Decoding the Discipline of Music History for Our Students

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M any recent innovative approaches to teaching in colleges and universities can be valuable when applied in any discipline, including writing across the curriculum, classroom assessment techniques, just-in-time teaching, and applications of technology such as online chats, quizzes, and blogs.[1] But one new approach focuses on thinking about the discipline itself that we seek to teach and on making the particular modes of thought of that discipline clearer for students in introductory courses. Called "Decoding the Disciplines," this strategy has been developed by scholars of

Earlier versions of this paper were presented at the College Muisc Society/Juilliard Institute for Music History Pedagogy at The Juilliard School in New York in June 2008, as a keynote lecture at the Spring Meeting of the Southwest Chapter of the American Musicological Society at University of North Texas in April 2009, and at the Master Teacher Session sponsored by the Committee on Career-Related Issues at the annual meeting of the American Musicological Society in Philadelphia in November 2009.

1. Writing across the curriculum is a practice that uses formal or informal writing, in or out of class, to promote learning of course content in any discipline; see C. Williams Griffin, ed., *Teaching Writing in All Disciplines* (San Francisco: Jossey-Bass, 1982); Barbara Leigh Smith, ed., *Writing Across the Curriculum* (Washington, D.C.: American Association for Higher Education, 1984); and Art Young and Toby Fulwiler, eds., *Writing Across the Disciplines: Research into Practice* (Upper Montclair, NJ: Boynton/Cook, 1986). Classroom assessment techniques are ways to measure how well students are learning class material, during class itself; see Thomas A. Angelo and K. Patricia Cross, *Classroom Assessment Techniques: A Handbook for College Teachers,* 2nd ed. (San Francisco: Jossey-Bass, 1993). Just-in-time teaching uses email or online questions, due just hours before class, to measure student understanding of concepts covered in readings or previous lectures and thus to determine whether class time needs to be spent covering or reviewing those concepts; see Gregor M. Novak, Evelyn T. Patterson, Andrew D. Gavrin, and Wolfgang Christian, *Just-In-Time Teaching: Blending Active Learning with Web Technology* (Upper Saddle River, NJ: Prentice-Hall, 1999). All of these are examples of approaches to teaching based on research on teaching and learning, a growing field. For other strategies, see *Teaching on Solid Ground: Using Scholarship to Improve Practice,* ed. Robert J. Menges and Maryellen Weimer (San Francisco: Jossey-Bass, 1996).

teaching and learning at the Bloomington campus of Indiana University. The chief players have been the co-directors of a group called the Faculty Learning Community: David Pace, professor of history, and Joan Middendorf, associate director of Campus Instructional Consulting.[2] Their work reflects a relatively new research area, discipline-centered research on teaching. I learned about their methods in an intensive faculty seminar in 2006 and have been experimenting with them since then. My goal in this article is to describe their approach and give an example of how I am applying it in my music history survey.

The Seven Steps: Seven Questions

Pace and Middendorf started with a simple observation: scholars and teachers in different disciplines *think differently.* Students go from class to class and encounter different paradigms and expectations in each class. We who teach are accustomed to the approaches, assumptions, and ways of thinking that are typical in our discipline. But for students, taking a class in a new discipline can be like entering a foreign culture. What is it like to think like a chemist, psychologist, philosopher, accountant, or music historian? As Middendorf and Pace write, their work

> arose from a strong realization that the mental operations required of undergraduates differ enormously from discipline to discipline, that these ways of thinking are rarely presented to students explicitly, that students generally lack an opportunity to practice and receive feedback on particular skills in isolation from others, and that there is rarely a systematic assessment of the extent to which students have mastered each of the ways of thinking that are essential to particular disciplines.[3]

In a music history class, we are teaching not just a pile of information, but also how to think like music historians. Yet we rarely make explicit that goal, or how to master the particular ways of thinking and disciplinary skills that underlie an understanding of music history.

Having defined the problem, Middendorf and Pace offer their solution, which they call "decoding the disciplines." By this they mean making explicit the modes of thought we use in each discipline and giving students practice in using them, so that they learn how to participate in a discipline by doing it. To

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2. See David Pace and Joan Middendorf, eds., *Decoding the Disciplines: Helping Students Learn Disciplinary Ways of Thinking,* New Directions for Teaching and Learning 98 (San Francisco: Jossey-Bass, 2004), which contains essays describing this approach by participants in the Faculty Learning Community.

3. Joan Middendorf and David Pace, "Decoding the Disciplines: A Model for Helping Students Learn Disciplinary Ways of Thinking," in Pace and Middendorf, *Decoding the Disciplines,* 3.

make this happen, we first have to make *ourselves* aware of our own modes of thought. The model of decoding a discipline is designed to expose the patterns of thought in that discipline, to make that way of thinking apparent to students, and to give students practice in thinking like an expert in the field—not all at once, but step by step.

Pace and Middendorf and their collaborators have developed a seven-step, reiterative process for thinking through the issues, summarized in the diagram in **Figure 1**. This process is not intended to make everyone teach the same way. Quite the opposite: it is designed to lead individual teachers or groups of colleagues through a series of questions to figure out how best to address their specific needs. The process is like tackling a research problem, with no predetermined outcome, but beginning with a strategy for isolating and stating the problem and then solving it.

