

This chapter addresses three themes in the Core Perspectives. First, it argues that preservice teachers should be trained in music technology and technology pedagogy as one would train preservice teachers on brass, woodwinds, percussion, or piano. Second, she suggests that in-service teachers are the experts in their classrooms, regardless of their preexisting competence with any individual subdomain—brass, percussion, or, in this case, technology. Just as experienced band teachers have no problem asking their advanced trumpet player students to help the beginning trumpet player students, teachers can similarly capitalize on students with technological competence. Third, the chapter argues that the U.S. music education system, K-university, is implicitly skewed toward middle to upper economic class culture and, by nature, disinherits those who seek to engage in other musical cultures. Technology, she suggests, is an excellent way to better meet the needs of *all* students.

music technology pedagogy; teacher preparation; music production; reaching all students

music technology, pedagogy, in-service, pre-service, teacher preparation

## Chapter 61

Why Isn't Music Education in the United States More Twenty-First-Century PC?

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Training preservice teachers in technology and technology pedagogy as we would train them on brass, woodwinds, percussion, and piano is vital for future educators to be fully prepared for all possibilities of employment and to serve a greater number of students in the twenty-first century. In his Core Perspective, David Williams states: “training teachers to use new technologies is further complicated by how fast change in music technology happens” (chapter 60 in this book). Having taught high school music technology classes for the last 14 years, my initial response to this statement is to wonder whether the fast changing technology is an issue for the college students or for the professors! This is probably true for both.

Preparing New Teachers by Shifting How We Learn

Even in this day and age of pervasive technology, I completely agree that we need to address a population of students who may not be savvy users of music technology. However, a growing number of students are graduating from schools such as mine who

have taken extensive music technology and audio engineering classes in high school. They participate in these classes much as their peers participate in performing ensembles, gaining 3 or 4 years of ongoing experience and training in high school. Many of these students who might venture to become music educators will have no issue teaching with technology, since they have experience and have had teaching with technology modeled in their own educations. We need to nurture these students' desired expression of music pedagogy, the use of music technology as a valid form of music creation and expression, and, in agreement with Williams, separate and apart from the current and standard course offerings of music performance ensembles.

I do agree with Williams that technology is changing very quickly and that this creates many challenges for the university and the continuing education educator *if* we are training teachers on a specific device or software. Students learn what we present to them. College teachers need to sift through the vast amount and variety of technology to decide what is most useful and covers a broad need for their students. It is possible to use the current technologies as examples of types of technologies that are available. An iPad or a computer is a technology tool. Granted, I

cannot train teachers on all of the apps and software available, but I can use some of them as examples of apps or software for creation, ear training, notation reading, and so on. University professors can teach that these apps and software exist, that they share some common traits, and how to evaluate apps and software.

The opportunity of the university or continuing education setting is to expose preservice and in-service educators to basic common technology tools useful in music education and encourage them to learn on their own and explore. We can educate preservice and in-service educators in such a way that they do not need to be technology experts to use technology. Current technology makes self-learning easier and more readily available through YouTube and professional learning networks such as the Music Teachers Facebook Group and the Facebook subgroups that have specialties, such as “I’m a Music Technology Teacher.” Furthermore, I am in complete agreement with Himonides’s declaration (chapter 59): “teachers can harness a new technology in tandem with the learners, offering their experiences in being critical reflectors and assessors of the learning process, without necessarily being heuristic experts in the new tools.” Although Himonides’s statement refers to the preservice or in-service

educator, university professors can also view themselves as in-service educators. Removing the notion of the “sage on stage,” where educators think they need to be the experts on everything in their classrooms, allows for students to contribute to their own education, ~~the education of themselves,~~ their peers, and the willing professor.

In the classroom, music teachers will always be the music experts, regardless of the tools they use to teach music. My motto, “Teach music. The technology will follow,” helps focus the educator with little background in using or teaching with technology as a music teacher, not a technology instructor.

Technology is the tool. Trained woodwind teachers may understand the basic concepts of playing brass instruments, having learned this in a brass pedagogy class in college or grad school.

They are not the expert brass player, nor do they need to be.

Experienced band teachers have no problem asking their advanced trumpet player students to help the beginning trumpet player students, calling on the students as experts and partners in the classroom. Why don't we use this model with technology?

