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Dimensions of Musical Learning and Teaching: A Different Kind of Classroom

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TEACHING FOR UNDERSTANDING IN MUSIC TEACHER EDUCATION

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A familiar element of many general music methods classes is the exploration of various teaching approaches or methodologies such as Dalcroze, Generative, Kodály, Music Learning Theory, and Orff (additional options might include random hodgepodgism and principled eclecticism—currently known as "best practices"—as well). By way of introduction to this exploration, I frequently ask methods students these questions: "How would you know that a general music teacher was using a particular approach if you were to visit his or her classroom? What particular teaching practices would you see? What would the learners be doing that would be characteristic of the approach? If you interviewed the teacher, what key principles or beliefs would you expect the teacher to describe? What forms of music making would be emphasized? How would this approach fit the style of the teacher,

needs of the learners, and context of the school community?" These questions frame the search for answers as we engage in discussion, study, and experiences that illustrate these prevalent approaches.

This chapter will address similar questions for exploring the teaching and learning found in music teacher education classrooms. Unlike the comparative approach described in the opening paragraph, however, this chapter will emphasize one framework, social constructivism, for educating music teachers. Five themes of social constructivism will be described as influences on the curriculum for undergraduate music education majors (or "preservice teachers") to emphasize their ongoing transformation of roles from student to teacher and the curriculum for practicing music educators engaged in graduate study or teacher-development activities.[1] Five examples drawn from classroom and rehearsal settings will show how preservice and practicing teachers develop ongoing models of musical development, lead students toward musical independence, develop insightful perception of student responses, model reflective thinking, and design educational experiences that stretch students' understanding. I have experimented with the application of these ideas in the context of undergraduate methods courses, field studies or practica, courses in the assessment of music learning, music for students with exceptionalities, foundations and principles of music education, and student teaching seminars. Courses for practicing music teachers have included the psychology of music teaching and learning, curriculum development, and graduate seminars on contemporary educational issues.

In the past decade, teacher education has been steadily moving away from an emphasis on training, or the transmission of technical knowledge as adequate preparation for the classroom, to a more constructivist approach. The environment of change in teacher education is ripe for this transition since teachers can hardly know what specific challenges may face them in future classroom settings. An education for principled action, which is based on constructivist ideas with epistemological roots in Piaget, Dewey, Bruner, and Vygotsky, holds special promise. Richardson (1997) reminds us, however, that the basic notion of constructivist teaching is not a "monolithic, agreed-upon concept" (p. 3). Some of the different constructivist approaches include Piagetian, situated-cognition, sociocultural, and emancipatory emphases. What is common among these approaches, asserts Richardson (1997), is a consensus that

> constructivism is a learning or meaning-making theory. It suggests that individuals create their own new understandings, based upon the interaction of what they already know and believe, and the phenomena or ideas with which they come into contact.

> Constructivism is a descriptive theory of learning (this is the way people learn or develop); it is not a prescriptive theory of learning (this is the way people should learn). (p. 3).

Music teacher educators constantly move back and forth to help teachers build descriptive theories in two complementary realms. The musical understanding of elementary and secondary students, a "first order" subject-matter focus, is examined through the processes of musical engagement including singing, playing, composing, improvising, describing, representing, evaluating, and responding to music. Through direct contact with students, teachers build a working model of students' musical knowledge and the ways that students make meaning of music. The pedagogical understanding that teachers use to enable students' musical growth is a "second order" focus in the teacher education classroom. Teachers draw upon their existing repertoire of practices and beliefs in social contexts that challenge them to describe, examine, confront, and revise their ideas about teaching. Shulman (1987) describes pedagogical content knowledge as the essence of domain-specific practice, which in the context of music education consists of the representative models, works, examples, and metaphors that help students learn music. Curriculum development, instructional techniques, and assessment strategies are the applications of this pedagogical knowledge.

