvisation: students typically remember parts of the line that they have just sang; where memory fails, they draw on their knowledge of the Rule of the Octave to move to a close note of the following chord. After a few rounds up and down the scale following different voice-leading paths, students are ready to incorporate rhythmic patterns. For example, we applied one of the basic rhythmic patterns of the sarabande (shown in Example 10a) to the Rule of the Octave, changing chords every measure.²³ In another improvisation, I used a siciliano rhythm (Example 10b) and asked students to add a neighbor tone of their choice for the sixteenth-note and a chordal leap for the eighth-note of the second measure.

21 An audio track with a performance by an average student from the class (a viola major without previous piano training) is available at <https://vimeo.com/237661409>

22 For small labs/sections, the activity works well without the alto part. This distribution also eliminates the problem of the parallel fifths between alto and soprano towards the end of the ascending scale (eighteenth-century treatises tolerated these fifths in keyboard style).

23 For a demonstration see <https://vimeo.com/237659703> (the audio was recorded in a Freshman Aural skills class during the winter of 2017). The audio begins on Fa in the ascending version of the Rule.

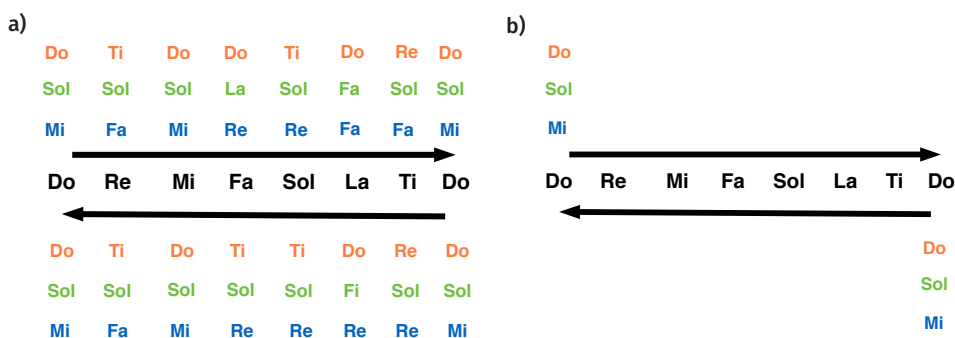
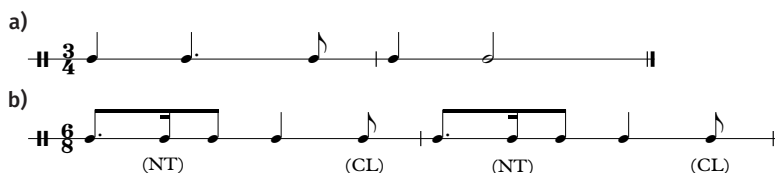


Figure 3

Materials for singing improvisation using the Rule of the Octave.



Example 10

Typical rhythmic patterns of the sarabande and the siciliano used for improvisations.

An informal student survey

I would like to let students speak for themselves regarding the pedagogical benefits of learning harmony with the Rule of the Octave. At the end of the Winter Quarter of 2017, when the period of intense study of the Rule of the Octave was already behind them, I asked my aural skills class about their reactions to this component of the course. The results of my inquiry do not constitute strong empirical evidence of the effectiveness of the method: the sample was small and some students might have answered what they thought I wanted to hear. Yet I believe there is value in their responses. The survey was voluntary and anonymous, and I received 16 responses from a total of 22 students. When asked how often the Rule of the Octave had informed their hearing, singing, writing, or analysis of harmony, most students answered “frequently” or “very frequently;” when asked how useful it had been to memorize the Rule, the majority responded “helpful” or “very helpful” (a summary of their answers appears in Figures 4 and 5). Finally, I asked for a free response about their own perception of the benefits of memorizing the Rule of the Octave. Unsurprisingly,

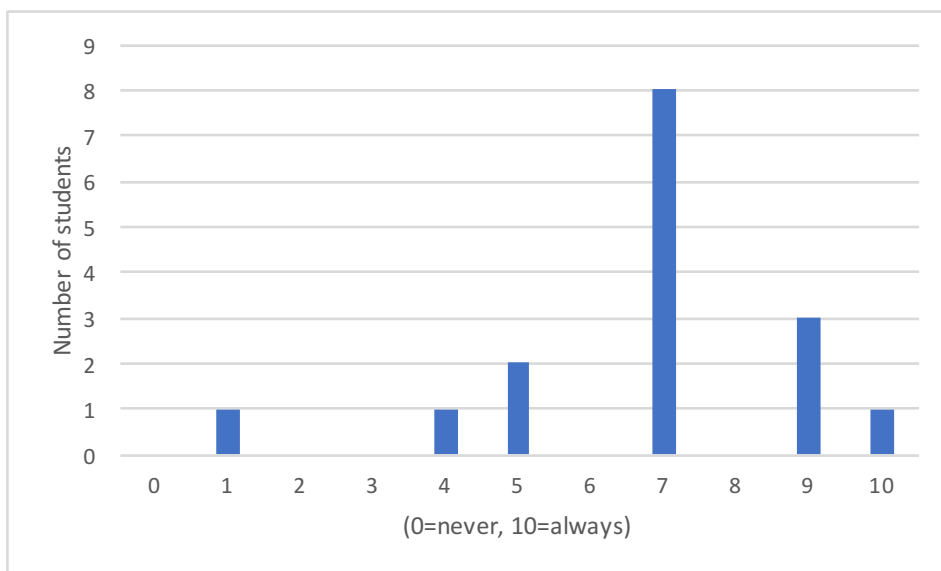


Figure 4

Students' responses to the question "How often has the Rule of the Octave informed your way of hearing, arpeggiating, writing, or analyzing harmony?"

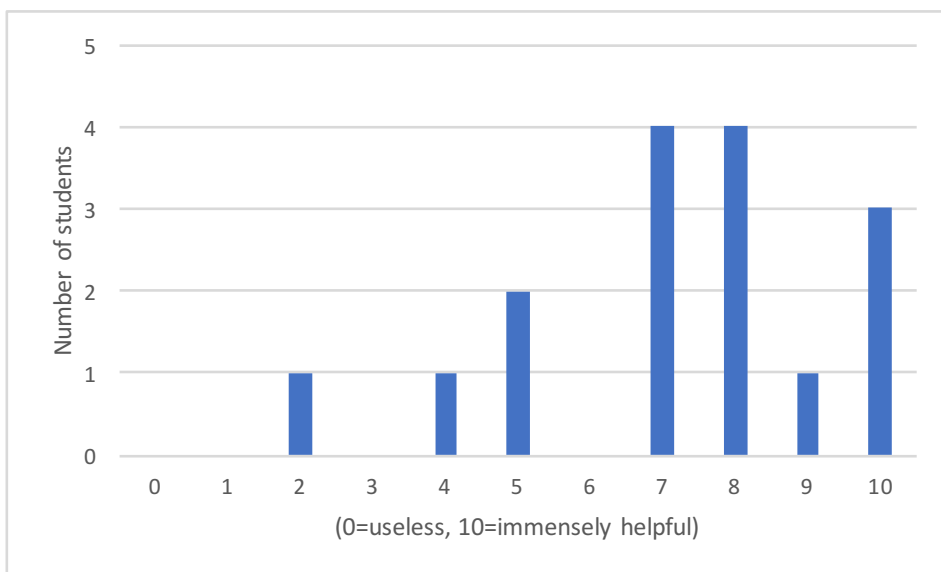


Figure 5

Students' responses to the question "How useful has it been to memorize the Rule of the Octave?"

several responses emphasized learning harmonic progression and voice leading. Some students felt that the predictive power of the Rule of the Octave had improved their listening and analytical skills, and a couple of students were quite enthusiastic about the impact of the method in their musicianship (responses shown in Table 1).

What do you think you have gained by learning the Rule of the Octave?
A better sense of how/why some chord progress in a certain manner.
Better understanding of chord progressions and harmonization.
I learned how harmony progresses.
Helped learn proper voice-leading + a good idea of chord progressions.
Voice leading in chords in relation to scale degree.
How to predict progressions based on the bass line.
It helps me predict what might happen in the music.
It helps on looking at a bass line and being able to get a very likely sketch of the harmonies.
Being able to analyze more quickly given the bass line in common practice period.
Helps analyzing music in a new way.
I understand the relation between the tonic and the dominant better.
Made it easier to understand the Roman numerals and the reasons behind them.
Good understanding of the relationship between figures and harmony.
A great knowledge of period practice harmonization and a standard chord progression which so much music is based off.
An understanding of the way chord progressions generally worked in the Baroque and Classical periods.
I have been able to listen to classical music better.
I love ROTO. I feel that it has helped me a lot as a musician. It is very fundamental and tedious but I'm glad I was taught it, as I understand analysis and composition better now!

Table 1

Open-ended responses (quoted verbatim) from the student survey on the Rule of the Octave.

Conclusion

When music theory students learn the Rule of the Octave, not only do they acquire a chord vocabulary; they also internalize a set of chord progressions, musical collocations that they can subsequently “read,” “write,” “hear,” and “speak.” Empirical evidence shows the importance and effectiveness of memorizing linguistic collocations

for second-language learners; music-language learners can also benefit from similar, targeted memorization activities. As I acknowledged above, mechanical repetition has limited allure for students and educators today and the reader will not be surprised to learn that students do not tend to respond enthusiastically to the first stage of learning the Rule of the Octave. However, after going through this initial step, once students have memorized the Rule in writing, singing, and playing, they have acquired a wealth of knowledge—partly explicit, partly tacit, and largely embodied through singing and playing—about tonal harmony in a relatively short time. This venerable chord progression is a potent tool to teach tonal harmony that we can use with our students today—as Mozart did with Attwood centuries ago. Just as historically-informed performance aims to recover the original sound of musical works as once experienced by their intended audiences, historically-informed pedagogy provides a window into the musical knowledge, skills, and ways of thinking of musicians of the past, with whom we still interact in the twenty-first century classroom. In my experience teaching music theory and aural skills to college freshman, I have found in the Rule of the Octave a tool that is historically informed, cognitively efficient, and that can generate a variety of valuable learning experiences.

Works Cited

- Agawu, Kofi V. 2009. *Music as Discourse: Semiotic Adventures in Romantic Music*. New York: Oxford University Press.
- Arevalo, Jose. 2015. "In Defense of Memorization." *Mysteries and Manners*.
<https://mysteriesandmanners.wordpress.com/2015/06/08/in-defense-of-memorization/>.
Accessed January 18, 2018.
- Boers, Frank and Seth Lindstromberg. 2008. *Teaching Chunks of Language*. Berlin: Helbing.
- Callahan, Michael Richard. 2010. "Techniques of Keyboard Improvisation in the German Baroque and Their Implications for Today's Pedagogy." Ph.D. dissertation, Eastman School of Music, University of Rochester.
- Clendinning, Jane Piper and Elisabeth Marvin. 2016. *The Musician's Guide to Theory and Analysis*. 3rd Edition. New York: W. W. Norton and Company.
- Christensen, Thomas. 1992. "The 'Règle de l'Octave' in Thorough-Bass Theory and Practice." *Acta Musicologica* 64 (2): 91–117.
- Feld, Steven and Aaron A. Fox. 1994. "Music and Language." *Annual Review of Anthropology* 23: 25–53.
- Gentner, Dedre. 2010. "Bootstrapping the Mind: Analogical Processes and Symbol Systems." *Cognitive Science* 34: 752–775.
- Gjerdingen, Robert. 2007. *Music in the Galant Style*. New York: Oxford University Press.
- Gjerdingen Robert, and Janet Bourne. 2015. "Schema Theory as Construction Grammar." *Music Theory Online* 21(2).
http://www.mtosmt.org/issues/mto.15.21.2/mto.15.21.2.gjerdingen_bourne.html.
Accessed January 14, 2018.
- Karpinski, Gary S. 2000. *Aural Skills Acquisition: The Development of Listening, Reading, and Performing Skills in College-level Musicians*. Oxford and New York: Oxford University Press.
- Knop, Sabine de, Frank Boers, and Antoon De Rycker. 2010. *Fostering Language Teaching Efficiency through Cognitive Linguistics*. Berlin: De Gruyter Mouton.
- Mayer, Richard E. 2002. "Rote Versus Meaningful Learning." *Theory into Practice* 41 (4): 226–32.
- Monelle, Raymond. 1992. *Linguistics and Semiotics in Music*. Philadelphia: Routledge.
- Nasrollahi-Mouziraji, Alieh, and Atefeh Nasrollahi-Mouziraji. 2015. "Memorization Makes Progress." *Theory and Practice in Language Studies* 5 (4): 870.
- Novak, Joseph D. 1990. "Concept Maps and Venn Diagrams: Two Metacognitive Tools to Facilitate Meaningful Learning." *Instructional Science* 19 (1): 29–52.
- Piagentini, Susan. 2014. Student Course Packet for Aural Skills II. Bienen School of Music, Northwestern University.
- Sanguinetti, Giorgio. 2012. *The Art of Partimento*. New York and Oxford: Oxford University Press.
- Stevens, Daniel. 2016. "Symphonic Hearing: Mastering Harmonic Dictation Using the Do/Ti Test." *Journal of Music Theory Pedagogy* 30: 111–174.
- Swanson, Richard and Bryan Law. 1993. "Whole-Part-Whole Learning Model." *Performance Improvement Quarterly* 6 (1): 43–53.

- Towler, Luke. 2014. "Deeper Learning: Moving Students Beyond Memorization." *NEA Today*, <http://neatoday.org/2014/11/25/deeper-learning-moving-students-beyond-memorization-2/>. Accessed December 19, 2017.
- Vasiljevic, Zorana. 2014. "Teaching Collocations in a Second Language: Why, What, and How?" *English Language Teachers Association Journal* 2 (2): 48–73.
- Wray, Alison. 2000. "Formulaic Sequences in Second Language Teaching." *Applied Linguistics* 21: 463–489.

Embracing “the Teachable Moment”: Creative Warm-Ups, Pre-Teaching, and Their Role in the Music Theory Curriculum

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One of the most common problems that music theory instructors seem to share is the lack of time to cover as many topics as they would like in a given class period. This lack can be from any number of causes, from theory coursework reinforcing related coursework such as keyboard skills and ear training, to acquainting students with foundational concepts of music theory and history, the technical, historical, and cultural foundations of our art.

While no single approach can remedy this problem of time, I have developed various activities that utilize small pockets of typically unused time, and engage students from the moment they enter the room. I call these techniques and activities “preteaching.” As I will demonstrate, preteaching activities not only set a positive and engaging tone for the class, but they can enhance the entire music curriculum. As a result, instruction is not only more efficient, it extends across areas of music study, developing the whole musician.



A common problem that music theory instructors seem to share is lack of time to cover as many topics as they would like in a given class period. There are a number of causes of this dilemma. One cause can be course scheduling; for example, theory courses at my institution now include substantial keyboard study to supplement keyboard classes, shortened as the result of block scheduling. Another cause is the ongoing effort to fill in gaps in student learning that can occur at various points in the sequence. Instructors are familiar with issues surrounding the divergent levels of prior knowledge in a first-semester course, for instance. However, other student deficiencies, such as ignorance of major musical styles or keyboard skills that are not as developed as they could be, may not make themselves known until later. This gap in their learning can make later theory topics more difficult for students to understand; consequently, teachers may have to address particular topics before they can proceed, leaving less time for guided practice and working one-on-one with individual students.

No single approach can remedy this problem. However, in this article I will describe several activities that make use of the time in which students are settling into their seats to address these gaps in student knowledge. It is important to note that these activities are distinct from homework, but may enhance the students’ ability to absorb that day’s lesson, to strengthen their foundation for accomplishing homework. Some activities are designed to remediate deficits, others plant seeds for development

later in the same class session, and still others lay the groundwork for future lessons. While I consider all of these activities to be creative warm-up activities, they also fall under a broader category of instruction that I call “pre-teaching.” In this context, pre-teaching denotes conscientiously designing activities that serve as foundations for future lessons. I will begin by first exploring the benefits of creative warm-up activities, and how the concept of pre-teaching informs them. I will then describe five sample warm-up activities that I have found to be particularly effective.

Creative Warm-Up Exercises and Pre-Teaching

Like athletes, musicians perform best after they have completed a warm-up routine of some sort. Not only does it create the physical conditions in which the most effective learning can take place, but the mind is also prepared for what lies ahead. Students tend to retain the information gleaned at the beginning of class more so than what happens in the middle or the end, and so the warm-up is particularly important.¹ On a class-to-class level, creative warm-ups set the stage for each day’s lesson. Educational psychologist Madeline Hunter calls activities such as these “anticipatory sets.”² Hunter explains that an anticipatory set is “an activity that brings mental focus (activates the neural programs necessary) to the upcoming learning activity. An anticipatory set may hook into and bring forward students’ past knowledge and experiences, which facilitates the acquisition of that day’s learning.”³

While activities may be particular to a particular day and lesson, concepts related to these activities are stored to varying degrees in long-term memory. New neural pathways form that allow students to access the information gained as part of a warm-up activity; additionally, research has shown that repetition, such as the kind that occurs through warm-up activities, increases the brain’s “storage strength.” Even if a student is not consciously aware of learning a new concept at the time, retrieval of that information is easier than learning it anew.⁴ Pre-teaching, then, simply refers to that process of placing material in students’ memory so that it may be retrieved later and with less difficulty.

¹ Cummings and Daniel (2014, 88).

² Hunter (2004, 55).

³ Ibid.

⁴ Bye (n.d), accessed 12 April, 2018. More information on the brain’s retrieval strength (the immediate accessibility of knowledge) and its relationship to storage strength can be found at the Bjork Learning and Forgetting Lab: <https://bjorklab.psych.ucla.edu>.

Pre-teaching activities also have a number of practical benefits, both inside and outside the theory curriculum. In addition to making students more conversant in the musical language in general (such as basic keyboard skills, chord and scale spelling, etc.), students are all put on a more even footing topically. For example, consider the topic of writing and aurally/visually recognizing modal scales. Ideally, instructors cover this topic at the beginning of the theory sequence, at least quickly, when it is first addressed in many theory textbooks.⁵ If not, when the topic returns later during the transition from chromatic harmony to early-20th-century techniques, many students may have forgotten this topic entirely or need substantial review before proceeding.⁶ Pre-teaching the modes allows me to move the students forward quickly and easily when the topic arrives in the sequence.

The other benefit of pre-teaching is its flexibility in addressing particular planning needs. Some activities can be used as a means of scaffolding for immediate application, while others may be used over longer periods of time.⁷ Below I share five sample warm-up exercises that I use, and show how they lay the groundwork for further development. I have labelled some of them “self-contained” in that they do not necessarily have a direct bearing on the lesson of the day; ultimately, though, all of these activities are means to an end, even if that end occurs later in the students’ coursework. For instance, the first activity discussed, “composer of the day,” reinforces the students’ ability to connect music history and music theory, and

5 For instance, Clendinning and Marvin (2016) initially cover the modes in chapter 5, as an expansion on the minor mode, and the concept is reinforced by workbook exercises for the chapter. The topic returns in chapter 34, “Modes, Scales, and Sets,” as the authors discuss the composers and music of the first decades of the 20th century. Similarly, Benward and Saker (2014) introduce modes in early chapters, but return later to the topic. Kevin Holm-Hudson (2016) does the same, and several colleagues, who generate their own course materials but do not use a textbook, anecdotally report that they cover modes early on but return to them later.

6 I have experienced this particular situation in my own courses. As a result, I have had to stop and teach the modes to students who should have already had this topic. Unfortunately, this means that in the past I have lost valuable time that could have been spent looking at more extensive literature examples.

7 In the simplest terms, scaffolding is the creation of sequential activities, one building on the next, that help students first learn concepts and then later use those concepts with increasing levels of sophistication and with less direct supervision. In a music theory context, for instance, we unconsciously create scaffolding when we teach the rules of voice leading. Teachers will often begin with two voices, showing students the right way to create each line without error, and then reinforce these rules through error detection. These scaffolds are then removed as students learn to write in two voices on their own without error, and carry rules over to four voices; they are able to use these concepts independently, without the teacher having to constantly watch over their shoulders.

exercises discussed later, like keyboard exercises, not only introduce concepts that will appear as part of the theory sequence (such as intervals and different types of chords), but enhance instruction in other music-related coursework, such as keyboard class and private piano instruction.

1. Composer of the Day (self-contained)

The 15 minutes before class formally begins can serve as a time for enrichment as students settle in and prepare for class. When students enter my classroom, they always see an opening Power Point slide that features a composer or performer who was born or died on that day. Almost without exception, there is either a birth or death date of a reasonably well-known composer or performer every day of the year. I include a picture of the composer or performer on the slide, dates of and locations of their births (and deaths as applicable), and a paragraph about their significance and major works. Additionally, representative works play on a continuous audio loop.

This small addition to the class, which takes no in-class time, has a number of benefits. First, it exposes students to a wide variety of composers and performers, which is crucial since students can have an extremely limited knowledge of them (even the traditional canonic composers). Second, the music playing exposes them to not only a wide variety of musical styles, but particularly to these canonical works which, again, many students may have not heard before. Finally, having music on as students enter the room creates an atmosphere of creativity and an association of music theory with the works they are listening to as they enter the room. As more classes pass by, students are often eager to see who the composer of the day is. While they may not remember each composer, this activity exposes students to a much wider field of composers and styles, and is a tremendous opportunity to expand their awareness of composers and performers outside the traditional canon. The students particularly benefit when works by the same composers can be used as musical examples as part of the class as well.

2. The Golden Ticket

Just as the composer of the day helps students become more familiar with composers and literature, the “golden ticket” helps students process information that they will work with further in the day’s lesson. As students enter the room, they pick up a golden ticket at the piano and begin working while I am working with small

groups of students at the keyboard. The ticket contains a short problem or activity, printed on goldenrod-colored paper, that is relevant to the day’s lesson. For example, preceding a lesson on mode mixture, students are asked to set up and resolve five deceptive cadences in major and minor keys, using both triadic V as well as V⁷. Since cadences were covered the previous semester (before summer vacation), this gives the students an additional opportunity to review the principles of part-writing associated with this particular cadence. It also sets the stage for chromatic third relationships, since the deceptive cadence from V to $\flat$ VI in a major key can be associated with the principles of voice leading and resolution from the minor mode. Similarly, preceding a lesson on enharmonic modulation, where the German augmented sixth chord and the dominant seventh are reinterpreted enharmonically, I ask students to rewrite a Gr6 chord so that it looks like a V⁷ chord and vice-versa. After formally introducing this topic, students are more able to understand the mental process that occurs with this harmonic phenomenon, and recognize that the information they put on paper represents the mental process by which a chord is reinterpreted.

While preparation of these activities can be time-consuming at first, they offer a number of benefits. Students are working from the moment they enter the room, so no time is wasted getting the class focused once the official start time arrives. Likewise, students can make good use of the time that might otherwise be spent talking or playing on their phones. The activity can serve a number of purposes: it can be a review of previously learned material, additional practice of current materials, or a segue into the day’s lesson and new materials. Finally, the allusion to Willy Wonka’s “golden ticket” is simply a lighthearted way to get students thinking – particularly helpful for classes that meet at 8 a.m.!

3. Keyboard Warm-Ups

The next pre-teaching activity, keyboard warm-ups, focuses less on orientation towards the day’s lesson and instead supports the student’s development of kinesthetic and aural skills. Depending upon the institution, music theory courses may be tasked with teaching some keyboard skills in addition to applied piano and piano classes; teaching these skills is especially important as students can arrive at college with a limited keyboard background.⁸ I structure keyboard drills so that they coincide

⁸ At my institution, theory courses reinforce keyboard courses through emphasis on homophonic keyboard textures, while keyboard courses focus slightly more on independence of the hands. I have designed my activities so that they not only fulfill the need to gain basic piano instruction, but teach

with the specific materials we are working on in class. While I am teaching them rudimentary keyboard skills in the short-term, I am also pre-teaching a number of concepts, which I will explain below.

Each week on Monday I introduce a new drill or group of drills at the official start time of class; we practice the drill(s) each class period, and students receive a grade on the following Monday as they pass through a line. After the “quiz” on the previous week’s drill, a new one is introduced.

I teach first-year students keyboard drills starting the first day of classes. The first drill is simply octaves, which also teaches piano topography. Students line up at the low end of the keyboard. The first student plays all of the Cs at the keyboard, one after another, in a steady quarter-note rhythm. Then the next student in line does the same with all of the Ds, leaving a quarter rest at the end since there are only seven Ds. Each student takes a new pitch until we arrive back at C. We then proceed down the black keys. With a single activity, students have gained a tremendous amount of information. In addition to simply learning the locations of pitches at the keyboard, they learn the concepts of pitch class and octave equivalence. All students also call out the next pitch to be played, forcing them to think ahead as well as be active participants in the drill, even when they are not performing. We cycle through octaves twice in a class, once to name the black keys as sharps and once as flats, drilling enharmonic pitches, and for our students, a chance to learn “absolute note names,” where sharp notes take an “-ees” ending (e.g. fis, dis, etc.) and flat notes take an “-ess” ending (e.g. bes, des, etc.). A sample of this activity can be seen in Example 1, where the bottom staff represents where the students cue the next pitch name.

Any drill can be quickly adapted to suit the ability levels of different groups. For example, with an honors or advanced group, we will experiment with different rhythms while playing, and announce the white keys by enharmonic names (e.g. “bis” for B-sharp or “dis-is” for D-double-sharp).

After octaves, we move through all of the intervals at the keyboard. We begin with minor seconds and continue out to major sevenths in ascending and descending forms, focusing only on one cardinality each week in the early stages (e.g. major thirds ascending, major thirds descending, minor thirds ascending, minor thirds descending).⁹ Not only do keyboard drills get students up and moving, but they

essential concepts, which are reinforced in classwork. While students know at the outset that they are graded on keyboard drills, and as a formal part of the course, I do not begin working on keyboard until the official start time of the class.

⁹ We use whichever black-key spelling is the easier and more intuitive. For instance, E-flat to F, a major

student 1 plays:

student 2 plays:

8^{va}

8^{vb} loco

8^{vb} loco

all students speak: D E etc.

Example 1
Hand-Over-Hand Drill, Octaves.

experience both kinesthetically and aurally what they will encounter soon enough when they study intervals in the course. Furthermore, drilling both ascending and descending intervals, especially as the intervals grow larger, provides additional challenges in spelling and playing skills. This pattern continues throughout the year, as we move through major and minor scales, five-finger patterns, and so on.¹⁰

Example 2 demonstrates two sample exercises. In the first, student 1 begins a drill on minor seconds, performing C to D^b, and as before, students name the next pitch combination that will be played. In the second, a student performs descending minor

second, is easier to spell and represents a common spelling in various scale forms, while D-sharp to E, a minor second, is easier to spell.

¹⁰ While interval drills take relatively little time to complete, drills begin to take much more time after this preliminary stage. Therefore, I divide my 18- to 24-person classes into three groups about halfway through the first semester. The groups are formed by ability level, which they self-identify on a questionnaire on the first day of classes. Every student takes their “quiz” on their keyboard skills on Monday. That same day, group 1 students, those who self-identify as completely inexperienced with keyboard or very weak with their skills, are introduced to the next set of drills; this way, they have an entire week to practice them, having gone through them with me on Monday. On Wednesday, group 2 students rehearse the drill at the beginning of class. These students are a little more experienced and do not need quite as much direct instruction. Piano majors and very experienced pianists constitute group 3, and go through the drill with me at the keyboard on Friday, since they generally need little guidance and direct supervision. Students from prior groups may come to the keyboard as well to review. Breaking down the classes this way keeps the total amount of time working on keyboard skills to under 10 minutes. The template for each drill is included in their course packet, and students know they are expected to practice the drills on their own in addition to in class, so they are not penalized if they miss class on a quiz day, because they can simply continue on to the next drill.

thirds, and students again name the next pitch combination. Example 3 shows the order of pitches that are drilled, moving up the white keys and then down the black keys.

Student 1: Student 2:

All students speak: D to Es E to F etc.

Student 1:

Student 2:

All students speak: Ahs to F Ges to Es etc.

Example 2

Hand-Over-Hand Drill, Minor Seconds and Minor Thirds.

The first staff of music is written on a treble clef. It contains a sequence of notes: a half note G4, a half note A4, a half note B4, a half note C5, a half note D5, a half note E5, a half note F5, a half note G5, a half note F5, a half note E5, a half note D5, a half note C5, a half note B4, a half note A4, and a half note G4. The notes are connected by a single horizontal line, indicating they are part of the same melodic line.

Example 3

Order of Drill Pitches.

After beginning the year with octaves and simple interval drills, we complete the first year with a falling thirds drill, shown as Example 2. This drill both reinforces lessons already learned, such as the circle of fifths and thirds, since the order of the chords are the same as those key areas in the circle. It also reinforces the principles of voice leading, when students play it in four parts. Example 2a shows the complete

drill in a basic keyboard texture, while Example 2b shows the different variations in voicing. In this context, “closed” simply means a keyboard texture, while “3 open,” “5 open,” and “8 open” implies a four-voice texture where the soprano voice begins on $\hat{3}$, $\hat{5}$, and $\hat{8}$ respectively.

a) closed position

CM am FM dm BbM gm EbM cm AbM fm DbM bbm

F#M d#m BM g#m EM c#m AM f#m DM bm GM em CM

NB: The student may adjust the octave in the bass voice at any time to make playing more comfortable.

b) 3 open

5 open

8 open

NB: The student may adjust the octave in the bass voice at any time to make playing more comfortable.

Example 4 Falling Thirds Drill.

In the second year, students begin with a basic phrase-model progression of I-IV- $I_4^{\flat}$ -V⁷-I. This drill is the starting point for the drill sequence for the semester; each drill builds on the previous one and coordinates fairly closely to topics covered in class.¹¹

¹¹ Like the first year, I split my classes into three groups, based on self-reported ability level, and with the same Monday–Wednesday–Friday schedule. Each student plays a progression in only one key; I

After the basic progression of I-IV-I₄⁶-V⁷-I in both major and minor modes, the minor iv chord is inserted into the major key progression as an example of mode mixture. Following a week's drill on i-ii^{o6}-i₄⁶-V⁷-I, the Neapolitan sixth chord replaces ii^{o6}. After drilling I-V₃⁴/V-I₄⁶-V⁷-i in both modes, $\hat{6}$ becomes $\flat\hat{6}$, leading to an easy transition into the family of augmented sixth chords. Students report anecdotally that these exercises help them by adding kinesthetic learning to aural and visual approaches. Furthermore, the need to play so many progressions fluently and with a minimal amount of time setting up the hands helped them as they prepared for their keyboard proficiency exams. Example 3 demonstrates the simplicity of moving from a secondary dominant in the progression to an augmented sixth chord in the progression.

The image shows two measures of musical notation on a grand staff (treble and bass clefs).
 Measure 1: Treble clef has chords I (C4-E4-G4), V_{3/4}/V (F#4-A4-C5), I₄⁶ (C4-E4-G4), V⁷ (F#4-A4-C5), and I (C4-E4-G4). Bass clef has notes C3, F2, C3, F2, C3, F2. A bracket under I₄⁶ and V⁷ is labeled V.
 Measure 2: Treble clef has chords I (C4-E4-G4), Fr⁶ (F#4-A4-C5), I₄⁶ (C4-E4-G4), V⁷ (F#4-A4-C5), and I (C4-E4-G4). Bass clef has notes C3, F2, C3, F2, C3, F2. A bracket under I₄⁶ and V⁷ is labeled V.

Example 5
Keyboard Drills at the Second-Year Level.

4. Modes in Canon

The next pre-teaching activity, modes in canon, focuses more on aural rather than kinesthetic learning, and helps students appreciate the continuity of learning across their courses. Students generally are expected to have the major and three forms of the minor scale as part of their working vocabulary; not so with the modes.¹² As I have already demonstrated, many music theory texts present the modes during the chapters on major and minor scales as new configurations of half and whole steps, and then the topic is largely abandoned until chapters focusing on the close of the nineteenth century and the use of modes as a compositional tool. As a result, in their first year of study, students only gain a passing understanding of the modes, and

pick the key randomly from a set of index cards. Group 1 students are responsible for key signatures containing 1-4 accidentals. Group 2 students are responsible for 1-5 accidentals, and group 3 students are responsible for 1-6 accidentals.

¹² At my institution, singing is a skill applied across almost all music department courses. In the written theory segment of the curriculum, singing is a teaching tool that we incorporate in a group setting. Singing scales and similar skills are developed in the ear training courses.

have to review quite a bit when the topic resurfaces. Thus, exposure to the modes as a concept, through the activity of singing modes in canon, helps students store this in long-term memory to facilitate later retrieval.

I use the modes as a warm-up singing exercise. At the first class of the year with first-year students, we sing through the major scale several times, using moveable-do solfege and Curwen hand signs. Once students are comfortable, I invite them to play a game: as soon as they discover the pattern I am singing, they should join in. I sing the pattern shown in the Appendix: each scale begins on do and adds one scale degree at a time: do-re-do (one count rest), do-re-mi-re-do (one count rest), and so on. After the octave, we add two degrees, high re and low ti. We sing just this much on the first day. At the next class meeting, we start with the additive game and sing as a single group. Then at the next class, I ask for five volunteers to be leaders. Each leader faces the class, and class members follow their leader. We sing the additive game again but in five-part canon. (See the Appendix for the complete canon.) We start with the Ionian mode since it is the one the students know. The following week we move through each of the modes, one mode per week, following this procedure of simply singing the scale, singing the additive form, and finally in canon. We move from the “brightest” modes through the “darkest” ones, including Locrian.

This exercise fills a number of needs and is particularly efficient. On the surface, simply singing as part of a group may be a new experience for some students. We can no longer assume all students have either sung in a school or church choir, so this activity helps those students learn to hold their own part while others are singing different parts nearby. It also helps forge a musical bond between students, as they listen to their voices intertwine and connect with others. This *esprit de corps* creates a positive environment and a sense of community in the class which only grows stronger as the semester progresses.

On a deeper level, neural pathways are being formed and we are setting the stage for future learning. Students are listening to themselves sing an individual modal scale repeatedly, so they are internalizing aurally and kinesthetically (through hand signs) what they will see in their textbooks about the modes. It is particularly rewarding for students when we begin study of the modes, and they are not only familiar with the unique sound of each mode, but can equate the written notation with ear and hand.

Group singing also allows the student to begin internalizing vertical harmony. In the Ionian exercise, for instance, students are introduced right away to the sounds of major and minor triads, as well as MM⁷, mm⁷, and half-diminished seventh chords, and even the M₉ chord. Instructors may or may not choose to point out these harmonies

by name, but in either case these chord types rapidly become a very natural part of the students' harmonic vocabulary. As we progress into the darker modes, such as Dorian, the students' harmonic vocabulary continues to expand as new sounds and harmonies are contextualized and become familiar to the ear. When these chord types are encountered in ear training, private lessons, and ensemble work, students understand how the harmonies "work" and how to tune them, how their chord tone fits into the texture, and so on. Even if the student is not thinking explicitly about the type of chord he or she hears, the student instinctually knows they have heard this structure before and how to interpret it in the musical moment. I return to singing the modes in canon at the beginning of the third semester, so that when the topic of modes returns, students can easily identify the mode in an excerpt of a piece by ear and consider it as a part of a composer's compositional language. It becomes a living, breathing element of a composer's music and style, not simply a particular configuration of whole and half steps.

5. Melody Journal

The previous four activities are examples where I set the parameters of what students should work on. In contrast, the melody journal depends on my prompts but also allows them to take charge of their own musical growth. It makes students accountable for working steadily over the course of the term rather than waiting for the end and possibly being overwhelmed by final projects. Furthermore, composition is somewhat analogous to formal writing. This journal gives them practice in melodic composition and a resource to return to for inspiration and ideas. Thus, I have observed that for many students, it seems to increase their confidence.

At my institution, Theory IV is a self-contained form and analysis course, the final project of which is composition of a sonata exposition, which students then perform or have performed by another player for the class. Students usually do not have much trouble finding the different parts of sonata form during analysis, and in many of the pieces we study, the four main components of the exposition – first theme, transition, second theme, and closing – are fairly easy to discern. When students start to write their own exposition, however, they are often intimidated by the process, even though their project could be as brief as 32 measures. Besides simple lack of experience writing this much music at a stretch, each of the four sections has a unique function, which requires different compositional materials. The primary and secondary themes generally contrast one another in mood and style as well as key area, and tend to

be periodic. Transitional material tends to begin in a similar fashion to the primary melody but ultimately modulates to the secondary key, and the closing theme is largely cadential. Students often have a difficult time creating melodies that fulfill each function and are also periodic. Again, pre-teaching activities are helpful in this situation, since establishing good melodic models ahead of time makes retrieval and activation of these skills easier when they are needed.

I therefore have students create and keep a melody journal in preparation for this project. Part of the effectiveness of the journal is that it allows them to experiment with this challenge in a low-pressure, ungraded way. Each day as students are entering the room and preparing for class, I have them write a melody that conforms to one of these four sections of a sonata-form exposition. One day I may ask students to write an 8-measure parallel period in some major key; the next I may ask them to write an 8-measure modulating period. Or I may ask them to write 8 measures that continues a particular melodic idea but does not venture far from tonic. As the semester progresses, I will ask them to write longer and longer melodies, such as three-phrase periods and double periods. Depending upon the type of melody I have asked them to write, I can assess them by simply looking briefly at their work at their seat and offering a few suggestions here and there, or I may have students stand behind me while I play their melody at the piano and critique. Furthermore, I have students create a “thematic index” for pieces in sonata form, where they copy primary and secondary themes from pieces we study into the journal, giving them further examples of good models to follow. Like any other musical skill, composition takes some practice on a consistent basis in order for the student to become both more polished in their work and more prolific in their ideas. The melody journal, therefore, serves as both a source for melodic ideas students can use later, and as a practice tool to help them come up with new melodic ideas quickly and easily.

Melody journals have several distinct advantages. First, when I introduce the composition project approximately two-thirds of the way through the semester, students are quick to react with panic at the thought of writing so much music; it is then that I ask them to pull out their melody journals and explain that we had been doing much of the groundwork for the project already. I can almost see the tension drain from their faces as we talk about how certain melodies will fulfill the different functions: parallel periods will serve as (or as models of) primary and secondary melodies, while the modulating periods will serve as (or as models of) transitions, etc. Once the student has all of these components in place, it is easier to put their ideas together and work to make all four components flow from one to the next. Second,

it prevents the “wandering melody” that never really goes anywhere when students are faced with composition of any substantial length. The only thing students tend to think about is making the composition “long enough,” not how one component flows to the next. The third advantage is that it may be used for nearly any genre or type of assignment. One also could have students keep a motivic journal, where motives are used in invention assignments, and where these motives are adapted and lengthened and turned into fugal subjects for later assignments.

