

Models for Developing Pre- and In-Service Music Teachers' Understanding of Technology Integration

Research on adaptive expertise provides insights that may inform our understanding of the types of knowledge needed for music teachers to effectively integrate technology. Adaptive experts are able to utilize their expertise to find solutions to novel problems. Since technology changes rapidly and is often protean in nature (i.e., able to be used in different ways), the development of music teachers' adaptive expertise with technology would seem to be beneficial to their ability to successfully use it to facilitate student learning. Grounded in a framework of adaptive expertise, the purpose of this presentation is to describe models for developing pre- and in-service music teachers' understanding of ways to effectively integrate technology into students' learning experiences. In addition, an online repository of projects and strategies that may be utilized when preparing music educators to design and implement music instruction that effectively aligns musical content, pedagogy, and technology will be shared.

Bauer, William
University of Florida

Dr. William I. Bauer is Associate Professor and Director of the Online Master of Music in Music Education program at the University of Florida. He is an Apple Distinguished Educator, a Google Certified Teacher, and serves as a member of the Journal of Music Teacher Education editorial board.

Defining Undergraduate Music Technology Competencies and Strategies for Learning: A Third-Year Progress Report

This session will share results from a three-year project that has studied active ways that undergraduate music students demonstrate understanding of key music technology competencies. In continuing to gain a more sensitive picture of how a core set of eight competencies are acquired and delivered the project's current goals are examining specific competencies within sub-disciplines, inspecting what courses carry the responsibility for teaching specific technology skills, revisiting the results of the previous surveys for a deeper analysis and reflection, and offering strategies for a proactive stance on music technology on the policy level. The session will offer an overview of the results of this work project along with anecdotal evidence to illustrate key findings through "best practices."

Williams, David Brian
Illinois State University Emeritus

Webster and Williams have presented workshops, clinics, and major addresses together for more than 25 years. Their collaboration led to the co-authorship of *Experiencing Music Technology* (Cengage Learning/Schirmer Books, 3rd edition Update, 2008), the major textbook for the introduction of music technology to advanced high school and college students. The book has been recognized as the leading source for a comprehensive introduction to music technology. Both have been actively involved in ATMI and have offered presentations on many dimensions of music technology from software skills to curriculum strategies.

Using Blackboard's Self and Peer Assessment Tools for Creative "Juicing"

Teaching online is challenging, but providing interactivity and immediacy that students can draw upon for creative “juicing” is a special challenge. In this scoring and arranging class, the use of self- and peer-assessments in the Blackboard learning management system were used in a variety of ways to encourage students to experiment with ideas, to critique those ideas in a variety of settings, and to learn from one another in an asynchronous environment. This session will highlight these applications, share student work and related assessments, and review the results of student surveys taken midway through and after the course. Instructor reflections on effectiveness of these teaching and learning activities will also be included.

Hagen, Sara
Valley City State University

Dr. Sara Hagen is Professor of Music at Valley City State University, Valley City, ND. Her current teaching assignments include music education, theory, and business and is on the Instructional Design Team. She is Past President of NDMEA, member of the NET Committee of CMS and the IN-ovations Council of NAFME.

Connectivism and the Cloud: Current Web 2.0 Pedagogical Communities for Music Teaching and Learning

This presentation calls for music teachers to identify, build, and cultivate sustainable Web 2.0 pedagogical communities, or, gatherings of like-minded users that connect to a common Web 2.0 tool to share, store, and remix educationally useful information. First, we will show that connectivism supports using Web 2.0 tools and cloud computing in the music classroom. Furthermore, utilizing current Web 2.0 applications with connectivist learning methods in mind can help music educators at all levels achieve critical standards and guidelines as provided by NAfME, the Common Core, and NASM. Second, we will outline the importance of cultivating communities at several perceivable levels: local, global, and in-between. Third, we will offer practical examples of how teachers can immediately make use of these communities. Though specific Web 2.0 applications will change often it is critical for music instructors to develop these communities to facilitate learning for the digital native student musicians of today.

McConville, Brendan
The University of Tennessee

Brendan McConville is Assistant Professor at the University of Tennessee-Knoxville. He holds a PhD in Music Theory/Composition from Rutgers University. His areas of research include twentieth-century music analysis and the use of emerging technologies in music theory pedagogy.

Bleep Blop Electro-Acoustic Ensemble concert/demonstration

Bleep Blop would like to be considered to present a concert and demonstration of our music and electronic techniques.

The concert programs of the Bleep Blop ensemble are based on compositions which involve live electronic processing of acoustic instruments, as well as compositions written specifically for the ensemble's instrumentation and equipment. Bleep Blop is always open to presenting new works, collaborations with artists and experimenting with emerging new technology in music.

In addition to presenting and exploring new technology and ways of performing new music, the purpose of Bleep Blop is to encourage and help young composers become familiar with new musical media. Our concerts always include pieces from several composers at different stages of their careers. We strongly believe that anyone can make use of technology through composition, and we look forward to demonstrating what is sonically possible with a little creativity.

Castillo, Ramon
University of Massachusetts, Lowell

Ramon Castillo is on the music faculty at the University of Massachusetts Lowell and Berklee College of Music. Dr. Castillo has composed music for the Kronos Quartet, Gamelan Galak Tika, Alea III, Ensemble Robot, The Loud Objects, and various other ensembles and festivals.

Sound Concepts: An Interactive Application for Exploring the Fundamentals of Sound

Students entering college as music majors generally know quite a bit about performance on their particular instrument but many of them seem to know very little about one fundamental aspect of their art: sound. Sound Concepts is an interactive program I developed to help students become more familiar with the basics of sound. Programmed in Max/MSP, this application allows students to interactively explore the basic parameters of sound individually and in combination. It has been used for the past two years in introductory music technology courses as one segment of a larger unit covering digital audio. Used in conjunction with Reason, Sound Concepts gives students a chance to better understand each individual parameter and the effect it has on the overall sound when they start working with complex software synthesizers.