To return to the opening paragraph of this chapter, we might ask, "What constitutes a social constructivist environment for music teacher education and how could we tell if we stumbled across one?" Five themes or crucial ideas are of particular importance for music teacher educators to consider in building such an environment: (a) the meaning of meaning; (b) an attention to context; (c) the nature of change; (d) the intersection of cognition and emotion; and (e) the interplay of intentions, actions, and reflections. After addressing each one of these themes, I will provide examples of applications for preservice and practicing teachers.

Themes of a Constructivist Classroom

The five themes of social constructivism (the meaning of meaning; attention to context; the nature of change; the intersection of cognition and emotion; and the interplay of intentions, actions, and reflections) are explored in the following discusssions.

The meaning of meaning. Meaning can be an especially slippery and ambiguous term. Often, constructivist notions of meaning are clarified through juxtaposition with "traditional" forms of learning. In this "old school" view, learning is portrayed as the acquisition of declarative knowledge in a collection of facts, disconnected impressions or information, or

mere reiterations of ideas, often without a corresponding ability to clarify their significance. The teacher's transmission of knowledge and the learner's accurate acquisition of it are emphasized. Other means for helping teachers understand the different views involve dichotomous pairings—random versus ordered, separate versus integrated, or superficial versus deep systems of knowledge, for example.[2]

Although these comparisons are helpful, more distinction is needed. In teacher education, a search for meaning involves the formation of structures or schemes of knowledge about teaching, learners, subject matter, and schools, thereby emphasizing insightful relationships and substantive connections between what teachers already know and what they are learning in the present. Teacher education is also frequently seen as a context in which bridges are built between theory and practice; constructivism dovetails well with this metaphor in that the span is supported by both ends of the bridge, and travel flows in both directions across it. The relationship of parts to the whole is critical, as is the active process of assembling the parts and designing an educationally sound blueprint for thoughtful classrooms.

One of the challenges of this approach is that it may run counter to the expectations of teachers who have become accustomed to learning about bridges but who have seldom experienced bridge building firsthand. A constructivist classroom can be disorienting if your educational horizons have been narrowed to answering the questions at the end of the chapter and checking whether they match the answer key. Teacher educators often find themselves stumbling upon these robust expectations that hint at deeper epistemological conflicts. Many of us have overheard (or have had reported to us) the groaning of exasperated students who exclaim, "I wish my professor would stop making us think and just tell us what to do." It would be easier by far to download every iota of knowledge that one has about teaching to the cognitive "hard drives" of other teachers, but the file would probably be an unreadable jumble of characters and impressions.

Meaning is not only a matter of structure; it is a matter of utility as well. Teachers must be able to draw upon what they know to solve complex problems that are part of the fabric of classroom life. Action that arises from meaning demonstrates understanding. Gardner's definition of understanding draws on this notion: he states that "an individual understands a concept, skill, theory, or domain of knowledge to the extent that he or she can apply it appropriately in a new situation" (Gardner 1999, p. 119). This definition also saves us from the potentially tricky quagmire of relativism. It is not just any old meaning that teachers need to construct. Fundamental principles, concepts, ideas, and practices are the core of the musical and pedagogical

content to be organized and applied. Gardner (1999) further relates understanding to the disciplinary expertise that teachers need to form the "construction of habits and concepts that reflect the best contemporary thinking and practices of the domain" (p. 123).

How does a music teacher educator assist teachers in the construction of meaning about music and pedagogy? Consider the following guidelines: design experiences that will acknowledge and rely upon prior understanding as a means to examine and evaluate new models for classroom practice; provide rich primary experiences that allow teachers to take new theories and models out for a spin, kicking the tires as they test and evaluate the strength and applicability of ideas; seek to inform the investigation of new models by observing best practices and relating them to pertinent readings in the field; focus on the sense that teachers make of the examples, often in terms of the principles that undergird specific instances; and test these principles by relating them to a variety of alternate instances as well.

