

TAP (Topic/Audience/Purpose)

The field of music education has long recognized the need to offer relevant music instruction to the 80% of students who do not enroll in traditional ensemble-based courses such as band, choir, and orchestra (Palmer, Hughes, Jothen, & March, 1989; Hoffer, 1986; Thompson & Keister, 1997; VanWeelden & Walters, 2004; Kratus, 2007). Technology-based music courses offer a viable, student-centered approach to provide meaningful and relevant music education to these students (Dammers, n.d.; Freedman, 2013; Demski, 2010). Unfortunately, insufficient and/or ineffective training on how to use digital tools and technology-driven models of instruction in the classroom has discouraged widespread adoption (Gall, 2013; Greher, 2011; Haning, 2016; Murphy, 2016; Bauer, Reese, & McAllister, 2003). This course seeks to provide professional development to in-service K-12 music teachers in both technical skills and pedagogical practice through project-based integration of technology tools, specifically computer-based digital audio workstation software.

The design and implementation of technology based music classes has been identified as an effective approach to making classroom music more relevant to a greater number of students (VanWheelden & Walters, 2004; Dammers, n.d.). As Barbara Freedman reports in her text *Teaching Music Through Composition: A Curriculum Using Technology*:

All students can have meaningful hands-on applied learning experiences that will impact not only their music experience and learning but also their understanding and comfort with twenty-first-century technology. Technology allows a musical experience for all skill levels (Freedman, 2013, p. 8-9).

Demski (2010) concurs, calling for a reinvention of the profession of music education to focus on more technology-based music courses. Students already interact with music digitally and create music at home using computer-based digital audio workstation software, but they lack the foundation that traditional music education provides (Demski, 2010). Technology-based music courses can provide this foundation and more through a relevant, student-centered applied learning approach to teaching music.

Problem

Dorfman (2008) and Gilbert (2015) found that music teachers in their studies reported a positive view of increased technology integration. Unfortunately, professional development in

technology-integration and technology-driven pedagogy for pre- and in-service music teachers is not yet adequate to support wholesale adoption of technology-based instruction (Gall, 2013; Greher, 2011; Haning, 2016; Murphy, 2016; Bauer, Reese, & McAllister, 2003). Gall (2013) reports a lack of support for the pedagogy of technology integration, both from university faculty who are themselves unfamiliar with technology-related tools, and from practicing mentor-teachers who lack resources or confidence in their own abilities to support technology-driven teaching and learning applications during student-teaching. In fact, music technology is often at best viewed as a small subset of the music education preparatory curriculum, which instead emphasize performance-based practices (Greher, 2011). This is supported by the research of Haning (2016), who surveyed pre-service music educators and found that their primary source of technology instruction during their training came from a stand-alone music technology course. Furthermore, this course was not geared specifically for music education; less than a third of respondents reported receiving any training in instructional hardware and software (Haning, 2016). Thus, what proves to be a major obstacle to technology integration is insufficient and/or ineffective training on how to use digital tools and technology-driven models of instruction in the classroom.

Format and Required Technologies

To provide more effective professional development to music educators in how to use and integrate technology tools in their classrooms, researchers emphasize longer-term professional development and research projects. Bauer, Reese, and McAllister (2003) found that a week-long workshop (40 instructional hours) covering strategies for teaching music to K-12 students using music technology increased teacher knowledge of, comfort with, and frequency of use of instructional technology tools. Minott (2015) calls for ongoing professional development that emphasizes the tasks associated with the selection, integration, and use of technology in the music classroom. Both studies emphasize the need for continued support and resources, as well as further formal and informal learning, for gains in integration to be maintained and further developed (Bauer, Reese, and McAllister, 2003; Minott, 2015).

Therefore, this course will be offered 100% online in a 16-week format (40-45 instructional hours) using Canvas Learning Management System (LMS) accessed through standard web browsers. Each week will be scheduled with a beginning and ending date, with activities assigned and due within each week. Activities, as outlined in the “Learning Activities” section below, will include DAW-based projects, literature-driven discussion forums, and peer review. All students will participate, collaborate, and progress together within the scheduled week.