Nord, Timothy
Ithaca College

Dr. Nord is currently Associate Professor of Music Technology at Ithaca College. He holds a Ph.D. in Music Theory and Computer Programming from the University of Wisconsin-Madison. He is the author of several computer programs and has given presentations and workshops on programming techniques and computer applications in music at numerous regional, national, and international conferences.

Crossing Borders: Using HD videoconferencing in developing countries

This session will present a case study and report on a project connecting conservatory students with students and teachers in developing countries in Southeast Asia. One of the greatest needs in developing nations is for quality teachers and role models. In this

project, conservatory students plan and implement instruction to work with students at music schools in real-time via professional video conferencing systems. They also plan and produce master classes featuring professional musicians. The session will include a discussion of the practical and technical issues, a report on the pedagogical approaches used and the issues involved in working across international borders. Preliminary results of the instruction based on student and teacher feedback on both ends will also be provided.

Hess, George J.

Yong Siew Toh Conservatory of Music, National University of Singapore

George Hess is an associate professor at the Yong Siew Toh Conservatory in Singapore where he teaches music technology and professional development courses. He writes a regular column for Music Education Asia and regularly presents papers, clinics and workshops throughout the world, both in person and online.

Documenting Music Pedagogy and Learning Experiences at the Lawrence Music Clubhouse

The purpose of this research is to document how youth attending the Lawrence Music Clubhouse (LMC) experience music through creative songwriting, performance, production and audio engineering projects. The collaborative nature of making music at the LMC acts as a bridge linking young people of various backgrounds together. LMC participants range in age from 10-18 and receive free private lessons on drum set, guitar, voice, bass, and keyboard, in addition to writing songs, producing beats and engineering their own recordings at the LMC recording studio. Through sustained observations of the creative music, learning and teaching processes and interviews with the participants, the researchers assisted LMC staff in the development of a new set of audio production educational materials based on the songs composed, produced and recorded by LMC youth. Participation in this project was found to be highly motivational and engaging for LMC participants.

Savannah Marshall
UMass Lowell

Savannah Marshall is a recent graduate of the University of Massachusetts Lowell with bachelor's degrees in Music Education and Psychology. She has been working with Dr. Alex Ruthmann on this research since the fall of 2012.

What Does a 21st Century Music Teacher Have in Common With Big Foot? Examining the Role of Music Technology Instructors

Drawing upon research conducted in the field of music education by Green (2001), Williams (2005), Higgins (2008) and Randles (2012) on the adapting role of music instructors as a facilitators who promote student-centered, student-directed, and project-based activities, a series of case studies were conducted on music technology instructors to examine their evolving role. In addition, administrators in charge of evaluating these music technology programs were included in this study. Sites included middle schools, high schools and post-secondary contexts. The researchers were able to gain an intimate understanding of the practices in these music technology programs that use a hands-off pedagogic approach to hands-on learning. Implications of this research relate to the many benefits, challenges and strategies of employing this progressive pedagogic model in 21st century music education contexts.

Cremata, Radio
K12

Radio Cremata specializes in music education integrating technology. Dr. Cremata currently works for K12 - America's leader in online public education where he teaches music and designs curricula. Recently his research focus has been in Popular Music, Music Technology, Community Music, Musical Transmission and Informal Learning Practices.

Interactive music systems within multimedia gaming environments

Gaming development platforms allow for a convergence of multimedia elements within a single environment. This session will explore the Unity 3D gaming engine and how it was used to create a rich, immersive, interactive music system that supported the composition and performance efforts of non-musicians. This research endeavor was an offshoot of prior interactive music projects (EAMIR, IMTCP) that involved the development and use of software applications designed to support musical creativity by musicians and non-musicians. Issues of accessibility, pedagogy, design, and creativity within this and other immersive music environments will be discussed. Those who may find this workshop particularly useful are individuals with an interest in using multimedia tools to create interactive music systems that allow end-users to compose and perform through software.

Manzo, V.J.
Worcester Polytechnic Institute

V.J. Manzo (PhD Temple University, M.M. New York University) is Assistant Professor of Music Technology at Worcester Polytechnic Institute (WPI). He is the Oxford University Press author of the book *MAX/MSP/Jitter for Music* (2011) on developing software-based interactive music systems for composition, performance, instruction, and research.

Why Put a Round Peg in a Square Hole? – Examining Music Technology Education in “Vocational-Type” Contexts

As post-secondary music programs experience challenges integrating technology into music instruction, the private market has responded with programs emphasizing state-of-the-art training and job placement in a fast-paced, competitive and creative industry.

Some colleges and universities react several paces behind current trends in music technologies due to various complications associated with funding, devising and approving innovative curricula, adhering to accreditation standards and finding qualified teachers. At the same time, a new breed of 21st century students have sought refuge in alternative schools catering to a generation of music students seeking real-world, hands-on music technology education without the excess baggage associated with university matriculation. These “vocational” schools provide opportunities for different kinds of music students seeking training that they might otherwise only be able to obtain in informal contexts. This research investigates such schools to inform the research community of learning both inside and outside the boundaries of an evolving

Cremata, Radio
K12

Radio Cremata specializes in music education integrating technology. Dr. Cremata currently works for K12 - America’s leader in online public education where he teaches music and designs curricula. Recently his research focus has been in Popular Music, Music Technology, Community Music, Musical Transmission and Informal Learning Practices.

Big sound. Small devices. A compact solo electronic music performance.

Big sound. Small devices. A solo electronic performance using a variety of compact electronic musical instruments: iPads, Korg Monotron synthesizers, Yamaha CS01ii synthesizer, laptop computer, Theremin, and various others. Using a small table-top’s worth of relatively affordable electronic musical devices, I will perform original electronic

music and then describe my setup and compositional processes.

Harder, Matthew
West Liberty University

Dr. Harder teaches Music Technology, Composition, Recording, and Electronic Music at West Liberty University in the northern panhandle of West Virginia. He composes music for any and all media, mediums, styles, and genres.

