

**FACE-TO-FACE AND DISTANCE TEACHING AND LEARNING IN HIGHER
EDUCATION: LESSONS FROM THE PREPARATION
OF PROFESSIONAL MUSICIANS**

By

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ABSTRACT

Procedural knowledge that is practical in nature is often denigrated and marginalized in the academy. I suggest that academic programs in higher education can benefit from focusing on procedural as well as propositional (or theoretical and abstract) knowledge. The preparation of professional musicians is relevant because musicians' focus is often on procedural knowledge gained through doing music. Two approaches to preparing professional musicians are contrasted, namely face-to-face and distance education. They illustrate how the transmission and acquisition of procedural knowledge works. The first, face-to-face teaching and learning, is thought about figuratively in terms of an artist who apprentices pupils or disciples and leads them to become exponents of particular musical practices. The second, distance teaching and learning in music as practiced world-wide, is informed particularly by metaphors of the web, factory, and boutique that invoke notions of connectivity, production, and consumption in music education. The role of technology in mediating the process of teacher and student interaction is explored and implications for distance teaching and learning in higher education are sketched.

Modern European universities developed during the high middle ages as places for advanced theoretical study. Following the lead of the ancient Greeks, philosophy was among the most highly valued subjects. Although music was one of the first subjects to be taught in the European medieval universities (Carpenter, 1958), it was not a practical subject but was studied philosophically and theoretically. One of the most long-lived texts was Boethius's *De institutione musica*, a speculative view of music that still flourishes in certain quarters today (Godwin, 1987). Students who wished to develop practical musical skills studied privately with performers outside the university. During the nineteenth and twentieth centuries, music conservatories arose to prepare performers needed by growing numbers of instrumental ensembles and a growing demand for music concerts (Rainbow and Cox, 2007). In the twentieth century, many conservatories and university music programs coalesced into institutions of higher education bringing together the theoretical and practical aspects of musical instruction. In our time, music education in the academy has become increasingly internationalized and distance teaching and learning in the professional education of musicians is conducted around the world and is reshaping music teaching and learning in the academy and the wider mass media (Hebert, 2007; Salavuo, 2008; Sherbon & Kish, 2005). Beside patriotic and nationalistic elements in music education (Hebert & Kertz-Welzel, 2012), distance education offers opportunities to focus on local musical cultures and to share them internationally (e.g., Euba, 2003; Clayton, 2003).

Music is an especially interesting case because musical knowledge is propositional and theoretical, procedural and practical (Ryle, 1949; Howard, 1982; Scheffler, 1991). Technologies now permit musicians to rehearse in real time and conservatory and university professors who are performers can now teach students who are located in various continents in real time. These musical initiatives suggest possibilities for other disciplines and professions that are likewise

practical and procedural in nature. Building on earlier published work (Jorgensen, 2011), I contrast approaches to face-to-face and distance education in music education, explore aspects of the mediation of technology on acquiring procedural knowledge, and suggest implications for distance teaching and learning in higher education that has also become increasingly internationalized.

Knowing what a thing is and grasping how it is made is not the same thing (Scheffler, 1991, ch. 3). I can know a piece of music and recognize it when I hear it without being able to perform it. Propositional knowledge of this piece of music refers to my theoretical understanding of this piece, the circumstances of its composition, and other salient stylistic details. Procedural knowledge involves the practical skills of being able to play this piece of music. For example, I may recognize the sound and sight of a Balinese gamelan. This is propositional knowledge. Recognizing this music, and even being able to say something important about its characteristics need not mean that I also have the ability to play these instruments in the requisite manner. If I am to perform this music, propositional knowledge does not suffice. I also require procedural knowledge, and an array of instrumental and interpretative skills. My focus must be on acquiring practical and procedural knowledge. In all of the musical traditions I have studied, this is a particular concern in the preparation of musicians.

