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MUSI 712: Composition for Conductors and Performers

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Bringing Music Technology and Studio Production to the Secondary Public-School Curriculum

Introduction*: "Where did this idea come from?*

One of the greatest divides in my life as a musician, both as a student and teacher, was my lack of education on music technology. Being raised on a purely classical upbringing in the public-school system, I received no training on arguably the most important aspect of musicianship in the 21st century—that of music technology and studio production. Throughout my music education, I wondered, "How do successful artists produce and release an album?" I eventually pieced together the puzzle, especially after taking courses at GMU and doing countless hours of my own personal research. I feel that it is an understatement to say that this knowledge of music technology and studio mixing revolutionizes all aspects of musicianship as a performer, composer, and teacher. The purpose of this proposal is not at all to admonish traditional music, or to say that music technology is the antithesis of classical music, or that it should replace bands, choirs, and orchestras across the state. Rather, this proposal aims to convince the school board that studying music technology *in conjunction* with traditional music programs can best serve the needs of our students in the "digital" 21st century. My long-term plan is in 4 parts: firstly, my philosophy and justification for the inclusion of music technology, secondly, the actual content of the curriculum, thirdly, a plan to integrate this curriculum into preexisting traditional music programs, and finally, advocacy efforts and implementation.

Justification*: "How will this benefit our profession and society?"*

This current push for technology by the coronavirus has furthered the need for readily accessible "distance learning," in conjunction with a 1:1 laptop plan for students. This situation sets the stage to provide students a sound education in music technology, encouraging its inclusion in the curriculum as an elective course. Now that computers are funded and readily available throughout many Virginia public schools, it's time to bring everyone "up to speed" with modern music-making tools! There are countless philosophical reasons to include a focus on technology in the overall music curriculum, but how do its job statistics stand out from traditional music education and performance? According to Data USA, music technology majors stand out in comparison to music education and music performance majors. Since 2017, on average, those who study music technology earn a $4,000 higher average wage than both education and performance majors, and is growing 24.8% in total degrees awarded (compared to a 6% decline in education and performance). Music technology supports a large variety of possible career pathways both in and outside of the education system—music producer, studio/audio engineer, recording artist, recording manager, music copyist and engraver, composer, media and event support specialist, digital marketer, and obviously, technology educator (K-12, collegiate).

Why is this highly lucrative, relevant, and all-encompassing aspect of music not normally taught as an integral part of the curriculum? In many other areas of the state-mandated curriculum, STEAM courses are offered and integrated with the arts (graphic design, web portfolio design, photojournalism, etc.). Technology is a part of every discipline and is interweaved in all subjects; ignoring its important usage in music hinders our students in the long-run.

All music heard through a speaker not only included the acoustic talents of musicians, but the technological know-how that allowed it to be recorded, synthesized, mixed, and composed in a Digital Audio Workstation. It is very difficult to make a sole living in music today without understanding music technology, even if you are a virtuoso on your instrument. Some famous musicians today have even cultivated their style and fanbase without an acoustic instrument or the ability to read sheet music; music is often produced through software alone (John Mackey, Skrillex?). Many use a combination of acoustic and traditional musicianship with the power of technology to produce and distribute quality music at an unprecedented level and speed, whether it be notating and, recording and mixing live acoustic instruments and voice in a studio, engraving sheet music for a live performance, or creating electronic music entirely from a computer. Music technology students will be better prepared to enter the competitive and demanding music industry after graduation, have a larger understanding of musical creation, and develop real-world skills that they can use to make a career dealing with all genres and styles of music.

***Content of Curriculum**: "What will students learn?"*

General music teachers frequently use online videos and interactive SmartBoard equipment to teach their students how to perform and discuss music. At the primary level, music technology can also be used not only to have students "create their own songs" using a simplified virtual instrument program (Chrome Music Lab) , but can also be used to teach basic skills with tutorial and note/rhythm drilling software. Students can even record their own instruments or voice to incorporate into their own compositions. At the secondary level, it is assumed that students already have a rudimentary knowledge of music literacy and basic competency on at least one instrument. Aside from scattered usage of software merely intended to train students in music literacy and aural skills (such as SmartMusic, musictheory.net, and others), music technology can be taught in a much more immersive and advanced way. While developing their traditional music skills through a band, choir, or orchestra program, students will have another option to create music. Students will learn the basic definitions and usages of industry-standard hardware and software—microphones (different types, how they function, what they are used for), audio interfaces, basics of cabling and routing, MIDI programming, synthesizing virtual instruments, and finally, using a Digital Audio Workstation (*Reaper* is free) to tie it all together. The basics of mixing and audio production will be emphasized: track layouts, parameter adjustments like gain, clipping, reverb, and equalization, MIDI integration, and different audio file types. Free music notation software such as *Musescore* and *Noteflight* will be taught to students already familiar with reading and performing notes on the staff, and will be especially helpful to integrate into preexisting music programs. Students will eventually produce their own song using a variety of digital techniques of their choosing, and share their creations with the class (and hopefully, the world)! Along with the basic understanding of recording and synthesis, music technology students will also be encouraged to research jobs in the field and be able to explain the possibilities that these techniques offer in the workforce.

***Plan for Integration**: "How will music technology be incorporated into existing music programs?"*

As I have touched on, music technology goes hand-in-hand with successful performing ensembles. By participating in a large ensemble, students learn the basics of reading and creating music with others. Those who show special interest in the subject will be encouraged to take a music technology course, allowing students to see a "larger picture" outside of their single part in an ensemble. Basic music theory and compositional devices will be learned from traditional music education—you can't write a song on a computer if you don't have any ideas in the first place! Often, these musical ideas come from learning an instrument—scales, chords, and applying it to learning repertoire.

Composing music using *accessible software* will expand students' creativity and love for music, easily allowing students to reach higher levels of Bloom's taxonomy— that of *creation*. I think of this in the same way English classes have incorporated technology—not only are students required to re-create existing works of literature by reading aloud in class, but they are also asked to create their own by typing their own reports and stories using a computer. In music, a performing ensemble is akin to re-creation of existing literature by "reading it aloud"; a music technology class is akin to learning how to create ("type") their own music using a computer. Inclusion of this subject will not create any additional strain on the school budget; all that is needed is a laptop or iPad. A few sets of advanced equipment may be purchased for the classroom to demonstrate higher levels of recording and production techniques, if the budget allows.

Students will also be assigned a "field recording project," where students are asked to record a large ensemble performance or rehearsal. These "field recordings" will then be mixed using a Digital Audio Workstation, and students will compare their mixes and learn from the process of recording live musicians. Students that sing or perform an instrument can also use these skills developed through their traditional music programs while producing their own songs—recording and layering themselves and synthesized instruments to create a "one-man-band." Without the important aspects of traditional music education, music technology courses will not have as much impact and success.

***Advocacy and Implementation**: "How can we advocate for and implement this curriculum?"*

To enact these changes in the school system, efforts to advocate for music technology must start with the school board. As of now, enough state standards under the Virginia Department of Education are in place to easily justify a music technology program, and many do exist throughout the state. The decision to change curriculum and course offerings fall upon the school board and administration of each individual district, county, and school. Contacting arts representatives in the state will be the first step to implement this long-term plan to create, elevate, and broaden music technology courses. Most music universities and conservatories require all majors to take at least one music technology course—our teachers are ready! Teacher-readiness training should continue at the collegiate level to ensure availability of instructors trained with the proper knowledge and excitement to teach the subject. When advocacy efforts from educators, performers, and administrative officials come together, we can improve the education of all music students in Virginia by encouraging a deeper exploration into the technological possibilities of the 21st century.