Teaching Class Piano for Non-music Majors Online vs. Face to Face

The author has successfully taught beginning class piano in a fully online setting (Blackboard 9.1) and will share how it was done and compare the results of the grading rubrics with those of the same course taught face to face. Through creating and posting their performances daily in the online class, students were able to observe and critique each other. Online students (who were not music majors) were able to experience performing in a unique way with a video camera. They also experienced ensemble playing through playing with MIDI disks throughout the course. Students in both classes were asked to write a reflection on their experiences with the course after the final exam. This instructor found that students in the online class were actually more successful than their counterparts taking the same class in a traditional setting.

Anderson, Shane
Texas A&M University at Corpus Christi

Dr. Shane Anderson, associate professor of music, Texas A&M University—Corpus Christi. Dr. Anderson received a Doctor of Musical Arts and Master of Music degrees in Applied Piano from the University of Texas at Austin and a Bachelor of Music degree in Applied Piano with high distinction from the Eastman School of Music. He teaches piano and coordinates music theory and ear training for the department. Dr. Anderson performs frequently in South Texas as a soloist and collaborative artist and is the principal pianist with the Corpus Christi Symphony Orchestra. He has given presentations on teaching music with technology at ATMI and is a Community of Practice Senior Faculty Fellow with the TAMUCC Center for

Braille Eye for the Sighted Guy: Why Teaching Visually Impaired Students is a Lot Easier Than You Think

For students with extreme visual impairments, traditional music curricula is often

frustratingly difficult, because music faculty generally lack experience with braille, and school-wide disability centers lack the capability to deal with notated music. Fortunately, not only is braille music notation easy for sighted people to learn, but course materials — including worksheets which combine music and text — can be translated into an accessible format using freely available software. In this presentation, we will learn some of the basics of braille music notation, learn about common assistive hardware such as embossers and notetakers, and explore best practices for providing a seamless and comfortable integration for visually impaired students into a secondary or collegiate music class.

Rush, Toby
University of Dayton

Dr. Toby Rush currently serves as Assistant Professor of Music Theory and Technology at the University of Dayton. His research interests include applications of educational technology and new media for music studies, interface design, and music theory and aural skills pedagogy.

Multimedia Development 101: What Can I do if there isn't "an App for that"?

It seems that just about every day new applications become available covering a broad range of topics. Frequently these applications are very general in nature, taking a rather broad view of the chosen topic. If you're looking for something that fits into your pedagogical approach or is very specific in nature, either to a certain concept or piece of music, and can't find anything, what do you do? Fortunately, there are still some very useful tools available to help you create your own multimedia materials. In this session, we will explore some of the tools Adobe Director gives us to control different media types in order to create a fully interactive media rich application.

Nord, Timothy
Ithaca College

Dr. Nord is currently Associate Professor of Music Technology at Ithaca College. He holds a Ph.D. in Music Theory from the University of Wisconsin Madison. He is the author of several computer programs and has given presentations and workshops on programming techniques and computer applications in music at numerous regional, national, and international conferences. His research interests include multimedia development and applications in teaching.

What is the "Next" musician?

What's "Next" for tomorrow's musician? What will the "Next" musician look like? Because of technology, there are numerous means of musical expression that extend beyond the traditional instruments of the past. Deadmau5, Skrillex, Imogen Heap, Jordan Rudess, are just a few examples of musical artists expressing themselves in a non-traditional manner.

As music educators, we have the opportunity to teach, train, and equip future musicians. But, are we ready to teach the "Next" musician? After showing a short film clip of current "Non-Traditional" music artist, this session will focus on the technologies that are enabling the newer forms of musical expression.

Mason, V. Keith
Belmont University

Keith Mason has been the Coordinator of Music Technology at Belmont University since 1998. Keith teaches courses and develops curriculum in the area of music technology. Keith also has over 27 years of experience in the Nashville music industry as a producer, composer, arranger, and music technologist.

The Art and Beauty of Live Laptop Performance

This presentation will be in the form of a workshop/forum demonstrating the various techniques of utilizing the Laptop Computer as a live performing, musical instrument. The presented techniques can be used by the participants and their students to develop a performance and compositional vocabulary in regards to live laptop performance. Topics to be covered will include: introduction of various software (the workshop will not focus on specific software), utilizing MIDI controllers and audio interfaces, performance techniques including solo performance and accompaniment with other instruments and notational elements of laptop music. The presentation will also include a discussion about the attendee's experiences with live laptop performance and it's role in the evolution of music.

Hall, Richard
Texas State University-San Marcos

Richard Hall is a musician, composer and music educator whose main interest is performing live laptop "art" music in concert settings. Richard is currently a Senior Lecturer of Music at Texas State University-San Marcos.

What is online? Results of a survey on online music courses

This presentation will report on the results of a survey regarding online music courses. The survey will be conducted in the spring of 2013, and will be distributed through several national organizations and listservs. The survey will include questions concerning the types of music courses being taught online (e.g., musicology, music theory, music business), the format of the courses (e.g., totally online or hybrid, credit or non-credit, the use of social interaction, testing options), and the materials used in the courses (e.g., ebooks, videos, power-point presentations). The survey will also include questions about the development of online courses. For example, did faculty or professional writers/designers create the course? How long did it take to turn the online course idea into the actual offering? The session will conclude with a discussion of the implications of the survey and the future of online courses.

Murphy, Barbara
University of Tennessee

Dr. Barbara Murphy is Associate Professor of Music Theory and Coordinator of Music Theory/Composition at the University of Tennessee, Knoxville. Her research focuses on technology in music theory and theory pedagogy.

Games people play and games teachers love—considering the value of entertainment video games in music education

This paper argues for recognition of gaming as potential frame for music education. By participating in music related entertainment video game activities, all students can learn how to listen, interact, operate, create, manipulate, and program music. Moreover, through gaming, the students can join in communities where they can share music-related knowledge and their own musical creations. In the participatory culture of such communities, gamers can also develop skills that enable future learning, not only in the specific context of the game, but also in related contexts such as other musical practices and other social networks.