Emphasizing practical and procedural matters that are the stock and trade of musicians may seem to be foreign to the tradition of abstract and theoretical knowledge long valued in the academy (Kennedy, 1997). Some might say that such knowledge has no place in higher education. I suggest, however, that attending to the procedural knowledge typical of the advanced professional preparation of musicians in face-to-face and distance settings can benefit academic programs in higher education. It not only relates directly to the wider interests of

professional education (cf. Schön, 1987), but it is also useful in preparing scholars in academic fields long the province of the modern university. Moreover, bringing propositional and procedural knowledge together in a “this-is-with-that” fashion (Jorgensen, 1997, 2001, 2003, 2006, 2008, 2011) resonates with the inevitable dissonances, discontinuities, ironies, and paradoxes in the messy practical world of teaching and learning in higher education today.

Metaphors are especially fruitful ways of thinking about music and education (Jorgensen, 2011). Artists tend to think figuratively as well as literally, and often invoke metaphors in thinking about what they do. A metaphor is a way of thinking about one thing in terms of another. When one says that a sound is dark or a painting broods, that a school is a factory, a boutique, or a web, or the musician is an artist, one doesn’t mean to be taken literally. One thinks in terms of that sound, painting, school, or musician in ways that are imaginative, evocative, and in some respects foreign but imported from one’s knowledge of other things such as color, mood, factory, boutique, web, and visual artist. This juxtaposition of two somewhat disparate entities, with their respective connotations and associations can be surprising and spark fresh understandings and different ways of looking at things. When we use a figure of speech, and in some languages, when we employ particular characters, we call upon this sort of imaginative thinking. I want to think about education in terms of a few of the metaphors that impact the face-to-face and distance teaching and learning in preparing professional musicians. As I show, these metaphors are historically and geographically pervasive and resilient. They also hold promise for conceptualizing the challenges and prospects for internationalized higher education.

CONTRASTING METAPHORS IN MUSIC EDUCATION

From antiquity, in east and west, musical performance has traditionally been taught by a master, a revered performer, who brings along his (and historically, most masters have been men) young charges who become his disciples. As they are able, and if they show promise and devotion, the master gradually imparts to them the musical wisdom to which he is heir. Pupils often live with him or close to him, and learn not only musical knowledge, but a way of life of a musician. They become enculturated in a particular tradition or musical practice, and are dependent on their master for opportunities to learn and develop as musicians. This education is often familial, both literally as in the case of generations of musicians (e.g., Geiringer & Geiringer, 1954; Martin, 1983), and figuratively, in the tendency of musicians to trace their particular pedagogical ancestry as members of particular musical tribes or schools (e.g., Edwards, 2004; Atanasov, 2004). Rather than an ephemeral or passing knowledge of the subject matter, the master musician bequeaths to his students a tradition that is treated as sacred and precious. As the principal intermediary between the tradition he practices and the disciples he accepts, the master transmits wisdom orally through his actions and precepts. The master exemplifies fidelity to wisdom he bequeaths to his disciples; his disciples are entrusted with knowledge and expected to remain faithful to it. When students are untrustworthy or insufficiently apt, a teacher in the North Indian tradition, for example, may choose to withhold information from them for years (Neuman, 1980). Better that knowledge perish than be conveyed to those who will misuse, misunderstand, or otherwise meddle in a music that they do not understand, respect, seek to sustain, and love.

In small group lessons in traditional music that I witnessed in Japan, the students' respect for the master, the master's love for the disciples, and their affection one for the other were

clearly evident. Teacher and student bowed to each other before and after the instruction, and all of the disciples in attendance at the lesson leaned into the teacher and student who were the focus of attention so that the auditors became almost one with them. This phenomenon is also evident in instrumental studio instruction that I have witnessed in the United States (cf. Kingsbury, 1988; Nettl, 1995). Here, students are in awe of their teachers, and deep personal bonds develop between them as the students develop as artists. While there are evident differences in the specific practices of musical master-disciple apprenticeship around the world, and women are now more involved as teachers and students of their instruments, I see many common characteristics among these disparate musical traditions in east and west.

The artist and apprenticeship pictures of music education (Jorgensen, 2011, ch. 4) are characteristic of various professions. For Donald Schön (1987, esp. ch. 2), there is a special way of thinking in the arts and the helping professions that involves what he calls “reflection-in-action.” This thought is imaginative, intuitive, and even, I would add, instinctual, as theoretical ideas are translated variously into particular phenomenal situations with ambiguous outcomes (Copland, 1952). It is up to the master to guide the student in grasping the tradition’s beliefs and practices. The teacher does this by showing and telling through such means as demonstrating to the student, questioning the student, and suggesting alternative renderings to those the student invents.