Experienced music technology teachers and teachers integrating

technology into their classrooms do this all the time. This is a best practice for education that is not specific to music or technology.

My personal experience has shown that I do not need to be an absolute expert in a specific technology to use it in the classroom. Sometimes bringing in a new device and handing it to an enthusiastic student can be a great learning experience for the student and teacher. That student can learn the device and then teach me or, better yet, other students. In addition, if the software I use in my classroom is professional level and sophisticated, I simply cannot learn everything every time there is a major upgrade to it. I have had no problem telling my students that I can show them the basic framework of the software and that there are things that we will learn and discover together. They have no problem with that because they know that the technology is the tool and I am the music teacher and they came to my classroom to learn music. We deal with the tool together until I do actually become the expert! Inevitably, there is always a student who knows more than I do about the technology tool, and I always learn from that student. Good for us all!

An Honest Conversation about Music Education in the United States

For Williams, “perhaps the most important issue for the profession to overcome has to do with the natural reluctance many teachers (and students) have toward change.” This might even be truer of many university music education programs. I would ask university professors to consider how much change there has been in their university preservice teacher training to address the current needs of the K–12 educational environment both from an educational and socioeconomic perspective. Williams suggests a new curriculum for preservice teachers (and I’ll conjecture that he also includes continuing education for in-service teachers) to “develop skills in at least six new areas of study.” He further challenges higher education, asserting: “we have developed an entire curriculum around the preparation of music teachers to direct bands, choirs, and orchestras in K–12 schools, and it would be a disservice to our students to approach the teaching of music with technology with any less zeal.” What Williams is suggesting is that kindergarten through university music education aims to address mostly the needs of traditional performing ensembles, which serves, according to Elpus and Abril (2011). On average, only 20% of a school’s population. We are clearly not serving a majority of the students in public education.

I'd like to take this one step further and offer an extremely controversial perspective, if for no other purpose than to stimulate a larger conversation. Let me preface this by saying that there are many teachers bringing nontraditional music education opportunities for learning music outside the traditional performing ensembles of band, orchestra, and chorus into their classrooms through technology (iPad ensembles, music recording and composition classes), ethnic performing ensembles (mariachi, steel pan, etc.), new and diverse nontechnological instruments (ukulele, Boomwhackers, kazoos, harmonicas, etc.), and classroom music listening and singing and playing "world" and "folk" music. These teachers bring opportunities to a diverse population of students who might not otherwise want or have the means to participate in traditional performance ensembles. This might be due to personal preferences or the economics of the individual or the school, given that it is expensive to run an instrumental program like a band or orchestra. However, I suggest that we have institutionalized music education in such a way as to primarily serve those who have performance ensembles as a tradition or cultural background and to serve the economically advantaged—those who can afford instruments and lessons, individually or institutionally. American



football as a tradition is a great influencer of music culture in US schools, but this chapter does not allow me the space to elaborate on the impact American football has had as a driving force behind U.S. band programs). It could be argued that the American music education system, K–university, is implicitly skewed toward the majority middle to upper economic class culture and, by nature, disinherits those that seek to engage in other musical cultures.

Research by Dammers (2012) indicates that the percentage of students in “Technology-Based Music Classes” from economically disadvantaged schools exceeds that of students from advantaged schools. This research does not indicate the data for the schools’ performing ensembles. After teaching music technology classes for the past 14 years, I have accumulated a great deal of data with regard to my students’ socioeconomic status (e.g., students on “Free or Reduced Lunch”) and their ethnicity (declared minority population tracked in schools and sometimes linked to socioeconomically disadvantaged). My music technology classes have a considerably higher percentage of students who are of the region’s minority than the performing ensembles. At my school, there are more students on free and reduced lunch in my music technology classes than are in all of my

school's bands, orchestras, and choruses combined. Clearly, my school and others serve students outside the traditional performing ensembles with hands-on applied music learning and other engaging music-creating opportunities. This levels the playing field for all students, regardless of cultural preferences or socioeconomic background. It is one example of an attempt to bridge the achievement gap.

Again, these statistics and data are not true of *all* music programs K–12 or university music education programs in the United States, and a great number of individual teachers K–university are driving the creation of new opportunities for music to be learned and expressed with and without technology.