Jordal Havre, Sigrid
Sibelius Academy

Sigrid Jordal Havre is a PhD student at the Sibelius Academy, Finland. She works in the field of music education and studies in her thesis work how, where and what children learn of and about music with(in) interactive video games and game related social networks.

Innovative Music Making: Using iPads in the Music Classroom

The emergence of technology in our society is changing the practices and conventions of education. Music in particular is being explored through digital mediums where artists can create, remix, and manipulate ideas into a unique vision. The iPad is an emerging technology capable of stimulating musical creativity and teaching sound musical concepts in a relevant and meaningful fashion. This presentation will compare two undergraduate teaching experiences using iPads in 8th grade general music classrooms. One group will present findings from Delaware and the other from Massachusetts. Both groups used the iPads with students as a tool for composition, arranging, and analyzing music with group projects that allowed students maximum creativity. Commonalities and differences will be illustrated among the two processes, and suggestions for future iPad exploration in the music classroom will be made.

Savannah Marshall
UMass Lowell

Savannah Marshall is a recent graduate of the University of Massachusetts Lowell with bachelor's degrees in Music Education and Psychology.

Going Mobile, Rocking—Recent Development Research Projects of Applied Digital Technology in a Nordic Music Education Program

This paper describes the rationale, goals, and preliminary results of three development projects that set out to integrate digital technology in a Nordic music teacher training program. In these projects, music education students and teachers have been encouraged to experiment on mobile technology and on various social media platforms as part of the studying and teaching and as basis for designing a nationwide in-service training program for music and art teachers.

Antila, Sakari
Sibelius Academy

I work as a lecturer of music education at Sibelius Academy, where I teach such subjects as Afroamerican music and band pedagogy. I am also interested in music technology and its role in the music education. Aside from my academic career, I work as a songwriter and a performing musician.

The Penn's Woods Project: Music, Nature, and Technology

"A Year in Penn's Woods" is a multi-movement work of approximately 25-30 minutes in duration that has both local and global connections. Focused on the natural ecosystems of western Pennsylvania for both inspiration and sources of sound and visual media in the form of digital audio, digital video and still images, the project reflects one year's time as played out in the eco-system of western Pennsylvania. The presentation will examine the process of collecting audio and video field recordings of source material in all seasons as well as the process of using the source material as a basis for creating a musical/multimedia work that can be presented in a variety of formats, including small ensemble + interactive media, an orchestral piece with multimedia elements, a self-contained set of videos with soundtrack, and a multi-media sound installation. Examples of finished portions of the work will be included in the presentation.

Purse, Lynn Emberg
Duquesne University

Lynn Emberg Purse is Associate Professor of Music Technology and Area Chair of Electronic Composition at Duquesne University's Mary Pappert School of Music. An active composer, Lynn writes for electronic instruments as well as chamber ensembles, orchestra, wind symphony, voice, and choir and is Artistic Co-Director of The Fourth River Music Project.

Seeing the music: real-time performance feedback via DMX lighting.

Musicians regularly solicit feedback on a variety of performance aspects, including dynamic control, timbre/sound color, expressive timing, balance between voices, etc. However, such feedback is often too abstract or imprecise to be of lasting value. This paper investigates the feasibility and usefulness of real-time performance feedback provided by converting musical signals into live lighting control information. Using MAX/MSP, performance data (dynamics, spectral centroid, timing, pitch, etc.) can be captured and converted into DMX512 light control data (intensity, color, strobe effects, light movement, etc.). This rather simple data conversion allows performers and audiences to "see" various aspects of the music. For example, sound intensity can be converted into light intensity, timbral "brightness" can be mapped to specific visual colors, or "balance" between performers can be converted into automated spot light movements. The use of this technology may prove to be useful in both performance and practice settings.

Plazak, Joseph
Illinois Wesleyan University

Joe Plazak is currently an Assistant Professor of Music Theory at Illinois Wesleyan University. He is also a classical guitarist and composer with an interest in incorporating technology into live performance using Ableton Live and MAX/MSP.

Location Recording: Inside And Outside The Box with Pro Tools

This demonstration will focus on location high definition recording of solo piano works on a Steinway D with one of today's great piano virtuosos. These recordings have been released to critical acclaim including submission for GRAMMY nominations and this session will present professional techniques that can be applied to participant recording projects. The focus of the "inside" and "outside of the box" for the location recordings of the piano relate to the "outside of the box" component showcasing the specific hardware and microphone techniques used by the presenter for over nine hundred hours of recording solo acoustic piano. The "inside the box" showcase techniques for mixing and mastering a 24 bit, 88.2 high definition recordings. This session will provide valuable insights into Pro Tools version 9.

Purse, Bill
Duquesne University

Bill Purse is a professor, chair of music technology and guitar at Duquesne University (Pittsburgh), where he was instrumental in the development of two new majors: the undergraduate music technology degree and graduate music technology degree programs. Purse received his bachelor of music and master of music at Duquesne University.

Translating Research in Music Cognition and Neuroscience into Practice through Music Technology

Over the past ten years, a body of research has been undertaken in the fields of neuroscience and music cognition that offer substantive insights on how the human brain receives and processes music and sound. Studies employing magnetoencephalography, functional magnetic resonance imaging, transcranial

magnetic stimulation, and positron emission tomography have and continue to yield information about brain function in our field.

For music practitioners (i.e., performers, composers, teachers), at virtually every teaching level, this information is not being translated into knowledge that they can readily apply. Nomenclature, sophisticated research tools, and the lack of a bridging mechanism that provides a comprehensible understanding of this work, have been major impediments to the transfer and more importantly, application of this knowledge in practice.

Rees, Fred
IUPUI

Fred Rees is a Professor and Chair of the Department of Music and Arts Technology at IUPUI. His interests have included music technology, distance learning, and music education. Recently, he was Visiting Professor at the McGill University School of Music in Montreal.