Against this well-established and revered approach to music teaching and learning is the phenomenon of distance education in music. I see this particularly within the metaphors of the web, the factory, and the boutique (Jorgensen, 2011, chs. 13, 2, and 6). Briefly put, I think of the web literally, in terms, say, of a spider’s web, and figuratively, in terms of the connectivity afforded by the Internet. In the factory, knowledge is carefully broken down into pieces in a

systematic and standardized process that produces specified products. The boutique emphasizes the role of consumption in which knowledge is presented to students attractively in ways that cater to their impulses, interests, and needs. In our time, information is pervasive, and available widely on the web. Rather than delivering content to students, teachers have a curatorial role of guiding students in accessing this information and making sense of it. Teachers and students need not be physically face-to-face, although they may be virtually face-to-face, i.e., they appear to be face-to-face. This is not a residentially-based system of education in which teachers and students dwell with each other over a long period of time. Instead, time together is necessarily limited and instruction is typically pre-planned and outcomes-based in order to take advantage of the relatively short and quite limited focus of teacher-student interaction. Students need not access information directly through the teacher and can find it online by themselves, so they may be less personally dependent on a teacher. The relationship between teachers and students may be more egalitarian than that in face-to-face formal instruction, at least in some respects. Teaching and learning may be more student-driven rather than teacher-centric. Rather than teachers providing students with information that they believe their students must know, students may prefer that their teachers provide them with information in which they are interested.

Notwithstanding the democratic, informal, and individualized education imagined by Ivan Illich (1970) before the Internet was in widespread use, the situation is now very different. The metaphors of the web, factory, and boutique in distance music education have converged. Reasons for this convergence lie partly in the corporate involvement in higher education and presence on the Internet. Online education is expensive in the costs of advertising, creating instructional content, and mounting the technology to mediate distance teaching and learning; these costs need to be covered (and exceeded in the case of for-profit education). Distance

education typically focuses on formal instruction that is didactic and tightly organized rather than informal instruction that arises serendipitously in the midst of other musical activities. Product-centered teaching and learning typically standardizes course offerings, divides knowledge into required outcomes, slices it into specific pieces, and delivers courses as pre-packaged products to the students who purchase or “take” them. Students undergo standardized programs of instruction that result in certain specified competencies.

The rise of a class of technological experts in instructional design often leads to a specialization in the functions of course design and instruction, in which instructors are rendered technicians who are typically presented with particular material to be covered in specified ways. In music, for example, academic courses offered online for college students often follow this approach, and this didactic approach may work quite well for presenting particular content sequentially and systematically. Such courses may involve interactive modules that enable students to complete musical problems and receive feedback on them. Still, this approach typically assumes that the course can be accurately foreseen and projected from beginning to end before it is “delivered” to students. Also, there is little room for teacher improvisation (Allsup, 1997) along the way as would be typical of face-to-face instruction in the formation of musicians.

At first glance, it may seem more challenging to design and implement instructional approaches to professional or practical subjects that involve the transmission of procedural knowledge, i.e., knowing how to do such-and-such, than those for academic subjects focused on the transmission of propositional knowledge, i.e., knowledge that “such-and-such” is the case. This may be because procedural knowledge is often ambiguous and defies standardized, product-driven, and pre-programmed instruction. Still, in music, for example, a college teacher of “class

piano,” an important technical component of professional musicians’ education, may successfully undertake such a course. She is likely to have access to digital pianos, in which the students’ performances can be monitored in real time and asynchronistically. She could break down the requisite pianistic skills into small segments, and systematically work through them in a pre-programmed course that results in demonstrable skill-sets. The higher the pianistic and interpretative skills at more advanced stages of pianistic education, however, the more challenging it would be to pre-program instruction geared to create an artist, for example, a concert pianist. At most, practical and interactive modules would need to be constructed that would allow the teacher to assist professionals develop their technical and interpretative skills in often highly individualistic ways. A piano professor who offers advanced piano instruction in her instrument via the Internet may conduct synchronous audio-visual sessions with students in remote locations, or assess student performance in portfolios stored digitally. Still, she may insist on complementing online instruction with intensive face-to-face instruction in order to encompass aspects that are difficult to deal with online.