Figure 1: Decoding the Disciplines: Seven steps for overcoming obstacles to learning.[4]
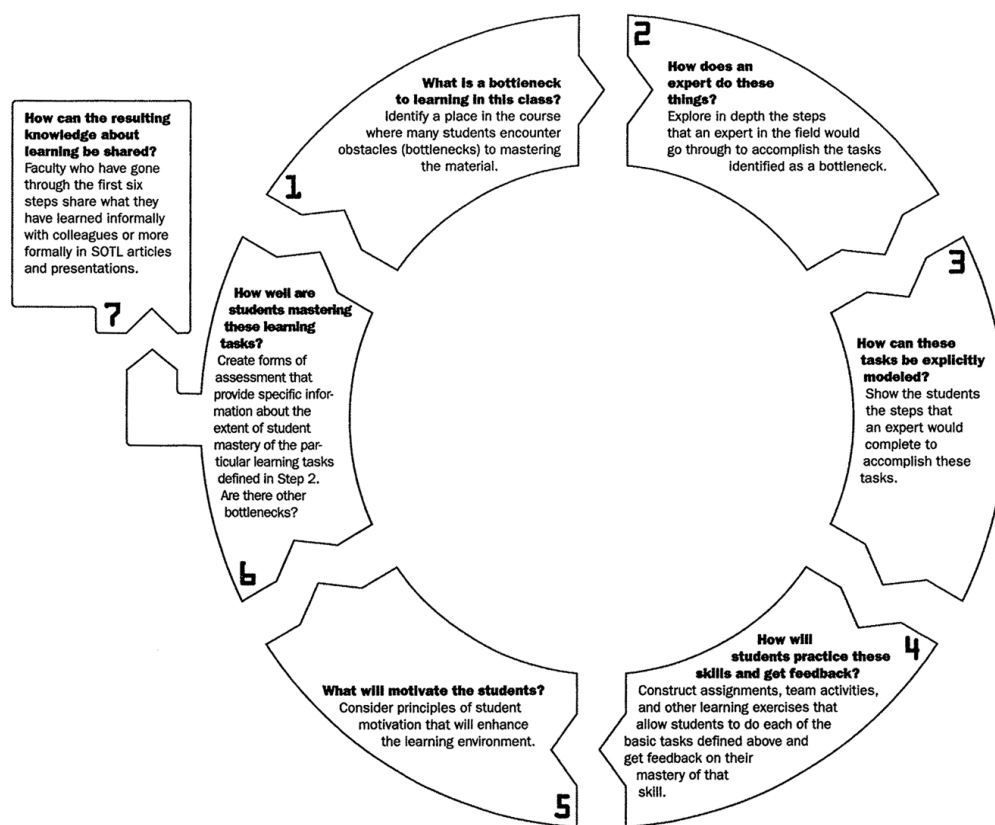
4. Middendorf and Pace, "Decoding the Disciplines," 3. A larger version of this figure is given in the Appendix.

Each of the seven steps begins with a question.[5]

Step 1 Question: What is a bottleneck or obstacle to learning in this class?
What are the key things that are difficult for students in your class or in your discipline? Identify what exactly is hard, as precisely as possible. It is most helpful to pick *one* thing, and work on it. Pick a place your students have trouble or get frustrated. (You can come back and work on other obstacles later, using the same approach.)

Step 2 Question: How does an expert do these things?
Having chosen one thing that is hard for your students to do, how does an expert in the discipline do this? When faced with a similar problem, what do you and your colleagues do? What series of actions would you take? Define as precisely as possible the operations that have to occur. Here you have to dissect your own thinking, and reason out a process that is probably automatic by now and may never have been as hard for you as it is for some of your students. Ask your colleagues to explain to you what they do, and see if you can agree on a series of actions or steps to take. Try explaining these operations to someone outside your own discipline until that person understands them.

Step 3 Question: How can these tasks be explicitly modeled?
Model for your students those actions that an expert would take to complete the task. Break down the operation into stages or steps, and show your students how to do each stage. Repeat this process until they understand.

Step 4 Question: How will students practice these skills and get feedback?
Give students a chance to do it themselves, and give them feedback. It is easier for them to practice the skill and to understand the feedback if you have broken the task down into stages (in Step 3). Again, you will need to give them repeated practice in applying each skill, perhaps starting with relatively simple problems and then working up to greater challenges and sophistication.

Step 5 Question: What will motivate the students?
Motivate the students to stay with the process. This is best achieved by making the process explicit, so that the students see that the course is focused on learning and practicing skills as well as memorizing facts and dates, and by arranging a series of small successes, so they are always working and seeing

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5. The summary of the steps here draws on ibid., 4-11, and on David Pace, "Decoding the Reading of History: An Example of the Process," in Pace and Middendorf, *Decoding the Disciplines,* 13–20. It also draws on discussions in the faculty seminar I took with Pace and Middendorf in May 2006 and on my own experiences applying the model in my courses, particularly the undergraduate music history survey for music majors.

results. Keep high expectations for what they will achieve, but set it out in small, manageable steps rather than leaps. A good metaphor for this is to think about a staircase that leads up to an entrance on the second floor of a building, which would be impossible to enter from the ground without the gradual ascent step by step.

Step 6 Question: How well are students mastering these learning tasks?
Assess how well the students are learning the skills you want them to have, using a wide range of techniques from in-class assessments and ungraded assignments to formal examinations and papers. It is easier to gauge students' mastery once you break down the tasks as in this model; you can assess each stage in the task, and correct mistakes as necessary.

Step 7 Question: How can the resulting knowledge about learning be shared?
Share what you have learned with someone else, from a conversation with one colleague to reaching a wide audience by writing an article or a book. Since the process here is like pursuing a research problem, it can be helpful to share the results with peers, to get their feedback. They may have further ideas that help you, and they may learn new tricks from what you have discovered.

