Chapter 4
Changing Learners: The Nature of Expertise in Music Teaching
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Ten years ago we published a review of descriptive and experimental research in music education that had employed assessments of the quality of teaching (Duke, 2000), noting a marked absence of student accomplishment among the measures of teacher effectiveness. Since that time, researchers associated with the Center for Music Learning have continued to develop observation and evaluation procedures that illuminate relationships between the behavior of teachers and the changes that come about in the behavior of learners.

Our research has been premised on two ideas, the first of which is the division of lessons, classes, and rehearsals into brief episodes of instructional time (labeled rehearsal frames) that are devoted to identifiable, proximal learning goals. Rehearsal frames were first introduced in 1994 (Duke, 1994, 2000, 2009) and have since been applied in a wide range of pedagogical assessments in music (e.g., Benson & Fung, 2005; Cavitt, 2003; Colprit, 2000; Derby, 2001; Henninger, 2002; Henninger, Flowers, & Councill, 2006; Siebenaler, 1997; Taylor, 2006; Worthy, 2003, 2006; Worthy & Thompson, 2009; Younger, 1998) as well as in programs of teacher preparation.

The second idea is the application of narrative descriptions of behavior that explain what teachers do during these brief episodes to elicit changes in the thinking, behavior, and attitudes of their students (Duke & Buckner, 2009; Duke & Simmons, 2006). Rather than record the parameters of specific variables associated with teaching and learning, this approach instead uses narrative descriptions of teaching episodes that illustrate the relationships between teacher behavior and the changes that come about in student performance.

The combination of these two ideas yields a meaningful picture of teaching and learning, one that not only helps clarify the ways in which teachers bring about changes in their students but also provides guidance to aspiring novice teachers who wish to develop and refine their pedagogical skills. The results of our analysis in this report further illuminate the nature of expertise in music teaching in the context of learners with differing levels of experience.

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In 2006, Duke and Simmons found remarkable consistency among the lessons of three artists teachers working with highly accomplished conservatory students. Here we illustrate the application of observation procedures described above in the analysis of individual instruction by another renowned artist-teacher working with two college-age conservatory students and two secondary school students enrolled in a preparatory program. We wanted to know whether the teaching principles identified in previous investigations would appear similarly in lessons with younger, less experienced learners.

Method

We observed four lessons taught by a master teacher of the violin, Stephen Clapp, a member of the faculty and former dean of the Juilliard School. Professor Clapp’s biography describes a long and distinguished career as a performing artist and teacher.

Violinist Stephen Clapp, Dean Emeritus of The Juilliard School, has maintained a performing and teaching career for decades while serving as an administrator at Juilliard, Oberlin and Aspen. He has been concertmaster of the Aspen Festival Chamber Symphony and the Nashville and Austin Symphonies, and has performed in collaboration with such artists as Itzhak Perlman, Pinchas Zukerman, Jacqueline DuPre, Yo-Yo Ma. Winner of the first Walter W. Naumburg Chamber Music Award as a member of the Beaux-Arts String Quartet, Mr. Clapp also was a founding member of the Blair Quartet. He has recorded and toured internationally with The Oberlin Trio. Dean Clapp has given master classes and appeared in recitals and concerto performances in the United States, Canada, South America, Europe and Asia.

A deeply committed teacher of talented young performing artists, Dean Clapp continues to teach violin and chamber music at Juilliard. He began his teaching career at the Juilliard Preparatory Division (now called the Pre-College) in 1962 while earning his Master of Science degree from Juilliard. Subsequent teaching affiliations were with the Aspen Music School, Peabody College in Nashville, The University of Texas at Austin and the Oberlin College Conservatory of Music. He has contributed articles to *The Instrumentalist* and was editor of the *American String Teacher* journal’s Violin Forum.

Dean Clapp has held several posts at institutions of higher education in the performing arts. As Associate Dean of Juilliard from 1991-94, he supervised all orchestral and chamber music activities at the school; he has been a member of the Juilliard violin and chamber music faculties since 1987. He has served in many policy and curriculum-related positions at Juilliard, including the Admissions, Financial Aid, Vocal Arts and DMA Governance Committees, Faculty Council, Administrative Council and the Committee on Scholastic Standing. Dean Clapp was a member of the President’s Senior Staff from 1991 to 2007. He also served
as Dean of the Aspen Music Festival and School, and Acting Dean of the Oberlin Conservatory.