Taken alone, these metaphors of face-to-face and distance education approaches in music education prove mixed blessings. The individualistic, rhapsodic, time consuming, enculturative, personal, practical, informal approach of face-to-face artistic formation and apprenticeship has worked successfully in the preparation of professional musicians for millennia. The narrower, content-oriented, impersonal, formal, and systematic approach of distance teaching and learning as it is typically conducted appeals at a time when corporate values predominate in contemporary societies around the world. Just as the face-to-face master-disciple approach to music education is limited to particular people, locations, and times and is time- and place-bound, distance education in music as typically practiced potentially limits physical access to particular people,

locations, and times even as it seeks to transcend physical time and place in virtual time and place.

TECHNOLOGICAL MEDIATION

The technological mediation between teacher and student renders the nature of the interaction in distance education in music qualitatively different from face-to-face instruction in the master-disciple apprenticeship approach to music performance training. Whereas face-to-face instruction operates more-or-less entirely in the phenomenal world, distance teaching and learning is virtual, that is, contact between teacher and student is indirect in the sense that it takes place primarily in the imagined as well as the phenomenal world mediated by technological platforms. In a music performance setting, teacher and student may each be acting in their own separate phenomenal spaces, the teacher playing an instrument in one place and time, and the student in another. The context of time differs, especially where teacher and student are half-way around the world, with a student in Singapore and a teacher in Boston, or vice versa. Even though, in synchronous instruction, they may be on-task with each other at a particular moment in time, the entire context of that time and place may be widely different.

Assume that one is able to solve this time-differential technologically, such that, in musical instruction, the sight and sound of the student playing in one place is seen and heard by the teacher in another place simultaneously or almost simultaneously. Also, assume that the quality of the sound is heard by both teacher and student as natural acoustic sound and the quality of the transmitted images are likewise as realistic as possible. Still, the two people are still utterly dependent on the particular technological mediation to approach the direct interaction possible in the phenomenal world in a live face-to-face setting. The sheer expense of this

mediation and its limited capacity makes time-on-task and the particular technological platform crucial in the instructional situation. Both teacher and student are acutely aware of the limitation of time and the imperative of capitalizing on the moments that they have together in the instructional setting. It is likely, then, that this instruction is more restrictive, product-driven, and oriented toward the most cost-efficient approach to instruction than its face-to-face counterpart.

Nothing could differ more from the often leisurely and even time-consuming formal and informal nature of the face-to-face master-apprenticeship process. There, time is often an immaterial consideration, and the educational process consumes all of the time needed, and is as much unplanned, rhapsodic, improvisatory, and processual as it is didactic, highly structured, pre-planned, and product-oriented. Learning the dispositions required in a way of life by living it embraces a breadth of understandings that are physically impossible to achieve in distance education because one cannot live entirely in a virtual world.

The phenomenal and virtual worlds of face-to-face and distance education in music respectively are somewhat discontinuous. From antiquity, people have made music, sung, and played acoustic instruments. Traditionally, face-to-face instruction has served as the norm in music education because music performance occurs in the phenomenal world, and this is where the performance is ultimately given and judged. More recently, however, computer-generated music, and the growing tendency to think about music as downloaded electronic files, has emphasized the virtual experience of music. As technology has advanced, the phenomenal and virtual worlds of music have approached each other. Early recordings of musical performances were heard as acoustically inferior to live performances, but today's recordings approach and possibly transcend the fidelity of some live performances. Many live performances are mediated

technologically to enhance the sonic experience of performers and listeners. Although contemporary technologies enable the composition and performance of electronically generated sound, in the foreseeable future, I do not see electronically generated music entirely replacing acoustic sound as a vehicle of music making and taking. Rather, they seem to be different and sometimes complementary activities.