Loop back to Question 1
The diagram in **Figure 1** also shows another step: loop back to question 1. If you have gone through Steps 1-6 with one bottleneck or obstacle to learning, and the students now seem to be mastering the skills they need in that area, you can start again. Now that one bottleneck has been solved, what other difficulties are there that challenge your students? Keep analyzing what is hard for them, and working through these steps.

Applying the Model: Examples of the Process

Step 1: The Bottleneck
In applying the model to my own undergraduate music history survey, I began with the first question: What is an obstacle to learning in this class? There were many, from a lack of background in social and political history to the sheer amount of material there was to cover. But one secret to applying this model successfully is to work on only one problem at a time. From several possibilities, I chose to focus on a roadblock that had become very apparent on the exams.

My students were having difficulty figuring out what are the significant features of a musical style or genre that distinguish it from others. Of the many traits one could point to in a piece of music, which are essential for differentiating its genre or style from others, and which are not helpful in

making that distinction? What makes a rondeau by Du Fay different from one by Machaut or one by Ockeghem, or a mazurka different from a waltz or a polonaise? Many of my students struggled on the exams when I showed or played an excerpt from a piece of music they had not studied and asked them to recognize its genre, describe its principal stylistic features, and suggest a possible composer and approximate date of composition. This was a skill that I thought was basic to music history, and also potentially of great value to them in their careers as working musicians and music teachers. But I noticed that even if they could do this for some genres or styles, they were not sure *how* they did it. They did not have a *strategy* for how to approach the problem, and could not tell the significant distinctions from the unimportant ones. I was trying to teach the content of the course—including the genres and styles and composers I wanted them to know and an overall framework for music history—but they were not able to apply their knowledge to new situations because I had not made them aware of a process for doing so.

Step 2: An Expert's Strategy

How does an expert do this? As I thought about it, I realized that there are actually two discrete skills at work here:

1. First, an expert figures out what is a significant distinguishing feature of a style or genre.
2. Second, he or she uses that knowledge to identify unknown examples.

Both skills require having a group of examples that one already knows and that one can use for comparison. So part of being an expert is being familiar with a wide range of pieces that one can compare to unfamiliar pieces. Clearly, part of the content of a music history course is introducing a large number of new pieces to serve as examples for comparison. But in order to learn them in the first place, the student must compare each new piece to the music he or she already knows, including pieces covered earlier in the same class or previous courses. So the technique an expert uses for discerning the significant features of a genre and style and for identifying unknown examples must be ingrained as a habit for learning about music, using whatever pieces a student may know as points for comparison.

I drew up a rough sketch of what an expert does, based on my own habits and on conversations with colleagues:

1. To figure out the significant distinguishing features of a genre or style, an expert does something like this:
   a. Start by noticing a variety of salient features in one or more pieces in that genre or style, such as texture, harmony, rhythm, and melody.

      b. Then compare these features to those of pieces in other genres or styles that are similar in some way, looking for which features most strongly differentiate them.

      c. Finally, arrive at a list of those features that most distinguish this genre or style from others, especially from those most similar to it.

2. To identify a piece by genre and style, an expert does something like this (modeled on what I do when trying to identify a piece I hear on the radio):

      a. Start by noticing the most obvious features, such as which instruments or voices are performing. This may already suggest one or more possible genres or styles (think of the sound of a crumhorn, a saxophone, or a string quartet).

      b. Continue with other features. When two or more prominent characteristics have been noticed, come up with one or more possible genres, dates, and composers whose typical stylistic features match the characteristics you have noticed. In other words, formulate a hypothesis, a best guess based on the features observed so far.

      c. Then test the hypothesis, and narrow down to a more specific one, by remembering all the typical traits of the genres and styles and composers you are considering, and trying to match them against the piece you are seeing or hearing. If you find several of these traits, that tends to confirm the hypothesis. If you cannot, perhaps you should try again with a new hypothesis.

      d. Also test the hypothesis by asking yourself, where are the most likely points of confusion? That is, what other genre(s) or composer(s) are you most likely to confuse with the one you have tentatively matched with this piece? How can you convince yourself the correct identification is not this other genre or composer? Try out these other possibilities as rival hypotheses, and judge whether your original hypothesis seems most likely to be true.

      e. Repeat these steps as many times as necessary until convinced that you have identified the right genre, style, composer, and approximate date, or have come as close as you can given the information you have.

Step 3: Modeling the Process

Once I identified an obstacle for my students, and figured out how an expert would overcome it, I went on to question 3: how to model the process of figuring out the most significant distinctions between genres or styles and applying those distinctions to the task of identifying unknown pieces of music.

    I wanted to introduce this skill as early as possible in the music history survey and make it a continually recurring theme, so my students would get

better and better at it. The first repertoire we encounter in which there is a sufficient range of styles and genres to describe and practice this skill is chant. I decided the skill would be more memorable if they worked through the process themselves or we did so collectively rather than having me do it for them. So I designed an in-class exercise that covers some of the content I thought they should know about chant but also focuses their attention on two questions:

1. How do you decide what are the significant distinguishing features of a genre?
2. How do you use your knowledge of these features to distinguish genres from each other?

Before this exercise, they learn about music in the ancient world, church history, the role of chant in the early church, oral transmission, the history of notation, how to read and sing from chant notation, the eight church modes, and how to tell the mode of a chant. But this is their first significant engagement in class with the concepts of genre and style.