Tech Divas and Girl Geeks: Supporting the Rising Generation of Women in Music and Technology

Women currently involved in music and technology will discuss how they became involved with technology, what we can do to encourage women in music technology and how others may reach out to and mentor the next generation of women in music technology. We will discuss what we find appealing about music tech and how we share our work with others. Links will be made to the work of others in the field who have examined the paucity of women in various aspects of music tech such as game design, programming and sound engineering.

Smith, Janice
Queens College-CUNY

Janice Smith is associate professor of music education and undergraduate coordinator of music education at the Aaron Copland School of Music, Queens College, City University of New York. Her research areas are composition in schools and urban music education. Her most recent publication is *Composing Our Future: Preparing Music Educators to Teach Composition*, published by Oxford University Press and co-edited with Michele Kaschub.

I Want You to Want Me: Informal Blended Faculty Development

Teaching with technology can be a daunting prospect for college faculty who have not learned with technology themselves and whose professional responsibilities leave little time for learning new technologically oriented pedagogies. Through recent research and survey data, we discovered that our faculty were aware of what their students needed to be able to do with technology, however they seemed unable to devise ways to achieve those results. This disconnect, between the realities of classroom experiences and anticipated outcomes, stresses an increasing need to reevaluate how professional development and pedagogical barriers are overcome. We developed an approach that would be easy, convenient, and yield immediately productive results: a just-in-time model using small, targeted achievable goals. We contacted selected faculty, presented ideas for technology integration based on their interests, and proposed easy steps to achieve their goals using mobile apps appropriate for multiple uses. This presentation details the process and explains results.

Mroziak, Jordan
Duquesne University

Jordan Mroziak is Adjunct Professor of Musicianship at Duquesne University. He designed a new course for the university core curriculum, Rock & Roll: An Unruly History. He designed and teaches courses in Duquesne's City Music Center Music Technology Track, an iPad-based program for high school students.

Computer-based notation as a core-competency for music technology: is there agreement upon what should be covered?

Recent research by Williams and Webster, presented at Association for Technology in Music Instruction (ATMI) conferences in 2011 and 2012, reveals that most music faculty (regardless of areas of specialization) feel that notation software should be a core music technology competency for music students. It is a crucial time for the music technology community to identify, document, and share what the current general consensus is for students learning to "enter and edit music using notation software." What are the current norms? This presenter will share the results of recent research into these norms, pulled together from multiple representative syllabi, class assignments, published resources, and formal and informal interviews with music technology instructors. Drawing upon this information, the presenter will propose "best practices" for what might and might not be included in teaching this important core music technology competency for music students.

Menoche, Charles
Central Connecticut State University

Dr. Charles Paul Menoche is Associate Professor and Chair of the Department of Music at Central Connecticut State University (CCSU) where he has taught courses in composition, music theory, electro-acoustic music, orchestration, and music technology. As a composer, he has written works for voice, instruments, ensembles, and electro-acoustic media.

Refocusing the Lens: Creating Engaging Music Learning Communities after Bring Your Own Device Implementation

The implementation of Bring Your Own Device (BYOD) programs has become a highly polarized subject in the educational community with staunch advocates on either end. Based on the success of early adopters of BYOD programs it is likely that similar programs will be implemented in the near future. This presentation will focus on creating musical learning environments that honor student technology in the classroom once a BYOD program has been implemented.

Gaines, Jason
RMC Research Corporation

Jason Gaines is a research associate at RMC Research. He has had a long career in education, teaching in various settings that span K-12, college, and professional training. Mr. Gaines holds degrees from the Manhattan School of Music, New York University and Teachers College, Columbia University.

From Face to Face to Online - Music Course Conversion and Supporting technologies

Have you heard these dreaded words from your department head, "Due to the growing need for an online presence, could you please convert a section of your course to an online or e-learning format?" For subjects such as Music Appreciation or Music History, this seems possible. But what about applied courses or music theory? Is it possible to convert these types of courses to completely online format or a hybrid? This demonstration will look at a number of different useful technologies, synchronous and asynchronous to be used in an online music course. "Camtasia", "Adobe Connect," "Acclaim" and "Blackboard Elluminate" will be demonstrated to show their

usefulness and limitations in an online environment. Factors to be addressed include software and hardware requirements for students and faculty, hosting, streaming content and storage capabilities. Training requirements and online efficacy and efficiency will be addressed.

Zak, Suzanne
Teachers College, Columbia University

Suzanne Zak

Suzanne Zak is a music educator specializing in online higher education e-learning. She currently teaches two courses she developed at Montgomery County Community College, in Blue Bell Pennsylvania. To further advance her abilities, she is pursuing her doctorate in music education at Teachers College, Columbia University, specializing in interactive e-learning.

MOTU's Digital Performer: A new look at an old friend

In this demonstration session, participants will get an overview of MoTU's Digital Performer 8 music production software and its application in the music technology instructional program. Highlighted features include MIDI sequencing, digital audio editing, signal processing and mixing. Techniques for electronic orchestration with virtual instruments, distributed sample playback using networked computers and DP's dynamic tools for video synchronization are emphasized.

Frazier, Bruce
Western Carolina University

BRUCE H. FRAZIER holds the Carol Grotnes Belk Distinguished Professorship in Commercial and Electronic Music at Western Carolina University. He comes to education from an active career in TV and film music. Frazier holds degrees in composition from East Carolina University, and the doctorate from the University of Southern California.

A pilot study into the effects of electronic study-aids on music theory and group piano tasks.

We are conducting a pilot study on music theory and group piano students to determine whether technological study-aids might have a more advantageous effect on their

mastery of tasks versus more traditional means like using a tutor or meeting for office hours with their instructor. The aim isn't to replace the instructor, but to make the feedback mechanism more efficient. Students will have access to programs made in max/msp using two relatively new objects called "note~" and "note.score". These objects make it possible to display musical examples generated in another module of the max/msp program. As students practice the material, they'll receive preset feedback messages with corrections. The hypothesis is that with an unlimited problem set, a hands-on interface, and instant feedback, student-learning will increase more than it would if they only received office hours and feedback on their homework.