I have suggested that technologically mediated music education seeks to approach actuality insofar as possible (Jorgensen, 2011). Taken as a whole, and relied upon entirely, it does not entirely succeed in this objective. It lacks the important ingredient of physical touch. Much music instruction has to do with touch. Learning to perform requires a student to physically feel what to do. It is the matter of the pressure of fingers on a keyboard, the physical sensation of singing, the way one buzzes a double reed to create an oboe sound, or blows into a brass instrument, or moves a bow upon a string, or hits a drum head with a mallet. Much professional knowledge is like this. Anything that needs to be physically done relies on touch. This touch is specific to the particular profession. In instrumental music, for example, it is not merely a matter of a generic pad that records aspects of sensitivity of touch, attack, or whatever. At best a generic pad may give a student a sense of what something is like. If one wants to play a keyboard, for example, one will need to press keys on the keyboard that have resistance, weight, and result in particular attack to make the notes sound. One needs the keys next to each other in the way they would be in an ordinary keyboard. In short, one needs a physical keyboard, electronic or acoustic. Makers of high end digital pianos, for example, realized that pianists want the feel of an acoustic piano action as they press the keys; they desire piano pedals that would replicate, as far as possible, the feel of pressing one's foot on a piano pedal.

When a teacher seeks to help a student do such-and-such, he or she is likely to need to use physical touch in the instructional process. True, a blind teacher may teach without being able to see the student, and analogously, by careful observation, a teacher who cannot touch the student, may still be able to communicate what needs to be done without the sense of touch. None-the-less, having touch in addition to the other senses would be better, if at all possible. Even as a master's degree music student, I recall my piano teacher leaping up from his piano alongside mine to work with me at my piano as we worked out difficult technical passages. Sometimes his fingers were above mine, as he sometimes realized that what might work for him would not necessarily work for me, given the different dimensions of our hands. So, even in advanced instruction, touch cannot be overlooked as an important quality in procedural teaching and learning.

Acquiring procedural knowledge is impacted by the quality of teacher and student interaction. Whereas the interaction between teacher and student in face-to-face instruction is direct, in distance education, the interaction is indirect, determined to considerable degree by the quality and nature of the technological mediation. The extent of these differences lies, in great measure, in the degree to which the teacher and student can be present one to another. Learning procedural knowledge requires trust on the part of the student who, as Vernon Howard (1982, pp. 75, 76) notes, both knows and doesn't know what he or she is up to in becoming a musician. Trial and error, serendipity, intuition, and imagination are evident as the student seeks to do what the teacher is doing. Learning to play the piano, for example, is very much a matter of being dependent on the teacher who shows the student how to play the instrument. As the student gains facility in the instrument, the rules that once seemed arbitrary and immutable become principles that govern one's actions and which one may learn to break from time to time for

artistic effect (Black, 1967; Howard, 1982, pp. 94-96). It matters how the teacher performs as to what the students learn to do. It also matters whether the teacher is able to break down a complex array of skills and gradually introduce the students to increasingly challenging repertoire that develops and relies on a growing repertoire of skills. This process happens informally as well as formally. All along this way, the student feels very bound to the teacher and dependent on the teacher's expertise in developing as a pianist. The student and teacher also come to know each other, and often, to love each other. A student also feels a deep sense of obligation and duty to be faithful to his or her teacher and the musical tradition this teacher embodies.

Relying on technology in distance education changes the nature of the student's dependency on the teacher from a personal to an impersonal one, and both teacher and student must depend on the technology. Much depends on the degree to which and ways in which teacher and student are "visible" to each other and are able to transcend the impersonality of the online environment. I work online with writers at the doctoral level who are only partly present to me and other members of the class. Building the level of trust needed to develop their writing skills requires that they are able and willing to disclose themselves authentically to their classmates and to me. In a face-to-face situation in which we could all be physically with each other, I might have them read short essays that they have written to the rest of the class on a weekly basis. After these readings, I might ask the other students in the class to offer comments to our writers. There is something about the authenticity and trust that this exercise builds among my class members and me in live face-to-face instruction that allows students to risk and to grow as they receive this feedback week-by-week. Doing this in an on-line setting may be possible if all of the members could meet synchronously online once a week, and would be

visible to each other as they read and receive commentary. Although arranging such an exercise online may be more challenging and expensive than a face-to-face meeting of my class in a bricks-and-mortar university, it could be done and it would add immeasurably to the kinds of results I am able to achieve with writers in the absence of this particular audio-visual technology.