As music theory classes do more and more for students, pre-teaching activities such as these can create more space for creativity and review in the classroom. This system is flexible in that activities sometimes take almost literally no time at all from class, such as the composer of the day PowerPoint slide. They can be used to effectively introduce and reinforce topics in a way that the student can process them easily, such as the golden ticket. Pre-teaching activities also can employ multiple modes of learning, such as keyboard warmup activities and modal scales in canon. Finally, there is temporal flexibility built into pre-teaching activities: they can last as long as a single class period, or can cover the range of an entire semester, such as the melody journal. In each case, activities are not simply “busy work” but encourage students to learn across the curriculum and in new and different ways. While the exercises described in this article offer specific suggestions for curricular development, I also encourage fellow educators to experiment with pre-teaching activities that serve the needs of their own courses.

Works Cited

- Benward, Bruce, and Marilyn Saker. 2014. *Music in Theory and Practice*. Ninth ed. New York: McGraw-Hill.
- Bye, Jeffrey K. n.d. “Desirable Difficulties in the Classroom.” *Psychology in Action*. Accessed 12 April, 2018. <https://www.psychologyinaction.org/psychology-in-action-1/2011/01/04/desirable-difficulties-in-the-classroom>.
- Clendinning, Jane Piper, and Elizabeth West Marvin. 2016. *The Musician’s Guide to Theory and Analysis*. Third ed. New York: W. W. Norton.
- Ervin, Gerard. 1982. “Using Warm-Ups, Wind-Ups, and Fillers: All of Your Class Time Is Valuable!” *Foreign Language Annals* 15 (2): 95-99.
- Fink, L. Dee. 2013. Creating Significant Learning Experiences, *Revised and Updated: An Integrated Approach to Designing College Courses*. San Francisco: Jossey-Bass.
- Holm-Hudson, Kevin. 2016. *Music Theory Remixed: A Blended Approach for the Practicing Musician*. New York: Oxford University Press.
- Hunter, Madeline. 2004. *Mastery Teaching: Increasing Instructional Effectiveness in Elementary and Secondary Schools*. Revised and updated by Robin Hunter. Thousand Oaks, CA: Corwin Press.
- Mellow, Gail O., Diana D. Woolis, Marisa Klages-Bombich, and Susan G. Restler. 2015. *Taking College Teaching Seriously: Pedagogy Matters! Fostering Student Success Through Faculty-Centered Practice Improvement*. Sterling, VA: Stylus Publishing.
- Novak, Gregor M. 2011. “Just-In-Time Teaching.” *New Directions for Teaching and Learning* 128: 63-73.
- Persellin, Diane Cummings, and Mary Blythe Daniels. 2014. *A Concise Guide to Student Learning: Six Evidence-Based Principles and How to Apply Them*. Forward by Michael Reder. Sterling, VA: Stylus Publishing.
- Rogers, Michael. 2004. *Teaching Approaches in Music Theory: An Overview of Pedagogical Philosophies*. Second ed. Carbondale: Southern Illinois University Press.
- Thompson, Jessica, Sara Hagenah, Hosun Kang, David Stroupe, Melissa Braaten, Carolyn Colley, and Mark Windschitl. 2016. “Rigor and Responsiveness in Classroom Activity.” *Teachers College Record* 18 (5): 1-58.
- Woolfolk, Anita. 2013. *Educational Psychology*. 12th ed. New York: Pearson.

Appendix: Modes in Canon

1

Voice 1

do re do D R M R D D R M F M R D D R

Voice 2

do re do D R M R D D R M F M R

Voice 3

do re do D R M R D D R

Voice 4

do re do D R M R

Voice 5

do re do

6

1

M F S F M R D D R M F S L S F M R D D R M F

2

D D R M F S F M R D D R M F S L S F M R D

3

M F M R D D R M F S F M R D D R M F S L S F

4

D D R M F M R D D R M F S F M R D D R M F

5

D R M R D D R M F M R D D R M F S F M R D

12

1 S L T L S F M R D D R M F S L T D T L S F M R

2 D R M F S L T L S F M R D D R M F S L T D T L

3 M R D D R M F S L T L S F M R D D R M F S L

4 S L S F M R D D R M F S L T L S F M R D D R

5 D R M F S L S F M R D D R M F S L T L S F M R

18

1 D D R M F S L T D R D T L S F M R D T

2 S F M R D D R M F S L T D R D T L S F

3 T D T L S F M R D D R M F S L T D R D

4 M F S L T D T L S F M R D D R M F S L

5 D D R M F S L T D T L S F M R D D R

23

1
D

2
M R D T D

3
T L S F M R D T D

4
T D R D T L S F M R D T D

5
M F S L T D R D T L S F M R D T D

Post-Tonal Solmization for Post-Tonal Aural Skills: Implementing Ordered Pitch-Class Intervals

DAVID GEARY AND ROBERT KOMANIECKI

Scholarship regarding solmization systems is largely limited to tonal methods. The present article extends the discussion to post-tonal aural skills, citing the need for a separate, interval-based methodology that fulfills the same functional role for atonal repertoire as scale-degree numbers and moveable-do syllables achieve for tonal music. In Part I, we examine a tonal and atonal aural skills example as a means of justification for separate solmization methodologies. In Part II, we present an effective way to introduce our preferred system, ordered pitch-class intervals, in the classroom, as well as cite additional repertoire and teaching strategies that demonstrate the utility of adopting the new musical orientation. Finally, in Part III, we outline a sample curriculum for a 15-week undergraduate class and describe how to smoothly transition from tonal to atonal studies. The result is a repertoire- and skills-focused post-tonal aural skills course that equips undergraduates to more successfully understand and perform post-tonal compositions.



While debates about solmization systems have been robust for some time, they nearly always center around tonal repertoire.¹ Each of the mainstay methodologies—fixed *do*, moveable *do*, and scale-degree numbers—have their own advantages and disadvantages. Despite an ongoing discussion on the merits of each tonal system, there has been considerably less scholarship regarding atonal solmization. Selecting tools and tactics for the post-tonal aural skills classroom poses new questions and challenges for us as music theory pedagogues.² Elizabeth West Marvin neatly summarizes the conundrum:

To what extent, then, does our perception of non-tonal materials rely on ‘default’ techniques for tonal perception? Should aural skills curricula for non-tonal music build upon groundwork laid in tonal training (on ‘altered’ scales, scale-degrees, harmonies) or should they assume a completely separate atonal sound world?³

Teachers are tasked with deciding between three methodological paths, none of which perfectly addresses every difficulty one will encounter in a post-tonal aural skills class. The first option is to cling to tonal techniques learned in earlier semesters of study, despite the obvious theoretical incongruity with atonal repertoire. This approach may be appealing if

¹ For a few examples, see Karpinski (2000), especially 57–58 and 166–69; Marvin (1995); Lake (1993); and Smith (1991).

² Though not specifically about solmization, Alegant (2018) discusses post-tonal aural skills more generally.

³ Marvin (1987).

students spend limited time with post-tonal music, where the energy spent learning a new system would outweigh the pedagogical gains. Second, a professor can instruct students to sing atonal repertoire using a neutral syllable (such as “la”). Fixed *do* also fits into this category, since it is not an explicitly functional tonal system like moveable *do* or scale-degree numbers. While this method avoids the problem of incorrectly applying tonal techniques to non-tonal music, its neutrality implies that atonal repertoire is free of any organizational principles—something we know to be untrue. Finally, instructors have a third option: introducing a new solmization system aimed towards helping students interact with twentieth-century works in a way that is specific to the musical idiom. It is this third option, and the act of implementing it in the classroom, that motivated us to write this article.

Although none of these approaches is free of pitfalls, we believe that implementing an interval-based solmization system—in our case, ordered pitch-class intervals (OPCIs)—into the aural skills classroom is necessary in order to give students a methodology that matches the music’s compositional grammar, aids performance, and begets musically-relevant analytical insights. In Part I of this article, we discuss a tonal and atonal aural skills example as a means of justification for separate solmization systems. In Part II, we present an effective way to introduce ordered pitch-class intervals in the classroom, as well as cite additional repertoire and teaching strategies that demonstrate the utility of adopting the new musical orientation. Finally, in Part III, we outline a sample curriculum for a fifteen-week undergraduate class and describe how to smoothly transition from tonal to atonal studies. The result is a repertoire- and skills-focused post-tonal aural skills course that equips undergraduates to more successfully understand and perform post-tonal compositions.

Part I: When (not) to Use Tonal Solmization

A solmization system is more than simply a collection of phonemes assigned to certain pitches. It is a mode of communication. When an instructor implements a methodology, they are teaching students a specific way to engage with music—one that is ideally well-suited for the repertoire at hand and draws attention to certain characteristics that the instructor deems important or relevant. In short, the solmization system should fulfill the analytical goals described by Michael Rogers:

The real goal of tonal sight-singing is not just accuracy; it is to hear the music in a particular way—a way that is musically nuanced, that is shaped and directed by goals, and a way that respects the encoded tensions and internal-movement proclivities of the specific environment.⁴

⁴ Rogers (2004), 149.

Rogers challenges a prevailing notion in aural skills classrooms: He suggests that accuracy should not be the sole objective of sightsinging, or even the primary one. The responsibility of ensuring that students conceptualize music in a way that “respects the encoded tensions” of a given excerpt falls squarely on the shoulders of aural skills instructors. Figure 1 below is an excerpt from the second movement of Clara Schumann’s Piano Trio in G Minor, Op. 17. If tasked with teaching this passage using a “musically nuanced” system, a professor would undoubtedly encourage students to sing with a tonal solmization method, perhaps scale-degree numbers. The Romantic melody begins in B♭ major and features a distinct and straightforward tonicization of the mediant. A logical question for students would be to identify a good place to switch tonal centers, most likely choosing m. 7 as the best pivot point. As a result, the syllables performed by the students communicate something concrete about the piece, signaling a modulation to D minor partway through the second phrase.



Figure 1

Clara Schumann, Piano Trio in G Minor, Op. 17, Movement II, mm. 1–10, Violin Melody.

Of course, nearly all aural skills pedagogues encourage their students to sing with one of the common tonal solmization systems when performing tonal repertoire—the method matches the music. It seems to follow logically, then, that we should expect our students to engage with post-tonal repertoire in a similar way, by using a method that is tailored to the style and gives students analytical tools to better understand and perform the music. This perspective, unfortunately, is less unanimous within the theory community.⁵ Students enter the post-tonal aural skills classroom

⁵ An earlier version of this paper was presented at the inaugural “Pedagogy Into Practice” conference in June 2017, where both other presentations and a thoughtful discussion during our Q&A highlighted some of the different perspectives regarding post-tonal aural skills. These and other scholarly interactions make clear that tonal, “neutral,” and post-tonal solmization systems are currently used at institutions throughout the country.

with finely-tuned tonal skills, and relying upon this training often leads to more immediate success performing atonal melodies. The same can be said about singing on a neutral syllable or with fixed *do*. However, when considering that, as Rogers states, a solmization system should afford a stylistically-relevant orientation in addition to aiding performance, it seems that these options emphasizes the latter at the expense of the former.

To further illustrate the need for a methodological alternative, consider the opening of Arnold Schoenberg's String Quartet No. 4, Op. 37. Shown in Figure 2, these six measures are a mainstay in the written theory classroom. The piece is decidedly atonal—dodecaphonic, in fact—and exhibits a variety of compositional techniques that exemplify its serial construction. For example, the fact that the accompanimental trichords in the bottom three instruments complement the discrete trichords unfolding in the first violin melody is recited annually by many post-tonal theory professors. A central point for Op. 37—and, indeed, post-tonal analysis in general—is that it is composed under a set of precepts that are definitively *not* tonal. It would be an exercise in absurdity to imagine teaching the excerpt in the written theory classroom using language or analytical systems taken from a student's past with tonal analysis. Terms such as tonic expansion, dominant prolongation, and harmonic progression are at least heavily problematized and at most nullified by Schoenberg's compositional grammar.

Allegro molto; Energico
♩ = 152

Violin I
Violin II
Viola
Violoncello

Figure 2

Schoenberg, String Quartet No. 4, Op. 37, Movement I, mm. 1–6.

The opening of Op. 37 is also a popular excerpt for the post-tonal aural skills classroom. Imagine, then, how a student may approach sightsinging the violin melody in Figure 2. Navigating Schoenberg's row with a tonal system, such as scale-degree

numbers, they could attempt singing the passage in the key of D minor because of the opening five notes. Maintaining a single tonal center becomes difficult, though, in mm. 2–3, and modulating to one or more keys through the remainder of the phrase may be preferable. Another possibility is to perform using a neutral syllable, where students can alternate between conceptualizing some pitch adjacencies intervallically and others tonally.

In short, both of these approaches can lead to successful performances—though not without effort. However, they also hamstring a student’s education with respect to achieving a deeper understanding of the compositional grammar at play in post-tonal music. For example, thinking of Schoenberg’s famous twelve-tone row as a series of intervals borrowed from tonal contexts neglects the piece’s explicit *lack* of tonality. The pedagogical call-to-arms in Rogers’s quote referenced above applies equally as well to post-tonal aural skills as it does to its original tonal context. Although allowing students to conceptualize atonal music with tonal conventions may facilitate greater *immediate* accuracy, it ignores the broader goal of instilling a musical sensitivity that extends beyond one’s ability to vocally perform melodies. If we are to take Rogers’s claim seriously, our teaching strategies must accommodate the compositional conventions of the music at hand.

Additionally, stylistically-sensitive singing techniques create better correspondence between the written and aural skills classrooms. Many students study atonal analysis and aural skills as two separate, but concurrent courses. It would make sense, then, for classes that teach the same repertoire to implement mutually reinforcing techniques. In the following section, we detail a method of intervallic atonal solmization—one that we have found fits a variety of non-tonal repertoire, is easily-learned by students, and, most importantly, works with our colleagues in written theory classrooms, rather than against them.

Part II: Intervallic Sightsinging

With the need for an atonal solmization system firmly established, two questions emerge: What interval-based sightsinging methodology is best suited for the aural skills setting and how should it be introduced in the classroom? Instead of first detailing our preferred method—ordered pitch-class intervals—then describing its implementation, this section unfolds from the student’s point of view. We proceed chronologically through a series of activities that can be used in a single class, which quickly and effectively expose students to the new, atonal musical orientation. The

section concludes with a few additional classroom activities and repertoire examples.

When introducing any new concept, it is important that students understand how and why it is relevant to them as developing musicians. Taught poorly, intervals are an acontextual obligatory starting point of the aural skills sequence where students learn to produce and identify intervals on command, only to be quickly tossed aside in favor of learning a tonal solmization system that will serve them for the next few semesters. For atonal repertoire, however, intervals are elevated to a functional role that is in many ways analogous to scale-degree numbers in tonal pieces. We begin our introduction with a brief classroom discussion comparing scale degrees and intervals, where students are guided towards specifying precisely what is communicated with each system. At their core, scale-degree numbers describe the chroma location of a note in relationship to a tonic. Alternatively, an interval is not an agential quality attached to any specific note. Instead, as articulated in David Lewin's famous Figure 0.1 and accompanying commentary in *Generalized Musical Intervals and Transformations*, it expresses the dynamic relationship *between* them.⁶ As opposed to experiencing the ebb and flow of pitches in a tonal context, we encourage students to experience the change and continuity of intervals as a meaningful way to interact with this new body of repertoire.

In order to further demonstrate the distinction, the abstract discussion is followed immediately with a musical example that compares the two systems. Interpreting a single excerpt through a tonal and post-tonal lens illustrates how the different methodologies lead to very different musical observations. We ask students to analyze the first six measures of Bartók's *Concerto for Orchestra* with both scale degrees and intervals, and they sing the melody using both methods. Figure 3 shows the relevant excerpt with both sightsinging syllables. Students first perform the example tonally in F# minor. The initial C# is treated as a dominant with a forward-driving tendency that resolves in m. 2. Then, the leap up to B regains energy and the melody works its way back towards tonic in m. 5. Concluding on C#, the passage ends in the same agitated state that it began.

Alternatively, the intervals of the melody are expressed as the number of half steps between every pair of notes. Singing the melody with these numbers, the use of only perfect fourths and whole steps becomes apparent—an observation that is not analytically emphasized or relevant with scale degrees. This affords a range of different insights to emerge. For example, from a phenomenological standpoint, the first two intervals are ascending perfect fourths, allowing an attentive listener to

6 Lewin (2007), xxxi.

anticipate the pattern's continuation. Once the whole step is introduced, though, the two intervals become the new expectation for successive musical events. This orientation is confirmed in the two low-string passages that follow—mm. 12–16 and 22–29. Figure 4 shows the earlier of the two instances, where the addition of a single note mid-phrase has a very different impact on the rest of the passage depending on whether we adopt a tonal or post-tonal lens. In F# minor, the added note results in all of the successive pitches having different relationships to the governing tonality—especially concluding on $\hat{1}$ instead of $\hat{5}$. With intervals, however, the added E stretches the opening chain of ascending perfect fourths by a single note, but the remaining intervals and contour remain the same! Herein lies the distinction: With scale degrees, the added pitch results in a new function for every ensuing note; with intervals, the additional E does not alter the function of the end of the phrase. Between the abstract classroom discussion, excerpt analysis, and singing, students understand the value and relevance of learning an intervallic solmization system.



Figure 3
Bartók, *Concerto for Orchestra*, Movement I, mm. 1–6.

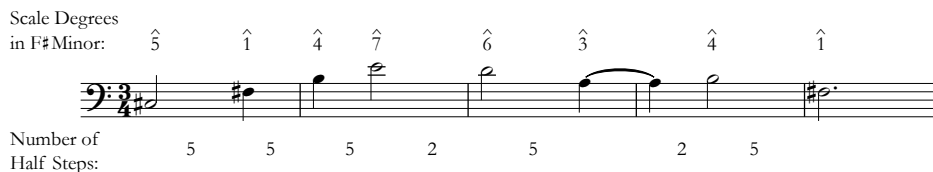


Figure 4
Bartók, *Concerto for Orchestra*, Movement I, mm. 12–16.

In the same class as the Bartók activity, we introduce students to the intervallic solmization system that they will use for the rest of the semester: ordered pitch-class intervals. This system is one of four possible interval labels described in Chapter 1 of Joseph Straus's *Introduction to Post-Tonal Theory*. His Example 1-17 is reproduced here as Figure 5.⁷ We chose ordered pitch-class intervals because we believe it strikes

⁷ Straus (2016), 13.

the best balance between how students typically think about intervals and how we want them to think about intervals. Two factors motivated our decision. First, a system that preserves octave equivalence was a high priority. Operating in pitch-class space (as opposed to pitch space) maintains continuity with students' tonal studies—whether they use scale degrees, movable *do*, or fixed *do*. Second, a methodology with a one-to-one mapping between intervals within an octave and syllables is preferable to a many-to-one alternative, such as interval-class numbers. This way, intervals such as major seconds (OPCI 2) and minor sevenths (OPCI 10) remain categorically distinct, as opposed to their identical interval-class designation of IC 2. Maintaining the distinction has practical classroom benefits, as well: Imagine asking a group of students to sing an ascending “3” and hearing half the class produce a minor third and the other half sing a major sixth. We conclude our introduction to ordered pitch-class intervals by completing the OPCI designations for all of the intervals within an octave. To make it more challenging, we sing intervals in a random order (P4, m2, M6) instead of proceeding up by half step (m2, M2, m3). The final result is shown in Figure 6.



Ordered Pitch Interval:	+19
Unordered Pitch Interval:	19
Ordered Pitch-Class Interval:	7
Unordered Pitch-Class Interval:	5

Figure 5

Example 1-17 from Straus's *Introduction to Post-Tonal Theory*.

While we teach all of the OPCI numbers upfront, we implement the intervals musically in four stages throughout the semester. The order is summarized in Figure 7. Group I begins with half steps (OPCI 1), whole steps (OPCI 2), perfect fourths (OPCI 5), perfect fifths (OPCI 7), and octaves (OPCI 0). Group II adds minor thirds (OPCI 3), major thirds (OPCI 4), and tritones (OPCI 6). Group III adds minor sixths (OPCI 8) and major sixths (OPCI 9). Completing the collection, Group IV adds minor sevenths (OPCI 10) and major sevenths (OPCI 11, sung as the single syllable “lev”).⁸ Each group includes both ascending and descending intervals. This format strives to give students time to become familiar with the new musical orientation by singing, dictating, and analyzing music with easier intervals before progressing to ones that

⁸ This format of gradually introducing intervals is the same as Edlund (1967).

Interval = OPCI	
Unison	0
m2	1
M2	2
m3	3
M3	4
P4	5
A4/d5	6
P5	7
m6	8
M6	9
m7	10
M7	11

Figure 6

Generic Intervals and their Corresponding
Ordered Pitch-Class Intervals

Generic Interval	OPCI
Group I	
m2	1
M2	2
P4	5
P5	7
Octave	0
Group II	
m3	3
M3	4
A4/d5	6
Group III	
m6	8
M6	9
Group IV	
m7	10
M7	11

Figure 7

Four Groups of Ordered Pitch-
Class Intervals

are more challenging. At every point of the semester, we encourage students to use their awareness of what intervals are “permissible” as a helpful filter for various classroom activities. We have found that it assists students make associations faster between the OPCIs and the more familiar interval labels.

Before progressing to musical examples and other classroom activities, it is worth mentioning how *not* to introduce this methodology. It may be tempting to have students sing major and minor scales while using OPCIs as a familiar context to begin working with the new system. This strategy, however, contradicts the larger goal of using an intervallic approach. Ordered pitch-class intervals are solmization syllables to help engage post-tonal repertoire in a way that fits the compositional grammar. Using OPCIs to sing diatonic scales or tonal repertoire is at odds with the goal of the methodology. However, this does not mean that all scales should be avoided. In fact, many students find it easier to sing whole-tone and octatonic collections when they think intervallically. In the case of an octatonic scale, for example, alternating OPCI numbers one and two is easier than mapping inflected scale degrees for many individuals. That being said, octatonic and whole-tone collections show up in both pitch-centric and non-pitch-centric repertoire. Addressed in greater detail later in the article, performing excerpts by Bartók, Debussy, and Rimsky-Korsakov reinforce the musical reality that twentieth-century pieces cannot always be neatly labelled

as either tonal or atonal. In these cases, sometimes using an extended-tonality technique is more effective while other times adopting an intervallic approach is more appropriate. The goal in our post-tonal aural skills class is to equip students with both sets of tools and empower them to determine for themselves which method is more beneficial. This does not mean that a piece or excerpt can have only one correct interpretation. It means that students choose an analytical mode when engaging with music and that they are aware of the implications of their decision.

The following two examples underscore the performative and analytical benefits of adopting ordered pitch-class intervals. The first, Lili Boulanger's "D'un Vieux Jardin," written in 1914, is from early in our atonal studies. Figure 8 shows the right-hand melody in mm. 22-30. With thirty of the thirty-two intervals as even OPCIs, it is an ideal whole-tone example for the classroom. For many students, the pervasiveness of whole steps, twenty-three of the intervals, makes singing this piece with OPCIs easier than with scale-degree numbers.⁹ Performing with intervals also has analytical benefits. The scarcity of half steps draws attention to when the melody shifts from one whole-tone collection to the other. Any excerpt constructed with a single whole-tone collection uses only even intervals. In "D'un Vieux Jardin," therefore, students can be aware that the two times they sing an odd number, they are switching between the two whole-tone collections. Treating even intervals as an agent of continuity and odd intervals as one of change elevates intervals to a functional role that is indispensable for engaging the work in a stylistically-appropriate manner. While this analytical observation is fairly accessible to students without the need for OPCIs, using an intervallic system has analysis emerge *through* performance as opposed to treating it as a separate afterthought. The analytical insights are built into the solmization syllables.

The second example is from later in the semester during our twelve-tone module, after students have been exposed to all the intervals. With the increasingly challenging post-tonal repertoire, the ordered pitch-class intervals reveal more compositional features that are less apparent on the musical surface. Schoenberg's Op. 27, No. 1 is a serial choral piece primed for the aural skills classroom. As a four-part *a cappella* work, it is meant to be sung despite its difficulty. While we spend time diligently performing

9 Throughout the semester, our students perform both prepared and unprepared atonal melodies. The majority of homework assignments and hearing materials are prepared, and students are required to perform with OPCIs. For ungraded sightreading activities in class, students are given time to analyze passages before performing. For graded sightreading activities, students are allowed to choose their solmization system (though we have found that students are often more successful when performing with OPCIs than without).

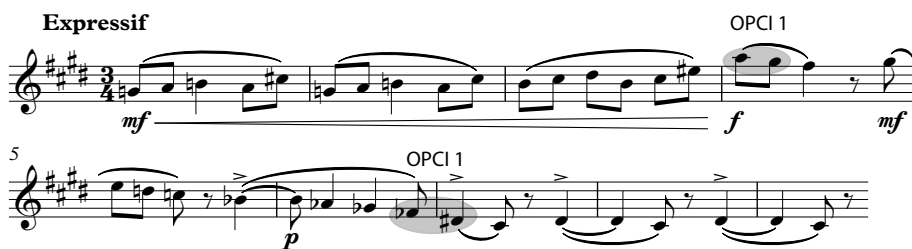


Figure 8

Lili Boulanger, *Trois Morceaux Pour Piano*, “D’un Vieux Jardin,” mm. 22–30.

excerpts from the work, we recognize that a perfect classroom performance of the whole piece is not the desired end goal. The goal—reiterating the overarching learning objective of our post-tonal studies—is for students to think intervallically about music when it is appropriate, in order to both aid performance and yield valuable musical insights.

Much of our class time focuses on the opening eight measures of the soprano line. Students dictate the opening row iteration as a 12-note pitch pattern. Provided with the first and seventh notes, their task is to notate the remaining pitches, write the OPCIs, and label the prime form of the discrete trichords. The result is shown in Figure 9. Once completed, students sing the example while tracing the contour with their hands. This leads to a classroom discussion where we identify interesting features that emerged from what they have written down and performed. Students are quick to recognize that the row emphasizes half steps and tritones, the interior trichords share the same prime form (016), and those trichords are related by inversion.¹⁰ All of these attributes are aurally tangible features that continue throughout the piece. Students can use them as concrete listening strategies or as the basis for making performance decisions.

Next, we turn the pitch-pattern dictation into a contextual listening activity. Students are asked to do two things. The first objective is to listen to the opening of the piece and identify the pitch transformation of the soprano’s second row iteration.

¹⁰ Part of our third and final unit focuses on singing, notating, and aurally identifying the four types of pitch transformations—transposition, inversion, retrograde, and retrograde inversion. Ordered pitch-class intervals help students with these tasks by, again, encouraging them to think of melodies and motivic cells as a succession of intervals, not pitches. We treat these operations in pitch space, instead of pitch-class space, for simplicity and time constraints. As a result, we use repertoire and acontextual examples in class that preserve contour between successive iterations of a motive or row. Students learn rules for how to transform a motive: transposition preserves the order and contour of the intervals; inversion preserves the order and switches the contour of the intervals; retrograde switches the order and contour of the intervals; and retrograde inversion switches the order and

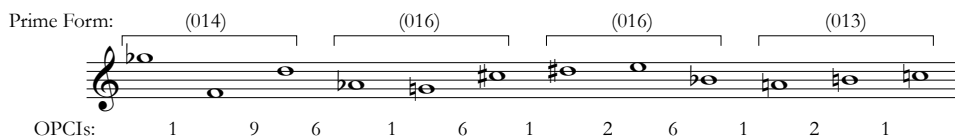


Figure 9
Opening Row of Schoenberg Op. 27, No. 1.

After visually tracking alongside their dictation for the initial row presentation, many students are able to identify the ensuing retrograde transformation on the first listening by retracing their notated pitches. At this point, we project the soprano melody and sing it—see Figure 10. The students' second task is to aurally identify the opening row iteration of the remaining three voices. The alto is an inversion of the opening row, identifiable by the characteristically recognizable ascending minor ninth; the tenor transposes the soprano melody down an octave; and the bass transposes the alto melody down an octave, which is another inversion. Labelling the points of imitation draws attention to the global form of Op. 27, No. 1. The bulk of the piece is a four-part canon. The melody is four rows long; the soprano and tenor are identical and alternate entrances with the inversionally-related alto and bass parts.



Figure 10
Soprano Part of Schoenberg's Op. 27, No. 1, mm. 1–8.

To return to an earlier point, navigating this music with a tonal system may be tempting for immediate performance success. This strategy, however, tells us nothing about the compositional grammar and, in fact, it looks past key aspects of the musical structure. For example, in Figure 10, the C#–D#–E in mm. 2–3 is one of the few successions of notes that fit comfortably in a tonal context—either in C# minor or E major. However, is this how we as music theory pedagogues want our students to

preserves the contour of the intervals.

think about twelve-tone music—using a system that directs attention towards vague tonal implications at the expense of other stylistically-appropriate features? In this instance, using scale degrees draws attention away from an important structural aspect of the row only for the sake of correctly singing an ascending whole step and half step. Grouping C#, D#, and E together stretches across the boundaries of the interior (016) trichords, contradicting a musically-relevant feature of the row.

Including Op. 27, No. 1, we have seven lectures entirely dedicated to dictating, singing, and listening to seven different serial pieces. By the end of the unit, students have improved generalizable skills applicable to post-tonal repertoire, developed concrete strategies for approaching dodecaphonic works, and engaged in deep learning with canonical repertoire from the twentieth century. We have been encouraged by students' positive reactions to these repertoire-driven lessons, as they learn new ways to perform and listen to post-tonal music. Becoming conversant with an intervallic solmization system works towards reshaping their orientation regarding a less-familiar body of repertoire.

While emphasizing repertoire in the classroom is a top priority, we also regularly include acontextual exercises to help students gain familiarity with ordered pitch-class intervals. It is common to have students learn intervals in a tonal context by referencing familiar tunes, such as Brahms's "Lullaby" for ascending minor thirds and "Maria" from West Side Story for ascending tritones. Although this is a helpful starting point, it maintains a reliance on tonal principles by associating one pair of scale degrees with any given interval, when in fact many scale-degree pairings are possible." Lars Edlund, in his *Modus Novus: Studies in Atonal Melodies*, also laments that this approach is really only effective for singing and aurally identifying individual intervals as opposed to engaging with longer musical passages:

Great accuracy in singing individual intervals is not always a guarantee of accuracy in *reading atonal melodies*. ... From a point of view of sight reading training, therefore, the most important thing now is to practice *combinations of intervals* that will break the bonds of the major/minor interpretation of each individual interval.¹¹

We created two warm-up activities to help students achieve fluency in stringing together multiple intervals. The first is similar to tonal "echo" patterns, but with atonal collections. Figure 11 shows one example with two methods of delivery. Shown in Figure 11a, the teacher sings a short motive on a neutral syllable or plays it at the piano. Students respond by singing the melody on ordered pitch-class intervals. Depending on the students' skill level, an intermediary step can be added where they

¹¹ Edlund (1967), 13.

first respond by singing the pattern on a neutral syllable before performing with the syllables. This gives them additional time to translate the pattern. Once students become more familiar with the OPCIs, this step can be eliminated. Figure 11b illustrates a second way to perform the same activity. After providing the starting pitch, either vocally or at the piano, the teacher can trace the contour of the motive with their hand while speaking the ordered pitch-class intervals. Again, students respond by singing on OPCIs. We alternate between the two methods of delivery since they work on related but discrete skills. While both develop interval fluency, one moves from sound to symbol (Figure 11a) and the other moves from symbol to sound (Figure 11b).

Instructor		Student
	→	
Sing on a Neutral Syllable: “La” “La” “La” “La”		Sing on OPCIs: “0” “5” “1” “4”

Figure 11a
Atonal Echoes I.

Instructor		Student
Give students starting pitch, then speak “0, 5, 1, 4” while pointing up or down to indicate contour	→	
		Sing on OPCIs: “0” “5” “1” “4”

Figure 11b
Atonal Echoes II.

Another exercise involves constructing a melody one note at a time, which we call the “Build-A-Melody” activity. The example in Figure 12 can also be performed using the same two methods of delivery as the atonal echoes. The teacher begins by singing one note and the students respond by singing it on OPCIs o. (Every melody begins with the first note being sung as “O,” since there is no interval between the first note and what comes before it.) Additional pitches are added one at a time, and the example can be as long as you wish, also making this a great opportunity to further develop musical memory.

The two activities shown in Figures 11 and 12 can be adapted and amended in other ways. For example, we frequently have students complete them in pairs or small groups, where they rotate roles as teacher or student. In many ways, acting as

the teacher is more challenging. The student needs to decide a pattern to sing with various intervals, perform it correctly, and identify whether or not their partners respond accurately. For the “Build-A-Melody” activity, we have also had success going around the room having individuals alternate roles: one student sings the first note on “la,” the next person responds on “o,” the third adds a second pitch, the fourth responds, and so on. Another way to alter this activity is to end by notating whatever pattern or patterns we have sung. This is ideal for linking performance and dictation within a single activity.

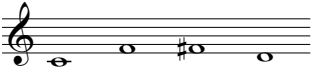
① Instructor  Sing on a Neutral Syllable: “La”	Student →  Sing on OPCIs: “0”
② Instructor  Sing on a Neutral Syllable: “La” “La”	Student →  Sing on OPCIs: “0” “5”
③ Instructor  Sing on a Neutral Syllable: “La” “La” “La”	Student →  Sing on OPCIs: “0” “5” “1”
④ Instructor  Sing on a Neutral Syllable: “La” “La” “La” “La”	Student →  Sing on OPCIs: “0” “5” “1” “4”

Figure 12
Build-A-Melody.

Part III: Curriculum

By this point, the thesis of the preceding sections is hopefully clear: We should hold our students—and therefore ourselves as teachers—to the same level of stylistically-appropriate engagement with music in the post-tonal aural skills classroom as we do in earlier, tonal semesters of study. That being said, the twentieth century has a range of musical styles. It would be disingenuous to only present clear examples of “tonal” and “atonal” music in the classroom, as if all music must fall squarely within one camp or the other. In fact, it is the music that resists such categorization that provides us as aural skills pedagogues with opportunities for challenging and rewarding teaching, and it presents students with puzzling pieces that sometimes have no single “correct” interpretation. Filling in the vast stylistic gap between Schubert and Schoenberg are composers with styles that vary widely, deviating from typical tonality while, simultaneously, not quite exhibiting decidedly atonal techniques associated with the Second Viennese School. Below is a sampling of composers who inhabit this “in-between” space:

- ◆ Anton Bruckner (1824–1896)
- ◆ Antonín Dvořák (1841–1904)
- ◆ Hugo Wolf (1860–1903)
- ◆ Gustav Mahler (1860–1911)
- ◆ Claude Debussy (1862–1918)
- ◆ Richard Strauss (1864–1949)
- ◆ Carl Nielsen (1865–1931)
- ◆ (Non-serial) Arnold Schoenberg (1874–1951)
- ◆ Maurice Ravel (1875–1937)
- ◆ Régine “Poldowski” Wieniawski (1879–1932)
- ◆ Igor Stravinsky (1882–1971)
- ◆ Rebecca Clarke (1886–1979)
- ◆ Nadia Boulanger (1887–1979)
- ◆ Sergei Prokofiev (1891–1953)

Embracing the ill-defined middle zone between tonal and atonal traditions is vital for students to attain a more complete understanding of music from this time period. As a result, we readily incorporate this repertoire in the classroom.

While it is important to expose students to repertoire that operates outside a clear tonal/atonal divide, it is also important to design a class with conceptual continuity and flow. Therefore, our fifteen-week post-tonal aural skills course begins with late tonal techniques, works through the uncategorizable middle zone during weeks 6–10, and concludes with studying increasingly-difficult atonal and serial pieces. A sample curriculum outline can be seen in Figure 13. This format allows students to begin in the relatively familiar territory of late-Romantic tonality and work towards the often less-familiar realm of atonality. In Unit I, we encourage students to continue using their tonal solmization system, or systems, learned in earlier semesters. In Unit III, students adopt an entirely intervallic approach and perform with OPCIs. In Unit II, the middle zone repertoire, we tell our students that the choice between using a tonal or atonal solmization system is frequently context-dependent. They should strive to become conversant in both methods and be comfortable switching back and forth between the two systems—sometimes even within the same excerpt.

UNIT 1: Weeks 1-5

Pitch	Rhythm	Other	Composers
- Advanced Chromaticism - Non-Functional Diatonicism	- Rhythmic Mixture - Polyrhythms - Quintuplets/Septuplets	- Sonorities: Identification and Keyboard 9ths, 11ths, 13ths, Quartal, Quintal	Wolf, Strauss, Wagner, Mahler, Bruckner, Ravel, Beach, Debussy, Poldowski, Clarke

UNIT 2: Weeks 6-10

Pitch	Rhythm	Other	Composers
- New Pitch Collections - Modes, Pentatonic, Octatonic, Whole-Tone - Atonality I - Perfect Intervals, 2nds, 3rds, tritone	- Asymmetrical Meters - Beat-Constant Meter Change - Division-Constant Meter Change	Pitch Collection Identification	Bartok, Debussy, Boulanger, Ravel, Stravinsky, Rimsky-Korsakov, V. Williams, Hindemith, early Schoenberg, Ives

UNIT 3: Weeks 11-15

Pitch	Rhythm	Other	Composers
- Atonality II - Add 6ths, 7ths - Serialism	Tempo Modulation	- Pitch Transformations: Identification and Singing - Transposition, Inversion, Retrograde, Retrograde Inversion	Gubaidulina, Berg, Webern, Schoenberg, Dallapiccola, Stravinsky

Figure 13
Content Outline for a Fifteen-Week Post-Tonal Aural Skills Course.

An excerpt of Debussy's "Gigues" from *Images pour orchestra* (1905-1912) exemplifies the benefit for students to be proficient alternating between intervallic and tonal thinking. The first line of Figure 14 is a straightforward instance of a partially-realized whole-tone collection. We encourage students to sing this portion using OPCIs, as it is comprised entirely of whole steps (OPCI 2) and skips of a major third (OPCI 4). However, when the melodic line is taken up by the oboe d'amore in mm. 13-19, the previous $G\flat$ is replaced by $G\sharp$. These seven measures can convincingly be conceptualized in F Aeolian, where performing on scale-degree numbers is both easier and communicates more musically-relevant information than the intervallic syllables. Finally, the whole-tone flute melody returns for the concluding five measures and students can shift back to singing OPCI numbers. As an excerpt that oscillates between tonal and non-tonal collections, it makes sense to have a flexible sightsinging method that allows students engage with specific passages in a musically-sensitive way.

(Flute)

p

13 (Oboe d'amore)

18 (Flute)

Figure 14

Debussy, *Image pour orchestra*, "Gigues," mm. 5-35, Modified.

The Debussy excerpt in Figure 14 helps students practice shifting between scale-degree numbers and ordered pitch-class intervals for successive passages within a single melodic line. We also incorporate ensemble music in class where the techniques are performed simultaneously. The opening of Schoenberg's "Schenk mir deinen goldenen Kamm," Op. 2, No. 2, illustrates how different parts of a musical texture can encourage different musical orientations. In order to make the song for piano and voice more accessible in the aural skills classroom, we created an SATB arrangement of the piano accompaniment to support the soprano melody. The five-part realization

is shown in Figure 15.¹² The vocal melody is assigned as homework, and students are prompted to choose which solmization system or systems to use. Typically, they prepare mm. 1–4 of the melody on OPCIs then switch to scale degrees in F# major for the cadence in mm. 5–6.