I begin the exercise by saying that I have two goals: to explore some of the differences between various types of Gregorian chant, and to examine the concepts of style and genre as music historians use them. Thus I make explicit that we are going to address both the repertoire under study and the ways of thinking used by the discipline of music history.

Then I discuss the concept of genre as a type of piece, like a species in biology. If you know the genre of a piece, you will also know something about its likely form and style, although there are always exceptions. Likewise, you can usually use the form and other style features of a piece to identify what genre it exemplifies. The form and stylistic traits associated with a genre always reflect its history. Just as with species in biology, genres can be closely related. Often just one or two differences can distinguish one genre from another, while they hold several traits in common. The trick is to figure out what are the significant features that distinguish genres.

Next I point out that there are many genres of chant. Thinking about genre in chant will help us learn more about chant, and at the same time it will help us think about the concept of genre and how we use it for any kind of music. In particular, I focus on six genres of chant that all originated in the practice of singing psalms (which we have already discussed as an aspect of Christian services from the very beginning). In each case, the psalm was paired with another sentence of text, set to its own melody, that was sung together with the psalm, usually before and after the psalm, though it would only be written down once, before the psalm. Although they started off fairly similar in form, these six genres of chant evolved in different ways, until each

one had a unique character and in most cases a unique form. The point of the exercise is to become aware of the differences between these genres in order to tell each one from the other five, and to understand enough of the history and function of each genre to explain these differences.

I then direct the students to form teams of three or four people. I give each team a paperclipped packet of six chants, taken from the Mass and Vespers in the *Norton Anthology of Western Music* but reprinted on separate sheets to make it easier to look at all of them at once and compare them. These are the five Proper chants of the Mass plus a psalm with antiphon from the Vespers, representing the six genres I want them to explore.[6] After instructing the students to spread out the six chants in front of them so that all the members of the team can see the chants, I ask them, how might you group these chants in categories? What common traits link some of the chants but not others? Or make certain ones seem more similar, and others less so? In some categorizations, there might be one type of chant that belongs alone, in its own category separate from the others. What I ask them to do as a team is to come up with as many different characteristics that could be used to categorize these chants as they can think of. I give them four minutes. When I tell them to start, the din is glorious, as each team tries out different groupings as fast as they can.

I stop them after four minutes, and go around the room asking each group to name one characteristic that they came up with, writing all of the suggestions up on the board or on a projected computer screen. Many of the characteristics they name are irrelevant for categorizing chants by genre, such as the mode, range, clef used, or presence of large melodic leaps. But many are potentially relevant, such as length of melody, length of text, style of text setting, form, number of sections, presence of a recitation formula, presence of the Doxology (Gloria Patri), and so on.

Then I ask them, which of these characteristics are most useful in distinguishing among these different genres of chant? Can we find ways to tell each one from the other five, just by using a small number of distinctions? I lead them through each of the six genres, starting with the Office psalm with antiphon and then the Introit, Gradual, Alleluia, Offertory, and Communion in order of their appearance in the Mass, looking for a list of traits that distinguish each one from all of the others, using the fewest, most obvious distinctions we can find.

It turns out, of course, that only a few factors are necessary for distinguishing among these genres of chant:

1. Length of text (or number of psalm verses). All of these types of chant start off with a complete sentence (the antiphon or respond), but they

6. J. Peter Burkholder and Claude V. Palisca, *Norton Anthology of Western Music,* 6th ed., vol. 1 (New York: W. W. Norton, 2010), 8–10, 14–17, 2–21, 24, and 26–27.

vary greatly in the number of verses that follow: the Office psalm is the longest, with multiple verses of the psalm ending with the Doxology (Gloria Patri); the Introit has one psalm verse plus the Doxology; the Gradual and Alleluia have one verse with no Doxology; and the Offertory and Communion have no verses at all.

2. Style of text-setting. The Office psalm is syllabic throughout, with a reciting formula for the psalm and Doxology to fit the varying numbers of syllables in each verse of the psalm; the Introit is neumatic (generally one to six notes per syllable) except for the mostly syllabic reciting formula for the verse and Doxology; the Gradual, Alleluia, and Offertory are melismatic throughout (including several long melismas); and the Communion is neumatic.

3. Fixed texts. The Alleluia always starts with "Alleluia," and the Office psalm and Introit are the only ones that include the Doxology.

By sifting through the characteristics they have suggested, the students figure out for themselves that these are the only traits necessary to distinguish between these six genres of chant. The list may look slightly different if the students decide that "presence or absence of the Doxology" or "use of a reciting formula for the psalm" qualify as independent criteria, but they always arrive at a very short list of traits that are sufficient for the task of telling these genres apart. How do you tell a Communion from an Offertory, since both have the same length of text? The Offertory is more melismatic. How do you tell a Gradual from an Alleluia, since both are melismatic chants with one verse? Just the presence of the word "Alleluia" as the opening sentence.

At this point in the class, I pause to make the strategy explicit. As a group, we have just gone through the steps an expert takes to figure out the significant distinguishing features of a genre or style, as listed above under Step 2: noticing a variety of features, comparing similar genres to discover which features most strongly differentiate them, and arriving at a list of those distinctive features for each genre. This serves as a model of how an expert accomplishes this task.