An attention to context. Socially mediated inquiry is a central concept of social constructivism. Simply put, this means that our knowledge as teachers is formed through the questions we ask and the answers we form in interaction with the students we teach, our teaching peers, and mentors past and present. The music teacher education classroom fosters inquiry when beliefs about teaching and learning are brought into the ongoing discussion for examination. Teaching practices ("what works") are related to underlying principles whenever possible so that a particular strategy or technique can always be revised to fit the demands of a new context.

If participants in a college or university classroom can function as a community of learners, preservice and practicing teachers will experience firsthand the benefits of group inquiry. The more minds set to work on important teaching and learning problems, the greater the possibility for interesting insights. Through language, teachers give names to ideas and intuitions. Goals and accomplishments take on greater clarity as teachers describe them to others. The usual tools of a teacher education classroom—journals, guided discussions, group projects, case studies, and reflective critiques—make thinking public so that the group can develop, clarify, and refine ideas. Peer teaching, observation, and collegial critiques are also integral to this social milieu of the teacher education classroom.

As lively as the college and university classroom can be, it can never entirely simulate the complex and unpredictable worlds of the elementary, middle, or high school setting. Field experiences for preservice teachers or practicing teachers' own classrooms are the real laboratories of learning. School contexts are more than just the settings in which teaching and learning occur; the ritu-

als, beliefs, and values of the surrounding community influence the learning that takes place. Music classrooms are especially rich social contexts since the goals of the group in making and creating music are often integral to the very nature of musical participation. Music classrooms also serve very important social roles within the school community since the music program is often a representation of the cultural identity and values of the school.

It is to the extent that the context of the university classroom can serve as a setting for thoughtful reflection on elementary and secondary school settings that the greatest possibility for transfer of insights can take place. The common assumption that understanding flows in one direction from the theoretical world of the university to the practical world of the elementary and secondary classroom is obviously too simplistic. Practice and theory reside in both contexts, and for teachers to grow, complementary relationships need to be identified and examined.

The nature of change. Growth in any domain is rarely orderly, continuous, and predictable. Learning to teach and developing one's teaching practices over a career span are especially evolutionary journeys. The challenge of music teacher education classrooms is to stimulate growth along a developmental continuum through meaningful experiences centered around music teaching and learning.[3]

Change in teaching practices or beliefs is not a matter of piling up an accumulation of techniques like layers of sedimentary rock. In fact, that analogy seems more fitting to describe the kind of acquisition and transmission of knowledge found in more traditional views of learning. The kind of change in teachers' thinking that will have long-lasting influence on classrooms is likely to be more transformative, like the shifting of tectonic plates that disturbs the smooth surface of habits and unquestioned routines.

"Shifting" is a useful term. A shift in understanding is a reorganization of what we know. This reorganization often comes as a result of wrestling with old and new ideas in juxtaposition. In the form of psychological constructivism represented by Piaget, the term "cognitive dissonance" is often used. This is the state in which a learner's prior framework of knowledge or scheme comes into conflict with some phenomenon that doesn't seem to fit the framework. Another constructivist view is represented by Gardner, who advocates an approach to understanding in which teachers orchestrate learning experiences that lead to the "direct confrontation of erroneous conceptions" (1999, p. 127). In his description of reflective teaching, Donald Schön refers to the importance of confusion in bringing about change in one's teaching practices. He asserts that "surprise and puzzlement are at the heart of reflective teaching" (Schön, 1988, p. 22).

One of the goals of the music teacher education program, therefore, is to promote the sort of metamorphosis that signals change in teachers' thinking about teaching. Prior understanding must certainly be acknowledged and drawn upon, but substantive growth will result as teachers confront longstanding misconceptions and gaps in knowledge to acquire new perspectives and roles. R. A. Hodgkin (1976) writes:

> We learn best as teachers; we teach best as learners. The effort to communicate strengthens knowledge and to be an authority is to know how to doubt. Many people have experienced this paradox, yet the deeper implications of the mutuality of teaching and learning are largely unexplored. ... Indeed the whole educational endeavor needs to be seen as more perilous and problematic than has been customary. "Problematic" here does not merely mean that education is puzzling, but that the essence of the process, from the first to last, has to do with the control of doubt, with problems seen in the shadows, with the models that we make and share when we think we have found a solution, and with the underlying faith that there are more problems round the corner (p. 3).