On the day the assignment is due, we spend time in class learning the remaining accompanimental parts to create a holistic musical experience. Before singing, we analyze each line to determine whether scale degrees, ordered pitch-class intervals, or a combination of the two would be most effective. While individualized answers emerge, the group typically agrees to learn the soprano, alto, and tenor parts on OPCIs and the bass line on scale degrees. The tenor, for example, heavily emphasizes half steps and tritones, making it difficult to maintain a single tonal center for any reasonable span of notes. The bass, however, does have tonal implications that students are quick to identify: mm. 2–4 is a circle-of-fifths progression, and the concluding B $\flat$ is a logical choice for a tonal center. Then, after descending a half step on the downbeat of m. 5, the cadence outlines a tonic triad in F# minor. Students acknowledge that mm. 5–6 have strong tonal implications across all five parts, which typically means applying scale degrees. However, because the parts only use half steps and whole steps, they find it easier to maintain a single orientation throughout instead of switching—unlike the vocal melody during these measures, when the more difficult leaps are easier to navigate tonally.

12 “Schenk mir deinen goldenen Kamm” is one of many vocal arrangements we have created for our class. In courses that heavily emphasize single-line melodies, students gladly welcome the opportunity to perform challenging and rewarding ensemble music. We strive to choose pieces that, in short, do not require much work to make appropriate for the classroom setting. Chamber and choral music are great resources since they typically do not require any adaptations. For other genres, excerpts that have clearly defined parts and good voice-leading principles are preferable. This includes expanding solo repertoire to ensemble settings when appropriate, such as transforming the piano part of Op. 2, No. 2 into a SATB texture. Looking at the original score, the piano’s chorale-style accompaniment does not require many alterations to suit the vocal setting. The main difference here is omitting doubled notes, such as the doubled Gs on beat 3 of m. 1 and the right-hand octaves in mm. 2–4. Other arrangements may require more artistic flexibility to create appropriate vocal parts.

Sehr langsam

Treble Solo

Soprano

Alto

Tenor

Bass

4

Figure 15
Arrangement of Schoenberg, "Schenk mir deinen goldenen Kamm," Op. 2, No. 2, mm. 1–6.

Conclusion

Designing a twentieth-century musicianship course is no easy feat. The stylistic diversity makes it so two institutions could cover completely different material and both classes could be appropriately labelled “post-tonal.” With such a wide range of possibilities, it is unsurprising that the techniques we use to teach frequently influence the repertoire we bring into the classroom. Without a solmization system to appropriately perform interval-based music, many programs stop short of the Second Viennese tradition in the aural skills setting—concluding, instead, with studying new pitch collections such as the diatonic modes, whole-tone collections, and octatonic scales. While studying techniques and works by Bartók, Rimsky-Korsakov, and Stravinsky are of course a valuable part of the core curriculum, it is not a suitable endpoint for institutions that wish to give students a broader exposure to twentieth-century music. Incorporating ordered pitch-class intervals empowers teachers to find musical ways to expose students to atonality.

It may be tempting, as well, to dismiss the need to include the Second Viennese tradition in aural skills classes since it is frequently taught at length in the written theory setting. In our opinion, this does not send the right message. Recently, a student who had previously completed our post-tonal aural skills class stopped one of us in the hall to share her current experience in the post-tonal analysis class.¹³ Paraphrasing, she said, “I struggled a bit learning to sing with OPCIs in your class but trusted that you were teaching it to us for a reason. Now that I’m in the written post-tonal class, I can’t believe how much I already know because of the interval singing. It is so useful!” When working in tandem with the written theory curriculum, a new, atonal solmization system helps students more readily apply what they learn in the classroom to their work as musicians. Activities such as singing and dictating with OPCIs demand a high level of active participation, requiring students to think of atonal music intervallically in order to be successful. As a result, students will be more likely to return to these ideas and strategies when engaging music after college—which is arguably the universal objective of the undergraduate theory core curriculum.

Again, the most significant impediment to incorporating an intervallic solmization system is the time it takes to do so in an already crowded curriculum. One may ask: With an ever-growing list of what students ought to know upon graduating college

¹³ Currently at Indiana University, students can take the post-tonal aural skills and written theory courses at any point once they complete the necessary prerequisites. They are not required to be taken concurrently.

with a degree in music, does the value of adding another item to the pile outweigh its inconvenience? Our answer turns the question on itself: How important is convenience? Many of the activities undertaken in a typical aural skills classroom are not indicative of the types of things a student will be expected to do upon becoming a professional performer or teacher. For nearly every student that completes a music degree, the ability to sight-sing atonal repertoire pales in comparison to the ability to appropriately conceptualize the compositional techniques at play in twentieth-century music and use that knowledge to make musically-sensitive performance decisions. Any repertoire brought into the classroom should be accompanied by teaching techniques geared towards its musical style.

Works Cited

- Alegant, Brian. 2018. "Teaching Post-Tonal Aural Skills." In *The Norton Guide to Teaching Music Theory*, edited by Rachel Lumsden and Jeffrey Swinkin, 147–60. New York: W. W. Norton & Company.
- Edlund, Lars. 1967. *Modus Novus: Studies in Reading Atonal Melodies*. Stockholm: Nordiska Musikförlaget.
- Karpinski, Gary. 2000. *Aural Skills Acquisition: The Development of Listening, Reading, and Performing Skills in College-Level Musicians*. New York: Oxford University Press.
- Lake, William. 1993. "Interval and Scale-Degree Strategies in Melodic Perception." *Journal of Music Theory Pedagogy* 7: 55–67.
- Lewin, David. 2007. *Generalized Musical Intervals and Transformations*. New York: Oxford University Press.
- Marvin, Elizabeth West. 1987 (November). "The Perception of Musical Contour in Non-Tonal Music: Analytical and Pedagogical Implications." Paper presentation at the Society for Music Theory's Tenth Annual Meeting, Rochester, NY.
https://societymusictheory.org/sites/default/files/SMT_Program_1987.pdf.
- . 1995. "Research on Tonal Perception and Memory: What Implications for Music Theory Pedagogy?" *Journal of Music Theory Pedagogy* 9: 31–70.
- Rogers, Michael. 2004. *Teaching Approaches in Music Theory: An Overview of Pedagogical Philosophies*. Carbondale, IL: Southern Illinois University Press.
- Smith, Timothy. 1991. "A Comparison of Pedagogical Resources in Solmization Systems." *Journal of Music Theory Pedagogy* 5: 1–24.
- Straus, Joseph N. 2016. *Introduction to Post-Tonal Theory*. Fourth ed. New York: W. W. Norton.

Music Theory Undergraduate Core Curriculum Survey: a 2017 Update

BARBARA MURPHY AND BRENDAN MCCONVILLE

In 2000, Richard Nelson conducted a survey of undergraduate music theory curricula at the request of the College Music Society (CMS). His survey included questions on faculty loads and leaves, and issues of undergraduate theory curricula (e.g., years required, class sizes, textbooks, solmization systems, topics covered, placement exams, and fundamentals and accelerated courses). A total of 248 responses were collected and reported in the College Music Symposium (2002). The results indicated prevailing tendencies in the teaching of music theory at the time.

The present article provides a seventeen-year update to Nelson's survey. It reports on a new survey that included many of the questions asked in the first survey as well as additional questions on new trends in the teaching of music theory. The new survey included questions on the inclusion of technology and online learning in theory and aural training classes; questions on the integration of writing, composition, improvisation, and performance in theory classes; and questions on content shifts, such as the inclusion of non-western music (e.g., film, jazz and popular music) and other types of notation and analytical systems (e.g. lead sheet symbols, Nashville numbers, Neo-Riemannian theory and Schenkerian analysis). The article compares the results of both surveys and reflects on changes and trends while considering other important scholarship on the state of the curriculum. Overall, this article provides useful information for music theory instructors as well as lays a foundation for future surveys on the state of the curriculum.



In 2000, Richard Nelson conducted a survey of the undergraduate core curriculum for the College Music Society (CMS). His survey included questions about music faculty and their loads; curriculum, especially undergraduate music theory, aural skills and keyboard harmony classes; topics covered and textbooks used in theory classes; placement exams in music theory; accelerated theory sequences;¹ and fundamentals classes. The results of the 248 responses, which were published in Nelson 2002 and posted on the CMS website, provided much useful information for those teaching core music courses, particularly the music theory core classes. Since the information that Nelson collected is now seventeen years old, we thought that it was time to update his survey. This paper will present the results of a survey that not only recreated much of

¹ As will be shown, accelerated theory sequences can refer to designs that cover more material in the same number of terms, the same amount of material as regular theory classes yet in more depth, and the same amount of material in less time.

Nelson's survey, but also integrated more specific questions in some areas (e.g. tasks and topics covered in theory classes) and added new questions on timely topics (e.g. online teaching).

Background Literature

Because the purpose of this research is to compare Nelson's findings with the current study, the results of his survey will be discussed later when being compared to the results of the current survey. Since Nelson's survey in 2000, other surveys have gathered information on how institutions teach theory and aural skills. These surveys have had various goals; they have engaged general and specific topics in aural skills and have inspected the way we teach written theory courses. Though our survey does not attempt to duplicate these other surveys, it intersects to some degree with the topics in this literature. The surveys all share the common goal of gathering information from teachers on trends in theory and aural skills pedagogy.

Andrew Paney and Nathan Buonviri (2017) conducted a study on various approaches to teaching melodic dictation. They sent a survey to 633 college music theory instructors at NASM institutions and collected 270 responses from 45 states. Their results showed that most teachers chose a movable do system of solfege (81% total, 67% do-based minor, 14% la-based minor) and 59% of respondents used the 1-e-&-a system of rhythmic counting.² They also found that instructors taught students to listen for common pitch and rhythm patterns, to look at the "big picture" of the melody before writing, and to use their theoretical knowledge when taking melodic dictation.³ The results of this 2017 survey, along with Nelson's survey, provide information for comparison with the results of the aural skills portion of the present survey.

In a broader study conducted in 2012, Elizabeth Marvin interviewed 14 theory faculty on the function of the music theory core curriculum. Although a small sample, she discovered six main themes, or trends, that emerged from her discussions:⁴

1. "Engagement of professional music theorists in designing and teaching the core."
2. "Focus on analysis and repertoire, somewhat less on part-writing"
3. "Integration of aural and written skills and increased time devoted to aural training"

² Paney and Buonviri (2017, 3-4).

³ Ibid., 4-5.

⁴ Marvin (2012, 256-61).

4. “Increased use of technology in teaching.” Technology here includes course management systems, the use of public domain musical scores, and digital projection of material in class including PowerPoint presentation and YouTube videos. She also points out that there has been “no CAI revolution.”
5. “Remedial classes are growing”
6. “Two challenges: improvisation and music outside the Western Canon”

The present survey includes questions that can provide more information about some of the trends Marvin found in her interviews.

Jennifer Snodgrass reported on a survey she conducted in 2015 in response to the CMS *Manifesto*’s assertion that more creativity, integration, and improvisation need to be included in music curriculum. Because Snodgrass did not agree with some of the assertions made in the *Manifesto*, she conducted a survey that sought to “better understand current teaching practices in theory and aural skills classrooms” and to determine the level of creativity, integration, and improvisation already included in theory and aural skills classes.⁵ Over 350 participants responded to the survey as a whole, with approximately 250 responses to most of the open-ended questions. A majority of the respondents (257, 73%) include a great deal of integration between their theory and aural skills classes. Fewer than half (45%) of instructors incorporate frequent composition exercises, with another 32% including some composition. Her results indicated that students are receiving more exposure to jazz music than early music, and that many instructors (over a quarter of those responding) are including popular music in classes. Topics found in theory classes were more traditional, however, with the exception of part-writing. She reported, “Topics such as fundamentals, sight singing, harmonic function, modulation, and formal structures were evaluated as very important. Topics that include jazz harmony, extended chords, and part-writing were deemed less important.”⁶ It is interesting to note that twentieth- and twenty-first century topics were ranked as very important by only 57.31% of respondents. Improvisation is not frequently taught; on a scale of 1-6 with 1 being never taught and 6 being frequently taught, 19.74% ranked their teaching of improvisation at a 1, with another 33.66% at a level 2. Creative assignments were described by 235 respondents, and included examples of “composition, improvisation, student led discussions, open-ended analytical questions, technology based teaching, and performance activities.”⁷ Snodgrass concluded that teachers are, in fact, already doing much of what the *Manifesto* calls for, but that more can be done.

5 Snodgrass (2016a).

6 Ibid.

7 Ibid.

Another survey, conducted by Anna Vezza (2013), was very much like Nelson's original survey. Her survey was sent to 29 "large, public, Midwest institutions," and representatives of only 17 schools responded.⁸ The survey covered many of the questions asked by Nelson and the current survey, but also included questions on theory and aural skills diagnostic and placement exams and student placement based on the exam results, minimum passing grades, student retention, and supplemental instruction/tutoring. Respondents indicated a normal requirement of four semesters of theory and aural skills, with class sizes of 11–20 students.⁹ Vezza found that up to 25% of students do not pass their theory classes and up to 20% do not pass aural skills, with as many as 20% of college music majors changing majors after the first year.¹⁰ Most schools required a diagnostic/placement exam (60%) and used the results as part of their admission process or to place the students into the appropriate theory class. Her results also showed that most schools (60%) offered a separate written fundamentals class, but few offered an aural fundamentals class.¹¹ For advanced students, 35% of institutions provide the option of placing out of a theory course via an exam. Even students who took the Advanced Placement Music Theory Exam did not automatically place out of a theory class at many institutions; "about half" of the institutions still required incoming students to take their diagnostic exam. At 61.5% of the schools, students who scored well on the AP exam or on a placement test were allowed to take fewer credits in theory.¹² Finally, Vezza reported on software used in theory classes, noting that MacGamut was the most common application.¹³

All of the surveys conducted since Nelson's 2000 survey resulted in useful information about music pedagogy and the teaching of music theory and aural skills in particular. For our study we chose to recreate Nelson's survey and add new questions (e.g., technology, online instruction) in regard to the general college-level music theory curriculum. The purpose of the current research was to compare our results to those of Nelson's survey, and to expand Nelson's survey on the undergraduate core curriculum both in scope and numbers.

8 Vezza (2013, 20–21).

9 Ibid., 36–38.

10 Ibid., 26–27.

11 Ibid., 32–33.

12 Ibid., 35.

13 Ibid., 38.

The 2017 Survey on the Undergraduate Music Theory Core Curriculum: Data and Comparisons

Survey Design and Methodology

The 2017 Survey aims to provide information on the current landscape of the music theory curriculum. Nelson's 2000 Survey set the precedent for the present survey; the 2017 Survey adopted the topical design and foundational questions of his survey, but added more questions with further detail.

Although the resulting sample sizes were somewhat similar, the two surveys used slightly different methodologies in soliciting responses and collecting data. The 2000 Survey was posted on the Cleveland Institute of Music website and was advertised through the CMS mailings and listserv announcements.¹⁴ Nelson states that the "endeavor turned out to be far from scientific": in some cases, questions were left unanswered; in other cases, more than one response was selected. Here and there, he found that colleagues from the same institution sent conflicting responses to the survey, which were reconciled. In addition, Nelson acknowledged that, "In retrospect, some items were clumsily or inappropriately presented, thereby rendering the responses to those items of little use to this Survey."¹⁵ The 2017 Survey tried to avoid some of these issues by forcing participants to answer questions and by rewording questions to make them clearer. The 2017 Survey was created in Qualtrics software and distributed through the *Journal of Music Theory Pedagogy's* (JMTP) social media site, through email sent to participants in the 2017 Pedagogy in Practice conference, and through email to CMS members via the society's survey service. The survey accumulated 338 responses though many (95) did not finish the survey. The resulting usable sample size of 275 responses was determined by including only those who answered theory-specific questions, i.e., those who went beyond question 15. Like Nelson, the 2017 Survey also found several responses from the same institution in the initial list (of 338 schools), but multiple responses from the same institution were almost completely eliminated when the sample size was reduced to 275. In the final dataset, there were nine schools that had two people respond, and one school that had three respondents. There were also 40 participants that did not identify their schools, so we cannot be sure these are not duplicates from schools that were identified.

¹⁴ Nelson (2002, 1).

¹⁵ Ibid., 1.

Since the 2000 and 2017 Survey designs are similar, the data comparison is relatively straightforward, albeit with a few problems. Though 248 people responded to the 2000 Survey, the total number of responses to each question is not always known since Nelson did not report the number of participants answering each question. The 2017 Survey did force some responses, making the total number of respondents known. However, the 2017 Survey's response totals fluctuated because it used skip logic (i.e., branched questions) and some respondents also dropped out along the way. Therefore, the *N* in both surveys is variable depending on the question. The present article makes every attempt to make the most logical comparisons possible; some questions compare 2000 Survey counts to 2017 Survey counts, while, at other times, a percentage is reported since the total *N* in the 2000 Survey can be determined by summing the number of responses for the options.¹⁶ The seven sections below divide the data into topical categories resembling those from Nelson's survey.

I. Survey Respondents: Institution Types and Music Theory Faculty

As shown in Table I-1, more respondents in both surveys were from 4-year colleges (80.56% of 216 reporting in 2000, 88.36% of 275 in 2017) than from 2-year institutions (19.44% and 11.64%). The mean number of students at the participating schools in 2017 was 151.5 undergraduate students and 40.8 graduate students, while the average number of undergraduate students at schools involved in Nelson's survey was 119; the graduate student mean was not given in the 2000 Survey. Nelson reported that 84 schools offered Master's degrees and 39 schools doctoral degrees. In the 2017 survey, 152 schools offered a Master's while 73 offered a doctoral degree. These numbers can be a bit misleading as schools that offer a doctoral degree would most likely also offer a Master's degree. Therefore, the highest degree offered was determined for respondents in the 2017 Survey (Table I-2) indicating that most schools' (32.4%) highest degree is the master's degree followed closely by the bachelor's degree (29.1%) and the doctoral degree (26.5%).

¹⁶ See Table I-5 for an example of this approach. The first question in this table, "Is the teaching load more or less than music history faculty?" asks a question that respondents can only answer with one option (i.e., same, more, less), and, as such, an *N* can be determined. The second question in the table, "Are administrative or research duties factored into theory faculty loads?" could be answered by selecting either, both, or neither of the options "administrative" or "research", which makes it difficult to determine an *N*.

Total Responses & Institution Types				
	2000	% of total	2017 (N=275)	% of total
2 year	42 (N=216)	19.44%	32	11.64%
4 year	174 (N=216)	80.56%	243	88.36%
master's offered	84	N/A	152	55.27%
doctorate offered	39	N/A	73	26.55%
avg # UG	119	N/A	151.5	N/A
avg # of G	N/A	N/A	40.8	N/A

Table I-1
Institution Types

Highest Degree Offered	Frequency	Percent
	N = 275	% of total
Associate degree	33	12.0%
Bachelor's degree	80	29.1%
Master's degree	79	32.4%
Doctoral degree	73	26.5%

Table I-2
Highest degree offered, 2017 Survey

The number of theory and aural skills faculty has grown slightly over the years. In the 2000 Survey, Nelson reported an average of four total faculty who taught music theory and an average of just one person teaching theory only. Both of these averages rose in the 2017 Survey (Table I-3).

Number of Theory/Aural Skills Faculty (2017 Survey)					
	N	Min.	Max.	Mean	Standard Deviation
Tenured/tenure-track faculty (i.e., theory only)	274	.00	40.00	2.9798	4.17972
Full time lecturers	270	.00	12.00	.6997	1.34709
Adjunct/part-time faculty	274	.00	65.00	2.3867	6.30014
Total number theory + aural skills faculty	268	.00	86.00	6.1086	9.39203
Valid N (list wise)	268				

Table I-3
Number of theory/aural skills faculty

The most common faculty teaching load is higher in 2017 than it was in 2000 (Table I-4). In 2000, most faculty indicated that they taught three classes each semester (27.6%); in 2017, most faculty teach four classes each semester (24%). One problem with these numbers is not knowing the number of credit or contact hours for these courses; the courses taught could include aural skills courses, which may have fewer credits and contact hours per week. The number of contact hours per week was asked in the 2000 survey, but the responses included such a wide range of answers that they could not be put into categories. The amount of contact hours per week was not asked in the 2017 survey; this question will be added to a future survey. The number of classes taught each semester compares to the teaching load of musicology faculty (76% in 2000 and 72.73% in 2017; see Table I-5). The number of schools including administrative duties (47 in 2000, 162 in 2017) and research (95 in 2000, 105 in 2017) into faculty loads rose,¹⁷ although the percentage of schools in 2017 including them varies (administrative duties: 58.9%; research: 38.1%; neither included: 33.82; see Table I-5). Sabbaticals are still available, most often every seven years (59.9% in 2000 and 59.27% in 2017), but the percentage of schools not giving sabbaticals at all rose from 9.9% in 2000 to 14.91% in 2017 (Table I-5).

Music Theory Faculty Loads				
	2000 courses per term	2000 Percent (of 188)	2017 teaching load	2017 percent
Full time faculty average teaching load	6	8		
	5	11.2	more than 4+4	17.09
	4	21.3	4+4	24
			3+4	7.27
	3	27.6	3+3	20.73
	2+3	7	2+3	12.36
	2	13.3	2+2	13.45
	2+1	5.4	2+1	1.45
	1	6.4	1+1	3.64

Table I-4
Theory Faculty Loads

¹⁷ The questions in Table I-5 replicated the 2000 survey, which did not clarify if administrative or research duties factored into the number of reported courses (e.g. 4+4), or simply into “faculty load” (more generally). A future survey will attempt to clarify how administrative and research duties interact with course loads.

Music Theory Teaching				
Is the teaching load more or less than music history faculty?				
	2000 (N=233)	% of total	2017 (N=275)	% of total
same	179	76.82%	200	72.73%
more	45	19.31%	70	25.45%
less	9	3.86%	5	1.82%
Are administrative or research duties factored into theory faculty loads?				
	2000 (N=?)	% of total	2017 (N=275)	% of total
administrative	47	N/A	162	58.91%
research	95	N/A	105	38.18%
neither	?	N/A	93	33.82%
How often are sabbaticals offered at your school?				
	2000 (N=192)	% of total	2017 (N=275)	% of total
not given	19	9.90%	41	14.91%
less than every 7 years	40	20.83%	59	21.45%
every 7 years	115	59.90%	163	59.27%
greater than every 7 years	18	9.38%	12	4.36%
Do grad students teach in your theory program?				
	2000 (N=193)	% of total	2017 (N=275)	% of total
yes	32	16.58%	54	19.60%
no	161	83.42%	221	80.40%

Table I-5
Theory Faculty Loads

In both surveys, over 80% of the respondents indicated that graduate students do not teach in the theory program (83.42% in 2000 and 80.4% in 2017, see Table I-5). The number of classes that graduate students teach was expressed in different ways on the two surveys so direct comparisons are difficult to make. In the 2000 Survey (Table I-6a), respondents indicated whether graduate students taught first, second, third or fourth-year classes in different teaching areas. For instance, it was reported that at 27 schools, graduate student teachers taught first-year sight singing/aural skills courses and at 19 schools, graduate students taught second-year sight singing/aural skills classes; it is not known if graduate students at any of these schools taught both first- and second-year classes. In the 2017 Survey (Table I-6b), respondents just stated the type and not the level of classes taught by graduate students. The results show that graduate students most often teach aural skills classes, less often theory

classes.¹⁸ Graduate students most often had full responsibility for their classes in 2017 (79.62%); this question was not asked in the 2000 Survey.

Graduate Student Teaching					
Classes	1st year	2nd year	3rd year	4th year	Total
Written music theory	21	12	1	0	34
Sight singing/aural skills	27	19	2	0	48
Music theory keyboard	10	7	0	0	17
Fundamentals	21	0	0	0	21
Analysis	0	1	1	0	2
Theory for non-majors	2	0	0	0	2

Table I-6a
Graduate Student Teaching; 2000 Survey

Graduate Student Teaching Responsibilities		
	2017 (N=54)	% of total
Full class responsibility	43	79.62%
Lead recitation/discussion sections only	21	38.89%
Do grading only	17	31.48%
Other	8	14.81%

Graduate Students Teaching Courses		
	2017 (N=54)	% of total
Have students that teach aural skills	48	88.89%
Have students that teach written skills	41	75.93%
Have students that teach tech-related courses	14	25.93%
Have students teaching other courses	9	54%

Table I-6b
Graduate Student Teaching; 2017 Survey

II. General Undergraduate Requirements and Class Sizes

Though the theory curriculum requirements are similar in the two surveys, there may be a few trends to monitor in future studies. Tables II-1 through II-4 and Tables II-6 and II-7 show the results of questions on the overall undergraduate core recreated

¹⁸ This is true of the 2000 Survey only if “Fundamentals” courses overlap with “Written music theory” courses, which is difficult to determine from his raw data (Table I-6a).

from Nelson’s survey;¹⁹ “N/A” in a column indicates that a particular response category was not offered. Nelson’s responses can be summed to determine the total number of respondents answering each question. Much of the response data was similar across the two surveys in Tables II-1 and II-2, although the 2017 Survey shows a potentially trending increase in schools requiring two and a half years for both theory overall (from 12.89% in 2000 to 24.73% in 2017) and written music theory courses (from 9.25% in 2000 to 20.15% in 2017). Aural skills requirements (Table II-3) present very consistent numbers across the two surveys, with two years being the most common amount of time to complete the sight-singing portion of requirements (Table II-4). Most schools prefer separate written and aural skills courses (82.85%), a question not asked by Nelson (Table II-5).

How many years of music theory does your school require?				
	2000 (N=225)	% of total	2017 (N=275)	% of total
not required	N/A	N/A	3	1.09%
less than 1 year	N/A	N/A	3	1.09%
1 year	11	4.89%	7	2.55%
1.5 years	9	4.00%	8	2.91%
2 years	125	55.56%	148	53.82%
2.5 years	29	12.89%	68	24.73%
3 years	35	15.56%	33	12.00%
greater than 3 years	16	7.11%	5	1.82%

Table II-1
Years of Music Theory Required

¹⁹ Tables II-1, II-2, II-3, and II-4 include questions that were replicated from Nelson’s survey. We realize confusion may arise regarding the difference between II-1 and II-2; we consider II-1 means the total years of music theory in a school’s curriculum (aural plus written) and II-2 means written music theory only. We consider questions in II-2, II-3, and II-4 as sub-questions of II-1. We cannot confirm all respondents used this same reading of these questions.

How many years of written music theory does your school require?				
	2000 (N=227)	% of total	2017 (N=273)	% of total
not required	N/A	N/A	4	1.47%
less than 1 year	N/A	N/A	2	0.73%
1 year	14	6.17%	8	2.93%
1.5 years	12	5.29%	9	3.30%
2 years	147	64.76%	162	59.34%
2.5 years	21	9.25%	55	20.15%
3 years	22	9.69%	28	10.26%
more than 3 years	11	4.85%	5	1.83%

Table II-2
Years of Written Music Theory Required

How many years of aural skills does your school require?				
	2000 (N=211)	% of total	2017 (N=244)	% of total
not required	N/A	N/A	5	2.05%
less than 1 year	N/A	N/A	2	0.82%
1 year	18	8.53%	8	3.28%
1.5 years	15	7.11%	22	9.02%
2 years	163	77.25%	199	81.56%
2.5 years	6	2.84%	4	1.64%
3 years	3	1.42%	2	0.82%
greater than 3 years	6	2.84%	2	0.82%

Table II-3
Years of Aural Skills Required

How many years of sight singing does your school require?				
	2000 (N=182)	% of total	2017 (N=239)	% of total
not required	N/A	N/A	2	0.84%
less than 1 year	N/A	N/A	5	2.09%
1 year	19	10.44%	8	3.35%
1.5 years	11	6.04%	22	9.21%
2 years	143	78.57%	196	82.01%
2.5 years	2	1.10%	4	1.67%
3 years	0	0.00%	1	0.42%
greater than 3 years	7	3.85%	1	0.42%

Table II-4
Years of Sight Singing Required

Do you have separate written theory and aural skills courses?	2017 (N=239)	% of total
yes	198	82.85%
no	41	17.15%

Table II-5
Separate Written and Aural Skills

A two-year keyboard sequence is most common in both surveys (Tables II-6 and II-7). Results from the 2017 Survey also suggest that more institutions are requiring keyboard harmony than in 2000, as the percent of “not required” responses dropped significantly, from 27.81% to 8.16% (Table II-6). The 2017 Survey also reveals the percentage of keyboard classes larger than 30 students has dropped significantly, from over 20% in 2000 to 0% in 2017 (Table II-7).

How many years of keyboard harmony does your school require?				
	2000 (N=187)	% of total	2017 (N=245)	% of total
not required	52	27.81%	20	8.16%
less than 1 year	N/A	N/A	25	10.20%
1 year	41	21.93%	54	22.04%
1.5 years	3	1.60%	20	8.16%
2 years	85	45.45%	125	51.02%
2.5 years	2	1.07%	0	0.00%
3 years	4	2.14%	1	0.41%
greater than 3 years	0	0.00%	0	0.00%

Table II-6
Years of Keyboard Harmony Required

What is the average class size in keyboard harmony class?				
	2000 (N=159)	% of total	2017 (N=225)	% of total
less than 8 students	42	26.42%	45	20.00%
8 students	13	8.18%	37	16.44%
10 students	27	16.98%	44	19.56%
12 students	22	13.84%	64	28.44%
15 students	18	11.32%	27	12.00%
20 students	5	3.14%	8	3.56%
greater than 30 students	32	20.13%	0	0.00%

Table II-7
Size of Keyboard Harmony Classes

III. Placement Exams, Accelerated Sections, and Proficiency Tests

The 2017 Survey presents several notable changes in the content of placement exams for written and aural skills curricula. Table III-1 provides response information on placement exams in the surveys; unfortunately, it is impossible to determine if the percentage of freshman placement exams has increased or decreased because Nelson's total number of respondents in these questions is unknown. However, the raw numbers indicate a rise in the number that have placement exams (147 in 2000 to 218 in 2017 for written theory; 78 in 2000 to 116 in 2017 for aural skills). The 2017 data shows that many more institutions have placement exams in written music theory (80%) than in aural skills (42.96%). The results also show changes to the contents of the exams. On written theory placement tests, the percent of those including part-writing has risen by 10% and those including counterpoint

has almost doubled from 6.8% to 12.39%. On aural placement tests, the percent of those including intervals, triad type identification, and rhythmic dictation have decreased by 22%, 19%, and 9.75% respectively. It is possible that, even though questions on fundamentals are present on almost all placement exams, more recent written placement exams include fewer questions on fundamentals and more questions on advanced topics. On aural exams, melodic dictation is still the most common assessment tool and may be used to test students on the fundamental topics of intervals and rhythm.

Placement Exams				
Do you have freshman placement exams in written music theory?				
	2000 (N=?)	% of total	2017 (N=273)	% of total
yes	147	N/A	218	79.85%
no	?	N/A	55	20.15%
If so, what topics are on the exam?				
	2000 (N=147)	% of total	2017 (N=218)	% of total
fundamentals	147	100%	211	96.79%
roman numeral analysis	73	49.66%	124	56.88%
part writing	48	32.65%	92	42.20%
counterpoint	10	6.80%	27	12.39%
Do you have freshman placement exams for aural skills?				
	2000 (N=?)	% of total	2017 (N=270)	% of total
yes	78	N/A	116	42.96%
no	?	N/A	154	57.04%
If so, what topics are on the exam?				
	2000 (N=78)	% of total	2017 (N=116)	% of total
Intervals	69	88.46%	77	66.38%
Triad types	62	79.49%	70	60.34%
7 th chord types	19	24.36%	29	25.00%
Melodic dictation	62	79.49%	84	72.41%
Harmonic dictation	32	41.03%	47	40.52%
Rhythmic dictation	54	69.23%	69	59.48%
Sight singing	46	58.97%	69	59.48%
scales	N/A	N/A	65	56.03%

Table III-1
Placement Exams

Placement exams may determine whether a student takes an accelerated music theory section or not, but few schools (7.8%) have such sections (see Table III-2). Of the schools that do, most use freshman diagnostic exams and admission decisions as a means of placement. Accelerated courses most often (47%) cover the same material as the regular theory classes yet in more depth (Table III-3).

Accelerated Music Theory				
Is accelerated music theory offered for students with background in theory?				
	2000 (N=?)	% of total	2017 (N=243)	% of total
yes	25	N/A	19	7.82%
no	?	N/A	224	92.18%

Table III-2
Accelerated Sections

Accelerated Courses and Placement		
How do students place into your accelerated/honors courses?	2017 (n=19)	% of total
freshmen diagnostics	8	42.11%
based on initial admission	4	21.05%
combination of diagnostic and initial admission	3	15.79%
assessment after first semester	2	10.53%
AP scores	1	5.26%
assessment after first year	1	5.26%
Please describe your accelerated courses. Do they cover more materials in the same number of terms as your regular theory classes? Do they cover the same material as regular theory classes in more depth? Do they cover the same material in less time?	(n=19)	% of total
same material, more depth	9	47.37%
more material and more depth	3	15.79%
same material at faster pace/less semesters	3	15.79%
faster pace freshmen year; same material	1	5.26%
other	3	15.79%

Table III-3
Accelerated Sections

The 2017 Survey indicates that many schools have a mechanism for students to place out of written or aural skills courses (67.90%), such as a proficiency test or acceptance of Advanced Placement (AP), International Baccalaureate (IB), or Advanced-level (i.e., A-levels) credit (see Table III-4a). Of the 165 respondents that offer course exemptions, most (80.61%) have proficiency tests on written skills, some (58.79%) have tests on aural skills, and some (56.36%) accept AP test scores for theory or aural skills proficiency. The 93 schools that reported that they accept AP test scores had a variety of policies on how scores were used, and often didn't clarify whether or how they used subscores. Table III-4b details the numerous response categories built from the data, though many respondents were unclear or unsure of how their school equated AP scores. The table also offers information on the small number of schools that consider other types of course proficiencies (i.e., IB, A-level and other tests).

Proficiency Exams and AP Scores		
Can students exempt out of theory or aural skills classes by any means (e.g. AP, IB, A-level credit, or proficiency tests?)	(N=243)	% of total
yes	165	67.90%
no	78	32.10%
Do you have proficiency tests, i.e., exams that your school has designed to allow students to place out of theory or aural skills classes?	(N=165)	% of total
proficiency tests for written theory	133	80.61%
proficiency tests for aural skills	97	58.79%
no proficiency tests	27	16.36%
proficiency tests for other classes	19	11.52%
Do you accept the Advanced Placement (AP) test scores for theory or aural skills?	(N=165)	% of total
yes	93	56.36%
no	72	43.64%

Table III-4a
Proficiency Exams and AP Scores

Proficiency Exams and AP Scores (continued)		
If you accept the AP scores, how do you equate them?	2017 (N=93 though some did not answer)	
Score of 3 places them out of fundamentals	12	
Score of 3 places them into 2nd semester of core	10	
Score of 3 or better places them into 3rd semester	2	
Take scores 4+ (note: unsure to what level)	3	
Score of 4-5 places them out of (a separate) fundamentals	1	
Score of 4 or 5 places them out of 1 semester (theory; some still require aural skills 1)	3	
Score of 4-5 places them out of 2 semesters	4	
Score of 4 exempts theory 1 and aural skills 1; Score of 5 exempts theory 2 and aural skills 2; Some indicated sub-scores used, some did not	10	
Score of 5 places them out of 1st semester	8	
Unclear or unsure of how scores are equated	25	
Indicate other types of credit you give for theory/aural skills classes.	(N=161)	% of total
None	142	88.20%
IB Credit	9	5.59%
A level tests (UK)	2	1.24%
Other	13	8.07%

Table III-4b
Proficiency Exams and AP Scores

The present survey found that the method for placing students within the sequence is highly varied (Table III-4b). The survey used a fill-in-the-blank approach to questions, although future surveys should consider a multiple-choice approach to this question to best obtain more specific data.

IV. Specific Topics Within the Written Skills Curriculum

Traditional written theory topics are strongly represented in current curricula (Table IV-1); this question was not asked in the 2000 Survey. Fundamental topics are naturally found in nearly all 259 responses,²⁰ and more specialized topics such as Neo-Riemannian theory (10.42%) and the Nashville number system (3.86%) are

²⁰ It is possible that some respondents didn't consider fundamentals topics in their sequence if they were taught in a separate, remedial fundamentals course.

rarely taught in the undergraduate curriculum. In recent years, there have been a variety of calls for the inclusion of certain topics in the theory curriculum.²¹ The 2017 Survey indicates that some of these topics, such as pop music analysis (45.56%), improvisation (26.25%), jazz theory (22.01%), and composition projects (69.5%), are present in theory classes. While scholarship continues to study the importance of these and other topics in the curriculum, future surveys should track their integration, as well as the retention of traditional topics such as part-writing and counterpoint.

²¹ See Snodgrass (2016a and 2016b).

Indicate what topics are covered in your required core written theory sequence.		
	2017 (N=259)	% of total
Analysis	253	97.68%
Seventh chords	251	96.91%
Part writing	248	95.75%
Triads	246	94.98%
Modulations	244	94.21%
Intervals	243	93.82%
Secondary/applied functions	243	93.82%
Scales	239	92.28%
Key signatures	239	92.28%
Chromatic harmony	238	91.89%
Analysis of small forms	225	86.87%
Modes	216	83.40%
Analysis of large forms	205	79.15%
12-tone & serial analysis	188	72.59%
Counterpoint	182	70.27%
Composition	180	69.50%
Set theory	170	65.64%
Analysis of inventions/fugues	134	51.74%
Writing skills (i.e. analytical papers)	122	47.10%
Pop music analysis	118	45.56%
Improvisation	68	26.25%
Jazz theory	57	22.01%
Schenkerian analysis	35	13.51%
Neo-Riemannian Theory	27	10.42%
Other (various 20 th -21 st c. techniques, history of theory, orch.)	24	9.27%
Topics in intertextuality and/or narrativity	16	6.18%
Nashville number system	10	3.86%
Transformational theory	10	3.86%

Table IV-1
Topics in the Written Theory Sequence

Fundamentals

The 2017 Survey reveals several possible trends from the questions on Fundamentals classes (Table IV-2). The 2000 Survey only reported the number of yes responses to these questions, while the 2017 Survey recorded both yes and no responses as well as response totals. Since the 2000 Survey did not give the total number of responses to each question, no percentage comparisons can be made. However, it is possible that the 2017 numbers of separate remedial (182, up from 136 in 2000) and trailer courses in fundamentals (79, up from 60 in 2000) suggest a rise in these offerings, although the number of institutions offering summer classes (39, down from 43 in 2000) seems to have decreased.²² Table IV-3 contains information on questions asked only in the 2017 Survey—questions on topics within fundamentals courses. Topics such as scales, rhythm, key signatures, note reading, intervals, triads, and seventh chords dominate courses as expected, but other topics are less often included in fundamentals classes. Perhaps most striking, just 34.82% of fundamentals courses include musical analysis. Also noteworthy is that only 60.11% of respondents include aural skills in their fundamentals courses.

²² Note: The summer remedial theory question in the 2017 Survey is only out of 178 on summer courses, making it (21.91%) *potentially* a higher percentage than in the 2000 Survey, e.g. if it were out of 248 (thus 17.3%).