Now we are ready to model the procedure an expert uses to figure out the genre of an unknown piece of music. I hand out to each team a paperclipped packet of four more chants, which are numbered but not labeled by genre. I ask them as a team to figure out which genre each chant is, and be prepared to explain why it is that genre and cannot be any of the other five genres. I suggest they start by looking for the features they have just identified as the most significant in distinguishing between genres of chant; come up with a hypothesis of what the genre might be; and test the hypothesis by looking for the other features typical of that genre. I also suggest they consider which *other* genre it most resembles, which one they are most likely to confuse it

wish, and why the chant must belong to one genre and not the other. I ask them to raise their hands as soon as all the members of their team are able to agree on all four chants.

When they are done, I ask about each numbered chant in turn these questions, which summarize the thinking process an expert uses to identify the genre of an unfamiliar piece of music (as described above under Step 2):

1. Of the characteristics you identified as most significant for telling one genre of chant from the others, which traits did you notice in this chant?
2. Based on those characteristics, what genre do you think it is?

When I ask the second question here, and someone calls out a genre, I always ask for other candidates. If all of the students name only one genre, I ask the class which *other* genre that one might most likely be confused with, and how they can be certain it is *not* that other genre. Often enough, more than one answer is offered, and I ask the class to vote. If the vote is lopsided, I ask for volunteers to explain why the chant belongs to one genre rather than another. Occasionally the vote is close, as when I gave them a Communion, and about 40% of the class thought it was an Offertory. Then I asked them to turn to a neighbor who was not in their team and, taking turns, each try to persuade the other that their own answer was correct. After a minute, I asked for another vote, and it was much more strongly for Communion. I asked them to explain why it would be these two genres they were getting confused, and how they decided on one or the other. The answer is that in these and only these two genres (of the six we were comparing) there is no psalm verse; the only distinguishing feature is the text-setting, which tends to be more melismatic in the Offertory, more neumatic in the Communion.

The exercise described here can be retooled to suit almost any period of music history, any repertoire, and any size of class from my large lecture class to much smaller classes, and indeed I have used variants of it in engaging a wide range of repertoires. This exercise works well, in part because it has built into it Steps 4, 5, and 6 of Figure 1 (as I will explain below) as well as Step 3, modeling the task. But having used this exercise several times, I have realized that I need to make even more explicit the experts' approach as described in Step 2. Not every student understands or retains the series of operations at each stage in the process of deciding what the distinguishing features of a genre or style are, or in the process of determining the genre or style of an unknown piece of music. In the future when I teach the class, I plan to follow up this exercise and my verbal explanations of the procedure by distributing to my students in print and online my outline of the processes in Step 2 above,

so they have it, can refer to it, and can practice these stage-by-stage procedures.

It should go without saying that this is not the only skill my students need, and it is not the only issue I address during this lecture. Once my students have a good sense of the distinctive shape and style of each of these six genres of chant, I relate these characteristics to the history and liturgical function of each type of chant: *Why* would these genres differ in these ways? What about the history of each genre would influence it to take the form it does? These questions represent another task of the historian, something else I want to teach my students. Asking why these differences occurred is also an excellent way to help students remember the distinctions between these genres, because they are not arbitrary, but rather make perfect practical sense.

I proceed to lecture briefly about the history, function, and performance context of each of these genres of chant, while challenging the students to think about why they might have the shape they have now, given that history. For instance, the Office psalm with antiphon was used in monasteries as part of a practice of singing through all 150 psalms every week as a community, by memory, with everyone participating in the singing. What unique musical characteristics of that genre might reflect that history? My students readily come up with answers: the complete psalm text is there because it is part of a practice of chanting through the complete texts of all the psalms; it is sung to a psalm-tone formula because that melody is easily remembered from constant use; and the entire chant is relatively simple because everyone is participating. Reminding them that all of these chants were transmitted orally for centuries before being written down, I mention that the Gradual, Alleluia, and Offertory were all associated with solo singing with choral responses, while the others were sung by two parts of the choir in alternation, and describe the original functions of each. How might the characteristics of these chants reflect this history? Again, several students usually come up with the most likely answers: the melismatic chants are associated with soloists, who could be more florid than a group of singers, for reasons that include improvising from a basic formula, remembering the chant from year to year, and simply showing off.

Discussing these historical contexts further reinforces the students' understanding of the stylistic and formal differences between these genres and makes them more memorable. But in the long run, what I expect my students to retain is not necessarily the distinctions between chant genres, which they will forget unless they are involved with chant or music based on chant in their later careers; rather, it is the way a music historian (or any musician) learns to distinguish one style or genre from another. Similarly, the relation of style or genre to historical context is a constant theme in my course, and making clear how this works in the chant repertory helps reinforce the idea that

being able to distinguish between styles or genres is an essential prerequisite for drawing any connections to historical context, and thus an essential skill for the study of music history.

Step 4: Practice and Feedback
Along with providing a model for how an expert thinks through the problem of distinguishing genres and styles, the exercise described above already provides some practice in doing so and some quick feedback, as each student can measure his or her grasp of the skill against the class as a whole. This is the beginning of Step 4, giving the students opportunities for practicing the skill and receiving feedback.