Required hardware

- Computer with an active internet connection
- Studio headphones and/or speakers
- USB powered MIDI keyboard controller (such as M-Audio Keystation 49ES)

Required software

- Digital Audio Workstation (DAW) software program of your choice. For best compatibility with instructional materials, Garageband is recommended for Apple users, while Presonus Studio One is suggested for PC users.
- Standard web browser to access course materials

Guiding Learning Theory

Course learning activities will emphasize community inquiry, self-directed and collaborative learning, and reflective practice, based upon Constructivist learning theory. As defined by Savery and Duffy (2001), Constructivism is characterized by three primary propositions: (1) understanding is in our interactions with the environment, (2) cognitive conflict or puzzlement is the stimulus for learning and determines the organization and nature of what is learned, and (3) knowledge evolves through social negotiation and through the evaluation of the viability of individual understandings. From these propositions, instructional principles are derived which are in turn reflected in Howard Barrows (1985, 1992) problem-based learning model. Problem-based learning (PBL) is an instructional model in which learners are “actively engaged in working at tasks and activities which are authentic to the environment in which they would be used” (Savery & Duffy, 2001, p. 14).

Therefore, course learning objectives and activities reflect a Constructivist emphasis on authentic tasks and real-world application through technology-based projects and interactions. Each week, learners will produce artifacts using DAW software that demonstrate understanding of intended weekly learning objectives. Additionally, learner participation in online forums will support and encourage collaboration and community inquiry in learning through peer review and literature-driven group discussions.

Learning Objectives

Because of this course, learners will achieve and demonstrate proficiency in the following learning objectives:

1. The Learner Will (TLW) navigate and become familiar with the tools, structure, and functionality of the DAW software application
 - 1.1 TLW demonstrate ability to access the application
 - 1.2 TLW interpret user interface icons
 - 1.3 TLW manipulate user interface to access desired tools and perform desired tasks
 - 1.4 TLW evaluate available tools to determine which is appropriate to complete tasks
 - 1.5 TLW demonstrate an understanding of the organizational structure of the application

2. TLW compose and arrange music within specified guidelines using DAW software
 - 2.1 TLW create, edit, and arrange melodies using prerecorded loops
 - 2.2 TLW create, edit, and arrange drum/percussion beats
 - 2.3 TLW use a variety of tools to manipulate recorded material to create variation
 - 2.4 TLW create original melodic and accompaniment materials
 - 2.5 TLW arrange recorded material to adhere to standard musical forms

3. TLW develop an understanding of how foundational elements of music (rhythm, dynamics, melody, harmony, form, tone, and texture) can be taught using project-based learning with DAW software
 - 3.1 TLW understand and create rhythmic notation and dictation using DAW-based graphical representation
 - 3.2 TLW demonstrate knowledge of musical form through recording analysis and related projects
 - 3.3 TLW conceptualize and create melodies using DAW to create motives and variations
 - 3.4 TLW create rhythmic and harmonic accompaniment patterns
 - 3.5 TLW demonstrate proficiency in use of mixing and mastering tools to perform manipulations of recorded material to achieve a variety of tonal, textural, and expressive effects

4. TLW evaluate best-practices for DAW-driven pedagogy and classroom management
 - 4.1 TLW become familiar with course literature related to DAW-driven pedagogy and classroom management
 - 4.2 TLW synthesize learned ideas with current classroom practice
 - 4.3 TLW develop a personalized management plan for DAW integration
 - 4.4 TLW develop and apply related evaluation criteria

Learning Activities/Intended Sequence of Instruction

Week 1: Introduction to software for music instruction

- TLW explore the features of chosen DAW software (*Learning Objectives* 1.1, 1.2, 1.3, 1.4, 1.5)
- TLW create and share a piece of music using DAW software instruments and pre-recorded loops (1.2, 1.3, 1.4, 1.5, 2.1)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 2: Using loops

- TLW create melodies in DAW through the selection and editing of pre-recorded loops (1.2, 1.3, 1.4, 2.1, 3.3)
- TLW use DAW to compose and share a piece of music consisting of at least two contrasting loop-based melodies (1.2, 1.3, 1.4, 2.1)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 3: Recording drum tracks