Fundamentals Course				
Is there a separate remedial course in fundamentals for music majors who have little or no background in music theory?				
	2000 (N=?)	% of total	2017 (N=268)	% of total
yes	136	N/A	182	67.91%
no	?	N/A	86	32.09%
In your core, written music theory classes: are fundamentals covered/reviewed in the first quarter/semester of music theory for all music majors?				
	2000 (N=?)	% of total	2017 (N=259)	% of total
yes	214	N/A	237	91.51%
no	?	N/A	22	8.49%
If there is a separate remedial fundamentals class, does it result in an out-of-phase (trailer) music theory sequence?				
	2000 (N=?)	% of total	2017 (n=178)	% of total
yes	60	N/A	79	44.38%
no	?	N/A	99	55.62%
Does your fundamental theory course count in the hours for the major in music?				
	2000 (N=?)	% of total	2017 (N=178)	% of total
yes	60	N/A	41	23.03%
no	?	N/A	137	76.97%
Does your school offer summer remedial theory for students who need it?				
	2000 (N=?)	% of total	2017 (N=178)	% of total
yes	43	N/A	39	21.91%
no	?	N/A	139	78.09%

Table IV-2
Questions on Fundamental Courses

Fundamentals: Topics		
	2017 (N=178)	% of total
Scales	176	98.88%
Rhythm, meter, and time signatures	175	98.31%
Key signatures	175	98.31%
Reading notes in clefs	174	97.75%
Intervals	173	97.19%
Triads	166	93.26%
7 th chords	112	62.92%
Analysis	62	34.82%
Modes	61	34.27%
Composition	40	22.47%
Part writing	37	20.79%
Pop music analysis	34	19.10%
Other	15	8.43%
Improvisation	11	6.18%
Counterpoint	10	5.62%
Jazz theory	7	3.93%
Does your fundamentals class include aural skills?	2017 (N=178)	% of total
yes	107	60.11%
no	71	29.89%
Indicate aural skills topics covered in your fundamentals class.	2017 (n=107)	% of total
sight singing	87	83.31%
melodic dictation	78	72.90%
keyboard exercises	41	38.32%
harmonic dictation	39	36.45%
other	17	15.89%

Table IV-3
Topics in Fundamental Courses

Textbooks and anthologies are the most common materials used to teach fundamentals classes (Table IV-4). Duckworth's *A Creative Approach to Music Fundamentals* is the only text that appears in the top five commonly used textbooks/anthologies in each survey (Table IV-5). Newer texts such as Clendinning/Marvin's *The Musician's Guide to Fundamentals* and Straus' *Elements of Music* have replaced previously favored texts.

Fundamentals		
What types of materials do you use in your fundamentals class?	2017 (N=178)	% of total
texts/anthologies	123	69.10%
personal materials	87	48.88%
do not use any materials	12	6.74%

Table IV-4
Materials used in Fundamentals Courses

Top 5 Fundamentals Textbooks/Anthologies Used					
Top 5 Texts 2000	2000 (N=?)	# used in 2017	Top 5 Texts 2017	2017 (N=178)	% of 97 reported texts
Duckworth	7	8	Clendinning/Marvin	14	14.43%
Ottman	7	1	Straus	9	9.28%
Henry	4	1	Duckworth	8	8.25%
Hill	4	0	Kostka/Payne/Almén	7	7.22%
Lynn	4	1	Manoff	5	5.15%

Table IV-5
Fundamentals Textbook Comparisons

Diatonic Harmony

Both surveys show that two terms is the most common length of time spent on diatonic harmony, although the 2017 Survey did find a decrease in one term and an increase in one and a half terms and two and a half terms (Table IV-6).

In how many terms do you cover diatonic harmony?				
	2000 (N=203)	% of total	2017 (N=259)	% of total
0 terms	N/A	N/A	0	0.00%
less than 1 term	N/A	N/A	4	1.54%
1 term	34	16.75%	22	8.49%
1.5 terms	21	10.34%	46	17.76%
2 terms	97	47.78%	113	43.63%
2.5 terms	6	2.96%	18	6.95%
3 terms	26	12.81%	28	10.81%
4 terms	19	9.36%	26	10.04%
more than 4 terms	N/A	N/A	2	0.77%

Table IV-6
Length of Diatonic Harmony

Most diatonic harmony instructors used textbooks/anthologies (84.17%) and personal materials (53.28%) in 2017 (Table IV-7). The list of the most commonly used textbooks has changed since 2000 (Table IV-8). Like fundamentals, many older texts have been replaced by newer ones, though *Tonal Harmony* by Kostka/Payne/Almén is still the most commonly used diatonic harmony text.

Diatonic Harmony		
What types of materials do you use in your diatonic harmony classes?	2017 (N=259)	% of total
texts/anthologies	218	84.17%
personal materials	138	53.28%
do not use any materials	3	1.16%

Table IV-7
Materials in Diatonic Harmony

Top Textbooks Used for Diatonic Harmony					
Top 5 Texts 2000	2000 (N=?)	# used in 2017 (N=198)	Top 5 Texts 2017	2017 (N=198 texts)	% of reported texts
Kostka/Payne	55	67	Kostka/Payne/Almén	67	33.84%
Benward/White	45	22	Clendinning/Marvin	27	13.64%
Ottman	20	2	Benward/Saker	22	11.11%
Aldwell/Schachter	18	4	Laitz	22	11.11%
Spencer	4	1	Burstein/Straus	20	10.10%

Table IV-8
Textbooks in Diatonic Harmony

Chromatic Harmony

Both surveys discovered that both one and two terms were the most commonly reported lengths of time for teaching chromatic harmony. The 2017 Survey showed a marked increase, however, in chromatic harmony being covered in one and a half terms (Table IV-9), which may be connected to findings in Table IV-18, where the time teaching twentieth-century analysis showed a decrease in the “one semester” category and increase in “less than one semester” category. There may be a trend to increase the time spent on chromatic harmony, perhaps sacrificing time spent on twentieth-century music. Like diatonic harmony, instructors most often use texts/anthologies (Table IV-10) and the most commonly used textbooks are naturally similar to the findings on diatonic harmony textbooks (Table IV-11).

In how many terms do you cover chromatic harmony?				
	2000 (N=193)	% of total	2017 (N=254)	% of total
0 terms	9	4.66%	4	1.57%
less than 1 term	15	7.77%	18	7.09%
1 term	70	36.27%	76	29.92%
1.5 terms	26	13.47%	59	23.23%
2 terms	63	32.64%	77	30.31%
2.5 terms	0	0.00%	9	3.54%
3 terms	8	4.15%	8	3.15%
4 terms	2	1.04%	2	0.79%
more than 4 terms	N/A	N/A	1	0.39%

Table IV-9
Length of Chromatic Harmony

Chromatic Harmony		
What types of materials do you use in your chromatic harmony classes?	2017 (N=254)	% of total
texts/anthologies	203	79.92%
personal materials	127	50.00%
do not use any materials	9	3.54%

Table IV-10
Materials in Chromatic Harmony

Top Textbooks Used for Chromatic Harmony					
Top 5 Texts 2000	2000 (N=?)	# used in 2017 (N=174)	Top 5 Texts 2017	2017 (N=174 texts)	% of reported texts
Kostka/Payne	53	62	Kostka/Payne/Almén	62	35.63%
Benward/White	39	19	Clendinning/Marvin	24	13.79%
Ottman	16	1	Laitz	21	12.07%
Spencer	18	3	Burstein/Straus	20	11.49%
Turek	4	4	Benward/Saker	19	10.92%

Table IV-11
Textbooks in Chromatic Harmony

Form and Analysis

Although the 2017 Survey compared the study of formal analysis in a manner that was consistent to other aspects of the written curriculum as well as to the 2000 Survey, it also hoped to identify the ways various institutions teach this topic. As shown in Table IV-12a, one term was the most common length of time dedicated to teach the topic in 2017 (48.74%, down from 63.89% in 2000), although two, three, and four terms had marginal increases (3.4%, 8.84%, and 2.99% increases, respectively). The topic is now spread across the curriculum, perhaps due to newer textbook styles. In 2017, the largest percentage of schools teach form and analysis as part of the sequence (48.81%), while a smaller portion teach it as a separate class (30.56%; see Table IV-12b). Teachers of form rely just as heavily on textbooks and anthologies as they do on materials they prepare themselves (62.18% each; see Table IV-13). The Burkhardt *Anthology for Musical Analysis* was still the most commonly used book in 2017, though a number of broad textbooks have replaced the more topically focused textbooks of 17 years ago (Table IV-14).

In how many terms do you cover form & analysis?				
	2000 (N=161)	% of total	2017 (N=238)	% of total
0 terms	23	14.29%	26	10.92%
1 term	103	63.98%	116	48.74%
2 terms	27	16.77%	48	20.17%
3 terms	2	1.24%	24	10.08%
4 terms	6	3.73%	16	6.72%
more than 4 terms	N/A	N/A	8	3.36%

Table IV-12a
Length of Form and Analysis

How is form and analysis covered in your theory sequence?	2017 (N=250)	% of total
As part of core theory sequence	123	48.81%
In a separate class	77	30.56%
Both part of sequence and separate class	39	15.48%
Not covered	11	4.37%

Table IV-12b
Coverage of Form and Analysis

Form and Analysis		
What types of materials do you use?	2017 (N=238)	% of total
texts/anthologies	148	62.18%
personal materials	148	62.18%
do not use any materials	20	8.40%

Table IV-13
Materials in Form and Analysis

Top Textbooks Used for Form and Analysis					
Top 5 Texts 2000	2000 (N=?)	# used in 2017 (N=99)	Top 5 Texts 2017	2017 (N=122)	% of reported books
*Burkhart	29	17	*Burkhart	17	13.9%
Benward/White	17	13	Kostka/Payne/Almén	16	13.1%
Green**	15	3	Benward/Saker	13	10.7%
Spencer/Temko**	15	3	Laitz	13	10.7%
Spring/Hutcheson**	13	4	Clendinning/Marvin	12	9.8%

*anthology only

**texts focusing on form and analysis only

Table IV-14
Textbooks/Anthologies in Form and Analysis

Counterpoint

The 2017 Survey asked questions about counterpoint in the same manner as form and analysis. Notably, in 2017 only 29.15% of respondents covered counterpoint in a term (down from 48.33% in 2000) while a higher percentage of them covered it in less than one term (41.7%, up from 20.56% in 2000; see Table IV-15a). The survey results also show a decrease in the amount of schools that teach no counterpoint (from 27.22% in 2000 to 16.6% in 2017). These findings suggest a trend toward spending less time on the subject while still retaining it in the curriculum. Counterpoint is most often taught as part of the core sequence (Table IV-15b) and is primarily taught using texts/anthologies or personal materials (Table IV-16). Several texts from 17 years ago remain popular today (Table IV-17).

In how many terms do you cover counterpoint?				
	2000 (N=180)	% of total	2017 (N=247)	% of total
0 terms	49	27.22%	41	16.60%
less than 1 term	37	20.56%	103	41.70%
1 term	87	48.33%	72	29.15%
2 terms	7	3.89%	24	9.72%
more than 3 terms	N/A	N/A	7	2.83%

Table IV-15a
Length of Counterpoint

How is counterpoint covered in your theory sequence?	2017 (N=247)	% of total
As part of core theory sequence	108	43.72%
In a separate class	59	23.89%
Both part of sequence and separate class	39	15.79%
Not covered	41	16.60%

Table IV-15b
Coverage in Counterpoint

Counterpoint		
What types of materials do you use?	2017 (N=206)	% of total
texts/anthologies	132	64.08%
personal materials	111	53.88%
do not use any materials	9	4.37%

Table IV-16
Materials in Counterpoint

Top Textbooks Used for Counterpoint					
Top 5 Texts 2000	2000 (N=?)	# used in 2017 (N=103)	Top 5 Texts 2017	2017 (N=103 textbooks)	% of reported texts
Kennan	32	12	Kennan	12	11.65%
Gauldin	15	10	Clendinning/Marvin	11	10.68%
Benward/White	10	13	Benward/Saker	11	10.68%
Owen	8	6	Gauldin	10	9.71%
Benjamin	4	3	Schubert	7	6.80%

Table IV-17
Textbooks in Counterpoint

Twentieth-Century Music

The findings in Table IV-18 suggest a potential compression of time spent on twentieth-century topics in the curriculum. In 2017, the amount of institutions spending no time on the topic (4.76%) decreased from 2000 (13.57%), but the number of schools teaching it in less than a semester (36.11%) increased from 2000 (27.14%), and the percentage of programs teaching it in one semester (50.79%) decreased slightly from 2000 (55.78%). The comparisons reveal that there may be a

trend towards spending less than one term on the topic, perhaps accounting for the rise of chromatic harmony to one and a half terms (Table IV-9) or the inclusion of a partial semester of counterpoint (Table IV-15a). Materials used in twentieth-century courses were split between personal materials and textbooks (Table IV-19), with the most common textbook being a broader sequence text—Kostka/Payne/Almén's *Tonal Harmony* (Table IV-20). Topic-specific twentieth-century textbooks such as Straus' *Introduction to Post-Tonal Theory*, Kostka and Santa's *Materials and Techniques of Post-Tonal Music*, and Roig-Francoli's *Understanding Post-Tonal Music* are still frequently used, unlike topic-specific form texts (Table IV-14).

In how many terms do you cover Twentieth-Century music?				
	2000 (N=199)	% of total	2017 (N=252)	% of total
0 terms	27	13.57%	12	4.76%
less than 1 term	54	27.14%	91	36.11%
1 term	111	55.78%	128	50.79%
1.5 terms	0	0.00%	8	3.17%
2 terms	7	3.52%	12	4.76%
more than 4 terms	0	0.00%	1	0.40%

Table IV-18
Length of Twentieth-Century Music Analysis

Twentieth-Century		
What types of materials do you use in your Twentieth-Century analysis classes?	2017 (N=240)	% of total
texts/anthologies	152	63.33%
personal materials	135	56.25%
do not use any materials	23	9.58%

Table IV-19
Materials in Twentieth-Century Music Analysis

Top (Overall) Textbooks Used for Twentieth-Century Music					
Top 5 Texts 2000	2000 (N=?)	# used in 2017 (N=129)	Top 5 Texts 2017	2017 (N=129 textbooks)	% of reported texts
Kostka**	23	12	Kostka/Payne/Almén	35	27.13%
Benward/White	21	10	Clendinning/Marvin	17	13.18%
Straus**	14	13	Straus**	17	13.18%
*Burkhart	12	8	Benward/Saker	14	10.85%
Turek	11	3	Kostka/Santa**	14	10.85%
			Roig-Francoli**	11	8.53%

*anthology only

**texts focusing on twentieth-century materials only

Table IV-20
Textbooks in Twentieth-century Music

V. Specific Topics Within the Aural Skills Curriculum

The 2000 survey had only one question on aural skills, i.e., “What type of solmization is used for sight singing?” The 2017 Survey retained this question (Table V-1) and posed several others (Tables V-2 through V-5). For the one question in the 2000 Survey, it is impossible to determine percentages of each system’s use because the total number of respondents to the question is unknown, and we do not know if respondents could choose more than one answer. Percentages could be calculated for the 2017 Survey (Table V-1); these percentages total more than 100% since respondents could choose more than one answer. Since percentages could not be calculated for both surveys, raw numbers are compared. The numbers indicate that moveable do-do based minor is the most commonly used system by a large margin in both surveys, and the only system that grew in use from 2000 to 2017. Also of note is the decrease in the number of participants indicating that they used no sight-singing system (13 in 2000, 1 in 2017).

What type of solmization is used for sight singing?				
	2000 (N=?)	% of total	2017 (N=239)	% of total
Fixed Do	37	N/A	36	15.06%
Moveable do, do-based minor	107	N/A	175	73.22%
Moveable do, la-based minor	68	N/A	51	21.34%
Numbers (0-7) Nelson: "numbers" only	72	N/A	48	20.17%
Numbers (0-11)	*N/A	N/A	16	6.69%
Letter names	35	N/A	29	12.13%
No system	13	N/A	1	0.42%
Other	*N/A	N/A	12	5.02%

*not included in Nelson's study

Table V-1
Type of Solmization Used

The most common tasks (Table V-2) and topics (Table V-3) included in aural skills classes reveal many traditional concepts and approaches towards the top of the lists. Notably, the task least often incorporated into aural skills classes is improvisation (5.86%) and other topics less often encountered include the aural analysis of small and large formal designs.

What tasks are included in your aural skills classes?		
	2017 (N=239)	% of total
sight singing	238	99.58%
dictation	235	98.33%
error detection	145	60.67%
conducting	121	50.63%
transcription	103	43.10%
keyboard exercises	94	39.33%
aural analysis of form	85	35.56%
instrument/timbre ID	30	12.55%
other	15	6.28%
improvisation	14	5.86%

Table V-2
Tasks in Aural Skills

What topics are included in your aural skills classes?		
	(N=239)	% of total
rhythm & meter	231	96.65%
melodic dictation	231	96.65%
scales	226	94.56%
intervals	225	94.14%
triads	224	93.72%
seventh chords	217	90.79%
harmonic dictation (3+chords)	216	90.38%
modes	172	71.97%
pitch patterns	170	71.13%
melodic error detection	146	61.09%
harmonic error detection	105	43.93%
atonal dictation/sight singing	86	35.98%
aural analysis of small forms (binary, ternary, rounded binary)	75	31.38%
tuning	61	25.52%
aural analysis of larger forms (sonata, rondo)	32	13.39%
other	27	11.30%

Table V-3
Topics in Aural Skills

Much like written diatonic and chromatic harmony topics, there is a strong preference for textbooks (Table V-4), with the most commonly used book being Rogers and Ottman's *Music for Sight Singing* (Table V-5).

Materials in Aural Skills Classes		
What types of materials do you use in your aural skills classes?	(N=239)	% of total
texts/anthologies	199	83.26%
personal materials	107	44.77%
do not use any materials	12	5.02%

Table V-4
Materials used in Aural Skills classes

Top Textbooks/Anthologies Used for Aural Skills			
Title	Author	2017 (N=202 materials)	% of reported materials
<i>Music for Sight Singing</i>	Rogers/Ottman	70	34.65%
<i>A New Approach to Sight Singing</i>	Berkowitz/Fontrier	22	10.89%
<i>Manual for Ear Training and Sight Singing</i>	Karpinski	15	7.43%
<i>Ear Training: a Technique for Listening</i>	Benward/Kolosick	11	5.45%
<i>Progressive Sight Singing</i>	Krueger	11	5.45%
<i>Music for Sight Singing</i>	Horvit/Benjamin	10	4.95%

Table V-5
Textbooks in Aural Skills

VI. Technology in the Theory Curriculum and Online Courses

Written Skills:

The 2017 Survey asked a variety of questions regarding technologies used in written and aural skills courses; 55.69% of respondents stated they use computer programs or apps in their written theory courses (Table VI-1). These included notation programs, ear training software, web-based tools, and textbook supplements. Of note is the comparison of respondents who used web-based tools—including free drill and practice websites, purchased skill-building sites, free online notation software, and Google apps (46.72%)—to those using their adopted textbook’s online supplemental material (8.03%). Most instructors seem to prefer software they choose rather than that provided for them by a textbook.

Computers & Software in Written Music Theory		
Do you use computer programs/apps in your written music theory courses?	2017 (N=246)	% of total
yes	137	55.69%
no	109	44.31%
Please describe what computer programs (i.e. tools) are used in your written theory courses.		
total tools reported among those using programs	191	
total online program users, not using online textbook supplement	64	46.72%
total online textbook supplement users	11	8.03%
Indicate how the computer programs are used in your written theory classes.		
	(n=137)	% of total using
graded homework	89	64.96%
ungraded assignments/drill & practice	84	61.31%
testing	31	22.63%
composing/arranging	16	11.68%
other/various	6	4.38%

Table VI-1
Use of Computers and Software in Written Skills

The most common uses of these programs and apps are for graded homework (64.96% of users) and ungraded drill and practice (61.31% of users). Though many programs have robust assessment tools, instructors still seem reluctant to use technology for testing (22.63% of users). The most commonly reported ear training programs, notation software, and free drill and practice websites used in written skills courses are largely well-established products and websites (Table IV-2).

Top Computer Software/Tools used in Written Music Theory		
Top ear training programs reported used in written music theory courses	(N=43) programs reported	% of reported
Auralia	18	41.86%
MacGamut	18	41.86%
Practica Musica	6	13.95%
Picardy	1	2.33%
Top notation software reported used in written music theory courses	(N=69) programs reported	% of reported
Finale	36	52.17%
Sibelius	16	23.19%
MuseScore	9	13.04%
Noteflight	8	11.59%
Top free drill & practice websites used in written music theory courses	(N=23) free websites reported	% of reported
teoria.com	12	52.17%
musictheory.net	7	30.43%
emusictheory.com	2	8.70%
Tonesavvy.com	1	4.35%
theoessentials.com	1	4.35%

Table VI-2
Popular Software/Tools in Written Skills

Aural Skills:

The 2017 Survey posed similar questions regarding technology used in aural skills classes; 52.10% of respondents stated they use computer programs/apps in these courses (Table VI-3). Like written theory, the results show that most instructors (81.45%) prefer to use a program other than their textbook's resources. The most commonly used programs are *Auralia*, *MacGamut*, various mobile apps, or websites (Table VI-4).

Computers & Software in Aural Skills		
Do you use any computer programs/apps in your aural skills courses?	(N=238)	% of total
yes	124	52.10%
no	114	47.90%
Number of respondents using their textbook's ear training software component vs. another program (e.g. MacGamut, Auralia, websites, mobile apps, etc.)	(n=124)	% of total reported
using textbook component only	17	13.71%
using another program; not text component	101	81.45%
using both textbook supplement and another program	6	4.84%
Indicate how the computer programs are used in your aural skills classes.	(n=124)	% of total using
ungraded assignments/drill & practice	90	72.58%
graded homework	74	59.68%
testing	22	17.74%
other/various	11	8.87%

Table VI-3
Use of Computers and Software in Aural Skills

Top Computer Software/Tools used in Aural Skills Courses		
Overall top technologies reported used in aural skills courses	(N=134) reported technologies	% of reported
Auralia	33	24.63%
MacGamut	31	23.13%
teoria.com	9	6.72%
musictheory.net	8	5.97%
Practica Musica	6	4.48%
Music for Ear Training (online component) - Horvit/Koozin/Nelson	6	4.48%
Top ear training-specific programs	(N=97) reported pay ET programs	% of reported
Auralia	33	34.02%
MacGamut	31	31.96%
Practica Musica	6	6.19%
Music for ET-Horvit/Koozin/Nelson	6	6.19%

Table VI-4
Popular Software/Tools in Aural Skills

Online Courses:

The 2017 Survey asked several questions regarding online written theory and aural skills classes. Only 18.52% of survey participants stated that their institution offered any fully or partially online written theory or aural skills course (Table IV-5). Of these 45 respondents, 71.11% offer only one online course and 24.44% offer two courses. The survey also asked respondents to characterize the proportion of course content delivered online in each course, with the categories being web facilitated, blended/hybrid, and online; these terms were adopted from Allen, Seaman, Poulin, and Straut's report on online courses in higher education.²³ Most characterize their online courses as 80% or more online (78.33%).

Online Music Theory & Aural Skills Courses		
Do you offer any fully or partially online written theory or aural skills courses?	(N=243)	% of total
yes	45	18.52%
no	198	81.48%
How many online courses do you offer?	(n=45)	% of total
1	32	71.11%
2	11	24.44%
3	0	0.00%
4	1	2.22%
5	0	0.00%
6	0	0.00%
7	0	0.00%
8	1	2.22%
For the largest online courses, how would you characterize the proportion of the course content delivered online in each course?	(n=60)	% of courses
web facilitated (1 – 29% online)	8	13.33%
blended/hybrid (30 – 79% online)	5	8.33%
online (80% online or higher)	47	78.33%

Table VI-5
Online Theory and Aural Skills Courses

²³ Allen, Seaman, Poulin, and Straut (2016, 7).

Questions regarding online courses were limited since a more in-depth survey on online music classes was recently conducted by McConville and Murphy (2017). Because that survey covered all types of online music classes, a more in-depth study of specifically online music theory and aural skills courses would be an important next step. However, with fewer than a fifth of 243 respondents reporting they have an online course, the sample size for such a study might be limited. There is certainly room for growth in online music theory instruction.

VII. Considering Change in the Curriculum

The last section of the 2017 Survey included questions about changes to written and aural skills classes, specifically whether the participants anticipated any changes to their curricula over the next two years and, if so, what types of changes were being contemplated. Most said they were definitely or probably going to make changes to their written theory (57.2%) and aural skills classes (46.9%) in the next two years (Table VII-1). By far, the majority of those considering changes in these courses are from 4-year schools (see Table VII-2).

Considering Changes to Courses?		
Are you considering making any changes to your written theory courses in the next two years?	(N=243)	% of total
definitely yes	53	21.81%
probably yes	86	35.39%
probably not	78	32.10%
definitely not	5	2.06%
not considering any changes	21	8.64%
Are you considering making any changes to your aural skills courses in the next two years?	(N=243)	% of total
definitely yes	35	14.40%
probably yes	79	32.51%
probably not	89	36.63%
definitely not	9	3.70%
not considering any changes	31	12.76%

Table VII-1
Changes in theory-related courses

Considering Changes to Courses?					
Are you considering making any changes to your written theory courses in the next two years?	2 year schools	% of total (243)	4 year schools	% of total (243)	Total
definitely yes	1	0.4%	52	21.4%	53
probably yes	11	4.5%	75	30.9%	86
probably not	10	4.1%	68	28.0%	78
definitely not	1	0.4%	4	1.6%	5
not considering any changes	3	1.2%	18	7.4%	21
TOTAL	26	10.7%	217	89.3%	243
Are you considering any changes to your aural skills courses in the next two years?	2 year schools	% of total	4 year schools	% of total	Total
definitely yes	1	0.4%	34	14.0%	35
probably yes	10	4.1%	69	28.4%	79
probably not	9	3.7%	80	33%	89
definitely Not	1	0.4%	8	3.3%	9
not considering any changes	5	2%	26	10.7%	31
TOTAL	26	10.7%	217	89.3%	243

Table VII-2
Considering changes by 2 and 4 year schools

Participants were asked to describe the changes being considered through open-ended questions, and the resulting 135 responses for written theory changes and 112 responses for aural skills changes were then categorized; the results are shown in Tables VII-3a through Table VII-3d. Tables VII-3a and VII-3c are changes contemplated by those stating they were definitely making changes, while the changes listed in Tables VII-3b and VII-3d are changes considered by those probably making changes. For written theory courses, changes most often included overall changes to the curriculum or changes in texts. For aural skills courses, the changes included overall modification (sometimes due to regular review of the courses), integration of courses, and the inclusion of improvisation.

Changes to written theory: definitely yes	number	% of total
overall changes	19	28%
change text	12	17%
flip classes, use of videos/online materials	6	9%
more of "other" types of music	5	7%
no fundamentals class	4	6%
less part writing	3	4%
include a fundamentals course	3	4%
include jazz/Nashville numbers system	3	4%
more composition	2	3%
new faculty	2	3%
include keyboard	2	3%
integration of classes	2	3%
include improvisation	2	3%
exclude keyboard	1	1%
changes due to regular review	1	1%
include experiential learning	1	1%
exclude counterpoint	1	1%
	69	≈100%

Table VII-3a
 Changes Considered for Written Theory Classes:
 for those schools saying they are *definitely* considering changes

Changes to written theory: probably yes	number	% of total
overall changes	16	20%
change text	14	18%
more of “other” types of music	12	15%
integration of classes	8	10%
changes due to regular review	7	9%
use online course or materials	7	9%
experiential learning and labs	2	3%
less part writing	2	3%
more composition	2	3%
new faculty	2	3%
include improvisation	2	3%
include transcription/jazz theory	2	3%
dumbing down	1	1%
make music theory for graduate study class	1	1%
placement	1	1%
make a fundamentals course	1	1%
exclude counterpoint	1	1%
	69	≈100%

Table VII-3b

Changes Considered for Written Theory Classes:
for those schools saying they are *probably* considering changes

Changes to aural skills: definitely yes	number	% of total
integration of courses	3	17%
overall change	3	17%
include improvisation	3	17%
new texts	2	11%
increase use of technology	2	11%
more types of music	2	11%
post tonal singing	1	6%
changes due to regular review	1	6%
change keyboard	1	6%
	18	≈100%

Table VII-3c

Changes Considered for Aural Skills Classes:
for those schools saying they are *definitely* considering changes

Changes to aural skills: probably yes	number	% of total
changes due to regular review	9	14%
overall change	8	12%
new texts	6	9%
change use of technology	6	9%
more types of music	6	9%
include improvisation	6	9%
integration of courses	4	6%
new faculty	4	6%
change keyboard	3	5%
change/increase sight singing	3	5%
include contextual listening	2	3%
include transcription	2	3%
change frequency of classes	2	3%
more dictation	2	3%
change solfege systems	1	2%
more composition	1	2%
	65	≈100%

Table VII-3d
Changes Considered for Aural Skills Classes: for those schools
saying they are *probably* considering changes

Reflections and Discussion

Nelson's 2000 Survey and the 2017 Survey provide a wealth of information on the teaching of music theory and aural skills. Many of the results confirm information gathered by other surveys, and some results provide opposing views. For instance, according to faculty self-reported values in the Marvin interviews and Snodgrass survey, faculty find topics in formal analysis important; Marvin cited "a focus on analysis and repertoire, somewhat less on part-writing" and Snodgrass revealed that 82.75% considered topics in formal structures "very important" and 9.41% "somewhat important."²⁴ The present survey found analysis of small forms included in 86% of schools, analysis of large forms in 79.15% of schools, and 12-tone and serial analysis at 72.59%, raising the question: is there enough analysis in the curriculum?

²⁴ Snodgrass (2016a).

Part-writing still seems prominent in the curriculum, reported at 95.75% of schools in the survey, though some schools stated they were thinking about decreasing the emphasis on part-writing in the future. Snodgrass likewise collected commentary on the mixed feelings regarding part-writing assignments. The high percentages of part-writing's existence in the curriculum also does not reveal its emphasis at each school; the percentages just indicate that students still learn to part-write. Although the percentages of schools including popular music analysis (45.56%) and jazz theory (22%) could be considered low, these numbers might actually be encouraging. That these topics are included in the core sequence at all in 2017 is important since they were not even mentioned in the 2000 survey.

The data also revealed helpful information on the extent of composition and improvisation in curricula. The *Manifesto* and the Snodgrass survey directed attention to these creative practices, and, as shown in the present survey and in Snodgrass's survey, these topics are occurring, but not in the majority of schools. Improvisation was included in just 26.25% of written theory classes, 6.18% of fundamentals classes, and 5.86% of aural skills classes. As Marvin indicated, integrating improvisation into courses can be a challenge, and the data shows this may be the case for fundamentals and aural skills courses, in particular. The 2017 Survey found composition projects were included in 69.5% of theory classes and 22.47% of fundamentals classes. These findings are similar to those in Snodgrass' survey. These percentages could be considered somewhat low, but the idea that "too many students graduate" without any experience in the creative process of composition, as suggested by the *Manifesto*, is debatable given these figures.²⁵ Growth is occurring in these creative approaches to learning,²⁶ and the inclusion of these and other pedagogies will be tracked, perhaps in greater detail, in future surveys.

Both the 2000 and 2017 surveys also revealed that singing systems emphasizing function were the most popular, with movable do-do based minor the most common system used, corroborating Paney and Buonviri's findings. Neither survey asked about systems for learning rhythm, however, which should be included in any future surveys.

Both Snodgrass and Marvin explored the current integration of written and aural skills courses; this survey also engaged this topic. Snodgrass reported that 22% of respondents stated that they had fully integrated courses,²⁷ which is close

²⁵ Task Force on Undergraduate Education (2016, 4).

²⁶ Recent textbooks are incorporating creative activities such as improvisation and composition; for a helpful article illustrating examples of these activities see Hoag (2016).

²⁷ Snodgrass (2016a).

to the 17.15% found in this survey. The present survey also showed that over half of fundamentals courses include some kind of aural skills topics. Future versions of this survey will add specific topics in aural skills to the list of topics in written courses, and vice versa, to analyze the topical integration at schools with separate courses. Melissa Hoag reminded readers that recent written theory and aural skills textbooks have worked to integrate topics;²⁸ concrete data in future analyses may help verify the extent of application of these types of textbook exercises.

Marvin reported an increase in the use of technology in teaching, although technology in her survey included the use of course management systems and public domain musical scores, and the digital projection of material. The current survey showed that technology, here defined as the use of computer programs and apps, was used by only about half (55% written, 52% aural) of respondents and mostly for homework or drill and practice, not assessment. When considering the number of programs available for both written and aural skills courses, many of which are free, the question arises, why are only (approximately) half of respondents using computer programs in their courses in 2017? In the case of aural skills particularly, drill and practice computer-assisted instruction (CAI) programs have existed for nearly 40 years, but many respondents do not use them.²⁹ Perhaps philosophical or financial reasons account for these decisions; this is a matter for possible exploration in a future survey. The 2017 Survey confirms what Marvin declared—that there has been no CAI revolution. In addition, there were very few online classes (18.52%)—most of the time (71%) only one—though most of these (78.33%) were characterized as online—meaning that at least 80% of the material is delivered online.

Marvin also found a growth in the number of remedial classes. The present survey likewise showed an increase in the number of schools with fundamentals classes (136 in 2000, 182 or 67.91% in 2017). The 2017 Survey also detected an increase in the number of schools with placement exams for both written theory (147 in 2000, 218 or 79.85% in 2017) and aural skills (78 in 2000, 116 or 42.96% in 2017). These placement exams seem to be used to place students into the fundamentals or sequence theory courses or to place out of courses. The 2017 Survey findings are consistent with what Vezza found in her dissertation, although she observed that some schools also used the results in the admission process. Schools also indicated they use proficiency exams or AP, IB or A-level scores to place students out of theory, aural skills and other

²⁸ Hoag (2016).

²⁹ For an excellent article on the history of CAI programs, though somewhat outdated, see McGee (2000).

classes; both the 2017 Survey and Vezza's survey found that over 60% of institutions accepted these results for placement in theory courses (61.5% for Vezza and 67.9% for the 2017 Survey). There are also few accelerated classes; just 19 (7.82%) schools in 2017 reported these types of classes as compared to 25 schools in 2000.

Finally, a number of schools indicated that they are considering changes to the curricula (57.2% for written theory and 46.91% for aural skills). The fact that many of these schools are considering overhauling the curriculum entirely is even more compelling. It will be exciting to see what types of changes are implemented in the next few years. One trend to follow concerns the number of required years theory and aural skills; although two years is still the most common, a growing number of schools now require an additional half year of written theory.

As in any research project, there are always aspects that we would change. We would ask more information about the faculty that are teaching the theory classes in an attempt to better determine the number dedicated to teaching theory and aural skills. Questions on which courses are considered part of the theory sequence and which courses are required of music majors would also be included. Questions such as those on the acceptance of AP, IB and A-levels credits and future changes would be formatted as multiple answer questions to make tabulation of the answers easier. Finally, we would not wait 17 years to conduct this survey again. We plan to conduct this survey again in five years to track the changing landscape of our theory and aural skills curricula. We believe that current discussions and debates will result in meaningful curricular revisions, and we hope future studies will help us understand our priorities in the face of inevitable change.

Works Cited

- Allen, I. A., J. Seaman, R. Poulin, and T. T. Straut. 2016. "Online Report Card—Tracking Online Education in the United States. Babson Survey Research Group and Quahog Research Group," Retrieved from: <http://onlinelearningconsortium.org/read/online-report-card-tracking-online-education-united-states-2015>
- Hoag, Melissa E. 2016. "Integration, Diversity, and Creativity in Current Music Theory Pedagogy Research," *College Music Symposium* 56.
Retrieved from: <http://dx.doi.org/10.18177/sym.2016.56.fr.11136>
- Karpinski, Gary. 2000. "Lessons from the Past: Music Theory Pedagogy and the Future," *Music Theory Online* 6 (3).
Retrieved from: <http://www.mtosmt.org/issues/mto.00.6.3/mto.00.6.3.karpinski.html>
- Laitz, Steven. 2016. "Current Pressure Points, Curriculum, and Moving Forward," *College Music Symposium* 56. Retrieved from: <http://dx.doi.org/10.18177/sym.2016.56.fr.11138>
- Livingston C., Ackman J. 2003. "Changing trends in preparing students for college level theory." *American Music Teacher* 53 (1): 26–29. Retrieved from Google Scholar: <https://www.thefreelibrary.com/Changing+trends+in+preparing+students+for+college+level+theory.-a0106390059>
- Marvin, Elizabeth West. 2012. "The Core Curricula in Music Theory: Developments and Pedagogical Trends," *Journal of Music Theory Pedagogy* 26: 255 – 264.
- McConville, Brendan and Barbara Murphy. 2017. "What is Online? A National Survey of Course Offerings in Music and a Case Study in Music Theory," *College Music Symposium* 57.
Retrieved from: <https://doi.org/10.18177/sym.2017.57.itm.11345>
- McGee, Deron, 2000. "Aural Skills, Pedagogy, and Computer-Assisted Instruction: Past, Present, and Future," *Journal of Music Theory Pedagogy* 14: 115-134.
- Nelson, Richard B. 2002. "The College Music Society Music Theory Undergraduate Core Curriculum Survey – 2000," *College Music Symposium* 42: 60-75.
- Paney, Andrew S. and Nathan O. Buonviri. 2014. "Teaching Melodic Dictation in Advanced Placement Music Theory," *Journal of Research in Music Education* 61 (4): 396-414.
- Paney, Andrew S., and Nathan O Buonviri. 2017. "Developing Melodic Dictation Pedagogy: A Survey of College Theory Instructors," *Update Applications of Research in Music Education* 36 : 1-8.
- Riftkin, Deborah. 2014. Cultivating Creativity in the Music Theory Classroom: Telling Tales with Texture and Timbre," *Engaging Students: Essays in Music Pedagogy* 2.
Retrieved from: <http://flipcamp.org/engagingstudents2/essays/rifkin.html>
- Snodgrass, Jennifer. 2016a. "Current Status of Music Theory Teaching" *College Music Symposium* 56.
Retrieved from: <http://dx.doi.org/10.18177/sym.2016.56.fr.11138>
- Snodgrass, Jennifer Sterling. 2016b. "Integration, Diversity, and Creativity: Reflections on the 'Manifesto' from the College Music Society," *Music Theory Online* 22 (1).
Retrieved from: <http://www.mtosmt.org/issues/mto.16.22.1/mto.16.22.1.snodgrass.html>
- Task Force on Undergraduate Education. 2016. "Transforming Music Study from its Foundations: a Manifesto for Progressive Change in the Undergraduate Preparation of Music Majors." *College Music Symposium* 56. Retrieved from: <http://dx.doi.org/10.18177/sym.2016.56.fr.11118>

Veza, Anna B. 2013. *Revising Music Theory Curricula in Response to Varied Student Backgrounds: a Survey*. PhD Diss., University of Nebraska Lincoln.
Retrieved from: <http://digitalcommons.unl.edu/musicstudent/63>

Textbooks and Websites

Aldwell, Edward, Carl Schachter, and Allen Cadwallader. 2018. *Harmony and Voice Leading*. Fifth ed. Independence, KY: Cengage.