Gorby, Roderick
FSU

Roderick Gorby's compositions have been performed at the Kimmel Center in Philadelphia, the World Harp Congress in Vancouver, the Spreckles Pavillion in San Diego. Roderick is finishing his doctoral degree in composition with Ladislav Kubik at Florida State University and serving as copyist for jazz pianist and composer Marcus Roberts.

All About Widgets in iBooks Author - Interactive Design Models for Music Technology Courses

This presentation/workshop explores the design and use of interactive widgets in iBooks Author for the purpose of enhancing topics in music technology and electronic music. Types of widgets include image galleries, media objects (video and audio), and even embedded Keynote presentations that retain actions and animation builds. Other widget types include 3D objects, reviews (quizzes), pop-overs, scrolling sidebar content, and single interactive images with callouts and pan/zoom effects. Special attention will be given to creating custom animations and HTML widgets which can be produced by a variety of third-party applications and methods. Several widget examples (.wdgt) will be provided to participants, previewed on the iPad, and reverse-engineered for participants to acquire a full understanding of how they function. All widgets produced for the workshop will be made freely available.

Riley, Raymond
Alma College

Dr. Raymond Riley, professor of music, joined the Alma College music faculty in 1988. He holds a B.M. from the University of Illinois, an M.M. from DePaul University and a D.M.A. in applied piano from Michigan State University.

In addition to teaching piano and pursuing performance opportunities, he teaches courses in music technology, MIDI composition and arranging, digital audio production, new media applications, and web development.

Max/MSP Software Design for Music, Math and Computer Science Outreach

Cycling 74's Max/MSP, a powerful graphical programming environment for real-time interactive computer music composition, may also be used by educators to design instructional applications for music. Inspired by some of the interdisciplinary approaches that have emerged from the Mathematics Across the Curriculum movement, a project launched at Dartmouth College in the late 1990's to explore the interconnectedness of fields like art, computer science, mathematics, and music, among other disciplines, the author has created a number of software applications that allow students to interactively explore the intersection between music and mathematics using computers. This paper will demonstrate some of the applications, and then discuss design issues and implementation strategies associated with their use at a recent Duke Talent Identification (TIP) outreach opportunity for middle and high school students.

Bain, Reginald
University of South Carolina

A composer and theorist with a specialty in computer music, Reginald Bain holds degrees from Northwestern University and the University of Notre Dame where he studied mathematics, computer science and composition. He is Professor of Composition and Theory at the University of South Carolina where he serves as coordinator of theory and director of the Experimental Music Studio (xMUSE).

MusicXML and Its Implications for Composition, Performance, and Scholarship

We are now living in the era electronic publications but regrettably with no standard for music publications.

In recent years, a notation interchange format called MusicXML has emerged and gained widespread support among software developers. MusicXML represents a platform for presenting music as it might be notated in a variety of cultures from a variety of time periods as well as a way of storing elements of a performance.

Imagine, for example, an "intelligent musical score file." Such a file might be a file that represents music notation as you would expect to see it printed, would be infinitely resizable (with on-the-fly reformatting), contain an embedded performance, and provide intelligent accompaniment and automatic page-turning within a score-following environment.

Litterst, George
CyberConservatory

George Litterst is a nationally known music educator, clinician, author, performer, and music software developer. A classically-trained pianist, he is a developer software for learning and performing great music in the 21st century.

Developing Interactive Course Material

With the popularity of iPads among music majors, this presentation explores the possibilities of creating interactive supplemental material using this program. By integrating video, audio, and graphics into course material, students can become more engaged. This approach also helps educators “flip” the classroom. If students view course material and lectures before class, the class time can be better spent applying these topics.

Krajewski, Michael
Minnesota State University Moorhead

Assistant Professor of Music at Minnesota State University Moorhead, Krajewski holds degrees from Berklee College of Music, Georgia State University, and is currently completing a Doctor of Musical Arts degree in Guitar Performance at the University of Minnesota. His dissertation topic explores the creation of an interactive iBook for guitar.

Music Pedagogy and Composition in Collaborative Cloud-Based Environments

This presentation will detail a new approach to distance learning that was initiated at Oklahoma City University. Students are exposed to collaborative learning experiences that arguably provide additional pathways for learning not present in traditional music learning environments. While Oklahoma City is nestled in a thriving metropolitan area that has invested deeply in the arts, it is still difficult for music students to gain access to mentors who are active in the professional music production community. Oklahoma

City University has created a dynamic learning environment that allows students to interact and engage with industry-leading musicians and composers without experiencing the need to leave Oklahoma City. Students leverage new technological advances that promote remote collaboration, performance and composition.

Lendell Black
Oklahoma City University

Lendell Black is a composer/musician, specializing in writing for film and television. As a composer for Harpo Productions and Studio 51 Music, Lendell has had numerous cuts on The Oprah Winfrey Show, The Dr. Oz Show, and others. As a film composer, Lendell has scored two independent feature films: the award-winning, *LeftRight* (2008), and *Streets* (2011), as well as the 35-minute animated film, *Character Tales* (2010). Lendell has recently signed on to score several other projects currently in pre-production. As a keyboard player, Lendell is currently playing with country artists, Georgette Jones, David Frizzell, and Shelly West, along with rock/pop artist, Lyn Liechty.

Creating musical apps for iOS: Basic tools for the novice programmer

Even though there are hundreds of mobile applications – many free and wonderfully engaging - what if you cannot find an existing app that meets the specific needs of your classroom ... or of a specific student? With diligence, dedication, and discipline – three “Ds” that are second nature to musicians – you too can learn to program mobile applications for iOS (the shared operating system for iPhones, iPods, and iPads). Apple has provided a set of tools that greatly facilitates this development process. Minimizing low-level discussion of programming code so that this information will be accessible to a general audience as well as those with novice to intermediate programming skills, the presenter will introduce the essential tools used for application development, along with useful resources that will assist those who wish to create their own mobile applications.