Over the rest of the semester, as we encounter new pieces and repertories, I frequently take the students through a similar process during the lecture period. For instance, after lectures on fourteenth-century French Ars Nova style and the genres of the rondeau, ballade, virelai, and isorhythmic motet, I let the students take the lead in discussing genres and styles of the Italian Trecento, using the examples in the course anthology and their knowledge from reading the textbook and the commentaries on each piece in the anthology. I split the classroom into three regions; assign the fourteenth-century madrigal to one region, the caccia to another, and the ballata to the third; and ask students in each region to work in teams of three or four to come up with a list of the distinctive traits of their genre that distinguish it from all the other fourteenth-century genres and distinguish Italian style from French. After several minutes for discussion in their teams, we reconvene as a class and proceed genre by genre. The teams in each region report on their genre, and I play an example and fill in points they may have missed. When all three genres have been discussed, I distribute packets of seven unknown fourteenth-century pieces to each team. I ask the teams to figure out which of these pieces is (or are) in the genre they just reported on, to prepare to explain what characteristics of the music prompt them to make such an identification, and then to identify as many of the other genres in the packet as they can. Feedback comes immediately, from fellow students in their team, from other teams, and from me. Doing exercises like this repeatedly reinforces the skill. And while distinguishing between chant genres is rather straightforward, later genres and styles can present increasing challenges: what exactly does distinguish Mozart's music from Haydn's?

Such in-class practice can happen in large lecture classes, in discussion sections, and in smaller classes. In addition, it is helpful to have assignments, graded or ungraded, in which students work out similar problems individually. In the discussion sections linked to my large lecture class, my teaching assistants often lead the class through similar exercises, assign groups or pairs to work on them in class, or give such problems as homework. In

smaller classes, I have had students keep journals in which they write about some or all of the pieces on the listening list, and I ask them to focus their descriptions on what is most distinctive about the style of each piece (or each composer) in comparison to the others on the course listening list. Giving immediate feedback, either through discussion in class or by the next class session, helps to reinforce the skill.

Step 5: Motivation
The next step is motivating the students. Again, the exercise described above has motivation built into it. I would guess that my students would not be very interested in telling genres of chant apart if I simply lectured about them. But because the students figure out for themselves how to do this, they have a stake in it. The information is much more memorable, because they taught it to themselves. The class is more fun, because they are engaged in active learning rather than passive listening. And when I move on to discuss the function of each genre within the service, who sings it, the distinction between antiphonal and responsorial performance, the terms for the parts of each chant (such as antiphon, respond, and psalm tone), and the role of oral transmission, always asking them to relate these historical issues to the differences they found in the genres they were just looking at, I find my students pay attention in a different way, because they are invested in the issues involved. They are more motivated to learn the material because they are already engaged in thinking about it in a way that interests them.

One of the most important ways to motivate students is to give them small challenges on a regular basis, so that they are constantly practicing and deepening the disciplinary skills you are trying to teach. As Pace notes, the Decoding the Disciplines model

> moves the focus from large, potentially overwhelming challenges, such as writing an essay exam, to more discrete and manageable tasks. . . . [Students'] sense of mastery can increase as they move to ever more complex tasks, and the learning environment is transformed from a few giant leaps to a series of manageable steps.[7]

I am still in the process of transforming my own survey course from its traditional lecture-and-test format to this step-by-step mastery of skills. Lectures and discussion sections have been radically reworked to fit the new model, with active learning and practice of disciplinary skills built into almost every class session. But on my to-do list for course revision is to design more and smaller out-of-class assignments and exercises that give students progressively more challenging tasks focused on learning these disciplinary skills alongside

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7. Pace, "Decoding the Reading of History," 18.

the course content. These assignments and exercises can serve in part to pre-pare for and in part to replace the large exams, but among their most impor-tant functions is to increase engagement and motivation by challenging stu-dents and giving them a sense of mastering the material without overwhelm-ing them.

There are many other aspects to student motivation. A helpful study by Raymond Perry, Verena H. Menec, and C. Ward Struthers found several fac-tors that motivate students to learn, including a sense of control; feeling chal-lenged by the tasks before them but still able to accomplish those tasks with-out feeling overwhelmed; seeing connections between things (such as the links my students discovered between the characteristics of a chant genre and its historical context and function); seeing the relevance to their own work and interests; and getting feedback quickly. Naturally, on the other side it is demotivating and disheartening when they feel helpless, are overwhelmed by the quantity of material, see that material as only a disorganized group of unconnected facts, see the course content as irrelevant, or have to wait a long time to get back their tests and papers.[8]

In my own teaching, I have found the following approaches particularly helpful in motivating students:
- Make it fun.
- Learn about your students' goals and show how the class will help them achieve them.
- Divide tasks into steps of reasonable size and make clear how to accom-plish each step.
- Draw connections with music that students already know, in or outside the class.
- Show how learning and practicing the skills taught in the class can help them think about the music they are interested in.
- Make students aware of preconceptions they have that may limit their appreciation for and understanding of the music under study and the values that music reflects.

The Decoding the Disciplines model works well with all of these.

Step 6: Assessing Student Learning
The next step is assessing how well the students are learning the disciplinary skills you have focused on. This is built into the exercise described above, as I can tell how well the class as a whole has learned the process of identifying genres by how many can correctly identify the genres of the unknown chants

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8. Raymond Perry, Verena H. Menec, and C. Ward Struthers, "Student Motivation from the Teacher's Perspective," in *Teaching on Solid Ground: Using Scholarship to Improve Practice,* ed. Robert J. Menges and Maryellen Weimer (San Francisco: Jossey-Bass, 1996), 75–100.

and how clearly they can state their reasoning. This exercise with unknown chants is an example of a Classroom Assessment Technique, or CAT: a way to find out immediately, during class, how well your students are learning the material, and whether they need more instruction or already have the concepts down so you can move on.[9] I use such ungraded in-class assessment techniques regularly as a way to monitor how well the students in general are grasping the course content, which in most cases is really a test of how well I am doing in teaching it to them. Subsequently, on the first exam, there is a series of questions on an unknown chant, which requires the students to identify the genre and explain their reasoning (alongside other questions about mode and notation). And of course on an exam, quiz, or individualized assignment, you can measure not only how well the class as a whole is doing but how well each student has grasped the concept and is able to apply it.