- TLW read and write rhythms written in DAW-based graphic notation (3.1)
- TLW play/record a digital version of a drum beat in DAW software (1.1, 1.2, 1.3, 1.4, 2.2, 3.1)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 4: Composing drum and percussion beats

- TLW create, record, and share an original drum beat (1.2, 1.3, 1.4, 2.2, 2.4, 3.4)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 5: Writing melodies

- TLW create, record, and share an original 16-bar melody (1.3, 2.4, 3.3)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 6: Melodic variation

- TLW utilize learned DAW tools and features to manipulate their composed melody from Week 5 (1.2, 1.3, 1.4, 2.1, 2.3, 3.5)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 7: More melodic variation

- TLW explore and apply additional tools in DAW for melodic manipulation, including variations in pitch and rhythm (1.2, 1.3, 1.4, 2.1, 2.3, 3.5)
- TLW utilize DAW create and share a theme and variations track showcasing all learned melodic variation techniques (1.3, 1.4, 2.1, 2.3, 2.4, 3.3, 3.5)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 8: Exploring musical form

- TLW aurally and visually identify standard popular song forms, including 32-bar AABA, blues, strophic, verse-chorus, etc. (3.2, 4.2)
- TLW create and share a form analysis on the song of their choice (3.2, 4.2)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 9: Composition with original regions

- TLW utilize their own loops and melodies in DAW to create and share a piece of music with the same structural form as completed in Week 8 analysis (1.3, 1.4, 2.1, 2.3, 2.4, 2.5, 3.2, 3.3, 3.5)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 10: Chord progressions and accompaniment patterns

- TLW identify standard accompaniment practices, including patterns, instrumentation, and chord progressions (2.4, 3.4)
- TLW create, record, and share accompaniment tracks in DAW that support composition created in Week 9 (1.3, 1.4, 2.3, 2.4, 3.2, 3.4)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 11: Audio editing

- TLW become familiar with basic DAW audio editing tools (1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 3.5)
- TLW apply learned audio editing techniques to week-10 created work (1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 3.5)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 12: Classroom management

- TLW write and share a referenced short report (2-3 pages) proposing their personal classroom management plan for technology integration (4.1, 4.2, 4.3)
- TLW participate in literature-driven group discussion and offer peer feedback (4.1, 4.4)

Week 13-16: Final Project (see assessment)

Assessment

Learners will demonstrate mastery of learning objectives through completion of weekly projects and participation in online discussion forums. Additionally, learners will prepare a final project to showcase acquired technical skills and exhibit comprehension of best practices for pedagogy and classroom management using DAW-driven project based learning. The final project will consist of the design of a student-centered DAW-driven unit (minimum of 2-3 45 minute lessons) intended for delivery to students at the learner's current campus, including development of any needed learning materials, participant guides, and/or teaching aids.

Evaluation

1. *How will you tell if the instructional design was successful? Who will determine this? Will there be an outside, unbiased observer? A satisfaction survey?*

Instructor will formatively assess student products for learning objective mastery throughout the course, and will provide feedback and/or content revision as needed to guide learners towards intended outcomes. Additionally, school district-level music personnel will be invited to evaluate effectiveness of professional development. Finally, learners will complete a satisfaction survey at the end of the course, created by the instructional designer, to gauge perceived value and effectiveness of implementation

2. *Does your assessment relate to your evaluation? How?*

Weekly assignments and the final project will be reviewed for demonstration of learner comprehension of proficiencies. In turn, learner performance on the final project will be evaluated to determine both effectiveness of training and need for additional and/or revised instruction.

3. *How will you determine whether your outcomes relate back to your original needs analysis and goals/objectives to determine the effectiveness of your intervention/implementation?*

Goals and objectives were developed in direct response to the defined problem: many music teachers lack the technical and pedagogical knowledge and skills to effectively implement student-centered technology-based instruction, which studies have suggested would be effective at reaching the 80% of students who do not enroll in traditional performance-based music classes. Therefore, if learners demonstrate both technical proficiency and the ability to design and develop technology-based instruction, implementation can be determined to have been successful.