Lipscomb, Scott
University of Minnesota - Twin Cities

Scott D. Lipscomb is Associate Professor of Music Education in the University of Minnesota School of Music, teaching courses in music education, music technology, and music cognition. Primary interests include technology in music learning, interactive instructional media development, sound for multimedia, multimedia cognition, and music integration across the K-12 curriculum. [past President of ATMI 2002-2009]

Performance by Wired.to.the.Edge

Drawing from such diverse influences as Milton Babbitt, Steve Reich, and So Percussion, Wired.to.the.Edge is an experimental music ensemble that combines traditional acoustic instruments, electronic instruments, computer programming, found audio, and video clips to create original musical soundscapes.

Audiences of all types have enjoyed their unique blend of humor, thought-provoking subject

Testa, Michael

The University of Massachusetts Lowell

MIKE TESTA - KEYBOARDS, AUDIO SAMPLES, PROGRAMMING

Mike is a Lowell area composer, audio engineer and musician. He has worked professionally in the industry for the past 14 years in various capacities from music recording and mixing to sports broadcasting.

Reimaging Music Education: A discussion of the potential role of the professional composer/producer in the context of music learning communities

More and more, music industry creatives are finding their way into the classroom as guest artists, visiting lecturers and occasionally as full-time teachers. As a result, new emphasis is being placed on music creation, over performance, and composition in the classroom is rekindled. What are the particular benefits for students? What are the professional and pedagogic challenges involved? This panel of practicing music technology teachers who come from and still actively work in the music industry, will explore a range of issues including the problems and possibilities of career-oriented approaches to music technology as a complement or viable alternative to traditional secondary music curricula.

Mangum, Christopher

Nassau BOCES Long Island High School for the Arts

Emmy Award-winning composer Christopher Mangum is the Music Department Chair at the Long Island High School for the Arts. He holds a B.A. from St. John's College, an M.A. and Ed.M. from Teachers College, Columbia University.

eBooks and iBooks: Creating and Programming Multimedia Books

Electronic books, like apps and web pages, provide an opportunity to present audio, video, and graphics, as well as text. A recent search locates only one electronic book that incorporates text, audio, video, and graphic images of musical notation: the enhanced version of Rob Kapilow's *_What Makes It Great?_* (New Jersey: John Wiley & Sons, 2011).

This presentation is for authors who want to self-publish an electronic book that incorporates text, audio, video, and graphics. One central topic, therefore, will be how to create and format files for publication. Available publishing tools, such as Apple's iBook Author and Amazon's Kindle Direct Publishing will be reviewed, as well as Barnes and Noble's PubIt.

The second topic will focus on the publication process for authors who want to self-publish. What are the advantages and disadvantages of publishing directly

Gonzales, Cynthia
Texas State University-San Marco

Cynthia I. Gonzales, Ph.D., is an Associate Professor of Music at Texas State University-San Marcos.

Collaborative Music Learning: Harnessing the Power of Intuitions and Technology.

The research proposed in this presentation will contend that intuitions are constructs that can be used to encourage creative and critical thinking skills and problem solving strategies within a given domain. Also, intuitions can be even more useful when learners can use computer-mediated technology and work within a group of peers on an authentic activity. Drawing on constructionist and sociocultural theories of learning and building on the pioneering work of Jeanne Bamberger, the research proposed in this presentation asserts that when intuitions can be used in collaborative settings, they could develop into more sophisticated thinking. By adapting parts of the Impromptu curriculum developed by Bamberger, a series of computer-aided music composition activities have been used that allow learners to express, refine, and use their intuitions in both collaborative and individual environments. A mixed method approach to data collection and analysis will be presented.

Downton, Michael
Indiana University

Michael Downton holds a B.A. in Psychology from Purdue University and a Ph.D. in Learning Sciences with a minor in music education from Indiana University. His interests include how children learn music and specifically how young children use their intuitions to solve problems in computer supported collaborative environments.

The tablet as performance tool: problems and possibilities

As computing hardware has become more mobile in recent years, there has been an increasing use of laptops, tablets, and mobile phones in live performance. These range from high budget pop performances by artists such as will.i.am to school “laptop orchestras” and “iPad ensembles.” Tablet technology, in particular, seems to have tremendous promise for performance as it combines ultra- portability with a gestural interface, audio input/output, and wireless connectivity. However, there are some issues that must be addressed when creating a tablet performance including choosing appropriate apps that utilize the special properties of a tablet and designing a compelling collection of gestural and/or visual activities that imbue the production of sound with a sense of performance. In this presentation, I will critique some examples of tablet performances and survey several performance apps and their communicative gestures that project a sense of authentic performance.

Hosken, Dan
California State University, Northridge

Daniel Hosken's recent compositional work has focused on interactive electronic performance using a variety of technologies including iPads and camera-based motion tracking systems. He is currently the Associate Dean of the Mike Curb College of Arts, Media, and Communication at California State University, Northridge.

Music Technology in the NASM Standards for Music Programs

At the 2012 ATMI conference, several research sessions discussed the recent changes to the NASM standards related to technology instruction in music programs. During a panel presentation, that included representatives from NASM, CMS, and ATMI, it was suggested that a task force of ATMI members work together to formulate a summary of ATMI member's research, thoughts, and suggestions regarding technology in the NASM standards for presentation to the NASM leadership. In this session, a document prepared by this task force will be presented and ATMI members will have an opportunity to comment and make suggestions on it

before it is presented to NASM.

Phillips, Scott L.
University of Alabama at Birmingham

Scott L. Phillips, Ph.D., is Assistant Professor at the University of Alabama at Birmingham. His research focuses on music technology curriculum development and has been presented at state, regional, and national conferences. His book "Beyond Sound: The College and Career Guide in Music Technology" was released earlier this year.

Navigating the new NASM Standards for Music Technology Programs

At the November 2012 meeting of the National Association of Schools of Music, new standards for university music technology programs were adopted. The standards give guidelines for how programs should be named, courses that should be included in their curricula, and the focus programs should take.