Ars Nova Software. n.d. "Practica Musica - Ars Nova Software." Accessed April 12, 2018.
www.ars-nova.com/practica6.html

Avid Technology. n.d. "Sibelius – Music Notation Software." Accessed April 12, 2018.
www.avid.com/sibelius

Avirla, Jose Rodriguez. n.d. "teoria: Music Theory Web." Accessed April 12, 2018.
www.teoria.com

Benjamin, Thomas, Michael Horvit, and Robert Nelson. 2013. *Music for Sight Singing*. Sixth ed. Australia: Schirmer Cengage Learning.

Benjamin, Thomas. 2003. *The Craft of Tonal Counterpoint*. Second ed. New York: Routledge.

Benward, Bruce, and J. Timothy Kolosick. 2010. *Ear Training: A Technique for Listening*. Seventh ed. Boston: McGraw-Hill Higher Education.

Benward, Bruce, and Marilyn Saker. 2015. *Music in Theory and Practice*. 2 vols. Ninth ed.. New York: McGraw-Hill, 2015.

Berkowitz, Sol, Gabriel Frontrier, Leo Kraft, Perry Goldstein, and Edward Smaldone. 2017. *A New Approach to Sight Singing*. Sixth ed. New York: W.W. Norton.

Blombach, Ann. n.d. "MacGamut Home Page." Accessed April 12, 2018.
www.macgamut.com

Burkhart, Charles, with William Rothstein. 2012. *Anthology for Musical Analysis*. Seventh ed. Independence, KY: Cengage, 2012.

Burstein, L. Poundie, and Joseph N. Straus. 2016. *Concise Introduction to Tonal Harmony*. New York: W.W. Norton & Company.

Cengage Learning. n.d. "Theory Essentials Home Page." Accessed April 12, 2018.
www.theoryessentials.com

Clendinning, Jane Piper, and Elizabeth West Marvin. 2014. *The Musician's Guide to Fundamentals*. Second ed. New York: W.W. Norton & Company.

Clendinning, Jane Piper, and Elizabeth West Marvin. 2016. *The Musician's Guide to Theory and Analysis*. Third ed. New York: W.W. Norton & Company.

Duckworth, William. 2015. *A Creative Approach to Music Fundamentals*. Eleventh ed. Independence, KY: Cengage, 2015.

Gauldin, Robert. 2004. *Harmonic Practice in Tonal Music*. Second ed. New York: W.W. Norton & Company.

Green, Douglass. 1979. *Form in Tonal Music: An Introduction to Analysis*. Second ed. New York: Holt, Rinehart & Winston, 1979.

- Henry, Earl, Jennifer Snodgrass, and Susan Piagentini. 2013. *Fundamentals of Music: Rudiments, Musicianship, and Composition*. Sixth ed. Upper Saddle River, NJ: Pearson.
- Hill, Frank, Roland Searight, Dorothy Searight Hendrickson, and Steven Estrella. 2005. *Study Outline and Workbook in The Fundamentals of Music*. Eleventh Edition. New York: McGraw Hill.
- Horvit, Michael, Timothy Koozin, and Robert Nelson. 2013. *Music for Ear Training*. Fourth ed. Boston, Mass.: Schirmer Cengage Learning, 2013.
- jtheory creations. n.d. "emusictheory.com – Teach and learn music theory from anywhere." Accessed April 12, 2018.
www.emusictheory.com
- Karpinski, Gary. 2017. *Manual for Ear Training and Sight Singing*. Second ed. New York: W.W. Norton.
- Kennan, Kent. 1999. *Counterpoint*. Fourth ed. Upper Saddle River, NJ: Pearson.
- Kostka, Stefan. 2006. *Materials and Techniques of Twentieth-century Music*. Third ed. Upper Saddle River, NJ: Pearson Prentice Hall.
- Kostka, Stefan, and Matthew Santa. 2018. *Materials & Techniques of Post-Tonal Music*. Fifth ed. New York: Routledge.
- Kostka, Stefan, Dorothy Payne, and Byron Almén. 2018. *Tonal Harmony*. Eighth ed. New York: McGraw-Hill.
- Krueger, Carol. 2016. *Progressive Sight Singing*. Third ed. New York: Oxford University Press.
- Laitz, Steven G. 2015. *The Complete Musician: An Integrated Approach to Tonal Theory, Analysis, and Listening*. Fourth ed. New York: Oxford University Press.
- Lynn, Theodore. 2012. *Introductory Musicianship*. Eighth ed. Independence, KY: Cengage.
- MakeMusic. n.d. "Finale." Accessed April 12, 2018.
www.finalemusic.com
- Manoff, Tom. 2001. *The Music Kit*. Fourth ed. New York: W.W. Norton.
- MuseScore. n.d. "Musescore – Free music composition and notation software." Accessed April 12, 2018.
www.musescore.com
- Musictheory.net. n.d. "musictheory.net." Accessed April 12, 2018.
www.musictheory.net
- Noteflight. n.d. "Noteflight – Online Music Notation software." Accessed April 12, 2018.
www.noteflight.com
- Ottman, Robert, and Frank Mainous. 1995. *Rudiments of Music*. Third ed. Upper Saddle River, NJ: Pearson.
- Ottman, Robert, and Nancy Rogers. 2014. *Music for Sight Singing*. Ninth ed. Upper Saddle River, NJ: Pearson.
- Ottman, Robert. 1998. *Elementary Harmony: Theory and Practice*. Fifth ed. Upper Saddle River, NJ: Pearson.
- Owen, Harold. 1992. *Modal and Tonal Counterpoint: From Josquin to Stravinsky*. New York: Schirmer Books.
- Picardy Learning. n.d. "Picardy – Music Theory and Musicianship." Accessed April 12, 2018.
www.picardylearning.com

- Rising Software. n.d. "Auralia Ear training – Rising Software." Accessed 12 April 2018.
www.risingsoftware.com/auralia
- Roig-Francoli, Miguel. 2008. *Understanding Post-Tonal Music*. Boston: McGraw-Hill.
- Schubert, Peter. 2008. *Modal Counterpoint: Renaissance Style*. Second ed. New York: Oxford University Press.
- Spencer, Peter, and Peter M. Temko. 1988. *A Practical Approach to the Study of Form in Music*. Upper Saddle River, NJ: Pearson.
- Spencer, Peter, and Barbara Bennett. 2012. *The Practice of Harmony*. Sixth ed. Upper Saddle River, NJ: Pearson.
- Spring, Glenn, and Jere Hutcheson. 1995. *Musical Form and Analysis*. New York: McGraw-Hill.
- Straus, Joseph N. 2016. *An Introduction to Post Tonal Theory*. Fourth ed. New York: W.W. Norton.
- Straus, Joseph. 2012. *Elements of Music*. Third ed. Upper Saddle River, NJ: Pearson.
- Tone Savvy. n.d. "Tone Savvy | Music Theory & Ear Training." Accessed April 12, 2018.
www.tonesavvy.com
- Turek, Ralph. 1996. *The Elements of Music: Concepts and Applications*. Second ed. New York: Knopf.

An Order-of-Procedure Approach to Linear Graphing

EDWARD PEARSALL

This article outlines an approach to outer-voice, linear graphs based on an order-of-procedure model. When analyzing music, the analyst moves around and through music in much the same way one moves through environmental spaces. The “order-of-procedure” model builds on this idea by orienting the analyst towards the spatial aspects of graphing environments. The article demonstrates how such an approach can be used to help beginning students produce credible outer-voice graphs that highlight connections between non-contiguous events in the middleground.



Introduction

In the 1980s and 90s, theorists debated the merits of introducing Schenkerian analysis into the undergraduate curriculum. The discussion was not without its controversy and while a number of approaches were put forth in the abstract, there was a decided lack of consensus with respect to methodology and emphasis. One of the principal contentions of the debate was the notion that systematic rule-based approaches to Schenkerian analysis might lead to impoverished or implausible analyses of music and, as Kofi Agawu has suggested, might even “run counter to the basic improvisatory and artistic motivation for producing a Schenkerian graph” in the first place.¹ Yet Schenkerian analysis is the leading theory of tonal music; its absence in the undergraduate curriculum is therefore puzzling.

In the wake of the controversy over Schenkerian analysis in the undergraduate curriculum, most authors of music theory textbooks have tended to proceed cautiously, introducing various species of melodic analysis for organizing the musical surface while largely avoiding beamed descents, bass arpeggiations, and their nested elaborations in the middleground.² Foreground gestures are important, of course, but so too are gestures involving *noncontiguous* connections and nesting. While such concepts may resist formalization, they are not beyond definition. Nor do they contradict the ways in which students experience music; many, if not most, of our students play instruments that are wholly immersed in lines and parts. Hence, as David Gagné points out, Schenkerian analysis is “fundamentally practical in its orientation.”³

One of the most conspicuous advantages of Schenkerian analysis is that it is flexible enough to account for stylistic peculiarities in pieces that differ widely in terms of their surface details. It is this same

¹ Agawu (1989, 291). See also Rothstein (1990).

² A notable exception is Gauldin (2004, 231).

³ Gagné (1994, 24).

flexibility, however, that can make it difficult to incorporate Schenkerian analysis into the undergraduate theory classroom; the traditional theoretical fare is often unconditional and rule-laden, a manner of conceptualizing music that runs counter to the underlying creative impulses of *Auskomponierung*, and it is difficult to imagine how a new mode of analysis, let alone a new way of thinking, could be added to a curriculum already bursting at the seams with new content.⁴ To find a way to introduce Schenkerian analysis into the undergraduate classroom without unduly diluting or changing the existing curricula, we may take our cue from similar attempts to broaden music theory coverage of other subjects. Snodgrass; Covach; Kulma and Naxer; and David Myers et. al. propose *integration* as a means for implementing curricular changes in the face of an ever expanding repertoire.⁵ Integrative approaches advocate the re-contextualization of existing categories in the curricula as opposed to replacement or augmentation.

In this paper, I will build on this idea by outlining an approach to linear analysis that integrates linear principles with musical fundamentals. In addition, I will describe an order-of-procedure technique that has proven successful in helping students produce outer-voice graphs that include non-contiguous events quickly and efficiently. Finally, I will show how the insights gained by students through graphing may be used as a foundation for describing events in complex contexts that would ordinarily require advanced graphing skills students may have not yet mastered, thus limiting the amount class time devoted to graphing itself.

The methodological part of the study relies heavily on procedural matters rather than rules per se. In my view, it is the way in which one organizes his or her approach to analysis that can lead to the most fruitful analytical results. I have found, for example, that careful attention to the order of analytical tasks can have a profound effect on performance. When we analyze music, we move around and through it in much the same way we move through three-dimensional space. Like prolongational structures, “spatial environments have a hierarchical structure, in which smaller areas are related to each other and embedded in progressively larger ones.”⁶ Hierarchical structuring is key to making sense of the complex environment around us. Sandberg, Huttenlocher, and Newcombe have demonstrated that subjects from the age of nine subdivide spaces into regions in order to help them remember the location of objects within environmental spaces.⁷ In a similar way, linear graphs subdivide musical spaces into harmonic regions within which progressions nearer the surface are embedded. Seen in this way, graphs are not merely metaphorical

4 Increasing the number of genres to be addressed in the undergraduate music curriculum has become a dominant theme in current pedagogical discussions. For an in-depth discussion of this trend and its ramifications, see Moore (2017).

5 Snodgrass (2016); Covach (2015); Kulma Naxer (2014); and Myers, Sarath, Chattah, Higgins, Levine, Rudge, and Rice (2014).

6 Newcombe and Huttenlocher (2003, 22-23).

7 Sandberg, Huttenlocher, and Newcombe (1996, 722).

spaces, but fully synthesized conceptual blends of space and time.⁸ As I will show, the method can support multiple readings and produce tenable musical results, thus addressing the reservations expressed by Rothstein and Agawu. The method also has the benefit of having been empirically tested in the classroom. As a result it has undergone a number of revisions and in its present form has been standardized to the point that graphing questions can be included on exams.

As a final caveat, I should point out that the approach outlined in this study is meant to help improve the student's understanding of concepts that may not be covered in other parts of the curriculum. In no way can it substitute for a course devoted specifically to the study of Schenkerian analysis, although the procedural approach itself might still prove to be a useful starting point in such courses. Instead, the method provides students access to the world of deeper-level analysis *viewed from a Schenkerian perspective*. Many Schenkerian concepts, including "reaching over," "cover tone," "coupling," and "unfolding," along with the graphing techniques associated with them, are not directly addressed. Such concepts are, of course, indispensable to a full and rich understanding of music's linear characteristics. As long as one does not "make a fetish of graphs," however, such ideas may still be addressed on an ad hoc basis.⁹ Approaching the subject in this way gives students the means to uncover insights into the linear content of music without claiming to exhaust the subject or downplay its potential for advanced applications.

The Pre-Graphing Stage: Some Pedagogical Observations

Because the pre-graphing stage functions as a *precursor* to graphing in addition to covering traditional music theory topics, it is important to ensure that the material covered in "the pre-Schenkerian phase of analytical study should in no way contradict what one might later teach a student in a systematic course in Schenkerian analysis."¹⁰ Fortunately, such an approach does not require a complete overhaul of traditional topics. Indeed, William Rothstein advocates concentrating on "conventional disciplines that the student should already know: figured bass, harmony, species counterpoint, and some simple notions of embellishment" in the pre-Schenkerian stage of analysis.¹¹

At the same time, linearity engenders a perspective, one that has consequences for how we engage with and define other aspects of music. In the presence of a linear bias, musical fundamentals may take on a guise that differs from traditional approaches. John Rothgeb, for example, argues that adopting an intervals-above-the-bass approach to figured bass (as opposed to conceptualizing the figured bass solely as an indicator for chord inversion), and placing less emphasis on roots, is more compatible with the

8 Zbikowski (2002, *passim*) provides a thorough exploration of conceptual blending and its attendant cognitive process, cross-domain mapping. Conceptual blending occurs when "elements and events" from different domains are synthesized to create a new domain "with its own structures and relations."

9 The quote is from Rothstein (1990, 298).

10 Damschroder (1975, 17).

11 Rothstein (1990, 297).

Schenkerian paradigm.¹²

Clearly, such a bias has caught on. Most current textbooks, for example, now routinely cover non-functional chords, including parallel 6/3 chords, and the roles of melodic figuration and embellishment receive much more attention than in previous generations of textbooks. For nearly all authors, moreover, embellishment is strongly bound to prolongation, a fundamental tenet of Schenkerian analysis and, perhaps, its most influential contribution to music theory.¹³ The introduction of the concept of prolongation into the theory curriculum has led to chord classifications that are largely absent in textbooks written before the 1990s, including, most particularly, substitute chords and prolongational I, IV, V, and VI chords.¹⁴

Important too is the early introduction of bass arpeggiations and descending melodic lines at cadences. Gauldin, Laitz, and Henry and Rogers all use beams to denote such deeper-level events.¹⁵ Others, including Clendinning and Marvin; Kostka, Payne, and Almén; Roig-Francoli; Turek; and Aldwell, Schachter, and Cadwallader, provide textural reductions, which serve a similar purpose.¹⁶ Descents to $\hat{2}$ at half cadences and $\hat{1}$ at perfect authentic cadences are discussed by Henry and Rogers; Laitz; Clendinning and Marvin; and Gauldin.¹⁷ Such ideas not only lay a foundation for graphing, but can also reinforce other music-theoretical concepts, including cadential formulas and phrase identification. The sense of arrival—or suspended sense of arrival—at cadences is not a function of harmony alone, for example, but of many contributing factors, including melodic descents, harmonic goals, hypermetrical downbeats, etc.¹⁸ Once such ideas have been introduced, their pervasiveness can be reinforced with each new musical example,

12 Rothgeb (1981, 144).

13 References to prolongation in a textbook not devoted purely to Schenkerian analysis was rare before 2000. The earliest use of the term prolongation in a tonal theory textbook I am aware of may be found in the 1997 edition of Robert Gauldin (2004, 99), although the concept of prolongation presented in the guise of “expansion” occurs much earlier; See Aldwell and Schachter (1978, 82). Authors who refer specifically to prolongation in textbooks published more recently include Laitz (2011, 232 *passim*); Henry and Rogers, (2005, 148 and 288); Roig-Francoli (2003, 162); and Kostka Payne, and Almén (2013, 98).

14 See Caplin (2000, 24-26) for a robust list of prolongational and substitute chords.

15 See Gauldin (2004, 231); Laitz (2011, 171); and Henry and Rogers (2005, 150). Roig-Francoli (2003, 248-52) substitutes slurs for beams in his discussion of phrase structure.

16 See Clendinning and Marvin (2016, 399); Kostka, Payne, and Almén (2013, 115); Roig-Francoli (2013, 180); Turek (2007, 129); and Aldwell, Schachter, and Cadwallader (2011, 290).

17 See Henry and Rogers (2005, 150); Laitz (2011, 88); Clendinning and Marvin, (2016, 216-17); and Gauldin (2004, 47).

18 Clendinning and Marvin (2016, 376-77) use hypermeter to explain broad gestural motions in phrases. The inclusion of melodic context in the discussion of cadences helps, among other things, to account for the inconclusive quality of imperfect authentic cadences; imperfect authentic cadences are not “imperfect” merely because $\hat{3}$ occurs in the soprano, but because $\hat{2}$ veers away from $\hat{1}$ at the cadence, keeping the melody from descending. Ultimately, melody, harmony, and meter all contribute to a sense of impending closure, which the motion to $\hat{3}$ overturns.

with or without recourse to graphs.

Another crucial tenet of the linear perspective is goal-directed motion. Goal-directed motion comprises three essential attributes: 1) a stable beginning, 2) motion away from stability *and towards a goal*, and 3) arrival at the stable goal. When this tri-partite view of motion is not taken into account, analysis may go awry. Example 1¹⁹ shows two ways of analyzing the first few beats of Bach's chorale harmonization of *Aus meines Herzens Grunde*. While both analyses are "technically" correct, the tenor part "flows" better in Example 1b than it does in Example 1a. In Example 1a the second beat of m. 1 is isolated from the beats around it to form a IV⁶ chord. While the subdominant may in some cases serve to prolong the tonic, of course, VI has a stronger affinity with the tonic and often substitutes for it. Perhaps most telling of all is the fact that the two-beat neighbor interpretation in Example 1b aligns perfectly with the text since the first syllable of *meines* also spans two beats.

Example 1

Two Analyses of J. S. Bach, *Aus meines Herzens Grunde*, BWV 269, mm. 1-2.

Although the analysis of the chorale in Example 1a may exhibit less sensitivity to the harmony and text than that in Example 1b, it does not contain an error per se. The analysis of Chopin's Etude No. 10, m. 4, shown in Example 2, on the other hand, contains two actual errors, both of which are attributable to the failure of the student to "gesturalize" the non-chord tones in the passage; the student has correctly identified the non-chord tones, but does not seem to realize that they elaborate—and therefore emphasize—the consonantly supported chord tone which enters on the last sixteenth note of mm. 3 and 4.

Example 2

Two Analyses of Chopin, Etude in E-flat minor, Op. 10, no. 6, mm 1-5.

¹⁹ Editor's note: Flash player must be downloaded to view several of the examples embedded in this document: <https://helpx.adobe.com/acrobat/using/flash-player-needed-acrobat-reader.html>. The slides will also run successfully if the document is opened in Adobe Pro.

Perfunctory interpretations like those in Examples 1 and 2 can easily be avoided by emphasizing the motional aspects of melody in the pre-graphing stage of analysis. Implicit in the term “incomplete neighbor,” for example, is the notion that unmarked neighbors are somehow more complete than their marked incomplete counterparts. The rationale for this observation, on the other hand, may not be immediately apparent to the novice. Definitions built around a two-step departure/approach paradigm may engage the tri-partite nature of goal-directed motion in the abstract, but they do not directly convey the sense that preparatory and finishing notes, *along with a dissonant tone*, typically form a “complete” *three-note* melodic figure.²⁰ This is not to say that the “approach/departure” paradigm is incorrect, but merely that the idea of “three-ness” corresponds more directly to music’s motional aspects and thus provides a stronger foundation for defining middleground gestures. It also attaches labels to their context, making their origin more explicit and, hence, more intelligible to the student; incomplete neighbors are incomplete because they are missing either the preparatory or finishing note found in the *complete* three-note neighbor motion.²¹

As the foregoing discussion suggests, Schenkerian analysis incorporates some of the most important developments in recent music theory pedagogy and, thus, may be easily integrated with the curricula found in many current undergraduate theory textbooks. (Indeed, in many ways, it is a compilation of current approaches to undergraduate music theory studies.) Once students understand harmonic and melodic goal-direction and have learned to gesturalize foreground melodic figures, the concept of middleground motion is but a small step away:

Just as non-chord tones elaborate chord tones, chord tones themselves may also elaborate other chord tones on deeper levels, forming gestures or motions resembling those we have already encountered, including passing motions, neighbor motions, and incomplete neighbors. These motions help to prolong or emphasize the melodic tones in descents and the harmonies that support them.²²

20 In the 2nd edition (2011, 328) of Clendinning and Marvin (2016), the authors explicitly refer to “three-ness” in their definition of incomplete neighbors: “complete neighbor-note patterns involve *three notes*: the main melody pitch (a consonance that fits with the harmony), the upper or lower neighbor a step away (usually a dissonance), and the return to the main melody pitch. If one of the consonant elements is left out, the resulting embellishment is called an incomplete neighbor.” [italics mine].

21 As Bruce Benward and Marilyn Saker point out, other non-chord tones may be explained in terms of a three-part motion as well. The appoggiatura, for example, is a non-chord tone that leaps past its goal, or towards it, while the escape tone moves in the opposite direction of its goal. Benward and Saker (2011, 102). Illustrating foreground motions with slurs is another way to inculcate the notion of “three-ness” while also preparing students to use slurs as a graphing technique later in the curriculum. Slurs are used to depict foreground melodic figuration in several of the textbooks previously mentioned including those by Aldwell, Schachter, and Cadwallader; Gauldin; and Henry and Rogers.

22 Editor’s note: The editorial board was unable to find the source of this statement.

This statement explicitly connects the task of graphing middleground motions to ideas the student will already be familiar with. Not only can statements like this aid in the transition to the graphing stage, but they also provide a way to keep the topic of middleground descents close at hand, allowing them to continue to play a role when other topics are introduced. The efficiency of the procedural model introduced in the next section, moreover, allows students to catch on quickly so that graphing does not overtake the class.

Leaps and Levels: An Introduction to Graphing

In the instructor's manual for *Introduction to Schenkerian Analysis*, Allen Forte and Stephen Gilbert note that the upper-voice E in m. 5 of the second movement of Mozart's Symphony in D major, K. 385 "might not be immediately understood in its correct role as upper neighbor to scale-degree 5."²³ The quote underscores one of the most problematic pedagogical issues for linear analysis, namely that in contending with foreground events, students may miss noncontiguous conjunct connections in the middleground. Consider the scatter-gram effect produced by the extraction of chord tones from the upper voice in mm. 1-12 of the second movement of Mozart's Symphony K. 385 shown on the bottom staff of Example 3a (Slide 1). Without proper guidance, the student may group notes into a series of back-to-back foreground gestures that may or may not adequately portray goal-directed motion. As Examples 3b and c (Slides 2 and 3) demonstrate, removing the notes of the unfilled leaps to and away from the head-tone D—including leaps of a third and larger—dramatically exposes the neighbor motion and conjunct descent in the passage (Slide 4).

Obviously, the elimination of the notes of unfilled leaps cannot by itself lead to the creation of complete and proper graphs (Example 3d leaves the majority of the passage uninterpreted), but, as I will show, such a step can play a crucial role in the identification of middleground, noncontiguous motions. Constructing legitimate graphs also requires a thorough understanding of hierarchical structuring, prolongation, harmonic function, and phrase structure in addition to graphing conventions, the goals of analysis, foreground details, and the like.²⁴ Such concerns were discussed in the last section. What remains is to outline a systematic approach to *graphing* in order to help undergraduate students produce successful linear reductions *once this knowledge is in place*.

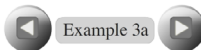
I have found that the flowchart in Figure 1 goes a long way towards achieving this goal. The flowchart directs students' attention to specific aspects of a passage and thus orients them towards a particular analytical perspective.²⁵ Note that the flowchart does not provide analytical rules per se, but rather lists

23 Forte and Gilbert (1982, 122). By polyphonic leaps, I mean leaps between voices in compound melodies.

24 Because there are ample sources that address these kinds of issues, I will not rehearse them here. See, for example, Larson (1996), and Cadwallader and Gagné (2011).

25 This idea resonates with that of Rifkin and Stoecker (2011, 161). Rifkin and Stoecker note that

The image displays two systems of musical notation. The top system consists of a piano (piano) staff and a violin staff. The piano staff has a treble clef and a key signature of one sharp (F#). It contains several measures of music with dynamic markings *p*, *sf*, and *f*. Below the piano staff, chord symbols are written: I, V7, I6, I, 3, V7/V, V7, I, vii°7/V, V. The violin staff has a treble clef and a key signature of one sharp, and it contains mostly rests with some melodic fragments. The bottom system also consists of a piano staff and a violin staff, continuing the musical material with similar notation and chord symbols.



Example 3

Noncontiguous Connections in Mozart's Symphony in D major, K. 385, II, mm. 1-12.

graphing activities in a *particular order* to help the student successfully mine middleground events. The usefulness of eliminating unfilled leaps discussed in conjunction with Example 3 is incorporated into Step 4. Unfilled leaps may be reintroduced in Step 6 or they may continue to be withheld until students have become proficient in identifying long-range conjunct prolongational structures. The vagueness of Step 5 is intentional; it allows instructors to implement their personal preferences regarding the use of graphing tools and symbols. In practice, Steps 4 and 5 become a negotiation; unfilled gaps may sometimes only emerge once “smooth” motions have been identified, although arpeggios like those in Example 1 clearly signal a departure from the range of the principal melodic line.

One of the main advantages of introducing beams early in the graphing process is that beams supply a visual representation of the level they occupy, helping to ward off the temptation to incorrectly add notes from other levels. Because beamed structures often leave out a number of foreground details,

“[m]usic students often need some sort of conceptual map, usually a visual or kinesthetic representation before they can apply and synthesize a new music concept.” The steps in the order-of-procedure model operate in a sense like leading questions, an approach to teaching advocated by Dirske (2014).

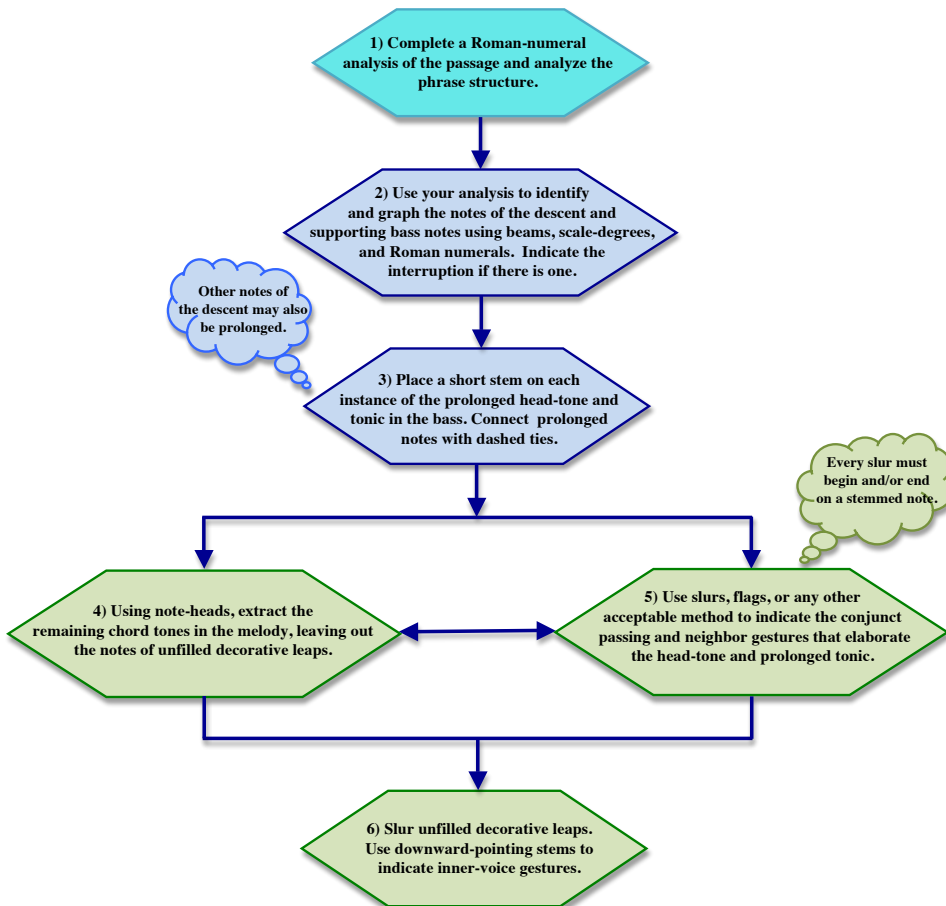
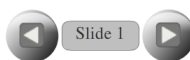


Figure 1
Order-of-Procedure Flowchart.

moreover, they immediately direct the student's attention towards conjunct noncontiguous motions in the middleground. Once ingrained, the affinity for such deeper-level phenomena can help students make better decisions as more and more detail is added, while also providing a strong conceptual foundation for analyzing non-descending middleground events.

Example 4 illustrates how the flowchart operates. (Click on the arrows to move forward and backward through the analysis.) After analyzing the chords in the passage, the student beams the notes of the descent and bass arpeggiation (Slide 2) and adds a double hash mark to indicate the interruption at the half cadence (Slide 3). Continuing with Step 2 of the flowchart, the student places a stem on each instance of the prolonged tonic and head tone using the highlighted root position tonic chords in the harmonic

analysis as a guide (Slide 4). The student then extracts the other chord tones in the passage along with their bass support in accordance with Step 3 (Slide 5), leaving out unfilled leaps (Slide 6). Keeping in mind the fact that linear motions must begin and/or end with a stemmed note, the student organizes the remaining notes into slurred and flagged motions (slide 7) and only then, as the last step, reintroduces the unfilled leaps (slide 8).²⁶



Example 4

Graphing Procedure for Schubert's Quintet in A major, Op. 114 ("Trout"), II, "Andante", mm. 1-4.

The flowchart in Figure 1 functions much like the widely-known time management tool known as the "Critical-Path Method" first introduced by James E. Kelly and Morgan R. Walker in 1959.²⁷ The Critical-Path Method specifies the order in which activities, indicated by arrows and connected by nodes, must be completed. Such approaches—there are others—provide the organizational strategy or plan needed to efficiently complete a project. Time plays a crucial role in this process. Depending on the earliest and latest start times, for example, each activity may reach completion before the next phase is ready to begin, producing "float" times. It will not be necessary to track float times where the "construction" of graphs is concerned, but the general notion of such a tool is informative; by moving through the graphing steps

²⁶ Gauldin (2004, 137) outlines a somewhat different order-of-procedure approach to foreground graphs.

²⁷ Kelley and Walker (1959, 161). For further discussion on the Critical-Path Method and other "precedence" network management tools, see Lock (2013, 199).

in a particular order (and sometimes back-and-forth), the student stands a better chance of arriving at a satisfactory interpretation while avoiding tear-downs, do-overs, and frustration in general.

Schenker too frequently adopted a spatial perspective in his early discussions of organicism in music. In volume 3 of *The Masterwork*, for example, he expresses the idea that motion involves not only displacements in real time, but also a “traversal from background to foreground” [“*aus einem Hinter- zum Vorder-grund zurücklegt*”].²⁸ Hence, as Nicholas Cook observes, Schenker adds a “third dimension, a dimension of depth” in which “cause-effect relations flow not from one note to the next but rather from the background to the foreground.”²⁹ Indeed, the allegory of spatiality appears to be something Schenker consciously recognized; quoting Schenker’s essay “Das Hören in der Musik,” for example, Mark Evan Bonds notes that Schenker outlines “a manner of listening that would ‘elevate the ear...to the power of the eye,’” imagery that “blends both the temporal and the spatial.”³⁰

While the flowchart allows for greater freedom of movement among levels than Schenker’s paradigm, it does, at least, exhibit a general tendency to move from the deepest level—in this case, the middleground descent and bass arpeggiation, the background origin of the structure being understood—towards the foreground. This tendency is reflected in the color-coding of the chart; activities involving deeper-level events appear in blue hexagons, activities involving events closer to the surface appear in green hexagons. Step 1 addresses both foreground (Roman numerals) and deeper-level (phrase structure) events, accounting for its blue-green (cyan) color. The jump from the middleground to the foreground and then back to deeper-level events in steps 4 and 5 may transgress Schenker’s later analytical approach, but operates well from a practical point of view; the student is encouraged to move around in the musical architecture in order to bring the total structure into better focus.

The procedural rules do not address the analytical work the student must engage in before and during the creation of graphs, but they go a long way towards preventing “tunnel vision” in which adjacent notes and chords receive the most attention. Example 5 provides a case in point. It not only contains a linear descent from scale-degree 3 to scale-degree 2 with intervening chord skips and a large-scale neighbor motion, but also a nested foreground passing motion (Slide 1).³¹ To successfully negotiate the passage, the student must not only identify connections between noncontiguous notes, but also those between noncontiguous *motions*; the passing and neighbor motions are not organized in a back-to-back fashion, but hierarchically. The “order-of-procedure” model helps to ensure this outcome. The elimination

28 Schenker (1997, 7). The German quotation may be found in Schenker (1930, 7).

29 Cook (2007, 70).

30 Bonds (2010, 268).

31 In this and succeeding examples, I have not included a swan slur because I do not require them in my undergraduate classes. I do, however, sometimes use swan slurs in my graphing demonstrations; I have found that students are intrigued by revelations of this kind as long as they don’t have to worry about being tested on them. Frank Samarotto attributes the term “swan slur” to an early student of his. See Frank Samarotto, “Schenker’s ‘Freer Forms of Interruption’ and the Strict: Toward a General

of non-chord tones and leaps, for example, exposes the foreground voice exchange along with its attendant passing motion in mm. 1-2 (Slide 2). At the same time, Step 4 clears away enough of the busy surface to reveal Ab's neighboring relation to G in m. 1 (Slide 3). The beams also play an important role by highlighting connections between notes that are separated by a relatively long temporal span and by visually reinforcing the prolongational span of the tonic (Slide 4).

Categorizing both polyphonic leaps and decorative chord leaps as “unfilled leaps” in early analytical exercises has little effect on the analysis of middleground conjunct motions in the principal voice. When

Slide 1

Example 5

Nested Passing Motion in Mozart's Quintet for Piano and Winds in E-flat major, K. 452, I, mm. 21-22.

the time comes, polyphonic leaps and compound melodies can be introduced without fanfare as the final step of the analytical process. Example 6 shows the graph that emerges when the student eliminates the unfilled leaps in the top voice of Schubert's Impromptu in Bb (Slide 1).³² The analysis is correct, but incomplete. Step 6 (Slide 2) reintroduces the notes of the inner voice as unfilled leaps.

The use of the negatively marked term “unfilled leaps” immediately conjures leaps that *are* filled in. The distinction is important because unlike unfilled leaps, filled-in leaps engender motion. Indeed, for

Theory of Interruption,” Paper presented at the annual meeting of the *Society for Music Theory*, Cambridge, MA. (2004).

³² Because the order-of-procedure approach is meant to be integrated with the typical undergraduate theory curriculum, I use lowercase numerals for minor chords rather than the uppercase numerals

Tema
Andante



Example 6

Compound Melody in Schubert's Impromptu in B-flat major, Op. 142, No. 3, mm. 1-8.

Leonard Meyer, the quintessential example of a goal-directed melodic figure is the “gap-fill” melody.³³ The excerpt in Example 4 contains a filled-in middleground leap. In this example, the small leap of a major third from A to F in the first two measures is filled in by the passing motion F-G-A in mm. 2-3.

It is against this backdrop that a further defense for the elimination of unfilled leaps in the early graphing stages may be mounted. Unfilled leaps—despite the expressive impact they may have—are not motions in the sense neighbors and passing gestures are precisely because they do not engage the principle of three-ness; unfilled consonant leaps, polyphonic leaps, and chord skips, that is, do not typically “move” away from and back to stability. Instead, they either play a decorative role or jump to another voice in the texture. The elimination of leaps, then, is not merely a convenient methodological step, but a theoretical necessity.

Even relatively straightforward passages may be difficult for novice analysts to navigate. Partially completed graphs, like that in Example 7, can go a long way towards ensuring that students arrive at the desired outcome. Such graphs orient the student to a particular analytical perspective and may include features such as the implied scale-degree 3 in m. 15 of the example. The repeat bar symbols in the example indicate that the events of mm. 2, 5, 10, and 13 carry through to the next measure and do not need to be re-graphed. The missing notes in m. 8 reinforce the decorative role the sixteenth-note run plays in that normally associated with Schenkerian analysis.

³³ Meyer (1973, 145).

measure. Bass lines, which are often difficult for beginners to handle, can also be supplied in partially-completed graphs to guide students through the analytical process. As a further aid, students may be presented with instructions like those that appear throughout Example 7. Such explanations are commonly used in textbook exercises to help students make better musical decisions and to alert them to the amount of detail to include.

Notice how G swerves up to A even though it is the chord 7th. Both B and A are chord tones here. Choose one melodic note per chord in mm. 7 and 8. etc.

There's no need to re-graph repeated measures.

Graph parallel parts of parallel phrases the same way!

The image shows a musical score for Mozart's Rondo in D major, K. 485, measures 1-16. The score is presented in a partially completed graph format. The top system shows measures 1-8, with annotations: 'Notice how G swerves up to A even though it is the chord 7th.', 'Both B and A are chord tones here.', and 'Choose one melodic note per chord in mm. 7 and 8. etc.'. The middle system shows measures 9-16, with annotations: 'There's no need to re-graph repeated measures.' and 'Graph parallel parts of parallel phrases the same way!'. The bottom system shows measures 17-24, with a bracket indicating a repeated phrase. The graph consists of a treble and bass staff with notes and stems, and a separate staff for the graph itself, which is partially filled with notes and stems.

Example 7

Partially completed graph of Mozart's Rondo in D major, K. 485, mm 1-16.

Instructions and annotations can also be used to help students graph inner-voice motions correctly. Slide 1 of Example 8 shows where we left the analysis of Schubert's Impromptu in B $\flat$ in Example 6, Slide 2. With a little prompting, students can be taught to tweak their graphs in real time to depict the B $\flat$ -A-(B $\flat$) neighbor that emerges in the first three measures of the piece (Slide 2) using downward-pointing stems. (Note that this precise motion occurs an octave below in the left-hand piano part.) Students could further be instructed to verticalize scale-degree 2 (implied by the underlying ii 6 -chord) above the inner-voice G in m. 3 (Slide 3) to create a more elegant graph. Rote learning of this kind allows students to graph features that may be beyond their ability to negotiate successfully on their own. Knowing when and where to include implied and verticalized notes is a much more nuanced activity than graphing notes as they appear on the page. Explanations of note additions and placement, on the other hand, are fairly easy to follow (especially when the student literally engages in the alteration of a graph rather than watching a tutorial), and the ability to comprehend the reasons for such

Tema
Andante

Slide 1

Example 8

Schubert's Impromptu in B-flat major, Op. 142, No. 3, mm. 1-8 Revisited.

alterations connotes, in and of itself, a strong knowledge of voice-leading principles.