Dammers's (2012) research indicates that 59% of music technology teachers in U.S. high schools have 11 to 20-plus years of teaching experience. Teachers with fewer than 10 years of teaching only constitute 9% of those teaching a music technology class in the United States. If it is primarily the experienced teacher who creates and teaches music technology classes in the United States, can it be that preservice music education does not properly prepare new teachers for this challenge? Williams might agree.

## Can Technology Impact the Economically Disadvantaged Individual and School?

A high school band director from a nearby town with a solid reputation in music education and a successful band program greeted me recently with the comment “I really need to learn what you do or I won’t have a job.” This was not the first ensemble director in recent years to tell me this. In certain parts of the United States, ensemble programs are increasingly under jeopardy, and music teachers are scurrying to save their employment. Given the deep roots of instrumental music ensemble performance programs in the United States, why would so many ensemble directors fear for their job security? Why would so many music educators recognize that turning toward teaching with technology might be a solution to their problem? It’s a matter of economics. Although a single band, orchestra, or chorus director can have extremely large classes and make their student-to-teacher ratio more cost-effective than some other subjects, running instrumental ensembles is extremely expensive.

Furthermore, an ensemble director in a high school may teach more than one ensemble with multiple overlapping students, for example, concert band, jazz band, and marching band all

drawing from the same pool of students. That teacher's time (full-time teacher equivalent or FTE 1.0) is spent teaching many of the same students. In addition, a strong high school ensemble program requires students to repeat the course throughout their high school careers—again, one teacher with overlapping students. I taught “general music” in a New York City public school and had 50 high school students in a class. Fifty students in “General Music” is not education, it's a credit mill, and the administration knew it. They can put 50 kids through a music class, get them their credit in one semester and then put another 50 the next semester. Multiply this by a single teacher's class load (typically, in New York state, for example, five classes, or 0.2 FTE per class, per semester), and you can give 500 *unique* students a music credit in one year with one teacher.

In a school or district that is facing economic hardships, how teachers are utilized becomes critical to survival. When people or institutions are in survival mode, only what are considered the basic necessities are included. Typically, art and music are the first to go. If music is required for graduation, then you need to give those students credit in the most economical way possible. This is exactly what happened in my classroom, in the

State of California in 2010 and in Yonkers, New York in 2011 (Dev, 2010).

Technology costs have plummeted in recent years. Computing devices are as ubiquitous as the smartphones in your students' back pockets. Like them or not, initiatives like "No Child Left Behind" and "Race to the Top" have provided funding for technology but not for tubas (U.S. Department of Education, 2009). Time and time again, I have heard teachers who have started music classes that incorporate technology as the primary learning and music creation tool tell me how many students want to take the class and want to take more advanced classes. They tell me, and I have had the same experience, that these are new music students. They are not, for the most part, students who are already engaged in band, orchestra, or chorus. These new classes increase enrollment in the music program, and more enrollment in music classes means job security for music teachers. Technology is already available to teachers and students, and teachers would do well to utilize it for their career longevity and to help serve the larger student populations of their schools.

While I agree with Williams in principle, I might, given my perspective, change one of his sentences slightly: let's leave the

traditional large ensemble model alone to do what it does best, and use “an entirely different approach in other music classes that is better suited to address the needs” *of all our students through the use* “of new technologies.”

#### References

- Dammers, R. J. (2012). Technology-based music classes in high schools in the United States. *Bulletin for the Council of Research in Music Education, 194*, 73–90.
- Dev, R. (2010, June 12). Survey Shows How California Schools are Coping with Budget Cut Pains. Retrieved January 15, 2015, from <http://newamericamedia.org/2010/06/survey-shows-how-california-schools-are-coping-with-budget-cut-pains.php>.
- Elpus, K., & Abril, C. (2011). High school music students in the United States: A demographic profile. *Journal of Research in Music Education, 59*(2), 128–145.
- U.S. Department of Education (2009, July 24). *President Obama, U.S. Secretary of Education Duncan Announce National Competition to Advance School Reform: Obama Administration Starts \$4.35 Billion "Race to the Top" Competition, Pledges a Total of \$10 Billion for*

*Reforms* [Press release]. Retrieved from

<http://www2.ed.gov/news/pressreleases/2009/07/07242009>.

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