The results have been strongly positive. During the exercise described above, by the end of the lecture period almost everyone in the room can distinguish between genres of chant that they barely knew at the beginning of it and can explain their reasoning. While not everyone retains the specifics about chant genres, the first time I tried this new approach, the students as a whole performed significantly better on the test questions related to chant than students had on similar questions the previous year, improving the class's average scores by more than a letter grade. I had begun the whole effort to retool my course using the Decoding the Disciplines model because my students were struggling with certain types of test questions, such as identifying unknown works or comparing known scores, that required them to isolate and describe the significant features that distinguish one style, genre, or composer from another. Drawing their attention to the process of how to determine which features are significant, and how to apply that knowledge in identifying a work's genre, composer, and date, has resulted in a marked improvement in performance on these sorts of test questions for most students.

One of the strengths of the Decoding the Disciplines approach is that when you have broken down a task into a step-by-step process, as in Step 2 above, it is easier to diagnose where the problem is when students are not successful. Each stage in the process can be tested with a well-designed assignment, quiz, or test question, and so can each disciplinary skill you are trying to teach. Exams can then feature a variety of questions, each designed to test a particular skill as well as other course material.

All of this focus on disciplinary skills does take time and space in the classroom and on assignments and tests, but it need not distract from the central content of the course. Indeed, conveying the content relates so closely to

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9. For more on CATs, including a list and description of many different techniques, see Angelo and Cross, *Classroom Assessment Techniques.*

the skills involved that I often see them as one and the same: we learn the skills by engaging with the pieces, composers, styles, periods, and other topics we study, and we learn about all of those topics by practicing the disciplinary skills we have assimilated so far. Moreover, if students can think through problems for themselves—such as how to tell two similar genres or styles apart, and how the differences between them resulted from different historical contexts—then they can continue learning what I would hope to teach them about music history, long after the course is over.

Step 7: Sharing What You Have Learned

The final step is to share with others what you have learned about overcoming the obstacle to learning, both what works and what does not. As a group, music historians have been reluctant to talk about what they do in the classroom until relatively recently, and the first book on the subject, Mary Natvig's valuable collection *Teaching Music History,* did not appear until the twenty-first century.[10] But now the Pedagogy Study Group of the American Musicological Society, the annual Teaching Music History Day, the biennial College Music Society Institutes for Music History Pedagogy, and this *Journal of Music History Pedagogy* provide ample outlets for sharing what we learn about teaching. Less formally, conversations with colleagues can be very helpful. I find that trying to describe what I am doing helps me see what is working, what is less successful, and what I still do not understand well enough. As my teaching assistants and colleagues experiment with applying the Decoding the Disciplines approach, we are constantly learning from each other.

And Back to Step 1: Working on the Next Obstacle

I am gradually changing my courses to make decoding the discipline of music history more central and explicit. There is still work to do: my students still have difficulties, there is still too much material, there are still frustrated students in my office who are working hard and not seeing the results they want to see, and there are still disengaged students who are not motivated to work in the class and do not see its relevance for their future lives and careers. I need to work through each of the obstacles to learning in each of my classes, and it is demanding work. One of the advantages of addressing one obstacle at a time is that it is easier to see progress and to know the effects of working on that one issue, but it can be disheartening to then see students run into another obstacle that needs to be addressed and has to wait for next year.

Often enough, as I have reviewed my classes to see what I need to change, I have discovered that I was already including elements that fit easily into the Decoding the Disciplines model, but I need to make more explicit how they

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10. Mary Natvig, ed., *Teaching Music History* (Aldershot: Ashgate, 2002).

relate to that model. One such example in my undergraduate survey is a multi-stage research project that asks students to find a topic, locate a variety of relevant sources, annotate a bibliography, discern a thesis, outline an argument, consider and refute counter-arguments, write a paper, and then rewrite the paper based on feedback from peers and from experienced scholars (the instructors)—all tasks that music historians do.[11] I even have an online step-by-step guide for "How to Write a Music History Paper" that makes each stage as transparent as possible, and I ask my students to work through these steps as they go.[12] But even in these cases where I have applied some aspects of the Decoding the Disciplines model, such as figuring out what an expert does and describing that to my students, I often need to do more to give them ownership of the problems, and therefore of the discipline.

One thing worth doing more often is to foreground the strategy of Decoding the Disciplines itself—the idea that they are learning the modes of thought of a new discipline—and to remind them of it regularly. Even if the course starts well, by the time of the first exam my students can be so focused on the content that they lose focus on the process, and it is my responsibility to remind them more often than I tend to do. David Pace puts it bluntly:

> Relatively few undergraduates conceive of their courses in terms of mastering different disciplinary ways of thinking, and they have to be shown that it is in their interest to spend time on this, rather than moving directly to "what will be on the test." I couch the presentation of the Decoding the Disciplines process . . . in terms of students getting the maximum return on the time that they invest in a course. I point out that many surveys suggest that the difference between students who do well and those who do not is often more the result of how they study than of how much they study. I make it clear that a real commitment of time and energy is necessary for success, but that if they are not working in a manner that is appropriate to the discipline they are studying, more work is not apt to yield a higher grade.[13]