His musical training includes study with Dorothy DeLay and Ivan Galamian at Juilliard, with Andor Toth at the Oberlin Conservatory, where he earned his Bachelor of Music degree, and at the Mozarteum Akademie in Salzburg, Austria.

Two of the four students whose lessons we observed were college-age conservatory students enrolled at Juilliard; the other two were secondary school students enrolled in the Juilliard preparatory program. We observed video recordings of Professor Clapp teaching each student in a one-hour private lesson.

In our analyses of Professor Clapp’s teaching, we used observation procedures similar to those developed and applied in Duke and Simmons (2006). We first observed the recordings of the lessons, making notes about the interactions between teacher and student and identifying proximal performance goals and instances of verbal directions, explanations, feedback, and modeling. We then performed a Scribe analysis (Duke & Stammen, 2010) in which all teacher and student activities were labeled for further review. Finally, we categorized the episodes of teacher activities according to the 19 elements identified by Duke and Simmons, which we list below.

Observations

The descriptions of teaching behavior from Duke and Simmons (2006, pp. 11-15) are reprinted here, and nearly all of them aptly describe Professor Clapp’s teaching with both the younger and older students. The few differences between Professor Clapp’s teaching and the teaching observed in Duke and Simmons are noted in italics within the paragraphs below, as are the differences between Professor Clapp’s lessons with the more- and less-experienced students.

Goals and expectations

The repertoire assigned students is well within students’ technical capabilities; no student is struggling with the notes of the piece.

The fact that students are performing selections from the standard repertoire that are well within their technical and musical capabilities affords more time to focus on the consistent application of excellent fundamental technique in the context of expressive music making. The challenge for the students, then, is to execute the technical and musical demands of repertoire with the utmost skill every time they engage in performance. Students come to lessons having learned the notes of the piece and having had time to make independent interpretive decisions. It is from this point—notes learned and musical ideas formulated—that work in the lesson begins. Professor Clapp’s work with the two older students is certainly consistent with this description. His two younger students, although they are fully
capable of playing the repertoire they are assigned, play pieces in the lesson that are at varied stages of readiness. Not all of the notes have been learned in all of the pieces and some pieces are performed well under performance tempo. For those pieces in which the notes are not yet learned, students work systematically through difficult passages in the lessons under Professor Clapp’s guidance. These challenging passages are referred to by Professor Clapp as “brackets,” indicating that they have been marked in the score as requiring extended, deliberate attention and careful practice. In the lessons of the younger students, work on some of the repertoire begins with the brackets and then proceeds to playing through the piece.

Teachers have a clear auditory image of the piece that guides their judgments about the music.

These teachers convey clear ideas about how technical demands should be executed to produce appropriate stylistic character and musical interpretation. There is little hesitation in their speech, which suggests that they have in their minds vivid auditory images of the pieces they teach. They seem to know exactly what they expect to hear when students perform. Their technical and musical judgments are based on historical and theoretical knowledge and on direct performance experience. When lessons deal with repertoire teachers have not previously encountered, they are able to guide students by generalizing knowledge from familiar pieces in a way that makes instruction as valuable as instruction with familiar repertoire.

The teachers demand a consistent standard of sound quality from their students.

In every lesson, the teachers are resolute in their insistence that their students produce only high-quality sounds (tone quality), the product of consistently correct fundamental technique. Irrespective of the lesson target addressed at a given moment, the teachers’ attention remains focused on the quality of students’ sounds. When students use faulty technique and produce sounds that are below the expected level of quality, teachers immediately identify the problems and require students to repeat the passages until correct technique and beautiful tone are demonstrated in context. The teachers are tenacious about sound quality, continuing to attack the same problems again when they are reproduced. They do not let sound problems persist in their presence.

The teachers select lesson targets (i.e., proximal performance goals) that are technically or musically important.

Perhaps the most occluded aspect of the teachers’ decision making is their selection of lesson targets in the moment. Their choices of targets are based not only on the achievability of goals, but also on the goals’ contribution to the musical product. The teachers’ choices evince a reasoning that balances feasibility with importance. More trivial issues, like intermittent, momentary errors, tend to be ignored, whereas more fundamental issues of technical execution and issues of
continuity and effective expression of musical ideas are attended to immediately and are pursued assiduously.