References

- Barrows, H. (1986). A Taxonomy of Problem Based Learning Methods. *Medical Education*, 20, 481- 486.
- Barrows, H. (1992). *The Tutorial Process*. Springfield, IL: Southern Illinois University School of Medicine.
- Bauer, W., Reese, S., & McAllister, P. (2003). Transforming music teaching via technology: The role of professional development. *Journal of Research in Music Education*, 51(4), 289. <http://dx.doi.org/10.2307/3345656>
- Dammers, R. (n.d.). *Suggestions for designing technology-based music classes*. Retrieved from https://musiccreativity.org/documents/a_suggested_framework_for_t.pdf
- Demski, J. (2010). *How music teachers got their groove back: Music instruction goes digital*. *The Journal*. Retrieved from <https://thejournal.com/Articles/2010/10/01/How-Music-Teachers-Got-Their-Groove-Back-Music-Instruction-Goes-Digital.aspx?m=1&Page=1>
- Dorfman, J. (2008). Technology in ohio's school music programs: An exploratory study of teacher use and integration. *Contributions to Music Education*, 35, 23-46.
- Elpus, K., & Abril, C. (2011). High school music ensemble students in the United States: A demographic profile. *Journal of Research in Music Education*, 59(2), 128-145. doi: 10.1177/0022429411405207
- Freedman, B. (2013). *Teaching Music Through Composition*. Cary: Oxford University Press.

- Gall, M. (2013). Trainee teachers' perceptions: Factors that constrain the use of music technology in teaching placements. *Journal of Music, Technology and Education*, 6(1), 5-27. http://dx.doi.org/10.1386/jmte.6.1.5_1
- Gilbert, A. (2015). An exploration of the use of and the attitudes toward technology in first-year instrumental music. *Student Research, Creative Activity, and Performance –School of Music*, Paper 79. <http://digitalcommons.unl.edu/musicstudent/79>
- Greher, G. (2011). Music technology partnerships: A context for music teacher preparation. *Arts Education Policy Review*, 112(3), 130-136. <http://dx.doi.org/10.1080/10632913.2011.566083>
- Haning, M. (2016). Are they ready to teach with technology? An investigation of technology instruction in music teacher education programs. *Journal of Music Teacher Education*, 25(3), 78-90. <http://dx.doi.org/10.1177/1057083715577696>
- Hoffer, C. (1986). Advancing from here. In T. Gerber & W. Hughes (Eds.), *Music in the High School: Current Approaches to Secondary General Music Instruction* (31-33).
- Kratus, J. (2007). Music education at the tipping point. *Music Educators Journal*, 94(2), 42-46.
- Minott, M. (2015). Teaching tasks and the composition of a 'piece' using music technology in the classroom: Implications for the education and training of teachers. *Journal of Music, Technology and Education*, 8(3), 261-272. http://dx.doi.org/10.1386/jmte.8.3.261_1
- Murphy, M. (2016). *Teachers have great classroom tech. Now they need to learn how to use it*. Slate Magazine. Retrieved from http://www.slate.com/articles/technology/future_tense/2016/02/teaching_teachers_to_use_blended_learning_education_technology.html
- Palmer, M., Hughes, W. O., Jothen, M., & March, H.C. (Eds.). (1989). *Promising Practices: High School General Music*. Reston, VA: Music Educators National Conference (MENC).
- Savery, J. & Duffy, T. (2001). Problem based learning: An instructional model and its constructivist framework. *Center for Research on Learning and Technology Technical Report No. 16-01*, Retrieved from

LTEC 5510, Fall 2017

Ryan Gibson

Instructional Design Document: V3 (Week 5, Activity 3)

NT752.1148.MB.0011/Savery%20and%20Duffy%20Problem%20based%20learning%20A
n%20instructional%20model%20and%20its%20constructivist%20framework.pdf

VanWeelden, K. & Walters, S. (2004). A survey of adult music practices: Implications
for secondary general music class. *General Music Today*, 17(2), 28-31.