The linear dimension of music in class discussions can be addressed, and probably should continue to be addressed, even when the production of graphs is not the primary topic. Such an approach reinforces the link between linear phenomena and other elements of music. In these circumstances, virtual graphs may be used to provide an overview of the linear aspects of a passage. Virtual graphs can also be used to illustrate linear features the student is not familiar with or to provide more detailed descriptions of complex foreground activity. Regardless of the specific circumstances, the “order-of-procedure” model—or some version of it—becomes the foundation on which to build, allowing students to comment on the linear features of more complex passages using their knowledge of descents, neighbors, and hierarchical structuring as a point of departure.

Consider Example 9, Slide 1, which contains the beginning measures of the theme from Beethoven's Sonata, Op. 26, movement I.³⁴ Although the passage raises complex contrapuntal and harmonic issues, there are a number of features students familiar with rudimentary graphing techniques will recognize, such

³⁴ While somewhat rare, virtual graphs do appear occasionally in Schenkerian literature and textbooks. See, for example, Forte and Gilbert (1982, 133) and Laitz (2011, 176). Olli Väisälä (2009, 103), uses the term “annotated score” for what I am calling a virtual graph. Although virtual graphs themselves can be created using paper scores, that in Example 9 uses techniques similar to those explored by Timothy Koozin (1999). Koozin's Example 4 uses virtual graphing to highlight the motivic content in the fourth movement of Corelli's Trio Sonata, Op. 3, No. 2.

as the descent and large-scale neighbor.³⁵ Given a choice, some students might choose E $\flat$ in m. 6 as the head-tone since it is followed immediately by a smooth foreground descent to B $\flat$ at the half cadence. Upon further reflection, however, C in m. 4 emerges as a better choice because it is supported by a prolonged root position tonic chord (Slide 2).



Example 9

Virtual Graph of Beethoven's Sonata No. 12 in A-flat major, Op. 26, I, mm. 1-16.

The passage begins with the initial ascent highlighted in Slide 3. The ascent to C in the upper voice reaches completion when B $\flat$ moves to C in mm. 3-4 supported by a lower-neighbor motion, A $\flat$ -G-A $\flat$, in the bass. A $\flat$, meanwhile, is prolonged in the first three measures by a nested lower-neighbor motion in the soprano and a nested A $\flat$ -B $\flat$ -C passing motion in the bass (Slide 4). Slide 5 shows the incomplete upper neighbor that occurs in m. 5. The gap-filling F-E $\flat$ -D $\flat$ -C-B $\flat$ motion in mm. 6-7, shown in Slide 6, completes the phrase.

Discussions of music that address complex deeper-level motions in the middleground may be lost on students who have little or no knowledge of such ideas. Students who have a passing familiarity with beams, stems, flags, slurs, and their meaning will be able to make sense of them. But students who have themselves

³⁵ This passage has received much attention. See, for example, Beach (1989). Heinrich Schenker himself analyzes the passage in conjunction with his discussions of the consonant passing note (Fig. 56/1c) and initial ascent (Fig. 85). See Schenker (1979 [1935], 61-62 and 75). Drabkin (1996) cites Schenker's correspondence with a former student to shed light on his rather trenchant views on the consonant passing note.

grappled with middleground descents, bass arpeggiations, and large-scale linear motions—even with a lot of help—will not only be able to follow such discussions, but also contribute meaningfully to them.

To move even further into the background, scores can sometimes be abandoned entirely in favor of graphs. Example 10 contains a graph of Haydn's "Chorale St. Antoni." Playing the passage while highlighting important relationships encourages students to hear the music in terms of broader gestures rather than getting lost in the details. The goal, that is, becomes that of *hearing* relationships, rather than of *searching* for them in a score. "Chorale St. Antoni," while relatively transparent harmonically and melodically, is uniquely rich in content, and includes unfoldings, implied notes, octave shifts, and cover tones. Even if students never become proficient in creating graphs that incorporate such techniques, they may still benefit greatly from knowing that music can be viewed as more than a moment-to-moment series of improvised events, but also as an elegantly structured interplay of a few simple ideas operating at multiple levels in a composition. Here, the many neighbor motions, highlighted by flashing halos in the example, provide indisputable evidence of hierarchical structuring.³⁶

Réalisé avec iAnalyse - Made with iAnalyse

Example 10

Graph of Haydn's Divertimento in B-flat major, Hob. II: 46, II ("Chorale St. Antoni").

36 Example 10 was created using iAnalyze 3, a powerful analysis program written by Pierre Couprie. While useful, the computer animation is no better at getting the point across to students than simply pointing to the highlighted notes on a chalkboard or projected version of the graph while playing a recording of the music. I have found, in fact, that I can excite a higher degree of class enthusiasm for the neighbor motive using the chalkboard version, and I typically opt in favor of it.

Perhaps one of the most problematic obstacles to implementing linear analysis in the undergraduate classroom is that the typical practice of dividing music into various rudimentary building blocks such as rhythm, meter, pitch, and harmony is not easily adapted to linear analysis. Linear analysis requires the analyst to make decisions based on multiple contributing factors and to take large gestural shapes into account. Building up terms and concepts gradually, then, may not be the best approach to middleground graphing.³⁷ Instead, an analysis like that in Example 10 (I analyze only the first ten measures, without swan slurs, in my classes) may be presented as a precursor to graphing.³⁸ Approached in this way, the example provides a bird's-eye view of the analytical process, giving students an opportunity to see the goals and benefits of graphing before attempting to create their own graphs. Once the goals of graphing are clearly understood, the process can be broken down into discrete exercises that address the various aspects of graphing independently: identifying the notes of the bass arpeggiation and descent at the phrase level, extracting chord tones and their contrapuntal support, learning to slur elaborate motions, etc.

Conclusions

Instructors wanting to introduce linear analysis into the undergraduate curriculum are faced with a number of logistical concerns. One of these is finding a way to integrate linear analysis into the general curriculum without making it seem at odds with traditional topics. The idea itself is not entirely out of step with Schenker's own motivation. Joseph Lubben, for example, documents Schenker's attempts to integrate the *Ursatz* with "a multiplicity of other musical forces" in *Der Tonwille*.³⁹ Richard Cohn goes even further, arguing that

Schenker's claim to have shown how all of the 'secondary factors' fall under the control of the *Ursatz*, via harmony and counterpoint, must be regarded as misguided. Rather, the great accomplishment of Schenker's final fifteen years was to model *one* aspect of this complex fabric, the interaction of harmony with counterpoint, and to begin to suggest implications of this model toward the exploration of how the harmony-counterpoint complex interacts with other elements of tonal composition.⁴⁰

³⁷ This is essentially the approach David Beach advocates despite his claim that the instructor should "not present too many new ideas at once, particularly at the early stages [of Schenkerian Analysis]." See Beach (1983, 16-17).

³⁸ It is worth considering that a bird's-eye approach might also be an effective way to broach the topics of harmony, interval, rhythm, and meter. In Schenker pedagogy, for example, the phrase is often treated as the most basic element in music. See Beach (2012, 5); Forte and Gilbert (1982, 14-16); and Cadwallader and Gagné (2011, 5). Using the phrase as a starting point allows intervals, triads, Roman numerals, figured bass symbols, inversion, rhythm and meter, tonal organization, and cadences to be introduced on an as-needed basis rather than in an all-at-once catalog fashion.

³⁹ Lubben (1993, 61).

⁴⁰ Cohn (1992, 169).

The order-of-procedure model outlined in this paper engages these ideas by approaching linear graphing in a way that accommodates, indeed, builds on present-day theoretical concepts associated with harmony and melodic figuration. One does not have to be an expert in Schenkerian analysis to understand and portray important aspects of music's *linear* dimension. Indeed, to the extent that music unfolds temporally, linear events can scarcely be ignored. The procedural model provides one way for students to gain access to this dimension by giving them the means to peer into the middleground and uncover the noncontiguous and sometimes nested motions that reside there. If students move no deeper than that, they will still have learned a valuable lesson, one that can have a profound influence on their appreciation of music as well as their professional careers.

Works Cited

- Aldwell, Edward and Carl Schachter. 1978. *Harmony and Voice Leading*. Two Vols. New York: Harcourt Brace Jovanovich.
- Agawu, V. Kofi. 1989. "Schenkerian Notation in Theory and Practice." *Music Analysis* 8 (3): 275-301.
- Beach, David. 1983. "Schenker's Theories: A Pedagogical View," in *Aspects of Schenkerian Theory*, ed. David Beach (New Haven: Yale University Press): 1-38.
- Benward, Bruce and Marilyn Nadine Saker. 2015. *Music in Theory and Practice*. Ninth ed. Dubuque, IA: McGraw-Hill Education.
- Bonds, Mark Evan. 2010. "The Spatial Representation of Musical Form." *The Journal of Musicology* 27 (3): 268.
- Cadwallader, Allen and David Gagné. 2011. *Analysis of Tonal Music: A Schenkerian Approach*. Third ed. New York: Oxford University Press.
- Campbell, Patricia Shehan, et al. 2014. *Transforming Music Study from its Foundations: A Manifesto for Progressive Change in the Undergraduate Preparation of Music Majors*.
<http://www.mtosmt.org/issues/mto.16.22.1/manifesto.pdf>.
- Caplin, William Earl. 2000. *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven*. Oxford, New York: Oxford University Press.
- Clendinning, Jane Piper and Elizabeth West Marvin. 2016. *The Musicians Guide to Theory and Analysis*. Third ed. New York: W.W. Norton.
- Cohn, Richard. 1992. "The Autonomy of Motives in Schenkerian Accounts of Tonal Music." *Music Theory Spectrum* 14 (2): 150-170.
- Cook, Nicholas. 2007. *The Schenker Project: Culture, Race, and Music Theory in Fin-de-siècle Vienna*. Oxford: Oxford University Press.
- Covach, John. 2015 (2 February). *Rock Me, Maestro*. Accessed 1 July 2017.
<https://www.chronicle.com/article/Rock-Me-Maestro/151423>.
- Damschroder, David A. 1985. "Pedagogically Speaking: Structural Levels and the College Freshman." In *Theory Only* 8 (6): 17-25.
- Dirske, Scott. 2014. "Effective Questioning Strategies for the Music Theory Classroom." *Journal of Music Theory Pedagogy* 28: 69-84.
- Drabkin, William. 1996. "Schenker, the Consonant Passing Note, and the First-Movement Theme of Beethoven's Sonata Op. 26." *Music Analysis* 15 (2-3): 149-189.
- Forte, Allen and Stephen E. Gilbert. 1982. *Instructor's Manual for Introduction to Schenkerian Analysis*. New York: W.W. Norton.
- Gagné, David. 1994. "The Place of Schenkerian Analysis in Undergraduate and Graduate Curricula." *Indiana Theory Review* 15 (1): 21-33.
- Gauldin, Robert. 2004. *Harmonic Practice in Tonal Music*. Second ed. New York and London: W.W. Norton.
- Henry, Earl and Michael Rogers. 2005. *Tonality and Design in Music Theory*. Upper Saddle River, NJ: Pearson/Prentice Education.

- Kelley, James E. and Morgan R. Walker. 1959. "Critical-Path Planning and Scheduling." *Proceedings of the Eastern Joint Computer Conference*: 160-173.
- Kostka, Stefan M., Dorothy Payne and Byron Almen. 2013. *Tonal Harmony with an Introduction to Twentieth-Century Music*. Seventh ed. New York: McGraw-Hill.
- Kulma, David and Meghan Naxer. 2014. "Beyond Part Writing: Modernizing the Curriculum." *Engaging Students: Essays in Music Pedagogy* 2. Accessed 1 July 2017.
<http://flipcamp.org/engagingstudents2/essays/kulmaNaxer.html>.
- Laitz, Steven. 2011. *The Complete Musician*. Third ed. New York: Oxford University Press.
- Larson, Steve. 1996. "Strict Use of Analytical Notation." *Journal of Music Theory Pedagogy* 10 : 31-77.
- Lock, Dennis. 2007. *Project Management: Project and Programme Management Resources for Students*. Ninth ed. Burlington, VT: Gower Publishing Company. Accessed 14 December 2016.
<https://saadsohail.files.wordpress.com/2011/05/pm-book.pdf>.
- Lubben, Joseph. 1993. "Schenker the Progressive: Analytic Practice in Der Tonwille." *Music Theory Spectrum* 15 (1): 59-75.
- Meyer, Leonard B. 1973. *Explaining Music: Essays and Explorations*. Berkeley: University of California Press.
- Newcombe, Nora S. and Janellen Huttenlocher. 2000. *Making Space: The Development of Spatial Representation and Reasoning*. Cambridge: The MIT Press.
- Rifkin, Deborah and Philip Stoecker. 2011. "A Revised Taxonomy for Music Learning." *Journal of Music Theory Pedagogy* 25: 155-189.
- Roig-Francoli, Miguel A. 2003. *Harmony in Context*. New York: McGraw-Hill.
- Rothgeb, John. 1981. "Schenkerian Theory: Its Implications for the Undergraduate Curriculum." *Music Theory Spectrum* 3: 142-149.
- Rothstein, William. 1990. "The Americanization of Schenker Pedagogy?" *Journal of Music Theory Pedagogy* 4 (2): 295-300.
- Sandberg, Elisabeth Hollister, Janellen Huttenlocher and Nora Newcombe. 1996. "The Development of Hierarchical Representation of Two-Dimensional Space." *Child Development* 67 (3): 721-739.
- Schenker, Heinrich. 1979 [1935]. *Free Composition (Der Freie Satz): Vol. III of New Musical Theories and Fantasies*. Ed. Ernst Oster. New York: Longman, Inc. in cooperation with the American Musicological Society.
- _____. 1997 [1930]. *Das Meisterwerk in der Music: Ein Jahrbuch*. Vol. III. Munich: Drei Masken Verlag, 1930. English trans. and ed. Ian Bent and William Drabkin as *The Masterwork in Music: A Yearbook*. Vol. III. Cambridge, MA: Cambridge University Press.
- Snodgrass, Jennifer Sterling. 2016. "Integration, Diversity, and Creativity: Reflections on the "Manifesto" from the College Music Society." *Music Theory Online* 22 (1).
<http://www.mtosmt.org/issues/mto.16.22.1/mto.16.22.1.snodgrass.html>.
- Turek, Ralph and Daniel McCarthy. 2007. *Theory for Today's Musician*. New York: McGraw-Hill.
- Zbikowski, Lawrence M. 2002. *Conceptualizing Music: Cognitive Structure, Theory, and Analysis*. New York: Oxford University Press.

“Composers Are Born and Not Made”: Some Preliminary Thoughts On How To Construct A Pedagogy For Music Composition

MICHAEL SEARBY

This article explores how pedagogy in music composition in the United Kingdom has changed since the beginning of the twentieth century, and suggests a model which is effective in facilitating the development of today’s student composers in Higher Education, but could also be applicable for younger students. Firstly, I will examine a range of writers’ approaches to outlining how the act of music composition can be taught. I will then suggest a pedagogic model which is based on aspects of these approaches but informed by my own experiences as a composition teacher.



When I first started composing as a teenager, I taught myself composition largely through the text *Teach yourself to compose music* by King Palmer (1947), and composed music which was sub-Beethoven pastiche.¹ This was part of a series of ‘teach yourself books’ on a wide range of topics; Palmer wrote in the preface that

cooking and musical composition have little in common, yet both are included in this series under the general title “Teach Yourself”. It is important, therefore, to draw some distinction between them lest the enthusiastic but unmusical reader should imagine that a piece of music can be produced as easily as an omelette. For whereas the cook has all the necessary ingredients to hand the composer must invent his material. Almost anyone can learn to cook, but only those with some degree of creative talent can hope to compose music.²

I think Palmer is right that composing and cooking are quite different activities, however there are in fact many similarities between cooking and composing—you do need technique and raw materials for both. In cooking, creativity is when you change the given recipe to produce a new and original dish. That is similar to one approach to composing, in which you base your work on what has been done before, but transformed or twisted in some way to create new work.

In an earlier book on composition by Frederick Corder written in 1909 entitled *Modern Musical Composition*, he states “that the student finds the idiom of the past irksome and repellent; it is the vernacular that he desires to learn: he does not wish to take

¹ Music which is a pastiche of Beethoven but obviously lacking the creativity of the original model.

² Palmer (1947, v).

as his models the unapproachable gods of antiquity, but his immediate contemporaries.”³ This is quite a forward-thinking attitude and closer to today’s approach to composition. You could change the word “vernacular” to “popular music” and it would be even more pertinent. Corder also states that concerning originality and teaching in composition that at this point I fancy I hear the reader saying: ‘but all this toil and trouble cannot avail if one has not true originality; it will only enable one to write *Kapellmeistermusik* which nobody wants.’ Is that so? Let us consider what this objection really means. The commonest of all delusions – one which is hopeless to combat in the true amateur—is that the world’s great artists—Beethoven—Liszt—Paganini—Raffael—Shakespeare—were never taught, but came into the world fully fledged, always absolutely perfect and beyond criticism⁴

His point is that teaching and learning technique is vital for the composer, and that this needs to be in place before originality can flourish—there are exceptions to this, for example John Cage, who was an experimentalist from the start in his work, but he is unique.

A more recent text is *Musical Composition: A manual for training the young composers* written by George Thaddeus Jones in 1963. This includes sections on basic compositional techniques but also more forward-thinking topics such as multi-tone scales, bitonality and serial technique in a tonal style. In Jones’s introduction he says “it is intended that this manual will be used by the young composer under the guidance of a teacher who is himself a composer. This is the only way composition can be taught.”⁵ I think he is right, but these ideal circumstances are not always possible, and most music teachers in schools in the United Kingdom are usually not composers. Even in higher education it is not possible to provide much one-to-one teaching in composition in most institutions—most is in large groups or seminars until at least the final year, unless the institution is a conservatoire, such as the Royal College of Music, where funding is much higher. Jones’s book was important for my development as a composer, as it made me aware that sub-Beethoven pastiche was not what living composers were writing—the book included works by Jones’s student composers as models, which made me more aware of what ‘modern’ music could be, and at the time I found them quite dissonant and challenging.

Other later texts on how to compose include Reginald Smith Brindle’s *Musical Composition* (1986), which is wide-ranging, quirky and not at all methodical, and it is he who inspired the provocative quotation at the start of this article. He explores a larger range of contemporary music and ideas but not in much depth. The most recent textbook on

3 Corder (1909, 1).

4 Ibid., 84.

5 Jones (1963, vii).

composition is Margaret Lucy Wilkins’ *Creative Music Composition: The Young Composer’s Voice* (2006) which is focused on contemporary and twentieth-century repertoire and is methodical in its structure. It has less focus on specific techniques and more on providing inexperienced composers with helpful stimuli, including analysis of relevant music.

Personal experiences of composition teaching

My own more formal composition teaching before going to university was organised through the Professor of composition at my local university and involved some one-to-one teaching with an ex-student of his. He introduced me to a wide range of music, including serial music, and his teaching was inspirational. The official approach at Manchester University where I studied as an undergraduate was that composition couldn’t be taught until the final year—we had to attempt to imitate the music of dead composers up to that point, such as Palestrina, Haydn and Wolf. There were, however, clandestine classes in composition run by the composer Geoffrey Poole, which did not feature on the timetable, but were the most exciting and stimulating educational experiences on the course—not assessed and not on the curriculum. The teaching of composition in music degrees has grown since the 1980s on the back of work by the music educators John Paynter (1970) and Keith Swanwick (1988), and now it is a significant part of the music curriculum both in schools and Higher Education in the United Kingdom.

One of the most valuable learning experiences I had at Manchester was when student composers wrote works for ensembles of student performers—usually student compositions were rarely performed at that time (in the 1980s) so it was quite special to hear your imagined sounds realised. Today there is much more computer technology that allows students to hear their work with instrumental samples of variable quality, but it’s not quite the same as working with humans who can suggest changes and improvements to your music. This experience has influenced my philosophy of teaching composition, and interacting with performers is at the heart of all my composition teaching.

How should composition be taught?

So how should we teach composition? What is the most effective pedagogy to employ? In a symposium at Stanford University in 2012,⁶ there were divergent views expressed on how to teach composition at the doctoral level. The Universities of Chicago and Columbia had a traditional approach to teaching composition through imitating past styles which

⁶ Applebaum and Ulman, eds., ‘Pedagogical praxis and curricular infrastructure in graduate music composition’ *Contemporary Music Review* 21 (4), Aug. 2012.

contrasted greatly with a much more *laissez-faire* approach at Princeton. Dan Trueman, professor at Princeton, suggests that “good teaching is more about establishing rich contexts (or cultures) for learning than it is about the direct transmission of knowledge, skills, or ideas.”⁷ This is a view I would agree with—there is no one right way of composing, as we live in a pluralist age that includes both the dissonant complexities of Brian Ferneyhough and the consonant simplicities of Philip Glass. Wilkins makes the point that “stylistic composition should not be regarded as a substitute for, or an alternative to, the guided experience of free composition.”⁸ Alexander Goehr, in a BBC 3 radio programme in November 2015,⁹ made the point that what a composer really needs to learn is how to revise and correct—how to work on their ideas effectively to make them better works. The truth of this statement can be observed in the radical transformations that take place from Beethoven’s often banal sketches to the final transformed works.

My approach to teaching composition has evolved, reflecting the changing needs of students and the development of my pedagogic thinking. Initially in the 1980s and 1990s, I focused on teaching composition through analysis of relevant models, supported with tutorials and practical workshops of students’ work. This reflects the approaches outlined in the books by Smith Brindle and Wilkins. The pedagogy involves taking apart model works to demonstrate how they have been constructed; students then compose their own music based on these models. Later in the course, students are given greater freedom and can compose whatever kind of music they wish, while developing their own creative voice.

Over the years my approach¹⁰ has changed to one in which the complexity and length of the assigned compositions increases over the first two years of study;¹¹ this helps to build up students’ confidence and technique gradually. The earlier assignments have a clearly defined musical purpose with a tight focus. Assessment of the work has two stages: firstly, an informal stage focused on helping students improve through peer and lecturer feedback in workshop situations; and secondly the formal assessment by the

7 Trueman (2012, 327).

8 Wilkins (2006, 12).

9 Service (2015).

10 My composition students take a BMus degree in which composition is their specialism and they spend 25% of their time on this area; the rest consists of complementary music curriculum. Other music students specialise in music performance or music technology. Non-music majors would not normally take such a specialised subject like composition in the UK, however, not all music students taking composition will have much experience of the subject.

11 In the UK most degree courses are three years in length, usually with greater freedom of choice of modules in the third year.

lecturer. The trouble with today’s students’ obsession with their marks is that it tends to encourage students to avoid risks, and this is a destructive force in the arts. I am often asked by students: “how can I change this piece so that it gets a very high mark?” This is an impossible question to answer; we can suggest ways to improve their work, but not to guarantee a particular grade. What is more important is to help students to develop a critical approach so they can perceive the strengths and weaknesses in their work—hence the importance of workshops. My experience of co-marking with one or more colleagues is that assessing creative work is challenging, and experienced composers do not always agree on the relative merits of a student work, as there is an inevitable degree of subjectivity in the process.

Composition teaching and assessment in School

Students’ experiences of composition teaching at secondary school in the United Kingdom (ages 11-18) can be variable, as few music teachers will be composition specialists and often don’t have the experience to support their students. Composition is assessed at both GCSE¹² (examinations taken at age 16) and Advanced level¹³ (taken at age 18) and there is a focus on composing quite extended works (up to 9 minutes for some boards at Advanced level). The focus of these examinations¹⁴ is on summative assessment, rather than the process of learning how to compose, which would be achieved by a more varied folio submission. I have been involved in consultation with an examination board (WJEC)¹⁵ in 2014, and my feedback was that the length of assessed compositions was too long for most candidates at that stage of their development—they did subsequently act on my suggestions by shortening the required lengths of the works, but I still feel the approach is driven by assessment and not by the learning needs of the pupils. A larger

¹² General Certificate of Secondary Education examinations are distinct qualifications in a wide range of subjects (up to 11). In the music GCSE there is an emphasis on the practical aspects of music such as performing and composing, which continues into Advanced level music. See the Incorporated Society of Music for an overview of the new GCSE in music from a range of boards, accessed April 2, 2018, <https://www.ism.org/images/files/GCSE-music-comparison-chart-2016.pdf>.

¹³ Advanced level courses are a precursor to University study and pupils normally take three subjects. Most music students in higher education focusing on composition will have taken Advanced level music, but it is also possible to gain entry with other qualifications such as the BTec. national diploma in music.

¹⁴ In composition examinations in the UK students usually work on their compositions away from the classroom but with some time allocated to work in school with teacher supervision. These are not formal examinations as such and students can make use of notation software such as Sibelius.

¹⁵ Welsh Joint Educational Committee

folio of shorter works would encourage the development of a range of compositional techniques which is not possible with fewer but longer works. The WJEC also uses the phrase ‘Western Classical style’ in the A level specification¹⁶ in relation to the required style of a composition—this is meaningless as a concept as there are many quite different Classical styles depending upon how one defines the term. This is a throwback to ‘style composition’, taught in higher education in the past, in which students compose music in the style of a specific composer (usually pre-twentieth century)—the difference is that at least in the latter case there is clarity of the specific style to be imitated.

An approach to composition pedagogy

Because of the above situation, students who have been through the GCSE and Advanced-level music courses in the UK often have deficiencies and gaps in their compositional knowledge, technique and skill level. In my department, this is addressed in the first-year composition course through focused topics leading to compositional projects. The pedagogic approach to teaching the course is rooted in practice; therefore, the model is: exploration of a concept through the discussion of a topic; listening to examples; analysis of these examples; creative practice responding to these works—thus active learning is at the heart of the teaching. The weekly classes are two hours, so in the first 20 minutes there would be class discussion of the topic; the next 40 minutes would focus on listening to and analysing relevant examples; the second hour would be focused on practical work. This creative practice consists of students working in groups on the creation of a short collaborative work exploring the topic that has been discussed—these can be fully-composed or more usually part-improvised. These resulting ‘microcompositions’ are performed to the rest of the group for peer/lecturer feedback and reflection. The benefits of this approach are that students immediately try out a concept in practice, and listen to the results. Students also learn from listening to their peers’ approaches and can provide constructive peer feedback.

In the teaching schedule, there are also workshops when finished or nearly-completed assessed works are played to the rest of the group, either live or using midi realisations, so that students can get immediate feedback before the formal assessment process. In addition, students submit their compositions for workshops with a professional ensemble (recently a string quartet) and a good local amateur orchestra, which provides valuable learning experiences mirroring the professional composers’ world.

¹⁶ WJEC GCE AS/A Music Specification (from 2016), accessed July 25, 2017, <http://www.wjec.co.uk/qualifications/music/r-music-gce-asa-from-2016/>.

In the first year of the BMus composition course, the objective is to deal with the fundamental elements of music separately, to enable students to understand these concepts more clearly. The projects consist of a series of compositions of around 30 bars in length (or equivalent), and deal with the following topics in this order: graphic scores, rhythm, melody, serialism and non-tonal music, vocal composition, and extended compositional structures. These are not the only topics one could explore in the first year of a composition course, and the above could be substituted with other equally valid topics such as harmony or polyphony. However, I do feel that the first three are essential elements in any composition course. Although there is not a specific style of music emphasised in the course, there is an overarching encouragement for students to be quite experimental and open-minded in their approach to composing, which they could bring to whatever style of music they want to compose. The projects have a clear brief which gives students a set of boundaries to compose within. In all cases the music composed will be performed in a workshop for peer- and self-reflection.

The rationale for starting with a graphic score composition is to encourage students to think away from traditional notation, and to think about texture and timbre more than about specific pitches and harmonies. It also has the benefit that students who have little confidence in traditional notation do not feel disadvantaged.¹⁷ The topic of graphic scoring allows students to explore the nature of music notation, what it is useful for, and what are its limitations. The assignment students undertook was to compose “a work for at least four parts (voices and/or instruments) which must show a variety and evolution of textures. It must use a form of graphic notation and not traditional stave notation. It must include a detailed key of the notation used.” What is most valuable in terms of students’ learning is performing the work in the workshop, experiencing what is effective and what needs further development.

The second topic is based on composing music which is based only on rhythm and uses non-pitched percussion instruments. This allows the isolation of a single musical parameter and how to use this to create a structured and engaging piece of music. Students listen to and analyse works which are purely rhythmic, such as Steve Reich’s minimalist *Music for Pieces of Wood* (1973) and Edgard Varèse’s *Ionisation* (1929-31), to develop an understanding of how they are constructed. Students with a lack of experience in notation are gently introduced to traditional notation through rhythm without having

¹⁷ Increasingly, students come into Higher Education in the UK with fewer traditional musical notational skills; this is often because they have a background in popular music and may have been largely self-taught.

to consider pitch or staves.¹⁸

The next topic is focused on pitch and the creation of a monody, allowing students to concentrate on line rather than harmony. Much popular music is dominated by tonal harmonic progressions from which melodies emerge, and I think it is valuable to explore melody without having to think about the harmonic implications. As part of this topic, the subject of modes is addressed to enable students to be aware of the range of possible raw materials of melodic invention.¹⁹

The fourth topic is a little controversial as it is concerned with an introduction to serialism and atonality. It seems to me that any composer should be aware of the music in which tonality became challenged, because of its influence on Western art music of the twentieth century. It is not that one would expect all students to become serial composers, but it is important that they understand how and why serial music emerged, and that there are valid methods beyond tonality with which to construct music. The construction of a serial matrix helps students' development of music theory skills through transposition of the row. This assignment also focuses on how to make use of drama and expression in composition and how significant this element is for any successful work.²⁰

The fifth topic is based around the voice, which was chosen because it involves the additional challenge of working with a text. For this assessment, students could compose either a pop song or else a more experimental work. The focus is on examining the nature and possibilities of the voice, exploring extended techniques and how to set the text effectively.²¹

The culmination of the course has a longer project which gives students the freedom to compose a work of around five minutes in a style of their choosing. This project explores the issues around composing larger works in terms of the structural design and the development of material. The final assignment was to compose "a work in any

18 The assignment was to compose "a work which consists of at least four parts for non-pitched percussion. The work must explore rhythmical processes/development, polyrhythms and polymetres."

19 The assignment was to compose "a monody for an instrument within your group which uses a mode (you could create your own). Attention should be made to the formal shape and the development of ideas."

20 The assignment was to compose "a work which uses a serial pitch matrix to generate its compositional material. It should be for piano and solo instrument or instrumental quartet. Attention should be focused on the expression and drama of the work, such as elements other than pitch. You must provide the serial matrix used with the composition and indicate the rows used in the score."

21 The assignment was to compose "a work using the voice or voices which could also include instruments. Be clear about how you use the stresses of the text, and take into consideration the practicalities of writing for voice, such as range and complexity."

style of about five minutes in length. It should show a clear and coherent structure, and should also show development of the ideas. A recording should be submitted with the score (which should be appropriate for the genre).” For this assignment, I suggest that the students should try to compose music which they themselves would want to go and hear at a concert—to think about their compositional voice. However, I also feel that as a teacher it is my role to ensure students hear and analyse music that they have never heard before. Students in the United Kingdom often come to university with a very narrow range of music they listen to and like—students often show a reluctance to listen to more challenging work. The quality of work produced by my students is often very imaginative if imperfectly notated; what is most important for me is to encourage development and risk-taking in their work. We ask for feedback from our students each year, and a typical example from 2013-14 was that “the string quartet workshop and recording was especially appreciated. Students also liked the range of materials and the tutorial support given.”

To address the issue of repertoire knowledge in the second year, the composition course focuses on a range of contemporary or twentieth century approaches to composition. Therefore, topics such as *Farbenmusik*,²² minimalism, systems and the use of chance in decision-making are explored. Students are also commissioned to write a longer composition for one of their peers who is specialising in performance on the BMus course. In this work, the evolution of the composition is collaborative, so the performer has significant input into how the work evolves, and aspects of its style and approach. This has benefits both for the composer, who learns how to write effectively for the instrument, and the performer, who develops an understanding of a composer’s practice. A crucial part of the process is a workshop in which the resulting composition is performed, to generate feedback and discussion. The work is also performed later in the year, in a recital at which the performer is formally assessed.

The rationale for choosing the above topics in year two is that they are representative of a range of current techniques, but could be replaced by other equally valid ones such as postmodernist/post minimalist approaches, new complexity, or the fusion of popular music with contemporary musical techniques. Other supporting elements are covered such as extended instrumental techniques (which ties in with the commissioned work in stretching the performer’s technique), advanced harmony, analysis of models, and instrumentation. There is also space in the schedule to allow students to suggest topics to be included; one group wanted more discussion and analysis of traditional tonal orchestral music, as that was the kind of music they were most interested in. I feel it is important to listen to the needs of our students and take a flexible approach to the curriculum content—

²² ‘Colour music’ is music in which the main compositional elements are timbre and texture.

after all, no two classes are alike in their needs. There has been a noticeable change in the backgrounds of students taking the BMus course in my institution, and discussion with colleagues at other institutions suggests this is widespread in the UK: more are coming from a popular music or a conversely conservative classical music background. However, it is possible to integrate these elements using the above teaching model in a flexible manner.

Conclusions

My conclusion is that it is essential that the teaching of composition is practical, active, and that peer- and self-feedback is a significant part of the learning process. The response from students experiencing this approach is that this is an enjoyable and stimulating way of learning. The active approach to learning, combined with reflective workshops of their own work, is a powerful way to develop their skills and confidence in composition. I'd like to end with some thoughts by Corder on the topic of originality:

as to actual distinction and originality of style, this is always far more a result of conscious reason than a mere intuition, or instinct. For, to be original does not mean that you are to do eccentric things: it only means that by the exercise of superior thought and knowledge you replace stale conventions by newer ones.²³

This chimes well the idea I suggested at the beginning of this article, that there is much in common between cooking and composing—that composers must develop a technique based on existing ideas, but then change them in some way, to create a new work of art. The quotation from the title of this article comes from Smith Brindle's book: "I think we are born composers and not made"²⁴—but ironically, he later goes on to suggest possible approaches to teaching composition through analysis. I don't agree with Smith Brindle's suggestion: I think composers are in fact made and not born, however, to be successful as a composer you must go beyond your teaching to find something new to say, as Corder suggests; otherwise you will just be regurgitating the music of past.

²³ Corder (1909, 85).

²⁴ Smith Brindle, *Musical Composition*, 1.

Works Cited

- Brindle, Reginald Smith. 1986. *Musical Composition*. Oxford: Oxford University Press.
- Corder, Frederick. 1909. *Modern Musical Composition: A Manual for Students*. London: Curwen.
- Jones, George Thaddeus. 1963. *Music Composition: A Manual for Training the Young Composer*. Evanston, Ill., Summy-Birchard.
- Palmer, King. 1947. *Teach Yourself to Compose Music*. London: Hodder and Stoughton for the English University Press.
- Paynter, John and Peter Aston. 1970. *Sound and Silence: Classroom Projects in Creative Music*. Cambridge: Cambridge University Press.
- Service, Tom, presenter. 2015 (Nov. 30). “One to One with Alexander Goehr.” In *Music Matters*. BBC Radio 3. <http://www.bbc.co.uk/programme/bo6qjf43>. Accessed July 24, 2017.
- Swanwick, Keith. 1988. *Music, Mind, and Education*. London: Routledge.
- Trueman, Dan. 2012. “‘Teaching’ Composition at Princeton.” *Contemporary Music Review* 4: 323-329.
- Ulman, Erik. 2012. “An Overview of the Symposium.” *Contemporary Music Review* 4: 249-256.
- Wilkins, Margaret Lucy. 2006. *Creative Music Composition: The Young Composer’s Voice*. New York: Routledge.
- WJEC CBAC. 2017 (25 July). *WJEC GCE AS/A LEVEL in MUSIC*. England, 2016. http://www.wjec.co.uk/qualifications/music/r-music-gce-asa-from-2016/wjec-gce-music-spec-from-2016-e.pdf?language_id=1.

The Case of the Tic Tac Toe-Playing Chicken: Programed Instruction and Behaviorism in Music Theory Pedagogy

Harmonic Materials in Tonal Music: A Programed Course, parts I-II
by Greg A. Steinke, based on material originally created by Paul O. Harder.
Tenth Edition. Upper Saddle River: Prentice Hall, 2010.

reviewed by ANNA GAWBOY



The year 2018 marks the fiftieth anniversary of the first publication of Paul O. Harder's *Harmonic Materials in Tonal Music*. The past half-century has witnessed the professionalization and expansion of the field of music theory, several shifts in pedagogical philosophies and methods, and a radical disruption in how people access, interact with, and store information via the internet and electronic devices. The tenth edition of *Harmonic Materials in Tonal Music*, revised by Greg Steinke and released in 2010, is a time capsule of pedagogical thinking about music theory. It simultaneously inspires wonder at discarded relics of the past and reveals the persistence of issues we are still grappling with today.¹

Programed instruction and B. F. Skinner's Teaching Machines

Steinke and Harder's *Harmonic Materials*, in two volumes, is preceded by a fundamentals text, *Basic Materials of Tonal Music* (12th edition, 2009). Together, they form a trilogy that covers the basics of notation through chromatic harmony and modulation. The most unique aspect of the series is its use of a programed method of instruction. When the book first appeared in 1968, programed instruction had been in vogue for nearly a decade, and was becoming increasingly popular in music education.² The textbooks present concepts in small, easy-to-understand chunks or "frames," which are followed immediately by comprehension exercises and feedback.

¹ Harder was single author through the 5th edition. The 6th edition was the first to include Steinke as co-author. It was released in 1985, the year before Harder passed away. Steinke is listed as "author" of the 7-10th editions, but with the caveat, "based on materials originally created by Paul O. Harder." In my comparison of the first and 10th editions, much of Harder's original text remains. His voice is primary throughout the editions. The gist of Steinke's revisions seem to be the inclusion of more examples and prompts in music notation.

² See Rogers and Almond (1970).

The accumulation of knowledge is meant to be almost effortless, a natural outcome of the use of the minutely graduated material. This organic approach to content is reflected by the cover art of the series, which features a hen sitting on her eggs for *Basic Materials*. The chicks hatch on the cover of volume I of *Harmonic Materials*, and several older chicks with budding pinfeathers walk around and peck corn under the gaze of their proud mother on the cover of volume II. These scenes featuring humble domestic fowl may seem like a strange artistic choice for the cover of a music textbook, but they suggest an intriguing double metaphor for the book's aims. The nurturing presence of the hen is perhaps a symbol of the text, which gently guides the learner through formative stages of knowledge acquisition. The chicks' gestation, birth, and young life allude to the learning process itself, which progresses through instinct rather than with conscious, concerted effort. But the hen also might remind those who know the history of programmed instruction of B.F. Skinner's extensive and astonishing experiments in animal training. Skinner taught pigeons to choose the correct suit in a deck of cards, play ping-pong, and peck out simple tunes on the piano. His laboratory also produced chickens capable of winning consistently at tic tac toe—but only if the chicken got the first move.³ Skinner's work led directly to his development of teaching machines for humans and contributed significantly to the philosophy and methods of programmed instruction.