Lesson targets are positioned at a level of difficulty that is close enough to the student’s current skill level that the targets are achievable in the short term and change is audible to the student in the moment. When errors in performance require attention, teachers guide error correction successfully. They accomplish this by clearly identifying the underlying fundamental issues that are causing problems and asking students to make adjustments in their playing accordingly. Teachers skilfully limit what they ask students to do in a way that ensures students will be able to make that adjustment in the moment. Because students are able to successfully manage the changes they are asked to make, they hear improvement immediately.

The teachers clearly remember students’ work in past lessons and frequently draw comparisons between present and past, pointing out both positive and negative differences. As students make progress over time, teachers are clear in pointing out the positive changes they hear in student performance. The considerable amount of time spent describing improvements in performance over weeks or months is notable for its contrast with negative feedback, which is generally pointed and brief.

The process of change

Pieces are performed from beginning to end; in this sense, the lessons are like performances, with instantaneous transitions into performance character; nearly all playing is judged by a high standard, “as if we are performing.”

The teachers create opportunities for students to practice performing by structuring lessons in ways that make the lesson performances resemble public performances. In the case of only one teacher (Professor Nelita True, one of the three subjects in Duke & Simmons) do lessons generally begin with uninterrupted performances of prepared repertoire. In subsequent performances with Professor True and in all performance with Professors Killmer and McInnes, students are interrupted only when errors are made. When giving feedback, the teachers describe how an audience in a concert hall would perceive the students’ performances, which serves to emphasize the point that every performance trial should be executed as though people were “paying to hear it,” whether the performance takes place in a practice room, lesson studio, or concert hall. Professor Clapp’s lessons with the older students more closely resemble Professor True’s lessons in this respect. All of the pieces performed by the older students were brought to the lesson with all of the notes in place and at tempo. Professor Clapp hears learned repertoire without stopping, and only after the completion of the piece does the work on passages in need of attention begin. This is the case even with the younger students when they perform music for which all of the notes have been learned. With the younger
students, work on individual pieces that are not yet under the fingers begins not with a play-through but with work on what have been identified in previous lessons as brackets (passages that are often performed under tempo).

**In general, the course of the music directs the lesson; errors in student performance elicit stops.**

Students come to lessons with a command of the repertoire. Notes and rhythms, except when these have been learned incorrectly, are not topics of discussion. Teachers allow students to play through pieces or sections of pieces in their lessons until errors occur. These are dealt with the instant they occur, with the teacher immediately interrupting performance. Because errors are not permitted to occur without correction, teachers reinforce the idea that performing beautifully and accurately is the goal of every performance trial. Here again, Professor Clapp does not typically stop the older students who are playing through learned repertoire, but instead makes written notes during their play-throughs that identify points of interest. He subsequently revisits those points for instruction and practice. He more often stops the younger students when errors occur as they play through repertoire, though in a play-through by one of the younger students, Professor Clapp indicates errors (often intonation errors) by saying “Ouch!” loudly as the student plays, but it is clear that the student knows to continue playing.

The teachers are tenacious in working to accomplish lesson targets, having students repeat targets passages until performance is accurate (i.e., consistent with the target goal).

Once a target has been identified, teachers have students repeat passages until positive changes are made and the students perform accurately. They use a variety of feedback and modeling to elicit changes and do not give up or simply tell students to “go practice.” The targets they choose to work on are noticeably directed at characteristic sound production and appropriate musical interpretation, and are carefully chosen so that success is achieved. Professor Clapp when necessary directs the systematic modification of skill by specifying the parameters of each performance trial in the rehearsal frame, reducing the complexity of the target task and then successively approximating performance character and tempo in subsequent performance trials. This is especially true in the lessons of younger students.

Any flaws in fundamental technique are immediately addressed; no performance trials with incorrect technique are allowed to continue.