This sort of change can feel unsettling, especially to the beginning teacher, but it signals crucial shifts of understanding. Music teacher educators and other teachers in the classroom often act as midwives for this sort of transformation, offering reassurance or advising perseverance when it seems that problems are especially thorny. Odd as this may sound, this approach to change can be applied to instructional design. The careful orchestration of situations in which teachers must wrestle with old ways of thinking in hopes that they will create new shifts of understanding is an exciting prospect. Indeed, if we want to escape the cycle of always teaching in the way we were taught, this is not just an interesting intellectual exercise, but an imperative.

The intersection of cognition and emotion. Cognition and emotion, held at arm's length in intellectual traditions from Descartes onward, are beginning to merge as important elements in teaching and learning. In the current climate of standards-based instruction and accountability based on the scores of standardized tests, the acknowledgment of the affective side of teaching and learning in balance with the development of rational thought is a breath of fresh air indeed. Eisner (1991) reminds us that "what really counts in schools is teaching children that the exploration of ideas is sometimes difficult, often exciting, and occasionally fun" (p. 11).

Hargreaves (1998) asserts that the emotional dimensions of teaching are often ignored or neglected in teacher education or staff development programs, yet the emotional tenor of the classroom is of great significance to teachers. He writes: "Good teaching is charged with positive emotion. It is not just a matter of knowing one's subject, being efficient, having the correct competencies, or learning all the right techniques. Good teachers are not just well-oiled machines. They are emotional, passionate beings who connect with their students and fill their work and their classes with pleasure, creativity, challenge, and joy" (Hargreaves, 1998, p. 835).

Music teacher education is especially receptive to this mutuality, since thinking and feeling merge in the artistic processes of performance, creation, perception, analysis, and response as well as in teaching and learning music. Artistry in the classroom emerges in those teachers who are sensitive to the ways that meaning can be conveyed and expressed through sound, gesture, image, symbol, and word. Like other important but fairly intangible ideas, artistry can be modeled in the design of classroom experiences, even if it is difficult to teach directly. The emotional dimensions of the classroom influence what is remembered, what is acted upon, and what is incorporated into students' lives outside of the classroom.

The interplay of intentions, actions, and reflections. Studies of teacher thinking and teacher knowledge have focused on many dimensions of the mental lives of teachers. Some of these studies separate teachers' thinking into three functions: planning, teaching, and assessing. These are processes that teachers use before, during, and after direct interaction with students. It is helpful to think of these three aspects of teacher thinking as cyclical rather than linear, because teachers often change their plans "in flight" (Robbins, 1999, p. 26) or use what they learn in evaluating a class or rehearsal as the fodder for planning the next.

Much of what teachers know is revealed through action in this cycle. Teachers select materials and repertoire, design activities, create imaginative assignments, organize, and structure instructional time. In direct interaction with students, teachers remain on the lookout for evidence of learning, confusion, progress, and response. Music classrooms are especially dynamic and flowing, since musical understanding reveals itself in many ways and at many speeds. Students bring diverse skills, expressive capabilities, desires, intentions, and levels of understanding to bear while learning new works and concepts. The continual flux and movement that characterize a class or rehearsal can be unsettling for those who prefer a more stable environment. What is learned influences what is taught and vice versa. Smyth (1991) observes

that, through this interaction between teacher and student, there is a "process of mutual modification underway" (p. xv).