This presentation considers the new NASM standards for music technology programs and discusses their impact for schools that are considering establishing a new program in music technology. It also discusses the potential impact these standards could have on established programs and on the discipline as a whole.

Phillips, Scott L.
The University of Alabama at Birmingham

U Mass Lowell's Contemporary Electronic Ensemble .Ideas and pedagogical considerations when starting an student electronic ensemble.

Discussion on various topics relating to U Mass Lowell's Contemporary Electronic Ensemble. Topics might include criterion auditioning for an electronic ensemble, curriculum, pedagogy, guest lectures, engineering and prototyping for students with limited electronic experience.

Testa, Michael
The University of Massachusetts Lowell

Mike is a Lowell area educator, composer, audio engineer, producer and musician. He has worked professionally in the industry for the past 14 years in various capacities from music production to sports broadcasting. "My goal is to find various forms of technology and make them do things they are not suppose to do. Often times it is to make music."

The Ultimate Sound Palette Revisited

The ultimate sound palette for contemporary live performance and recordings consists of the integration of virtual, electronic sounds with processed or unprocessed acoustic sounds, and features the laptop computer as a member of the instrumental ensemble. Student projects will be used to demonstrate techniques for utilizing "user friendly" applications such as Digital Performer, Logic, and Ableton Live, in conjunction with various Virtual Instruments and DSP plug-ins to achieve these results.

Sussman, Richard
Manhattan School of Music

Richard Sussman is a pianist, composer, music technologist, and has been a professor of jazz composition at Manhattan School of Music in New York City since 1986. His responsibilities at MSM include managing all aspects of the Electronic Music Technology/MIDI Recording Studios for the Jazz Department.

Algorithms as Arbiters of Musical Culture: Exploring Implications for All Music Educators

Researchers in communication draw attention to the increasing power of algorithms as organizers and conveyors of culture. Algorithms sort and organize content from Google search results to YouTube suggestions to playlists by Pandora or Spotify. Commercial and university researchers are developing algorithmic tools for analyzing recorded music for recommendation and hit prediction, and music education by algorithm is fast becoming a reality. But what are the current and future implications of this algorithmic culture for music education? In this paper, I survey the breadth of algorithms related to musical culture, in search of what Gillespie (in press) refers to as the, "multidimensional 'entanglement' between algorithms put into practice and the social tactics of users who take them up." I examine this with reference not only to culture-wide algorithms, but through the example of music education by algorithm as developed through the program SmartMusic.

Thibeault, Matthew

University of Illinois

Matthew D. Thibeault is Assistant Professor of Music Education at the University of Illinois, where he teaches and conducts research in the areas of media and music education, music education technology, and general music. His website is www.matthewthibeault.com

musicGUIDE: An interactive music listening app for iPad

musicGUIDE is a music listening application for iPad. Designed for music educators, it is a multimedia app that visually displays music structure, incorporates text descriptions with formats, images and hyperlinks, and real-time listening guides that's synchronized with the audio playback and show up-to- speed description about import musical events.

musicGUIDE is also Internet-enabled. With built-in smart video search feature, the app can automatically look up video content from the Internet and present them right in the app. Instructors or students can easily access multiple versions/interpretations of the same piece by different musicians.

Being a music educator for many years, the author understands the needs of music teachers in classrooms, as well as the needs of students when listening alone. With many specifically designed features, the musicGUIDE app will help

Meng, Chuiyuan
IUPUI

Mr. Chuiyuan Meng is a music educator, concert pianist, music technology specialist, and Rich Internet Application developer. He has been teaching Music Technology courses as a Lecturer at IUPUI and has developed several software applications for music education and live music performances.

Performance of The University of Massachusetts Lowell Contemporary Electronic Ensemble

Performance of The University of Massachusetts Lowell Contemporary Electronic Ensemble. Ensemble consists of student engineered prototypes and original compositions ranging from EDM to Avant Guard.

Testa, Michael

The University of Massachusetts Lowell

Mike is a Lowell area educator, composer, audio engineer and musician. He has worked professionally in the industry for the past 14 years in various capacities from music production and mixing to sports broadcasting. “My goal is to find various forms of technology and make them do things they are not suppose to do. Often times it is to make music.”

It’s Free: Mining the Treasures of Creative Commons, Public Domain, and other Sources for University Courses and Applied Lessons

Student debt is a mounting crisis for graduates of American University. While university professors are largely powerless to control the cost of housing, tuition, and food there are expenses directly under their control: textbooks and required materials. The author will demonstrate how professors can save students thousands of dollars in theory, musicianship, and general education courses. For instance, cnx.org provides instructors the opportunity to sequence materials, supplement these materials with their own contributions, and package them in a course presented on the web, in pdf format, and if required on-demand printed copies. The author will explain in detail her/his use of materials on this site in university courses. In addition, selections of other Creative Commons and Public Domain materials also provide savings for students in class and in the applied music studio. The author will further explain available choices.

Ewell, Terry
Towson University

Terry Ewell is professor of music theory and bassoon at Towson University, Maryland. He has been a pioneer and advocate for online education since 1995. To date his WWW materials have received well over two million downloads. He currently teaches several online courses and uses the Internet for bassoon instruction.

LiveCode: Creating Multimedia Apps for Mobile Devices

LiveCode is a development environment with a scripting language reminiscent of HyperTalk. What’s most exciting is that LiveCode developed apps can run on iOS, Android, Mac OS X, Windows and Linux. It can be used for development of

mobile, desktop and server applications. This clinic session will introduce LiveCode as a potential tool for teachers looking to develop their own custom multimedia and applications for smartphones and tablets. Topics will include an overview of the software and tools, creating user interface objects such as buttons and text fields, audio, video and animation, and the fundamentals of LiveCode programming.

Jacoby, Marc
West Chester University

Dr. Marc Jacoby is an Associate Professor of Music at West Chester University of Pennsylvania where he serves as Jazz Studies Coordinator and teaches in the Applied Music and Music Education programs. He currently directs the Criteria's Big Band and Latin Jazz Ensemble.