Teachers pay careful attention to the way students execute physical movements in every performance, and flaws in technique do not go unnoticed or unmentioned. When students demonstrate a fundamental flaw, that problem is addressed with utmost priority, superseding any other previously stated performance target. Repetition of the targeted physical movement continues until the technical flaw is corrected, and the lesson resumes its course.
Lessons proceed at an intense, rapid pace. Because teachers identify targets quickly and concisely, teacher-student interactions occur frequently. This rapid alternation between episodes of teacher activity and student activity increases the students’ opportunities to respond and receive feedback about their performances. Teacher activity episodes are generally very brief. Teachers state their feedback and directives succinctly and straightforwardly. The pace of instruction in Professor Clapp’s lessons is quick once targets are identified and work begins, but because he seldom interrupts ongoing performance by the older students, episodes of student playing and teacher activity (verbalization and modeling) in the older students’ lessons tend to be longer than those typically observed in Duke and Simmons (2006). In the lessons of younger students, interruptions of ongoing performance occur more frequently, which leads to more rapid alternations between episodes of teacher and student activity.

The pace of the lessons is interrupted from time to time with what seem to be “intuitively timed” breaks, during which the teachers give an extended demonstration or tell a story. The teachers seem to sense when breaks from the intense pace of the lessons are needed. In order to allow for mental and physical relaxation, teachers depart from rapid teacher-student interactions by telling an interesting or entertaining story or by elaborating on something previously discussed. These breaks are clearly departures from the task at hand and seem to serve as brief, pleasant diversions for both the student and the teacher. Once students and teachers have had time to relax, the more intense interactions resume. When the pace changes between rapid alternation of teacher and student activity episodes and longer breaks, there is little or no transition time in getting back to the intense pace. In fact, the pacing of the lessons seems almost dichotomous. The teacher is clearly in control of the pace of the lesson.

The teachers permit students to make interpretive choices in the performance of repertoire, but only among a limited range of options that are circumscribed by the teacher; students are permitted no choices regarding technique. Teachers offer students opportunities to make limited independent choices concerning interpretive elements of performance, and do not intervene when interpretive choices are within the parameters of accepted musical convention. But when students make choices that are outside the bounds of acceptability, as defined by the teacher, the teachers lead the students to rethink their choices and select more acceptable alternatives. Some of the interpretive choices that students make are only apparent choices, in that the teachers lead the students to adopt interpretations that the teacher clearly has in mind—in these instances there is no real choice. Students are given no options regarding the technical aspects of playing the instrument, and they follow the teachers’ prescriptions to the letter.
Conveying information

Teachers make very fine discriminations about student performances; these are consistently articulated to the student, so that the student learns to make the same discriminations independently.

It is clear that the teachers know precisely what they expect to see and hear from the students, which suggests that their vivid auditory images of the repertoire leads to their detecting even the smallest deviations from the images they have in mind. Teachers articulate clearly and directly what they hear, and their attention is focused primarily on tone production and musical expression (including all of the rhythmic and dynamic variables that contribute to expressive music making). This systematic feedback guides students to listen to themselves as their teacher listens, and shapes students’ ability to make independent discriminations about their own playing. Teachers further ensure that students are making appropriate, independent discriminations by asking them to verbalize those discriminations in lessons. Especially with the younger students, Professor Clapp asks many questions that prompt the students to analyze their own playing, both physically and auditorily. He devotes considerable time and attention to facilitating self-analysis.

Performance technique is described in terms of the effect that physical motion creates in the sound produced.

The sound that students produce is consistently the focus of the teachers’ attention. Irrespective of the physical aspect of playing (physical technique) that may be the immediate focus of attention, teachers systematically pair physical motion with its effect on sound production. In this way, physical technique simply supports the main goal of creating characteristic sound quality. Pointing out the relationship between physical motion and the effects that physical motion produces is true not only with regard to tone production, but also in the production of musical effects (e.g., phrase endings, sense of line). During work on passages in need of attention, Professor Clapp describes specific details about practice procedures for the two younger students, going so far as to guide their practice in his presence. The sequence to be practiced at home is performed with precise guidance during the lesson. This is an important departure from the data reported in Duke and Simmons (2006).

Technical feedback is given in terms of creating an interpretive effect.