Through reflection, teachers attend to their own ways of thinking and their interactions with students. Speculations about the processes of learning music are considered through reflection. The critical impulse of this reflective inquiry is often a need to explain or describe what is going on, and, surprisingly, differing perceptions and interpretations emerge disguised as descriptions. In order for change to take place, teachers must evaluate, sort, sift, borrow, adapt, and discard teaching practices on the basis of these reflections. The relationship of this reflective approach to constructivism is clear in that reflection helps teachers to uncover their underlying assumptions about teaching and learning; examine them in a supportive, collegial environment; seek alternative ways to think and act; and thereby move toward substantive changes of practice and belief.

Examples of Constructivist Contexts

Five examples of activities or assignments from music teacher education classrooms are provided to illustrate these themes of a constructivist approach. These activities are meant to illustrate some of the principles of constructivism, but no one activity incorporates all of them.

Secondary general music methods and the transport exercise. Three goals from a secondary general music methods class for preservice teachers form a context for an assignment called the transport exercise.[4] The goals are (a) to incorporate diverse musical experiences for students of diverse backgrounds into a secondary general music curriculum; (b) to articulate criteria for the selection of musical works in a secondary general music curriculum, incorporating principles of cultural authenticity for ethnomusical examples; and (c) to design valid interdisciplinary curricular experiences that relate music to culture, history, art, and literature.

Students are asked to choose a musical work from a culture relatively unfamiliar to them. The purpose of the exercise is to examine the process of familiarizing oneself with an unfamiliar work, which often leads to an examination of the cultural assumptions that we bring to the listening process. In class, we set up the assignment by listening to several examples of music from the former Yugoslavia as preparation. The examples include folk music in fairly traditional styles, as well as a particular form of singing known as *ganga,* which features vocal timbres and closely-packed harmonic relationships that usually challenge the class members. After the preservice teachers have chosen their own works, they are asked to listen to them repeatedly over the course of a week, keeping track of their progress from complete

unfamiliarity to deeper understanding by writing about their "journey" and the strategies they use to inform their listening. Each student completes an extended journal entry to describe the stages experienced along the path. Several days are spent playing excerpts of the works in class, asking classmates to hypothesize origins on the basis of their musical characteristics, and then revealing the cultural contexts and meanings of the pieces.

The transport exercise is essentially metacognitive in character in that the subject of the exercise is both the musical work itself and the teacher's own thinking. Selecting a musical example from a relatively unfamiliar musical tradition often reveals prior knowledge as teachers bring robust, ingrained musical expectations to the exercise. As we discuss what we learned on our various paths, it becomes clear that the processes of getting to know a work are highly idiosyncratic, which is a good premise for thinking about the diversity of approaches to learning found in classroom settings. Working on our own knowledge is a prelude to the pedagogical step of constructing a classroom experience to introduce new musics to students. We work on the tacit understanding and beliefs that teachers bring with them to the study of a new work.

Teacher responses to this exercise are telling. One preservice teacher remarked that she had never kept track of her own thinking before and that it seemed as if this validated her intellectual contributions. Other teachers have remarked that although they often are exposed to new works as music education majors, they rarely take the time to delve into the ways that they hear the structure of the piece. It is relatively common for methods students to say that their formal training interferes in some way with the exercise, in that they have to deliberately shut down their analytical processes in order to consider other meanings and characteristics of the piece. Occasionally confusion breaks out, as teachers try to force what they hear into familiar musical structures; when this doesn't work, they have to realign their perceptions to hear shifting meters, timbres, or phrase structures. Throughout the process, participants function as hybrid teacher/learners, reflecting on their own discoveries while generating pedagogical possibilities.

Assessment class and the search for signs of musicality in the universe. A fundamental premise of an Assessment of Music Learning class for undergraduate and graduate students is that teachers need to articulate what musicality is before they can hope to assess students' musical growth. Perceptive and purposeful observation of students engaged in musical activities is one means for building a coherent description. Observation can allow teachers (a) to develop perceptual acuity; (b) to build a broader knowledge base for music teaching; (c) to help direct another teacher's growth; (d) to examine

cases of practice in instructional settings; and (e) to develop professional judgment (Barrett, 2000). The very essence of observation rests on constructivist bedrock in that the meaning teachers bring to the exercise is infused with the prior knowledge, beliefs, values, and habits of the observer. Teachers use their abilities to represent what they see through descriptions that are also truly interpretive in nature. In the social context of the classroom, discussions centered around these descriptions bring out important patterns, relationships, and points of view about the nature of music learning and teaching.