The particular trust and authenticity possible where people are physically present with one another may also warrant my admitting that I also require intensive face-to-face meetings with my online students, and that ultimately, the technical mediation of instruction gets in the way of teaching this particular procedural knowledge. Maybe this is why conservatories and universities offering on-line music courses often utilize a mix of distance and face-to-face instruction in their programs. Students may access a master class with a foreign professor virtually, but they can also rely on face-to-face instrumental instruction; one complements the other. In this way, accepting the limits of technical mediation can help universities build distance education programs that combine the best aspects of face-to-face and distance instruction.

IMPLICATIONS

In thinking of a few implications of this analysis for higher education, I concur with Howard (1992) that artistic apprenticeship provides a useful metaphor for acquiring procedural knowledge more generally. Artists rely on procedural knowledge that seeks to realize “a vision of mastery” in exemplary practice (Ryle, 1949; Howard, 1982, ch. 6). As Howard (1992) observes, learning how to do something practically is often a complicated and time-consuming process, and practise is required in order to gain the virtuosity and skill of an accomplished exponent. It is often difficult for the apprentice to know what to do and how to do it (Howard,

1982, esp. chs. 3, 4). Grasping the theoretical rules that undergird this musical tradition may come more quickly than figuring out how to apply them practically and be guided by them in making music. The same is likely to be true in other professional fields. Schön (1987) offers case studies of the various ways in which students develop a professional ability to imaginatively solve ambiguous problems with style and virtuosity. Whether one learns to teach, to consult, to conduct scientific experiments, to write plays, to offer counseling services, to manage a business, to nurse, to design buildings, or to engineer structures, it is likely to be time-consuming and challenging to master the open-ended processes involved in becoming an exponent of these activities. Since both propositional and procedural knowledge is required if one is to succeed, it will be necessary to individualize instruction to some extent in face-to-face and distance environments.

Among the possible intersections between face-to-face master-disciple and distance education approaches in academic higher education, one might organize doctoral programs around guided self-study modules in which faculty members offer free-flowing and individualized responses to students and mentor them as scholars rather than the formal course offerings more typical of today's distance education especially in the United States. This approach is a variant of the old tutorial system (Hight, 1950/1954) in which students bring their work to the teacher for review, critique, and advice on how to improve it. These guided self-study approaches would be more attuned to the development of procedural knowledge in scholarship than the present online course-based doctoral programs that are more focused on propositional knowledge in respective content areas. Such student-based or even student-driven guided self-study academic programs can foster greater flexibility and openness to the possibilities of ambiguous means and ends of scholarly practice than the present course-based

program. They would also seem more consistent with the face-to-face master-disciple approach favored historically by musicians, artists, and other professionals. They could also democratize education in ways that I see quite at home with Illich's (1970) educational vision for the formation of communities of learners and a democratic learner-driven process.

Instead of an either/or choice between these metaphors and their respective approaches to teaching and learning, it is possible to combine aspects of old and new, face-to-face and distance education. This need not be merely an "add and stir" combination of ingredients (Morton, 1994). Rather, the whole is transformed in the process of combining propositional and procedural interests and concerns. Including aims and methods typical of the procedural and practical know-how of artistic and professional education challenges and possibly broadens the aims and methods of distance teaching and learning in higher education beyond propositional and theoretical knowledge towards procedural and practical knowledge. In so doing, it moves from a more limited content-focused program to one that is interested in establishing the way-of life of a scholar-practitioner.

In sum, I have suggested that the contrasting pictures of face-to-face and distance music education can also be thought of figuratively in ways that enable distance educators in today's internationalized universities to draw on approaches used in both traditional and technologically-mediated music instruction. Doing so could enable broadening an otherwise propositional emphasis in academic instruction to include the procedural knowledge that is also an important part of the formation of academics and scholar-practitioners in the professions. It might also make it possible to take advantage of the best of each picture while avoiding the worst. In making this point, I have pointed to some practical strategies that may be useful in accomplishing these ends.

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