Skinner's teaching methods involved breaking a complex task down into tiny, manageable units, then positively reinforcing any behavior that approximated the desired result. For example, if the goal was to teach a dog to get the mail, the dog would receive a reward for any small movement toward the mailbox. The dog's subsequent movements would then be further "shaped" through positive reinforcement so that each iteration more closely resembled the desired action.⁴ Skinner's methods were based on several core principles: the atomization of knowledge, the minimization of learner's effort, instantaneous positive reinforcement for desired behavior, and continued practice until the achievement of mastery. In the 1950s, Skinner developed several programs for teaching machines used at Harvard University (Example 1). The machine revealed a chunk of information to the students in a small window and immediately presented a comprehension question. The students would compose a response to the question and then turn a knob to reveal the correct answer and check their work. If the student responded correctly, he or she could dismiss the question.

³ Skinner (1951). Several films of Skinner's performing animals are available on YouTube.

⁴ Ibid.

If the student responded incorrectly, the question would be presented again later in the sequence. The program was complete once the student answered all questions correctly.



Example 1

One of the teaching machines invented by B. F. Skinner. Photograph courtesy of Wikimedia Commons, CC BY 3.0, <https://commons.wikimedia.org/w/index.php?curid=3806150>.

Skinner maintained that that his teaching machine alleviated the pitfalls of mass lecture-based instruction and produced a similar quality of instruction as that of an individual human tutor.⁵ He pointed out that the student was constantly engaged with the material through answering comprehension questions instead of drowsing off listening to a lecturer. The teaching machine required that students learn all the material at one level before they progressed to the next, instead of allowing them to pass a class only having shown a certain percentage of understanding. The machine allowed the student to work at his or her own pace, spending more time with concepts that were challenging and quickly moving through easier material. Instead of waiting for an instructor's judgment handed down as a grade on homework or an exam, students received instant feedback about their learning and could modify their study accordingly.

If some of this rhetoric sounds familiar, it is because much of the philosophy associated with teaching machines and programed instruction transferred directly to computer-assisted instruction (CAI) and online learning.⁶ Like Skinner's programed

⁵ Skinner (1958, 971).

⁶ Skinner himself saw CAI as a technical improvement on his basic educational philosophy. See Skinner (1986, 103-110). For a more critical view of the relationship between programed instruction, CAI and

courses, Steinke and Harder's *Harmonic Materials* is organized into frames containing a paragraph of material or a short musical example. Each new topic is introduced by an "expository frame," which outlines a basic concept. "Learning frames" provide additional information on the topic, and are followed by a question, usually fill-in-the blank. The end of the chapter includes a summary, followed by several "mastery frames" that test remembering and understanding of the key concepts. The frames run down the right column of each page, and answers to the comprehension questions are printed directly opposite the question in the left column in order to facilitate quick feedback. Skinner's teaching machines withheld answers to comprehension questions until immediately after the student had made his or her response, but Harder and Steinke instruct students to use the tear-out card that is included with the book to cover the left column while working and to quickly uncovering the printed answers as needed to check their responses.

This layout, with answers printed directly opposite the question, might tempt students to use the text in a manner other than intended, perhaps simply reading the answers without putting effort into thinking about the question. However, in learning frames, the answer to the question is usually embedded in the question and highlighted in such a way to attract notice, so not much effort is needed in the first place. Example 2 shows the expository frame and the first learning frame for a segment on chromatically altered harmonies.

The learning frame designated 3.16 states that "tones that are foreign to the prevailing tonality often are absorbed into the harmony to produce ALTERED CHORDS," and then one sentence later, the student is asked to fill in the blank: "A chord that contains a tone foreign to the prevailing tonality is call a(n)_____ chord." This style of presentation comes from Skinner himself, who believed that traditional textbooks were overly entertaining, discursive, and sometimes misleading by design.⁷ Skinner stressed that programed instructional materials must be written to guarantee success, helping the student learn through hinting, prompting, and suggesting the correct answer. In keeping with this objective, *Harmonic Materials* doles out tiny chunks of information over a long series of frames. Students learn that the use of altered chords is associated with a chromatic harmonic idiom in Frame 3.17; they learn that there are several different types of altered harmonies and identify one in a sequence of diatonic chords in Frame 3.18; and then they delve into the function, spelling, and analysis

online learning, see McDonald, Yanchar and Osguthorpe (2005).

⁷ Skinner (1958, 974).

(No response required.)	<i>Expository Frame</i> 3.15 Melodic activity generated by nonharmonic tones is increased by chromatic alteration. Altered tones tend to continue in the direction they are inflected. The two most common alterations are the raised fourth and the lowered seventh scale degrees. The raised fourth degree usually continues up to the fifth, thus providing a tonal gesture toward the dominant. The lowered seventh degree resolves to the sixth, which often is set as the third of the subdominant chord. In addition to motivation, altered tones provide color. They do not necessarily weaken the influence of the tonal center, but a chromatic melodic style often is associated with an abundance of altered chords.
altered	3.16 In addition to their nonharmonic function, tones that are foreign to the prevailing tonality often are absorbed into the harmony to produce ALTERED CHORDS. Such chords perform a role similar to that of altered nonharmonic tones: they produce more colorful harmony, and, in some cases, help stress the structural function of the diatonic chords to which they resolve. A chord that contains a tone foreign to the prevailing tonality is called a(n) _____ chord.

Example 2

Expository frame 3.15 and learning frame 3.16 from *Harmonic Materials*, volume II, p. 67.

of V⁷ of V in frames 3.19-3.24. The initial presentation of foundational concepts is mostly text-based, but later the questions begin to look more like more conventional music theory exercises consisting of roman numeral analysis and figured bass work (Example 3).

Unlike the learning frames, these exercises do not have answers embedded in the question. Each chapter ends with a summary of key points and a series of “mastery frames,” where a student tests the knowledge accumulated over the course of the program. There are also supplementary assignments at the end of each chapter, which look very much like conventional workbook exercises, consisting of short analysis excerpts from the musical literature or brief harmonic realization exercises.

 D: V V7/IV IV⁶₄ V7/IV IV⁶₄ I	3.49 Supply the roman numeral analysis for the example below: Schumann, <i>Album for the Young</i>, Op. 68, No. 31 Sehr kräftig  D: — — — — —
 E♭: I I⁶ V⁶₃/IV IV vii⁶₅ I	3.50 Complete the alto and tenor voices and analyze with roman numerals. Bach, Chorale: <i>Wenn ich in Angst und Not</i>  E♭: — — — — —

Example 3

Frames 3.49 and 3.50 from *Harmonic Materials*, volume II, p. 77.

Goals and content

In general, the learning goals of the frames and supplemental assignments are quite modest, merely introducing the student to a new concept and its basic application. The restricted learning goals of the text, combined with its design to facilitate self-teaching and self-pacing, might make *Harmonic Materials* an attractive resource for instructors who wish to use it with a flipped method of instruction. In fact, Paul Harder's original preface suggested that the text be used in precisely this way, recommending that "the core of knowledge contained in this book may be expanded by emphasis on creative writing, analysis, or the study of music literature. Because students evaluate their own exercises, the instructor is free to prepare more vital

and creative supplementary learning experiences.”⁸ Steinke, in his introduction to the 2010 edition, suggests that the text is merely to serve as an introduction, allowing the teacher to pursue more complex problems in class: “[A] rich learning experience can be created for instructors and students alike as they explore together the many exceptions to the so-called rules or principles. This allows them to ultimately link all that they study to actual musical literature or to create many varieties of assignments to solidify the understanding of the basic framework presented in these pages.”⁹

In contrast to modern texts that are thick with musical examples, activities, and content, Steinke and Harder’s *Harmonic Materials* is intentionally incomplete and requires the collaboration of an expert teacher to round out the learning experience. The text provides very few suggestions for supplemental assignments and activities that would help students move beyond basic identification and realization and toward the synthesis of concepts, creative application, and interpretation. There are some instructions for small compositions, which ask the student to work with harmonic vocabulary in a more flexible manner than would be possible with only figured bass realization. For example, at the end of the chapter on secondary dominants (Chapter 3.0), the student might “compose a small composition (at least four phrases long) that exploits both altered nonharmonic tones and secondary dominants.”¹⁰ The student is instructed to plan out a simple harmonic background using only diatonic chords, then embellish some chords with secondary function chords, then write a melody that conforms to the harmonic background and complete the composition by working up an appropriate accompaniment figuration. Similar composition assignments occur at the ends of almost all the chapters in the second volume.

The book also contains a few suggestions for supplementary activities at the end of each chapter that could allow the student to integrate knowledge at a deeper level in class discussion or as a writing assignment. For example, a supplementary activity on voice leading encourages students to “examine short excerpts from different musical styles for the way voices ‘lead.’ How are they alike, how are they different? Why are they different? Is the voice leading a significant factor in the definition of a particular style?”¹¹ Guided by a knowledgeable instructor, this activity could generate a lively and insightful discussion in class. However, instructions for supplementary activities are

8 Harder (1974, vii).

9 Steinke and Harder (2010, vol. 1, vii).

10 Ibid., vol. 2, 92.

11 Ibid., vol. 1, 116.

uneven and do not always necessarily point toward a more holistic understanding for the students. The previously mentioned chapter on applied chords instructs students to “continue activities of analyzing musical excerpts...by incorporating altered non-harmonic tones and secondary dominants and by developing short essays around these excerpts or new terms introduced in this chapter” and to “focus on ear training exercises dealing with increased chromaticism and in general musical listening.”¹² Additional practice identifying chromatic chords in various musical contexts would be undoubtedly necessary after the students complete the programed portion, but the instructor would have to devise additional activities that enabled students to grasp deeper nuances of syntax and usage and to use this knowledge in more advanced interpretive or creative projects.

It seems that the content and pace of *Harmonic Materials* would transform delightfully into an online text with embedded musical examples and comprehension questions, similar to recent music theory ebooks such as Jane Clendinning and Elizabeth West Marvin’s *Musicians’ Guide* series or L. Poundie Burstein and Joseph Straus’ *Concise Introduction to Tonal Harmony*, both published by Norton. Unfortunately, *Harmonic Materials* is very much a throwback to a pre-digital age. Until 2015, Pearson supported a supplemental online presence associated with the text, www.mymusittheorykit.com; this site has since been retired and not replaced. When the tenth edition of *Harmonic Materials* was published in 2010, it was still common for textbooks to come with audio discs, and many of the musical examples are flagged with an icon indicating the student can listen to a recording. An audio CD for volume I is available through the Pearson website for an additional \$65 purchase, which seems to be a terrible investment given that many computers no longer have CD drives. The CD for volume II did not seem to be available at all. Today, the lack of a companion website with streaming audio means that musical recordings would be inaccessible for many students. The text stands alone, stripped of the multimedia experience students have now come to expect from their learning materials.

Teaching “common practice” in an age of tonal diversity

As the title suggests, *Harmonic Materials* is strictly a harmony course; there is very little information on any other musical parameter. This has some drawbacks within the text itself: students are expected to write melodies without any information on how a melody is constructed. Rhythm, texture, and timbre are also largely neglected,

¹² Ibid., vol. 2, 88.

although there is a very helpful appendix that covers the basics of piano styles. There are no chapters covering form, which either must be addressed in a separate textbook or by the instructor's own materials.

Like many mid-century theory textbooks, *Harmonic Materials* focuses on western tonal practice of the eighteenth century. Though nominally covering western art music of the common practice period, ca. 1700-1900, the text is anchored upon the music of J. S. Bach. The index of musical examples contains references to over seventy Bach chorales and fourteen keyboard works. Beethoven is perhaps the next most-frequently excerpted composer with 37 compositions, while Chopin and Mozart follow close behind. Many later nineteenth century composers are represented by a few examples each: Elgar, Fauré, Franck, Grieg, Debussy, Nielsen, Ravel, Puccini, Wolf, Tchaikovsky, Richard Strauss, Johann Strauss, Stravinsky, and Sibelius. There are no full-length pieces, and most examples are only a few measures long. The musical examples must be somewhat limited due to the book's format and aims, and it is important to remember that the book was supposed to support a deeper exploration of repertoire in class.

There is a growing sense among music theorists that it is no longer sufficient to focus on the harmonic practice of a small number of composers within the western tradition in undergraduate theory courses.¹³ Several texts, such as *Aural Skills in Context* by Evan Jones, Matthew Shaftel and Juan Chattah (2014); *Music Theory Remixed* by Kevin Holm Hudson (2017); and *The Musician's Guide to Theory and Analysis* by Jane Clendinning and Elizabeth West Marvin (2016) graft discussions of non-western and popular musics onto the traditional core of eighteenth-century harmony with the goal of developing a more varied theoretical skill set and a heightened sensitivity to differences in musical style. This is a welcome change, and it is likely that next decade will see even more diversified approaches.

Paul Harder worked at a time when many academic composers believed that serialism and atonality would displace tonality as the dominant musical language. *Harmonic Materials* begins with an apology for the study of western harmony written by Harder.¹⁴ He argues that, despite the “assault” on tonal music by the Impressionists and Second Viennese composers, tonal music is still flourishing in commercial and popular music as well as churches and schools. “The time is not yet in sight when this study will be without meaning and thus disappear from the standard music

¹³ See, for example, Covach, (2015); Kulma and Naxher (2014); and Richards (2015).

¹⁴ Steinke and Harder (2010, xi). The quote originally appears in the third edition (Harder 1977, xi).

curriculum.”¹⁵ Harder’s argument for the continued vitality of tonal music has stood the test of time and, as a result, seems somewhat less urgent today. Teachers of harmony have at their disposal another half-century’s accumulation of tonal popular music as well as the results of a renewed interest in centrality among academic composers.

This landscape brings its own challenges, however. Undergraduate theory pedagogy has, on the whole, not yet come to terms with how best to equip students to understand and perform the growing plurality of tonal styles beyond the common practice. Though Harder recognized the importance of studying music outside the western tradition, he believed that a thorough grounding in classical harmony would transfer to an understanding of a wide variety of tonal music. “Even with the passage of centuries, basic concepts still ‘rule’ to a great extent and provide an important underpinning to many musics throughout the world with modifications, blendings, and adjustments to suit a particular milieu.”¹⁶ If the goal of the study of tonal harmony was to help students discover the persistence of basic principles throughout a wide diversity of tonal styles, the curriculum would need to do more than focus exclusively on eighteenth and nineteenth-century music, as Steinke and Harder’s text does. For far too long we’ve taught by synecdoche, allowing common practice tonality to stand in for the whole. Just as the exclusive study of harmony doesn’t help students understand melody or form, learning only about Austro-German male composers doesn’t help students appreciate the music of women and composers from different nations and ethnicities. Learning only about music of the past doesn’t help students understand the music of the present, unless the styles can be compared side by side, with theoretical consideration of similarities and differences.

As a legacy textbook, Steinke and Harder’s *Harmonic Materials* provides insight into how challenging it is to truly diversify the curriculum given music theory’s traditional focus on harmony and the tautological relationship established between harmony and western classical music. Harder’s justifications for his focus on common practice music continues in the first chapter of the text, leading to some statements that are embarrassing at best and erroneous at worst. He states, “harmony...is missing from music that is outside the Western art music tradition.”¹⁷ This is true if only one adopts a very narrow definition of harmony—ignoring, for example, the drone-based triads produced by the Thai khaen, the homophony produced by string instruments

¹⁵ Ibid. 2010, xii.

¹⁶ Ibid., xiii.

¹⁷ Ibid., 1.

in Japanese gagaku ensembles, the complex verticalites generated by heterophony in gamelan, the canons and triadic parallelism foundational to several African traditions—or it is true if one adopts a very inclusive definition of Western art music, embracing every style it has touched: bluegrass, tango, jazz, Bulgarian choral music, Afropop, Nordic death metal, K-pop, and so on. The idea behind Harder’s statement can be traced back to the racist world-music classification system of F. J. Fétis,¹⁸ whose restrictive formulation sought to prove the aesthetic superiority of European music, allowing room for neither the contrast of different styles nor the tracing of continuities.

Harder’s insistence of the centrality of harmony also tends to mischaracterize the nature of Western art music: “[D]uring the eighteenth and nineteenth centuries composers were so preoccupied with the expanding harmonic system that other musical elements—particularly rhythm—were neglected.”¹⁹ This statement appears in the third edition of 1974, and one wonders how this has been allowed to stand through the subsequent releases of the text. Did Harder feel he needed to dismiss rhythm in order to justify his exclusion of it in the textbook?

Another potentially misleading statement occurs in a chapter introducing the fundamentals of chorale-style part writing. Harder states that “much of the music composed since the middle of the eighteenth century is based on a four-part texture. The utility of this texture has been proved by more than two centuries of use.” A comprehension question duly follows: “The texture that has prevailed as the basis of much of the music of the last 200 years is the ____-part texture.”²⁰ A student working through this frame who had never produced a harmonic reduction of a full score could easily misunderstand Harder’s point and believe him to be insisting upon two hundred years of nothing but Bach-style chorales, a point easily refuted by attending ensemble rehearsal or studio class. Telling rather than showing only further alienates music theory from the repertoire it purports to serve.

Skinner’s error

Perhaps a larger pitfall of using *Harmonic Materials* is that a student could easily get the wrong impression of the task of theorizing. The vast majority of the text

¹⁸ Radano, and Bohlman (2000, 17-18).

¹⁹ Steinke and Harder (2010, vol. 1, 1).

²⁰ Ibid., 55.

comprises low-level fill-in-the blank exercises, while more advanced activities are limited and lack variety. Distressingly, the text designates compositional and listening activities as “supplemental” rather than central. In other words, there is a significant gap left between textbook and the NASM standards for analytical and creative skills.²¹ An experienced teacher with firm learning goals in mind might welcome the opportunity to fill that gap with his or her own materials, but a novice instructor might allow the text to become the course, leaving the more far-reaching goals of music theory instruction unmet.

This gap is largely a result of the text’s grounding in Skinner’s teaching philosophy, which originally emphasized efficiency of knowledge transfer. Skinner believed that his teaching machines would allow a single teacher to more effectively teach content to more students with less effort and in less time, and that a student could learn twice the amount of content in half the time.²² Skinner’s educational ideology arose to national attention amidst Cold War anxieties regarding the effectiveness of American education. In the mid-1950s, programed instruction was largely limited to military training, but acquired advocates for its more widespread use in public schools following the National Defense Education Act of 1958.²³ But by the early 1960s, criticisms of programed instruction were already beginning to accumulate, and over the next two decades the method disappeared from American curricula. An article published in 1991 introduced programed instruction by remarking that “most people think of it as a fad that died.”²⁴ Skinner later blamed the rejection of programed instruction on educators’ misguided attempts to promote problem-solving, research skills, and inquiry instead of mastery of facts.²⁵ However, the reason for programed instruction’s failure may be simpler. Skinner’s teaching machines did not actually result in the educational gains he claimed. Multiple studies showed that the apparent advantages of programed instruction, such as learning through question-and-answer activities, self-pacing, and immediate feedback did not significantly boost content acquisition.²⁶ The studies indicated that students using programed instruction were no better off

21 See Part VIII, Section B., “Common Body of Knowledge and Skills,” NASM Handbook 2016-2017.

22 Skinner (1958, 971).

23 Tröller (2013).

24 Vargas and Vargas (1991).

25 Skinner (1986).

26 Feldhusen (1963), and Kulik, Schwalb, and Kulik (1982).

than those taught by traditional materials in terms of their content knowledge. And, while a chicken or a dog seemed continuously engaged by the minute shaping of their behavior by constant positive reinforcement, human learners became quickly bored with long series of questions that were constructed so that the correct answer was always apparent.²⁷

Harmonic Materials is highly rated by readers on Amazon, despite its outdated content and its tediously painstaking presentation. The only consistent complaint seems to concern the price, which is a whopping \$162 per volume on the publisher's website. User reviews indicate that many of the people who buy it are trying to refresh or relearn basic principles of harmony in order to pass graduate entry exams, so the exorbitant cost might be worthwhile if it allows a student to pass out of a full graduate course of remedial theory. As anyone who has graded graduate entry exams knows very well, shockingly little of what students learn in music theory is retained, even from good students who have been educated at good schools. While self-study resources such as Steinke and Harder can provide a timely intervention immediately prior to a test date, it seems that students might be better served by music theory courses that were explicitly organized to promote deep learning and information retention instead of coverage of content.

In 1958, Skinner could claim that “there is no evidence that what is easily learned is more readily forgotten,”²⁸ but a growing body of research now supplies that evidence.²⁹ Counterintuitively, it appears that students learn best under conditions that are the opposite of that which Skinner tried to create through programmed instruction. A 2003 study found that students more successfully learned the underpinning concepts in problem-solving scenarios after they had struggled with an impasse. Surprisingly, the study also found that learning was rare in the absence of an impasse, despite the tutor's direct instruction.³⁰ The educational researcher Manu Kapur also found that the process of struggling through a difficult problem leads to deeper learning, even if the immediate results are incorrect. These studies suggest that the cognitive effort involved with struggle and the exploration of different pathways—what Kapur calls “productive failure”—leads eventually to a heightened ability to transfer skills and retain information. Conversely, a streamlined learning process that produces positive

27 Reed and Hayman, (1962), and Rigney and Fry, (1961).

28 Skinner (1958).

29 This evidence is summarized in Brown, Roediger III, and McDaniel (2014, 67-101).

30 VanLehn, Siler, Murray, Yamauchi, and Baggett (2003).

results quickly can become what Kapur calls “unproductive success,” after which learning may fade or fail to transfer to other contexts.³¹

Music theory pedagogy in 2018 faces a different set of challenges than it did in 1968. How can we balance heritage content with current trends in the field? How can we teach a theory that is inclusive of all music? How do we engage learners who bring to their education a diversity of backgrounds, goals, and interests? What is the role of technology in learning? How do we foster deep learning instead of the “unproductive success” associated with plug-and-chug workbook exercises? What do we really want students do to show their music theoretical knowledge? Perhaps the time has come to step away from the old textbooks, which due to overly cautious editors and imaginary market forces seem obligated to offer different flavors of the same content and methods we have been teaching for the past three hundred years. Our students deserve more than to become tic tac toe-playing chickens, expertly performing tasks that are meaningless to them.

31 Kapur, (2008). Kapur presented two groups of students with tasks that were slightly beyond their ability level. The first group received well-structured problems that were written so that the problem was immediately apparent and solving it involved applying rules and principles in predictable ways. The second group received ill-structured problems, which were more like case studies, where students had to sift through multiple documents in order to determine what the problem was, what information was relevant, and what tools could be used to solve the problem. The initial results of the study were unsurprising: students in the well-structured group were successful at identifying the problem to be solved and in strategizing a solution in a relatively short amount of time. In contrast, the students in the ill-structured group found it difficult to identify the problem, instead engaging in chaotic discussions that involved multiple analyses of the problem and critiques of their analyses. While the students in the ill-structured group failed to arrive at the correct answer, post-tests revealed that they outperformed their peers in solving both well-structured and ill-structured problems. See also Kapur (2016).

Works Cited

- Brown, Peter C., Henry L. Roediger III, and Mark A. McDaniel. 2014. *Make it Stick: The Science of Successful Learning*. Cambridge: Harvard University Press.
- Clendinning, Jane and Elizabeth West Marvin. 2016. *The Musicians' Guide to Theory and Analysis*. Third edition. New York: Norton.
- Covach, John. 2015. "Rock Me, Maestro." *Chronicle of Higher Education*.
http://www.chronicle.com/article/Rock-Me-Maestro/151423/?cid=cr&utm_source=cr&utm_medium=en. Accessed 8/15/17.
- Feldhusen, John F. 1963. "Taps for Teaching Machines." *The Phi Delta Kappan* 44 (6): 265-267.
- Harder, Paul O. 1977. *Harmonic Materials in Tonal Music: A Programmed Course*. Third edition. Boston: Allyn and Bacon.
- Holm Hudson, Kevin. 2017. *Music Theory Remixed: A Blended Approach for the Practicing Musician*. Oxford: Oxford University Press.
- Kapur, Manu. 2016. "Examining Productive Failure, Productive Success, Unproductive Failure, and Unproductive Success in Learning." *Educational Psychologist* 51 (2): 289-299.
- _____. 2008. "Productive Failure." *Cognition and Instruction* 26 (3): 379-425.
- Kulik, Chen-Lin C., Barbara J. Schwalb and James A. Kulik. 1982. "Programmed Instruction in Secondary Education: A Meta-Analysis of Evaluation Findings." *The Journal of Educational Research* 75 (3): 133-138.
- Kulma, David and Megan Naxher. 2014. "Beyond Partwriting: Modernizing the Curriculum." *Engaging Students* 2.
<http://flipcamp.org/engagingstudents2/essays/kulmaNaxer.html>. Accessed 8/15/17.
- McDonald, Jason K., Stephen C. Yanchar, and Russell T. Osguthorpe. 2005. "Learning from Programmed Instruction: Examining Implications for Modern Instructional Technology." *Educational Technology Research and Development* 53 (2): 84-98.
- National Association of Schools of Music. 2016. *Handbook 2016-2017*. National Association of Schools of Music.
https://nasm.arts-accredit.org/wp-content/uploads/sites/2/2015/11/NASM_HANDBOOK_2016-17.pdf. Accessed 9/15/2017.
- Tröller, Daniel. 2013. "The Technocratic Momentum after 1945, the Development of Teaching Machines, and Sobering Results." *Journal of Educational Media, Memory, and Society* 5 (2): 1-19.
- Radano, Ronald M. and Philip V. Bohlman, editors. 2000. *Music and the Racial Imagination*. Chicago: University of Chicago Press.
- Reed, Jerry E. and John L. Hayman. 1962. "An Experiment Involving the Use of English 2600, an Automated Instruction Text." *The Journal of Educational Research* 55: 476-84.
- Richards, Sam L. 2015. "Rethinking the Theory Classroom: Towards a New Model for Undergraduate Instruction." *Engaging Students* 3.
<http://flipcamp.org/engagingstudents3/essays/richards.html>. Accessed 8/15/17.
- Rigney, Joseph W. and Edward B. Fry. 1961. "Current Teaching-Machine Programs and Programing Techniques." *Audio-Visual Communication Review*, supplement 3: 22.

- Rogers, Kirby and Frank Almond. 1970. "A Bibliography of Materials on Programed Instruction in Music." *Journal of Research in Music Education* 18 (2): 178-183.
- Skinner, Burrhus Frederic. 1986. "Programmed Instruction Revisited." *The Phi Delta Kappan* 68 (2): 103-110.
- _____. "Teaching Machines." 1958. *Science* 128/3330: 969-977.
- _____. "How to Teach Animals." 1951. *Scientific American* 185 (6): 26-29.
- Steinke, Greg A. and Paul O. Harder. 2010. *Harmonic Materials in Tonal Music: A Programed Course*. Tenth Edition. Two volumes. Upper Saddle River: Prentice Hall.
- _____. 2009. *Basic Materials in Tonal Music: A Programed Course*. Twelfth Edition. Upper Saddle River: Prentice Hall.
- VanLehn, Kurt, Stephanie Siler, Charles Murray, Takashi Yamauchi, and William B. Baggett. 2003. "Why Do Only Some Events Cause Learning During Human Tutoring?" *Cognition and Instruction* 21 (3): 209-249.
- Vargas, Ernest A. and Julie S. Vargas. 1991. "Programmed Instruction: What It Is and How to Do It." *Journal of Behavioral Education* 1 (2): 235-251.

Music Theory Remixed: A Blended Approach for the Practicing Musician

Kevin Holm-Hudson

New York and Oxford: Oxford University Press, 2017

reviewed by BRAD OSBORN



I received a review copy of Kevin Holm-Hudson's much-anticipated *Music Theory Remixed: A Blended Approach for the Practicing Musician* (hereafter *MTR*) just in time to include it in the textbook-review project for my graduate students in music theory pedagogy. Some of the questions I posed to the students included: Amid the ever-expanding sea of undergraduate theory texts, why might an instructor choose this text over another (or no textbook at all)? How do its ancillary materials compare to the growing number seemingly required of such products? Which students would this book reach that others might not? Will students find the text and its materials accessible, inviting, and fun? Throughout this review, I will shed some light on these questions, with a keen eye toward why an instructor may or may not adopt *MTR* over a few of its competitors.¹

I. Focus on Popular and World Music

MTR includes all of the topics customarily found in an undergraduate theory textbook such as voice leading, form at various levels, and harmonic function, as well as novel topics such as timbre and narrativity. Instructors looking to adapt a preexisting curriculum and general teaching method would have no problem doing either with this text. It doesn't fire a cannon at any canons: both Western classical music and the pedagogical tradition of music theory are present, intact.

Where *MTR* is truly revolutionary is in its inclusion of popular music and, to a lesser extent, world music. While *The Musician's Guide* has steadily increased the number and timeliness of such examples in each of its three editions, it is eclipsed by *MTR* in both regards. *MTR* presents "music theory through a dual lens of works from the Western canon and examples from popular music, including rock, jazz, techno, film

¹ For the purposes of this review, I assume *MTR*'s primary competitors to be the near contemporaneous first edition of Burstein and Straus (2016), as well as the most recent editions from Laitz (2016), Clendinning and Marvin (2016), and Kostka, Payne, and Almén (2017).

soundtracks, and world music” (front matter). In Chapter 3, for example, hemiola and polymeter are explained, on the same page, with examples from Beethoven and King Crimson (83). Harmonically open structures, in which phrases end on the dominant, are exemplified by a Maroon 5 song (129), after which students must immediately correctly identify a half-cadence in Handel (129). Rather than exemplify a topic with a common-practice example and present a popular one as supporting evidence, Holm-Hudson just as frequently makes popular music the rule, rather than the exception.

This balance of classical and popular music reaches a *tour-de-force* in the coverage of form, Chapters 20-23. Beginning with an introduction on the “two-part principle” (457), Holm-Hudson uses bubble graphs evoking the now-popular *Audio Timeliner* software (the first textbook I know of to do so) to demonstrate binary-esque forms in a country song by Dwight Yoakam and an EDM track by The Orb. Holm-Hudson stresses that “pop-music examples may not correspond to classically understood ‘binary form,’ but they are contemporary manifestations of the two-part principle...” (458). Going to great lengths to explain, for example, that Brubeck’s “Blue Rondo à la Turk” is not truly a rondo in the classical sense (581), and resisting the urge to include any popular examples in the sonata form chapter are both wise steps to be applauded. Instead of treating the popular examples as distortions of classical form, Holm-Hudson instead recasts the differences as opportunities for classroom discussion and critical assessment.

Each chapter in *MTR* is prefaced with a chapter overview and an “audio list.” The audio list from Chapter 23 (Variation Forms) is so demonstrative of Holm-Hudson’s commitment to music by people of color and music from the non-Western world that it deserves reprinting.

Artist/Composer	Piece/Song/Track
George Frederic Handel	Chaconne in G Major, HWV 435
Philip Glass	“The Kuru Field of Justice,” from <i>Satyagraha</i>
U2	“With or Without You”
Miles Davis	“Well You Needn’t”
Beethoven	Seven Variations on “God Save the King,” WoO 78
Charles Ives	“Variations on ‘America’”
King Oliver’s Creole Jazz Band (with Louis Armstrong)	“Dippermouth Blues”
John Mayall and the Bluesbreakers (with Eric Clapton)	“Hideaway”
Fatboy Slim	“Right Here, Right Now”
Hariprasad Chaurasia	“Raga Darbari Kanada”

Table 1
Audio List from Chapter 23: Variation Forms (608).

II. Common-Practice Music and Overall Organization

Despite *MTR*'s groundbreaking inclusion of popular music, those looking for the bread-and-butter topics and repertoire of common-practice theory texts will not be disappointed. Because its organization, pacing, repertoire, and depth for a three-to-four semester tonal curriculum is on par with Laitz, Clendinning/Marvin, or Kostka/Payne/Almén, I will focus instead on some elements that set *MTR*'s approach to common-practice music apart from these other texts.

Holm-Hudson opens with a 132-page fundamentals section.² Foregrounding this extensive section helps move us away from a model in which we *expect* incoming students to know these fundamentals (assessed through a pre-test, and often remediated through an extra course) toward one in which we actually *teach* fundamentals.³ Furthermore, *MTR*'s opening "Prelude" to this unit makes fundamentals interesting from page one. Beginning with three "listening studies" from Scott Johnson, Iannis Xenakis, and Robert Schumann helps to put music first. In these three studies, Holm-Hudson focuses on the aural experience by forgoing any musical notation. Instead, attention is on timbre, texture, and topics even more universal in scope, including music's evolutionary basis (6) and its relationship to world religions and cultures (9). This dazzling opening chapter is further illustrated with examples from Appalachian folk song, Bach, Chopin, and The Master Musicians of Jajouka (Morocco).⁴ Students will leave this opening chapter with two valuable takeaways that will fuel their future study: that music analysis can apply to almost any music they are interested in, and that everybody can "do" music theory because it requires no specialized skills (e.g., score reading) coming in.

Holm-Hudson's approach to teaching rhythm mirrors this innovative "listening first" model. Rather than beginning with the familiar metrical types (e.g., simple quadruple), he begins with an example from Hoobastank's hit song "The Reason" (67). Using dot-diagrams to represent "pulse streams," Holm-Hudson demonstrates the gradual interlocking of parts between the piano, drum kit, and guitar that forms a groove. He then differentiates between the "primary pulse stream" and those which

2 This first unit is called "Fundamentals and Diatonic Harmony," which stretches over the first ten chapters and 233 pages. What I am calling the fundamentals section ends with Chapter Five ("Diatonic Chord Labels") before Chapter Six dives into counterpoint and voice leading.

3 For more on this change in expectations, see Hoag (2013).

4 Such incorporation of world musics recalls *Sonic Design: The Nature of Sound and Music* by Robert Cogan and Pozzi Escot (1976) and the heyday of comprehensive musicianship.

are either twice as fast or twice as slow.⁵ This has the familiar effect, from the first chapter, of presenting the analysis and notation of rhythm and meter as a practice that any student can jump right into.

Holm-Hudson's treatment of Neo-Riemannian theory (Chapter 26) demonstrates the synthesis of his theoretical and pedagogical research. Theories by David Lewin and Brian Hyer are as foregrounded as the musical examples from Liszt, Glass, and Britten. One must applaud Holm-Hudson for bringing students into the world of professional music theory this way. Neo-Riemannian operations are presented as something you *do*, rather than footnoted as an obscure theory. Students are invited to map chords onto a *Tonnetz* and compose chords that follow from Neo-Riemannian operations—all of which looks *fun* on the page. Reading Holm-Hudson's straightforward illustration of movement by chromatically related third across the *Tonnetz* (727), I can already see those expressions of fascination and wonder on the students' faces that we all hope for.

Perhaps the most innovative addition to the canon of undergraduate theory topics comes in Holm-Hudson's final chapter "The Stories We Could Tell: Musical Narrativity and Intertextuality" (Chapter 31). Again, the repertoire list, including Satie, Janet Jackson, and Emmylou Harris, is impressive on its own. Unlike most chapters in *MTR*, this one is not broken up by intervening "level mastery" exercises. Holm-Hudson instead leads students through a précis of concepts one might encounter in a graduate seminar, including stylistic/strategic intertextuality, genre synecdoches, sonic/tactile/kinetic/composite anaphones, and episodic markers. Each of these is conspicuously presented in bold print, defined concisely, and demonstrated through musical examples. Holm-Hudson's analysis of anaphones in Pink Floyd's "Comfortably Numb" (845) is both compelling and completely accessible for a college sophomore. The highpoints of this chapter come any time students are asked to *do* narrative and intertextual analysis or activities, including deciphering specific types of anaphones from Mozart score excerpts, writing a narrative analysis of Chopin's Ballade No. 2 (Op. 38), composing program music based on one of Grimm's fairy tales, and improvising to convey a well-known story.

There are, of course, elements in *MTR* that are presented somewhat differently

⁵ Holm-Hudson's pulse streams are not a metrical hierarchy (à la Lerdahl and Jackendoff 1983), but rather an alternate notation for rhythm which nevertheless has generative implications for meter. The term "pulse stream" is taken from Roeder (1994), but Holm-Hudson's non-mathematical use is closer to that in Osborn (2016), in that it is presented for the musician who does not necessarily read traditional notation.

than in textbooks to which instructors may be accustomed. For example, harmonic sequences (Chapter 14) are given lengthy text-based labels such as “the ascending second 5-6 harmonic sequence” (338) relative to concise numerical labels; c.f. “A2 (-3, +4)” (Laitz 2016, p. 417). Since this chapter precedes those on chromatic harmony, instructors wishing to teach the barbershop-esque interlocking of applied dominant seventh chords in sequence at this point will need to supplement.

MTR’s overall organization will look familiar to most instructors, with chapters subdivided by topic and combined into larger units. One organizational gaffe stood out to me. The second major unit of the book, entitled “Form and Chromatic Harmony 1” (Chapters 11–16) is the first place in which several diatonic chords appear (ii, iii, IV, and vi). Indeed, the first chromatic harmony does not appear until Chapter 15, so the unit title conceals a significant topic in its span.

Unlike Clendinning/Marvin or Burstein/Straus, this volume is set entirely in a duo-tone color palette (blue and black), which hinders the organization by insufficiently breaking up the flow of text. Most pages have at least one musical example to assist in this subdivision. But on pages where no musical notation appears, the reader sees only text. For example, on page 640, a 16-point blue text header is all that partitions an otherwise undifferentiated sea of 12-point, black, single-spaced prose (in this case, with no bolded terms). In future editions, the publisher should adopt a third color, and should create more callout boxes and other such shapes to help direct student attention to organizational features of the individual chapters.

III. Inclusion of Twentieth-Century Music

Undergraduate theory texts are increasingly expected to provide some coverage of twentieth-century music.⁶ Just what a tonally focused book will include in a short number of chapters is always interesting. Do you stick to an in-depth exploration of the first three or four decades (as have so many textbooks), or do you aim for comparable attention to all ten?

To point out that *MTR* only devotes three chapters to twentieth-century music (Chapters 28–30) is somewhat misleading, due to its inclusion of popular and world music from this period throughout. Nevertheless, and perhaps unsurprisingly, *MTR*’s approach at this point runs toward art music. Chapter 28 begins by connecting early 20th-century music with late 19th-century practices in Richards Wagner and Strauss, then tackles Impressionism, planing, integer notation, polytonality, and non-tertian

⁶ See, for example, the recent expansion of Laitz in its fourth edition.

chords with examples from Debussy, Milhaud, Ives, and Stravinsky.