Teachers in the class are given this assignment: "For the next week, observe those around you who are engaged in musical activity. What are the 'signs' that someone is musical? What is musical knowledge and understanding and how is it demonstrated? Are there different kinds of musical understanding? Describe them." Class members are encouraged to observe elementary, middle, high school, and/or college students and to bring several pages of field notes to class to use in building a model of musicianship. In order for the class to also have a common example to discuss in addition to their varied individual observations, I use a videotaped case of a high school concert band rehearsal in which the conductor solves problems of balance and stylistically appropriate rhythm in preparing *Orpheus in the Underworld* for performance (Olson, Barrett, Rasmussen, Barresi, & Jensen, 2000). The same questions are used to examine the musical understanding and knowledge of the band members, as well as the conductor, in the video case.

Armed with a wealth of observations and interpretations from the individual observations and the responses to the video case, the next challenge is to incorporate the ideas into some coherent overall model. A four-ring Venn Diagram based loosely on the Cognitive Skills Matrix of Davidson and Scripp (1992) allows teachers to organize their descriptions into a workable representation of musical engagement (see Figure 1). In small groups, class members hammer out a possible model before presenting it to the entire group for consideration.

In contrast to reading or memorizing someone else's definition of musicality, this exercise places teachers in the center of thinking about the diverse ways that students and teachers demonstrate their musical understanding. The observations and the video case allow us to derive important principles of musical engagement from watching students and teachers in action in relatively natural settings. The task of description challenges us to put our ideas in an articulate, clear form for others to consider. Throughout the discussion, teachers offer interpretations, rebuttals, clarifications, and examples to support their ideas.

An action research project for an elementary general music methods class. In an elementary general music methods class, preservice teachers need to correlate what they read about the generalized principles of children's musical development with the complex and multifaceted particularities of real children. An action research project integrates assignments and readings from the methods class with opportunities to plan instruction for children and to gather data on their responses to musical activities at the field-study site. Another goal of the project is to demonstrate how opportunities for composition and invented notation can grow from more traditional listening lessons.

In one project, preservice teachers made an inventory of the activities, musical works, and elements of music that were familiar to the fourth-grade students of the class chosen for the project at the elementary school. The teachers chose to use Grieg's "In the Hall of the Mountain King" as the centerpiece of a curriculum project that grew from the children's familiarity with the work in listening lessons. They designed a series of experiences that began with a movement exercise in which the children showed the melodic rhythm by tapping and stepping around the room to show long and short durations. Next, the children engaged in additional forms of description by answering questions about changes in tempo, texture, and dynamics. In a subsequent activity, students drew their own representations, or iconic maps, of the features of the work; the preservice teachers related these representations to class reading (such as Upitis, 1991). Finally, students took their maps and used them as the impetus for creating new works in small groups. Each group generated ideas, rehearsed their works, performed them for the class, and recorded them. The preservice teachers took turns leading the activities, while others made notes on the children's responses. Rubrics for evaluating movement and the iconic maps were developed. Finally, using guidelines for developing rubrics for evaluating creative products (Webster & Hickey, 1995), the preservice teachers assessed the small-group compositions.

Throughout the project, the preservice teachers moved from rather generalized views of children's musical capabilities to more specific and detailed examples drawn from their observations and evaluations. The tripartite nature of the design, which includes movement, visual representations, and compositions, allowed them to compare and contrast different ways that children demonstrate their musical understandings. As the group collaborated in planning, implementing, and evaluating the project, the teachers were intrigued by the children's perceptual abilities and originality. The cooperating teacher at the field study site enriched their understanding by helping

them to connect the children's work on this project to previous activities that enabled sophisticated response. One of the most important outcomes was the cultivation of wonder at the children's wholehearted engagement in the activities, which was a vital affective dimension. Finally, preservice teachers learned how an ambitious project was transformed from paper to reality within the context of an elementary general music classroom.