It is that daily practice of "working in a manner that is appropriate to the discipline" that I feel most urgently I need to teach to my students. Armed with the ability to think and work in that way, they can become lifelong learners in the discipline of music history, teaching themselves what they seek to know, long after they have left my classroom.
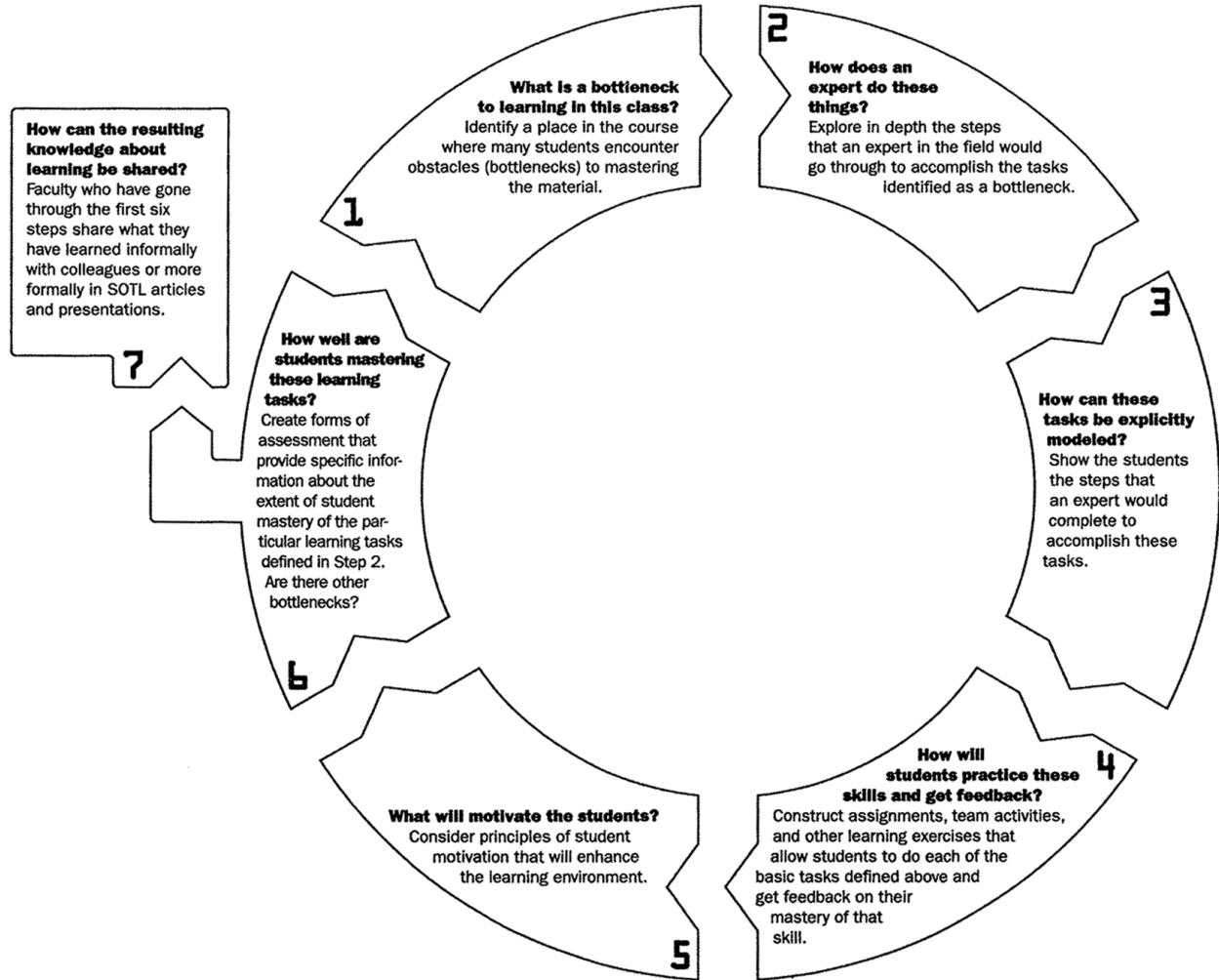
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11. Available at http://www.music.indiana.edu/som/courses/m401/M401papr.html.
12. Available at http://www.music.indiana.edu/som/courses/m401/M401how2.html.
13. Pace, "Decoding the Reading of History," 17–18.

Appendix

The following figure appears in a smaller format on p. 95 of this article.

Figure 1: Decoding the Disciplines: Seven steps for overcoming obstacles to learning.[14]

What is a bottleneck to learning in this class? Identify a place in the course where many students encounter obstacles (bottlenecks) to mastering the material.

1

How does an expert do these things? Explore in depth the steps that an expert in the field would go through to accomplish the tasks identified as a bottleneck.

2

How can the resulting knowledge about learning be shared? Faculty who have gone through the first six steps share what they have learned informally with colleagues or more formally in SOTL articles and presentations.

7

How well are students mastering these learning tasks? Create forms of assessment that provide specific information about the extent of student mastery of the particular learning tasks defined in Step 2. Are there other bottlenecks?

6

How can these tasks be explicitly modeled? Show the students the steps that an expert would complete to accomplish these tasks.

3

What will motivate the students? Consider principles of student motivation that will enhance the learning environment.

5

How will students practice these skills and get feedback? Construct assignments, team activities, and other learning exercises that allow students to do each of the basic tasks defined above and get feedback on their mastery of that skill.

4

14. Middendorf and Pace, "Decoding the Disciplines," 3.