Chapter 29 is the customary Second-Viennese focused chapter, including the usual cast of topics and composers. Uniquely, it adopts an ahistorical approach by beginning with 12-tone technique, and even presents total serialism *before* moving to free atonality and set theory (Boulez's *Structures 1a* is the first notated musical example). Despite this occlusion of historical context (a skilled instructor will mitigate this, of course), I applaud Holm-Hudson for beginning with what I've always found to be, somewhat ironically, the most pedagogically straightforward aspect of 20th-century composition. Total serialism is convoluted, but totally *logical*. Chapter 29 closes with set-class topics such as Z-relations and interval vectors, and briefly touches on combinatoriality.

Chapter 30, "Contemporary Techniques," covers everything from a 1914 Stravinsky string quartet to Glass's *Music in Contrary Motion* (1969) in ten pages. Which is to say, of course, that it is not contemporary by any stretch of the imagination. *MTR* thus falls into the old-school model of 20th-century pedagogy, focusing on the first half of the century, with white male composers, especially those from the Second Viennese School, represented disproportionately. This is surprising given Holm-Hudson's scholarly immersion in music from the 1970s onward. Future revisions of this text might perhaps keep Chapters 28 and 29 as is, and then expand coverage of post-1950s concert music into at least two chapters.

As it stands, the 20th-century material in *MTR* could actually fit the bill for the one-semester coverage required at most institutions. Chapters 28 and 29 are thorough, engaging, and thoughtfully explained, and would be excellent fodder for the first half of the semester. Chapter 30 presents a useful historical overview of some key developments, and would make for a fine one-or-two week introduction to the second half of the semester, at which point an instructor could bring in scores, writings, and multimedia from Meredith Monk, Laurie Anderson, Björk, and other composers active from 1970 to the present.

IV. Price Comparison

MTR is inexpensive relative to other "bundled" products on the market. Its closest price-point competitor is Burstein/Straus. Both have only two products available for purchase (a textbook and workbook), and both shave costs through their paperback format.⁷ The total for all products in either franchise is under \$150 for three to four

⁷ Burstein and Straus do offer a bound workbook, while *MTR*'s is virtual, available for download once

semesters of instruction, which is a significant savings relative to the full suite of products from either Laitz, Clendinning and Marvin, or Kostka, Payne, and Almén (should an instructor require the full ensemble from these products).⁸

While there are obvious advantages to concision, *MTR* ups the ante relative to Burstein and Straus by including a short 20th-century unit that would serve the needs of some instructors' curricular requirements. *MTR* also includes free access—though it is not automatic for students, and must be requested by the instructor—to Leigh Van Handel's innovative *Music Theory Skill Builder* program. However, Burstein and Straus do include a more robust wealth of online pedagogical materials than *MTR*, a deficit to which I now turn.

V. Ancillary Materials

a. Online Pedagogical Resources

Textbooks increasingly seem to live or die not by their paper and ink, but by their online ecosystem. *MTR*'s bare-bones web presence mostly closely resembles Laitz's, which is unsurprising given their shared publisher. For an instructor who does require a more interactive and robust online component, Burstein/Straus and Clendinning/Marvin, both of which feature similarly designed packages developed by Norton, are far and away the better choice.⁹ Table 2 offers a side-by-side comparison of what student-facing resources are included with the purchase price of *MTR* and its competitors.

The instructors most affected by *MTR*'s spartan online ecosystem are those who teach in a “flipped” (aka “hybrid” or “blended”) classroom—wherein students watch instructional videos and/or take automated, online quizzes before class meetings—and who rely on a commercial source for such products. I would go so far as to say that the instructional videos included with Burstein/Straus and Clendinning/Marvin are robust enough to *replace* said textbooks.

paid for. If instructors demand that students complete and submit work on paper, the former has an added value since the printing costs of *MTR*'s workbook would probably be deferred to the student.

⁸ The latter of which charges nearly \$90 for a set of CD recordings to accompany the textbook—which should hardly be considered optional—bringing the cost of the textbook and its recordings to over \$280. Worse, given the increasing number of students whose laptop computers no longer contain CD drives, it would be utterly pointless for an instructor to require students to purchase these recordings, and therefore unreasonable to assume that they are listening to the examples they analyze for homework.

⁹ I note an obvious conflict of interest here: Anna Gawboy and I designed and voiced the “Know It” videos attached to *The Musician's Guide*, 3rd edition.

Textbook	Publisher	Ancillary Resource						
		Interactive e-book	Answers to text exercises	Recordings for in-text examples	Extra text	Extra exercises	Automated quizzes	Instructional videos
KHH (1 st)	OUP		✓	b	✓		d	c
Laitz (4 th)	OUP		a	✓		✓		
S/B (1 st)	Norton	✓	✓	✓	✓		✓	✓
C/M (3 rd)	Norton	✓	✓	✓			✓	✓
K/P/A (7 th)	McGraw-Hill		a		✓	e		

a = these answers are to the extra exercises on the web, not those in the text

b = these recordings are only available as a Spotify playlist, rather than web-hosted audio files

c = at the time of my writing, there were only two such videos

d = only accessible through optional (yet free with purchase) *Music Theory Skill Builder*

e = at the time of my writing, the web-based “self-tests” were unresponsive

Table 2

Student-Facing Ancillary Resources Included with Textbook Purchase.

There is simply nothing comparable in *MTR*. Instructors wishing to either replace or supplement *MTR*’s textbook with videos and online quizzes will need to create them.

MTR’s online ecosystem is really limited to two products: 1) answers to exercises in the text, and 2) “web” features, which dive deeper into issues addressed in the text (e.g., Javanese Gamelan practice, *diabolus in musica*).¹⁰ Both of these products are accessed via downloadable PDF files through an open-access website. Which is to say they aren’t interactive, merely available. Unlike Norton’s “Show It” quizzes or OUP’s *Music Theory Skill Builder*, there is no built-in way to incentivize or track student engagement with *MTR*’s materials.

This reliance on downloadable PDFs creates another problem: security. While students are not given access to the answer key for the workbook, instructor access provided me with the entire set of workbook answers as unencrypted PDFs in a single click. It is so likely that these files will reach students’ hands sometime in the

¹⁰ This currently includes two instructional videos. The textbook front matter promises a “computerized test bank” and “PowerPoint lecture outlines” as well, though these were not yet available during the writing of this review.

near future as to endanger the possibility of an instructor relying on the workbook as a source of student homework. What students are given immediate access to is the complete (again, downloadable as PDF) answer set for the textbook exercises. This effectively eliminates the possibility of requiring only the textbook, since all homework opportunities contained therein have been solved. In future editions, OUP should not only password-protect both of these resources—giving the instructors the option of using the textbook as a sole source of homework—but should also host them as non-downloadable, interactive web resources rather than PDF files.

b. The Workbook

Here is where I must return to a point I made in passing earlier: the significant overlap between *MTR*'s textbook and its (optional, \$50) workbook. Ideally, a textbook provides content and some quick opportunities for practice, while a workbook provides not only expanded opportunities for practice, but also *deeper* opportunities for active, creation-based learning. If reading and interacting with a textbook represents the lowest rungs of a learning taxonomy,¹¹ workbooks should help students climb higher ones.

The textbook opportunities for student engagement include “level mastery” (included mid-chapter for short practice) and “self-test” (end-of-chapter) exercises. These textbook activities range from passive drills such as circling and labeling non-chord tones (247) to complex creation tasks such as composing a chaconne (346) or improvising over a jazz standard (266).

The workbook contains the same types of activities as the textbook, with the unfortunate exception that it actually *omits* those that engage the highest rungs of active learning. I randomly chose four chapters from the middle of the book and cataloged the types of activities found in both the textbook and workbook. Table 3 ranks these activities by level of active engagement (reading left to right), evidenced partly by verbs given in the directions. In each of these four chapters, the workbook only duplicates activities found in the textbook, rather than adding novel ones, and omits that textbook chapter's active learning opportunities.

Despite this problem, Holm-Hudson's workbook is entirely worth its cost for the repertoire it includes for analysis (one wonders how they secured copyright for some of these!). Students get to analyze modern popular music by Norah Jones and Sufjan Stevens, an excerpt from *Les Misérables*, and Classic-era chamber music by

¹¹ Such as that created specifically for music learning by Rifkin and Stoecker (2011).

	Passive Learning Opportunities		Active Learning Opportunities	
MTR Resource	IDENTIFICATION ("locate," "circle," "find," "mark," or "label")	COMPLETION ("add," "spell," "complete," or "resolve")	ANALYSIS ("provide," "prepare")	CREATION ("embellish," "compose")
Textbook Ch 11	non-chord tones	non-chord tones	roman numerals, non-chord tones	improvise over jazz standard
Workbook Ch 11	same	same		
Textbook Ch 12	cadences, phrases, form type		arch map (form), formal analysis	compose waltz
Workbook Ch 12	same			
Textbook Ch 13	harmonic function, prolongation		roman numerals, layer analysis (cf. 2 nd level analysis)	compose 16-measure double period
Workbook Ch 13	same		same	
Textbook Ch 14	voice-leading/spelling/ doubling errors, sequence type/intervallic pattern		roman numerals, layer analysis (cf. 2 nd level analysis)	write a chaconne for vocalist and continuo
Workbook Ch 14		same	same	

Table 3
Comparison of Exercises Provided in *MTR* Textbook and Workbook.

women such as Maria Theresa von Paradis (1759–1824) and Marianna von Martines (1744–1812). Those of us who have been incorporating popular music and music by women composers into our pedagogy have typically transcribed such music ourselves, scoured the web for printable versions of it, and/or traded materials with colleagues—all incredibly time-intensive endeavors alleviated by *MTR*'s workbook.

The workbook presents another shocking security issue: it is also downloadable as a single PDF, which should be a serious concern for the publisher.

Parting Thoughts

A textbook is not a fine wine. It does not age favorably left alone in a dark place. Instead, like a roux, a textbook grows only through incremental changes and additions made relative to the feedback one receives from users of previous editions. I have no doubt that *MTR* will be greatly improved in its subsequent editions. As it stands, the first edition is to be lauded for its parallel presentation of popular and common practice music, but simply cannot compete with the visual layout and ancillary

resources of veteran, multi-edition textbooks that, at one time, suffered from these same shortcomings.

My music theory pedagogy students found much to recommend in this book. Several reviewers were charmed by the breadth of examples included (“the variety of examples in the book is impressive”). One reviewer decided to use *MTR* as a personal reference text (“I would pick many of these examples to use in my class lessons”), while ultimately choosing a different one for their students to purchase. The reviewers’ highest praise for *MTR* came in their assessment of its final chapter on narrativity and intertextuality (“I believe it is always important to think of theory and analysis not as existing in a bubble, but realize that it is just one part of understanding how and why a piece of music was created”).

In deciding whether to adopt *MTR*, an instructor must weigh the merits of the book’s visionary approach to repertoire with these aesthetic and accessibility concerns. Ultimately, I think the former outweighs the latter. If one’s primary goal is to broaden the repertoire in the undergraduate core, there is simply no better textbook on the market. Anyone wishing to adopt this book in its first edition will likely find their patience rewarded with a better looking, more online-friendly second edition, while meanwhile providing music by women and people of color not currently available in competing texts.

Works Cited

- Burstein, L. Poundie, and Joseph N. Straus 2016. *Concise Introduction to Tonal Harmony*. New York: W.W. Norton and Co.
- Cleddinning, Jane Piper and Elizabeth West Marvin. 2016. *The Musician's Guide to Theory and Analysis*. 3rd Edition. New York: W.W. Norton and Co.
- Hoag, Melissa. 2013. "Seven Strategies for Enabling Student Success in the First-Year Music Theory Sequence." *Journal of Music Theory Pedagogy E-Journal* 1: 1–16.
- Holm-Hudson, Kevin. 2017. *Music Theory Remixed: A Blended Approach for the Practicing Musician*. New York and Oxford: Oxford University Press.
- . 2010. "A Study of Maximally Smooth Voice Leading in the Mid-1970s Music of Genesis," in *Sounding Out Pop: Analytical Essays in Popular Music*, ed. Mark Spicer and J. Covach. Ann Arbor: University of Michigan Press: 99–123.
- Kostka, Stefan, Dorothy Payne, and Byron Almén. 2017. *Tonal Harmony with an Introduction to Twentieth-Century Music*. 8th Edition. McGraw-Hill.
- Laitz, Steven. 2016. *The Complete Musician: An Integrated Approach to Theory, Analysis, and Listening*. 4th Edition. New York and Oxford: Oxford University Press.
- Lerdahl, Fred and Ray Jackendoff. 1983. *A Generative Theory of Tonal Music*. Cambridge, MA: MIT Press.
- Osborn, Brad. 2016. *Everything in its Right Place: Analyzing Radiohead*. New York and Oxford: Oxford University Press.
- Rifkin, Deborah and Philip Stoecker. 2011. "A Revised Taxonomy for Music Learning." *Journal of Music Theory Pedagogy* 25: 155–189.
- Roeder, John. 1994. "Interacting Pulse Streams in Schoenberg's Atonal Polyphony." *Music Theory Spectrum* 16 (2): 231–249.

Conference Report: Pedagogy into Practice

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Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century, billed as the first peer-reviewed conference on music theory pedagogy, took place at Lee University in Cleveland, Tennessee, from Thursday, June 1, through Saturday, June 3, 2017. Spearheaded by the Gail Boyd de Stwolinski Center for Music Theory Pedagogy, the conference attracted pedagogues from diverse teaching situations and career stages. As the conference subtitle suggests, discussions abound regarding changes in higher education in general, and in music schools and departments in particular, in the twenty-first century. In order to (re)consider music theory pedagogy's relationship to practice—a topic that often comes to the forefront in discussions of the twenty-first-century musician—the conference organizers provided a prestigious, yet congenial, venue where all felt welcome to discuss a variety of issues and topics related to teaching music theory in secondary and post-secondary environments. While unable to provide a comprehensive and thoroughgoing account of all the wonderful scholarship presented at the conference, we nevertheless hope that the following overview will serve as a representative survey of the main themes that emerged from proceedings.¹

The program included four types of sessions: paper sessions, workshop sessions, poster sessions, and keynote addresses. Parallel sessions featured either traditional 20-minute papers, each followed by 10 minutes of discussion, or workshops, which provided 45-minute slots for speakers to engage the participants in activities or delve into a topic more deeply. The workshop format often allowed free-flowing discussion rather than the 30 minutes of presentation followed by 15 minutes of questions that is customary at some conferences.

The program committee organized an innovative poster session, and went to great lengths to ensure its success. There were 24 posters, and no papers were scheduled during the poster session to compete for our attention. To encourage maximum participation, conference goers were given a “passport” booklet with a number on the front and a page for notes on each poster inside. Poster presenters gave those who visited their posters a sticker, with some participants trying to collect as many stickers as possible. After two hours, participants divided into six discussion groups,

¹ The entire conference program can be found at <https://music.appstate.edu/about/music-theory-pedagogy-online/conference/2017-conference-program>.

randomly distributed by the number on the front of their passports. Discussion leaders led the groups in wide-ranging conversations that began with the posters themselves but quickly veered into much broader issues, including the role of music theory in undergraduate education in light of the Manifesto produced by the College Music Society's Task Force on the Undergraduate Music Major.

The influence of the CMS Manifesto could be felt in presentations that focused on improvisation. The Manifesto "takes the position that improvisation and composition provide a stronger basis for educating musicians today than the prevailing model of training performers in the interpretation of older works."² Jeffrey Lovell (Lebanon Valley College) brought his background in popular music to bear by creating loops in GarageBand over which his students improvised. As the loops played through the classroom speakers, all students sang an ostinato bass line while individuals took turns improvising melodically. These exercises always had a specific goal (e.g., "include a leap between re and ti"), and Lovell required each student to continue to improvise until they included the required element. In her workshop, Tiffany Valvo (Syracuse University and Nazareth College) provided the valuable insight of someone who was hired to teach applied clarinet and ended up being given an aural skills class as well. In response, Valvo took a class on Gordon Learning Theory and put what she learned into action. James Sullivan (University of Evansville) led a workshop exploring his approach to helping aural-skills students improvise parallel periods in order to reinforce concepts of phrase rhythm, cadence, and form in both tonal and post-tonal settings. Similarly, Philip Duker (University of Delaware) and Daniel Stevens (University of Delaware) showed how they use improvisation in the process of "scaling to real music."

While posters and presentations accepted through the review process were essential, and will be discussed in more detail below, the highlights of the conference were the two keynote addresses. The Thursday afternoon keynote address was given by Ken Bain, President of the Best Teachers Institute and author of the widely-read books *What the Best College Teachers Do* and *What the Best College Students Do*, who began Centers for Teaching Excellence at universities including Vanderbilt, Northwestern, and New York University. The Friday afternoon keynote address was given by Anna Gawboy (Ohio State University), who is known for her scholarship on flipped pedagogy and for the online materials she has created and edited for the textbook *Concise Introduction to Tonal Harmony*.³ Furthermore, Gawboy presented a

² College Music Society (2014, 2).

³ Burstein and Straus (2016).

workshop on Saturday called “Keynote into Practice,” where participants divided into small groups to discuss the main topics and questions that emerged from her address.

Notably, Bain delivered his keynote address, “Deep Learning,” remotely, streamed to a large television screen positioned on the stage of a moderately sized recital hall. Responding to the keynote’s title, Bain discussed the common problem of students adopting a surface or strategic approach—rather than a deep approach—to learning and examined factors that contribute to these learning approaches. Synthesizing a broad array of research on teaching and learning, Bain discussed the motivation, mindsets, and mental models of students. To promote deep learning among students, Bain encouraged instructors to consider ways in which they can foster intrinsic motivation and a growth mindset among the students enrolled in their courses. Adroitly demonstrating the pedagogical principles advocated in his address, Bain guided members of the audience toward an understanding of the ineffectiveness of some existing mental models and provided practical suggestions for constructing new mental models to foster deep learning in students and instructors alike. No less impressive than his concise discussion of a broad literature was Bain’s skill as a teacher as he engaged the audience in an interactive learning experience despite the constraints of video conferencing. Bain combined lecture with small-group discussion throughout his address and included opportunities for individuals to share their reflections with the audience as a whole. Topics discussed during the question-and-answer period included building rapport with students, identifying the most important threshold concepts for students to learn in a field of study, and using the masterclass approach to engage students in large classes.

Pedagogical approaches informed by the scholarship of teaching and learning were well represented among the presentations at this conference and sparked an ongoing dialogue with the ideas presented by Bain in his keynote address. Hermes Camacho (Picardy Learning) and Scott C. Schumann (Central Michigan University) synthesized peer learning with the inverted, or “flipped,” music theory classroom, and Benjamin K. Wadsworth (Kennesaw State University) incorporated Bloom’s Taxonomy into the design of his introductory course in Schenkerian analysis.⁴ Addressing the topic of student motivation, Meghan Naxer (Kent State University) cited research on the benefits of adopting an incremental self-theory rather than an entity self-theory and presented a theoretical model to help instructors design and revise courses to foster an incremental self-theory among students. Students with an incremental self-theory believe their abilities can improve, so they are more likely to persevere when learning

⁴ A revised version of this paper appeared in *Journal of Music Theory Pedagogy* 30.

challenging material than are students with an entity self-theory, who believe their abilities are fixed. Finally, Michael Callahan (Michigan State University) explained the metacognitive benefits of presenting new material via interleaving rather than blocking. Blocking involves teaching and mastering one concept at a time (e.g., scales before intervals before triads before seventh chords), while interleaving mixes together, or interleaves, practice on related concepts. Callahan supplied examples of interleaved units on several music-theoretical topics, such as an interleaved unit on ternary, rondo, and sonata form.

Presentations focused on assessment were closely related to those engaging the scholarship of teaching and learning. Gary S. Karpinski (University of Massachusetts, Amherst) provided practical methods for grading melodic dictation exercises and highlighted the difference between the data-gathering process of assessment and the process of assigning grades through evaluation. David Marvel (University of Tennessee, Knoxville) showed how students contract for aural-skills grades by agreeing on which activities and benchmarks they will achieve to receive their desired grades. In a fitting conclusion to the conference, Sara Bakker (Utah State University) encouraged instructors to assess the effectiveness of the assessments they use in their courses and suggested ways to increase the effectiveness of assessments for student learning. Bakker's suggestions included adopting elements of peer- and self-evaluation, using multiple methods of assessment to increase the validity and reliability of grades, and using backward design to move from learning objectives to assessment types and course content.

Prose writing as a means of assessment—including analytical essays, metacognitive reflections, and interdisciplinary assignments—was addressed in a number of presentations. By following in-class analyses with guided essay assignments, Jennifer Shafer (University of Delaware and Temple University) provided opportunities for students enrolled in a freshman-level harmony course to develop their writing skills and revise their work in response to feedback. Anna Ferenc (Wilfrid Laurier University) advocated using metacognitive reflection assignments with writing prompts that go beyond the content of the course to focus student attention on the process of learning.⁵ Exploring interdisciplinary connections between music fundamentals and disciplines such as graphic design, history, and film criticism, Chelsey Hamm (Missouri Western State University) used prose-writing assignments to broaden the intellectual horizons of students who are beginning their studies in music theory. Student writing was also a component, albeit not the primary focus, of other presentations. For example, the

⁵ A revised version of this paper also appeared in *Journal of Music Theory Pedagogy* 30.

focused reading responses proposed by Camacho and Schumann required students to write their reactions to reading assignments for subsequent discussion and evaluation in class.

Gawboy focused on “The Art of Listening” in her keynote address. Though a passing glance at Gawboy’s title might suggest an emphasis on aural skills, she addressed the topic at a more fundamental level. Her address was divided into three parts. In the first section (Listening Experience and Habits), Gawboy framed the discussion by quoting statistics about the listening habits of teenagers. She also noted that there are modes of listening which, from least active to most active, include background, casual, holistic, embodied, focused, participatory, and responsive listening, and talked about exercises designed to engage these different modes. The second part of Gawboy’s address (Listening to Learn) focused on more active approaches to listening. The goals of activities that develop these skills include relating sound to written notation and vice versa, focusing on a single element in a complex texture, focusing on a specific event in a longer time span, tracking how a specific element develops through time, shifting focus between elements, remembering heard events, and understanding a series of heard events as a continuity. In the third and final part (Listening, Theorizing, and Creativity), Gawboy recounted the story of a student she taught in a chorale model composition course when she was a graduate student at Yale. The student produced a musically satisfying final project that sounded more like a classical crossover composition than something by Bach. Inspired by her experience with this student, who is now a successful commercial musician, Gawboy has devised a style composition project in which a binary form by Mozart serves as the model, but within which students are free to include elements from their favorite music. In assessing these works, which do not conform to traditional model composition guidelines, Gawboy thinks about her previous students and is beginning to think less about rules and more about sounds.

The following day, Gawboy led a workshop open to all conference participants in which we considered four questions: (1) How do we engage students intellectually, musically, and creatively? (2) What are the theory skills students really need for their progress as musicians? What evidence shows that they have acquired those skills? (3) How do we teach the essential skills given the resources available to us? (4) How do we communicate music theory’s relevance to contemporary practice? A stimulating discussion in small groups culminated in the recording of each group’s conclusions in a shared Google Doc for the future reference of participants.

Gawboy’s four questions, discussed on the final day of the conference, reflected

the issues, topics, and concerns that many presenters at the conference addressed in their papers, workshops, and posters. One common theme throughout the conference was the relevance of music theory to students. Several presentations emphasized connections between repertoire selected for analysis and the perceived relevance of music theory, and some presenters demonstrated the close relationship between analysis and performance by playing or singing their own musical examples. Emphasizing connections between analysis and performance, Alexander Trygstad (Eastman School of Music) described his compilation and analytical use of an anthology of solo repertoire studied by students enrolled in his course. Cora S. Palfy (Elon University) addressed the hidden curricula presented by music commonly studied in the theory classroom and encouraged instructors to engage student-centered repertoire choices and attend to the representation of music by composers of color, music by women composers, and music from outside the classical canon. Relating tritone substitutions to augmented-sixth chords, Julian Guillermo Brijaldo Acosta (University of Miami, Frost School of Music) connected traditional and jazz theories and discussed the expansion of repertoire found in theory textbooks. And J. Daniel Jenkins (University of South Carolina) spoke about a course he teaches called “Public Music Theory,” in which students develop podcasts, videocasts, and blogs about repertoire and theoretical questions of interest to them.

As with relevance, student engagement emerged as the theme of several presentations. Benjamin Hansberry (Columbia University) used discussion to help students discover the underlying complexities of new concepts by hosting a music theory debate club in which students played specific roles within small groups. For example, three students respectively focused on tendency tones, perfect intervals, and counterpoint while a fourth student recorded the group’s realization of a given figured-bass exercise. Similarly, Angela Ripley (Baylor University) developed music theory mock trials—such as a case debating the identity of the enigmatic *Tristan* chord—to stimulate critical thinking and encourage students to consider multiple interpretations of musically ambiguous examples. Other presentations employed popular music to spark student interest. For example, Cynthia I. Gonzales (Texas State University) and Bonnie Smith (Churchill High School, San Antonio, TX) demonstrated their use of genres such as Mariachi music to draw students into the process of singing guide tones and chord arpeggiations along with music videos in preparation for harmonic dictation.

Adoption of technology as a way to remain relevant and to engage students was another topic of discussion at the conference. Some presentations focused on

specific products. At two sponsored lunches, we heard about updates to the cloud-based notation software Noteflight and some of the online teaching tools available with textbooks published by Oxford University Press; two workshops focused on the web-based apps available from Picardy Learning and Harmonia by Illiac Software; and poster presentations described the use of SmartMusic to develop sight singing proficiency and a roll out of W. W. Norton's InQuizitive, a web-based software already available with their theory textbooks. Furthermore, there were presentations on the role of technology in flipped pedagogy, open-source and instructor-created textbooks, and using Casio keyboards to develop keyboard skills in theory class.

The role of popular music in the undergraduate theory curriculum continues to be an important topic as we think about student engagement. During one of the lunches, we watched an instructional video from Kevin Holm-Hudson's *Music Theory Remixed* (New York: Oxford University Press, 2017), a text that uses examples from popular music in the context of what is otherwise a very traditional approach to the undergraduate curriculum.⁶ Others are teaching popular music on its own terms. In his workshop on the Nashville Number System, Trevor deClercq (Middle Tennessee State University) detailed an alternative to both Roman numerals and lead sheet symbols for the purpose of notating chord progressions. Using Arabic numerals to reference scale degrees, the system has long been used by studio musicians in Nashville. As mentioned in the workshop, the Nashville Number System is already a feature of Jennifer Snodgrass's *Contemporary Musicianship: Analysis and the Artist* (New York: Oxford University Press, 2015). DeClercq showed us not how we might include popular music in the traditional curriculum, but rather how we might develop an entirely new curriculum for educating popular musicians. Matthew Hough (University of California, Berkeley) also provided a glimpse into how popular music plays an important role in his non-traditional theory classes.

The conference also included ample discussion of more traditional topics. Presentations on the pedagogy of post-tonal theory spanned both written and aural skills, the latter of which focused on singing rather than dictation. Strategies for singing atonal melodies emphasized connections to what students have learned in their previous study of tonal melodies. David Geary (Indiana University) and Robert Komaniecki (Indiana University) used a shared solmization system for both tonal and atonal melodies, and Kent Cleland (Baldwin Wallace University) linked methods for singing atonal melodies to major and minor scale segments and concepts such

6 A review of this textbook by Brad Osborn (University of Kansas) appears in the current issue of this journal.

as polymelody and modulation. A further connection between tonal and atonal music appeared in a presentation by Ji Hyun Woo (State University of New York at Fredonia), who retained traditional musical notation in her twelve-tone matrices. Timothy Chenette (Utah State University) featured aural experience prominently in his approach to set class analysis; students played and discussed trichords before they encountered the apparatus of pitch-class set theory. Effective presentations on post-tonal analysis varied substantially in their emphasis of depth versus breadth. Adopting Brian Alegant's scuba-diving metaphor, Nora Engebretsen (Bowling Green State University) suggested repertoire through which to engage students in deep analysis in a post-tonal capstone to the undergraduate theory core.⁷ At the other end of the continuum, Amy Fleming (Eastman School of Music) and Aaron Grant (Eastman School of Music) emphasized broad connections among analysis, aural skills, and music history in a course design inspired by Alex Ross's *The Rest Is Noise*.

A number of presentations revealed a desire to integrate keyboard harmony more fully into the undergraduate curriculum. Several of these presentations were historically informed. Olga Sánchez-Kisielewska (Northwestern University) detailed the central function of the rule of the octave in theory classes taught by her and her colleagues.⁸ In his workshop, Michael J. Masci (State University of New York at Geneseo) revealed how he avoids discussing functional harmony at the beginning of the theory curriculum in favor of taking students through a regimen of French-conservatory-style figured bass and solfège. And Derek Remeš (Eastman School of Music), who is completing a dissertation on J. S. Bach's pedagogy, has developed a curriculum in which chorale harmonization serves as the vehicle for harmonic understanding, complete with a range of exercises to be performed at the keyboard.⁹ Some of these presentations resonated with a statement Gawboy made in her keynote that historically, four-voice writing was the first step in learning style composition; however, we now have a pedagogical anacrusis with no downbeat. Thus, in some instances, keyboard performance replaces rather than supplements part-writing exercises. Callahan, Barbara K. Wallace (Dallas Baptist University), and Jennifer Weaver (Dallas Baptist University) reported that the integration of keyboard performance exercises into their curricula has been accompanied by a decreasing emphasis on part-writing as a paper-and-pencil activity.

⁷ Alegant (2014).

⁸ A revised version of this presentation appears in the current issue of this journal.

⁹ A revised version of this presentation also appears in the current issue of this journal.

One striking lacuna among the presentations was the lack of discussion of rhythm and meter.¹⁰ From presentations on teaching harmony to improvising in aural skills, there was a clear emphasis on topics related to pitch—specifically harmony—either at the expense of discussions of musical time, rhythm, or meter, or within which these were secondary features. For example, rhythm might be part of a topic such as melodic dictation or improvisation, but not the primary focus. A notable exception was deClercq’s poster in which he proposed an alternative to the familiar simple/compound dichotomy in meter classification. As previously discussed, deClercq places popular music at the center of his curriculum and finds that the simple/compound classification does not accurately capture concepts such as “shuffle” or “swing,” observing that swing tunes are often notated in $\frac{4}{4}$, not $\frac{12}{8}$.

From murmurings heard in the hallways as the conference drew to a close on Saturday, the Gail Boyd de Stwolinski Center for Music Theory Pedagogy is already thinking about future iterations of this conference. Whether an annual or biennial event, this conference would be an important addition to the current slate of regional and national conferences. The conference provided an atmosphere in which everyone, from the most well-known textbook author to the undergraduate student, was welcome to express their opinions and to learn from each other. Conference attendees included some of our performer colleagues who teach music theory, and it would be ideal to have even more attend in the future. And while there was one session geared to high school music theory teachers, including presentations by Jane Piper Clendinning (College of Music, Florida State University), Karpinski, and Gonzales and Smith, anything that could be done to encourage more participation and engagement from this population would be most welcome.

In conclusion, we extend our congratulations to all presenters for their high-quality presentations, to the co-coordinators of the conference, Jennifer Snodgrass (Appalachian State University) and Austin Patty (Lee University), and to the program committee, Elizabeth West Marvin (Eastman School of Music), chair, Patricia Burt (Harford Community College), David Castro (St. Olaf College), Rebecca Jemian (University of Louisville), Steve Laitz (The Juilliard School), and David Thurmaier (University of Missouri, Kansas City). Whatever the future of *Pedagogy into Practice*, this first conference set a high standard for quality and collegiality and laid a solid foundation on which to build.

¹⁰ For a recent discussion of this topic in undergraduate pedagogy, see Cohn (2015).

Works Cited

- Acosta, Julian Guillermo Brijaldo. 2017 (June). "Augmented-Sixth Chords and Tritone Substitutions: Structural Similarities and Contextual Differences." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Alegant, Brian. 2014. "On 'Scuba Diving,' or the Advantages of a Less-Is-More Approach." *Engaging Students: Essays in Music Pedagogy* 2. <http://flipcamp.org/engagingstudents2/essays/alegant.html>.
- Bain, Ken. 2017 (June). "Deep Learning." Keynote address presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Bakker, Sara. 2017 (June). "Assessing Assessments: Research-Based Methods to Improve Your Grading Practices." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Burstein, L. Poundie, and Joseph N. Straus. 2016. *Concise Introduction to Tonal Harmony*. New York: W.W. Norton & Company.
- Callahan, Michael. 2017 (June). "The Issue of Mixing vs. Grouping in Undergraduate Music Theory Pedagogy." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Camacho, Hermes, and Scott C. Schumann. 2017 (June). "Peer Learning Strategies in the Flipped Music Theory Classroom." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Chenette, Timothy. 2017 (June). "Teaching Pitch-Class Sets Intuitively and Efficiently." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Cleland, Kent. 2017 (June). "Techniques for Teaching the Reading of Atonal Melodies." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Clendinning, Jane Piper. 2017 (June). "Teaching Chorale Harmonization and AP Music Theory's FR7." Workshop presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Cohn, Richard. 2015. "Why We Don't Teach Meter, and Why We Should." *Journal of Music Theory Pedagogy* 29: 5–22.
- College Music Society Task Force on the Undergraduate Music Major. 2014 (November). "Transforming Music Study from its Foundations: A Manifesto for Progressive Change in the Undergraduate Preparation of Music Majors."
- deClercq, Trevor. 2017 (June). "Swing, Shuffle, Half-Time, Double: Beyond Traditional Time Signatures in Meter Classification for Pop/Rock Music." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- . 2017 (June). "The Nashville Number System: A Pop(ular) Alternative to Roman Numerals and Figured Bass." Workshop presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.

- Duker, Philip, and Daniel Stevens. 2017 (June). "Scaling to Real Music: Rebuilding Aural Skills Pedagogy from the Ground Up." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Engebretsen, Nora. 2017 (June). "Scuba Diving in the 21st Century: Exploring the Goals of Analysis through Contemporary Repertoire as the Capstone to the Core." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Ferenc, Anna. 2017 (June). "Advocating for Integration of Metacognitive Strategies into Music Theory Instruction." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Fleming, Amy, and Aaron Grant. 2017 (June). "The Rest Is Noise: A Modular, Historically Integrated Approach to Post-Tonal Pedagogy." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Gawboy, Anna. 2017 (June). "The Art of Listening." Keynote address presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- . 2017 (June). "Keynote into Practice." Workshop presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Geary, David, and Robert Komaniecki. 2017 (June). "Building a Bridge: Transitioning from Tonal to Post-Tonal Aural Skills in the Undergraduate Core Curriculum." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Gonzales, Cynthia I., and Bonnie Smith. 2017 (June). "From Harmonic Looking to Harmonic Listening: Harmonic Dictation via Harmonic Singing." Workshop presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Hamm, Chelsey. 2017 (June). "Interdisciplinary Assignments in the Music Fundamentals Curriculum." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Hansberry, Benjamin. 2017 (June). "Music Theory Debate Club: A Case for Analytical Debates in Beginning Music Theory Courses." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Hough, Matthew. 2017 (June). "Modular Loops: Toward an Integrated Theory Pedagogy for Cycle-Based Popular Music." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Jenkins, J. Daniel. 2017 (June). "Towards a Curriculum in Public Music Theory." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Karpinski, Gary S. 2017 (June). "Workshop in Assessing and Evaluating Melodic Dictation." Workshop presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Lovell, Jeffrey. 2017 (June). "We Know It's Important, But How Do We Do It? Engaging Beginning Aural Skills Students in Meaningful Improvisation Activities." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Marvel, David. 2017 (June). "Contracting Grades in Aural Skills: An Updated Model for Instruction and Evaluation." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.

- Masci, Michael J. 2017 (June). "From History to Practice: Bringing 'Cadence et Marche' Pedagogy to Today's Music Theory Classroom." Workshop presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Naxer, Meghan. 2017 (June). "Malleable Mindsets: Reshaping Undergraduate Music Theory Curricula." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Palfy, Cora S. 2017 (June). "Student Perceptions of Music Theory: Hidden Curricula in the Music Theory Classroom." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Remeš, Derek. 2017 (June). "Chorales in J. S. Bach's Pedagogy: A Method for Teaching Undergraduate Music Theory Inspired by a New Source." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Ripley, Angela. 2017 (June). "Mock Trials in the Music Theory Classroom." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Sánchez-Kisielewska, Olga. 2017 (June). "The Rule of the Octave in the Freshman Music Theory Curriculum: Teaching in the Twenty-First Century with Eighteenth-Century Strategies." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Shafer, Jennifer. 2017 (June). "One Bite at a Time: Writing in Harmony Class." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Sullivan, James. 2017 (June). "Parallel Period Improvisation in Undergraduate Aural Skills." Workshop presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Trygstad, Alexander. 2017 (June). "Engaging Students in the Theory Classroom through Solo Repertoire." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Valvo, Tiffany. 2017 (June). "Improvisation in Aural Skills: Building Connections and Musicianship." Workshop presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Wadsworth, Benjamin K. 2017 (June). "A Learning Taxonomy for Schenkerian Analysis." Paper presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Wallace, Barbara K., and Jennifer Weaver. 2017 (June). "Reshaping the Focus and Content of Freshman Music Theory: Using the Keyboard as a Tool to Improve Student Learning." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.
- Woo, Ji Hyun. 2017 (June). "How to Develop Sight-Singing, Transposition, Improvisation, and Composition Skills Using a Quasi 12-Tone Matrix." Poster presented at *Pedagogy into Practice: Teaching Music Theory in the Twenty-First Century*, Cleveland, TN.

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Brad Osborn is Assistant Professor of music theory at the University of Kansas. He is the author of the monograph *Everything in its Right Place: Analyzing Radiohead* (Oxford University Press, 2016). Osborn's other research on post-millennial rock music is published in *Music Theory Spectrum*, *Perspectives of New Music*, *Music Analysis*, and *Music Theory Online*. Brad writes and records shoegazey post-rock as the recording artist D'Archipelago.

Edward Pearsall (1954-2017) served as Associate Professor of Theory at The University of Texas at Austin, where he received awards for his excellence in teaching. He obtained his Ph.D. in music theory from the University of Wisconsin-Madison and held teaching positions at the College of St. Teresa and Texas Tech University before joining the faculty at The University of Texas. Ed's research focused on the cognition of music, theories of rhythm, musical meaning, inter-subjectivity, among other areas. His textbook on twentieth-century music belies a passion for both teaching and analysis of that repertoire. As a graduate student at UT-Austin, I was fortunate to learn from Ed in the classroom, as a member of my doctoral dissertation committee, and as an advisor of my teaching for second-year undergraduate theory. I can personally attest to the effectiveness of his out-of-the-box thinking, laid-back style, and sense of humor in teaching complex analytical and musical styles; he had a talent for making set theory, Neo-Riemannian theory, and linear graphing understandable and musical. The article in this volume focuses on this last concept: Ed's practical and unique method for teaching linear graphing in the undergraduate classroom. Ed's creative methods like the one presented in this article make complex analytical theories more

approachable. As a teacher, Ed was extremely generous with his time, always willing to stop and chat about research, to suggest new directions or ideas, or to provide guidance or advice on the challenges of teaching. This article represents one part of an inspiring pedagogical legacy. -Allison Wente, Ph.D. in Music Theory, University of Texas at Austin (2016)

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