A psychology of music learning and teaching class puts theory to the test. Practicing music educators bring a wealth of classroom examples and pertinent questions that arise from the puzzles of practice in graduate studies. In a summer class devoted to the examination of psychological principles of teaching and learning music, practicing teachers participated in an exercise that put theory to the test. A cognitive concept, principle, or model that is merely described may remain an inert abstraction if teachers do not have an opportunity to take the idea for a "test drive."

We decided to focus on an understudied but important context for music instruction (the applied lesson) as the vehicle for investigating Vygotsky's (1978) sociocultural theory of development.[5] We read about Vygostky's Zone of Proximal Development (ZPD) and scaffolding strategies used by teachers to enable students to solve more complex problems than they would be able to solve without assistance (Bordrova & Leong, 1996; Kozulin, 1990; Vygotsky, 1978). This basic idea was applied to a percussion lesson that the entire class observed, analyzed, and discussed through creating a working model of the applied lesson. We hypothesized that an applied lesson is like a work space or territory in which student and teacher make moves toward understanding. This work space is bounded by four sides, or factors, that influence the work that can be done. They include the following:

- the student's musical understanding
- the teacher's musical understanding
- contextual factors that enable or constrain learning
- features of the musical work itself, including formal, technical, and expressive qualities.

The percussion instructor at my university agreed to have ten of us sit in on a percussion lesson with a talented percussion student.[6] We all took notes on their interactions during the lesson, in particular keeping track of the moves that the instructor made and the moves the student made toward enhanced performance of a composition for marimba. We noted how the student monitored her own progress throughout the lesson, bringing up

technical difficulties of sticking patterns and her sense of losing control in loud, forceful sections of the piece. The instructor used a variety of scaffolding strategies, including reducing the number of musical elements for the student to focus on and identifying smaller segments for concentrated work. He also modeled playing techniques, practicing strategies, and voicing options. As observers, we tried to note when strategies suggested by the instructor were incorporated into the student's playing for immediate results and also when efforts to communicate musical ideas seemed to be blocked in either direction. Of particular note was the instructor's admonition to perform the piece with the audience's perception in mind, trying to communicate musical ideas in a way that would make sense to the listeners. This had the effect of "turning up the heat" in the lesson as the student shifted her focus from successfully getting through the piece to communicating ideas to others through her performance. It was obvious to us that this move on the instructor's part was the beginning of a significant shift in the student's musical thinking and a sophisticated step toward change.

Contextual factors that influenced the lesson setting certainly included the presence of a roomful of observers, but also included the technical and expressive demands of the instrument itself in that the marimba, in the instructor's words, is an "instrument you don't get to touch to play." Control of the hand and mallets to produce a range of sounds is substantially different from playing techniques required for other instruments. In addition, the piece the student was performing was unusual in that it included improvisatory sections as well as thoroughly composed themes.

Using the Vygotskian-inspired notion of the "work space" proved to be beneficial in that it redirected the typical focus of teachers' observations on strategies, techniques, stylistic characteristics, and comparisons with their own practice to a more interactive middle ground. In this manner, their perceptions were focused on the intelligent moves of the student aimed at working through the problematic aspects of performance. In discussion, we were able to focus on this interplay between teacher and student and speculate how the notion of a work space would inform the interactions of teachers with students in small- or large-group settings as well as individual lessons. Although all of us had either taught or taken private lessons, the project offered an important window for us to observe the fluid interactions of teacher and learner in the applied studio from the sidelines.