Once students have learned how a given physical motion affects sound production, teachers are able to use technical feedback to alter musical expression. Teachers guide students toward creating an appropriate musical effect by describing and modeling how the physical movements that change sound can be applied to achieve an intended interpretive effect. Often, the techniques they describe can be transferred between phrases in the piece and between pieces in the repertoire.
Negative feedback is clear, pointed, frequent, and directed at very specific aspects of students’ performances, especially the musical effects created. Negative feedback is given succinctly and is pointedly directed at improving performance quality. The frequency of negative feedback is markedly higher than the frequency of positive feedback. The content of negative feedback is consistently quite specific and explicit, making the students privy to the teachers’ highly refined auditory discriminations. This contributes to students’ learning to make finer discriminations about their own playing. The clarity and directness of the negative feedback facilitates the efficient correction of errors.

There are infrequent, intermittent, unexpected instances of positive feedback but these are most often of high magnitude and extended duration. In an effort to elicit change in students’ performances, teachers provide frequent negative feedback that is directed at improving the quality of performances just executed. Contrastingly, when students achieve important goals, or independently create musical moments that are stunning to their teachers, the teachers give positive feedback that clearly expresses their excitement about the students’ accomplishment. The positive feedback is emphatic and detailed. In a given instance, positive statements are repeated several times. This happens at least once in nearly every lesson and is unmistakably differentiated from the communication of negative feedback. Because the durations of teacher and student activity episodes tend to be quite brief in the lessons of the younger students, there are frequent opportunities for teacher feedback, and in fact Professor Clapp gives feedback after nearly every performance trial when there is extended work on technical challenges. Much of this feedback is positive when students accomplish proximal goals. Especially with younger students, Professor Clapp’s positive feedback following discernible improvements in performance is high in magnitude.

The teachers play examples from the students’ repertoire to demonstrate important points; the teachers’ modeling is exquisite in every respect. In all instances in which the teachers demonstrate, whether singing, gesturing, or playing, they embody the expressive elements of the music while executing the example nearly flawlessly. The teachers often juxtapose a remarkably faithful imitation of the student’s performance with their intended model of the performance goal, evincing a definitive level of technical command and fluency.

Summary

We found in our observations of Professor Clapp’s teaching a remarkable correspondence with the teaching of the three artist-teachers whose work we both described in 2006, and the behavioral elements that we observed were present in Professor Clapp’s teaching of less-experienced learners and in his teaching of conservatory performance majors. Although Professor Clapp certainly
accommodates the age and experience levels of the younger students in tangible ways, the underlying principles of behavior change that were identified in Duke and Simmons (2006), which Professor Clapp demonstrates in his teaching of highly accomplished players, clearly underlie his ability to accomplish meaningful goals in the four lessons we observed.

Perhaps the most important difference between Professor Clapp’s teaching of more- and less-experienced learners is his approach to developing independent thought in the younger students, who are as yet unable to solve problems effectively on their own. To this end, Professor Clapp assiduously and meticulously shows his younger students how to practice passages with which they are experiencing difficulty, leading them to make independent discriminations about their physical behavior and the sounds they produce. Rather than always “show and tell,” he often “asks and listens,” patiently allowing the learners to formulate their own ideas and make their own decisions.

The organization of the lessons into rehearsal frames facilitated our observations of the relationships between Professor Clapp’s behavior and the changes he elicited in the playing and thinking of his students. It is clear that observing entire lessons with the goal of understanding the nature of experts’ ability to affect the behavior of learners is a daunting task, especially for aspiring novices who wish to learn from observing masters in the discipline. Rehearsal frames serve to isolate instructional targets (proximal goals), which allow observers to more clearly connect what teachers do and what learners learn.

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The narrative description of the relationships between explicitly defined teacher and student behavior also facilitates a deeper understanding of the process of accomplishing learning goals moment to moment. The smallness of the rehearsal frame window permits a full description of the observable variables at play, but this is predicated on the observer’s ability to describe the process in terms of specific behavior.

We offer here a mechanism for managing the complications of observing, evaluating, and practicing the skills of teaching in context in ways that connect the behavior of teachers with the accomplishments of their students. And of course, student accomplishment is the point of it all. Our descriptions of an artist-teacher’s work with four students of different levels of experience illustrate that the machinery of behavior change that underlies the nature of expertise is articulable, understandable, and learnable by aspiring novices who wish to emulate the teaching of the best in our field.