The three-way conference after a student teaching observation. Student teachers in music face a multitude of challenges in learning to teach in the context of their cooperating teacher's classroom while demonstrating what they have learned during the course of their music teacher preparation to the super-

visors who visit them periodically throughout their placement in schools. It is relatively easy to understand how a student teacher's focus could be drawn away from his or her primary center of attention—the musical development of the elementary, middle, or high school students in that classroom.

The most familiar context for integrating these various dimensions of student teaching is the supervisory conference that takes place after an observation. In the very best sense, this environment enables the student teacher, cooperating teacher, and university supervisor to work together to make sense of a particular lesson or rehearsal. Each brings a valuable point of view to the conversation, and the potential for articulating useful insights is high. These supervisory conferences, however, are infused with many emotional layers as the student teacher's thinking is on display, the cooperating teacher's program is open to examination, and the university supervisor's abilities to relate fundamental concepts are tested. Shared meanings are important for the three-way relationship to function well.

A constructivist approach to these conferences places the elementary, middle, or high school students' musical understanding as the centerpiece of the discussion. Often, initial questions relate to the student teacher's perceptions of students' work in the class or rehearsal ("What did you notice about the students' responses? In what ways did students demonstrate what they were learning?"). Questions that speak to the unexpected elements of a lesson often bring forth necessary differences between the student teacher's plan and what actually transpired ("Were there any surprises in the lesson? What happened that was unexpected?"). For responsive teaching to occur, a student teacher must be able to articulate how he or she makes changes in a plan to accommodate the students' discoveries, confusions, difficulties, or successes. Additional questions can focus on the evaluative aspects of the lesson ("What did the students learn, and how do you know that they learned?").

As all three participants in the discussion share answers to these questions, their relationship to the cycle of planning, teaching, and assessing becomes clear. In reflective practice, what is learned through collaborative examination of a lesson or rehearsal is folded into the next experience that a student teacher plans or implements. In addition, the mutual modification of the beliefs and practices of the cooperating teacher and university supervisor also occurs in this setting.

Summary

This chapter has illustrated ways that preservice and practicing teachers can apply contemporary principles of teaching and learning to create thoughtful

classrooms centered on musical understanding. The design of a course for teachers is a test of professional judgment as goals are clarified, assignments are created, readings are selected, and the flow of the semester's work is mapped out. The implementation of a course is a test of critical and creative thinking, artistry and technique and involves a blend of idealism and realism as course corrections and adjustments are made throughout. Reflecting on the course at the end of the semester often causes us to examine what actually transpired and the way the events remained true to the spirit of initial intentions.

The ultimate goal, however, is to work toward music teacher education classrooms that are in direct contrast to static, stale, one-size-fits-all conduits for teacher training. The challenge is to design an environment that resembles the kinds of classrooms we hope to create. Music educators need to build an ongoing model of musical development; model musical thinking and reflective thought; design engaging, open-ended experiences; practice masterful perception; draw upon a repertoire of representations; collect evidence of students' thinking; and embed assessment in curriculum and instruction in order to create these mindful classrooms. Ultimately, the ways that teachers draw upon the insights and experiences in university classrooms will inform the way they design their own classrooms. The various meanings and models of teaching and learning music are put to use at the heart of understanding.

Footnotes

1. Throughout the chapter, I'll use "preservice teachers" when referring to undergraduate music education majors, "practicing teachers" for teachers already in the field who are participating in graduate music teacher education or professional development activities, and "students" to refer to primary and secondary school students.

2. See Webster (1998) for a concise overview of the shift from traditional to constructivist views of learning.

3. Richardson and Placier (2001) provide an especially thorough review of research on two views of teacher change from the perspective of the individual and from an organizational standpoint.

4. See Barrett, McCoy, & Veblen (1997) for a complete description of the transport exercise (in Chapter 4, "Getting to Know a Work of Art," and the cultural counterpoint described in Chapter 11, "Music and Culture").

5. See Kennell (1992) for more insights on examining the applied lesson setting.

6. My thanks to instructor Josh Ryan and student Holly Roth for agreeing to participate in this "experiment."

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