Chapter 15
Preparing Students to Engage the Arts in the 21ˢᵗ Century

Jeffrey M. Morris
Texas A&M University, USA

ABSTRACT

The Department of Performance Studies at Texas A&M University is building a culture of innovation through strategic facility development, a focus on students sharing work through public performance, and interdisciplinary collaboration. The department has embraced the celebrated strengths of our university in STEM fields (Science, Technology, Engineering, and Mathematics) by developing interdisciplinary experiences and inspiring facilities (through technology and curriculum grants). These experiences contribute to the university at large by demonstrating how technology can connect with the human element and how technology impacts human expression. Students benefit by joining faculty in exploring the new and also rediscovering the traditional.

INTRODUCTION

As a relatively young department in an aesthetically conservative, remote college town, the Department of Performance Studies at Texas A&M University is building a culture of innovation through strategic facility development, focusing on students sharing work through public performance, and embracing interdisciplinary collaboration. We began the PerfTech (Performance Technology) initiative in 2005 in an effort to unify the Music and Theatre Arts programs in the Department of Performance Studies through strengths in technology-based performance across disciplines. PerfTech courses and events have also proven valuable experiences for students majoring in other artistic and STEM disciplines (Science, Technology, Engineering, and Mathematics) eager to merge experiences in music, theatre, or design with their majors and to gain experiences working with contemporary tools and issues. Our department focuses on inquiry-based performance as a mode of learning, allowing designers, directors, composers, performers, historians, and theorists to use performance as an analytical tool to explore a variety of performance studies questions. In the Theatre Arts courses, students study a variety of period styles, literary works, and performance techniques framed outside the Texas A&M community. By

embodying performance of these elements, students question and develop new understandings of the original context as well as re-contextualizing them within their own lives. Using technology in theatre design and performance also allows for discourse on the effectiveness of technology in performance and its effects on meaning, storytelling, and agency. In Music courses, we have come to favor the term "music making" over "composing," ultimately addressing our work as simply "performing" since many projects involve interdisciplinary elements and challenge the traditional roles of composer, performer, instrument, and audience.

ABOUT PERFTECH

In PerfTech courses, student works focus on what we have come to call "technology-based performance" instead of "electronic music," for example. Technology-based performance implies that the technology plays a substantial role in the performance, more than simply standing in for acoustic musicians or hand-painted sets. Student works seek structures that apply technology in such a way that the meaning of the work would significantly change or fall apart if the technology were removed.

Whereas personal computers have largely caught up with university facilities, our department focuses on providing what would be difficult or costly for students to obtain on their own: cutting edge performance laboratories and live performance experiences that push the limits of equipment, facilities, and fellow performers, so that our graduates are accustomed to a forward-thinking mindset and innovative applications of technology. We hope that these experiences prepare them to innovate on their own when called for, to unflinchingly embrace unusual applications of technology when presented to them, and to rediscover traditional performance through new eyes.

Mainstage productions have been one forum for bringing music and theatre technology together including the use of onstage sensors, interactive media, video, projections, and media servers. Student design assistants were responsible for video content, design, and editing for the production of *My Children! My Africa!* (Fugard, 1989/2010), which included video throughout the entire production. This para-narrative informed and sometimes contested the dramatic action, as well as provided younger audience members with a visual experience of apartheid. The production of *TH3 B3GGAR'S OP3RA* (Gay, 1728/2011) employed two Axon Media Servers with specialized theatrical content as well as original content developed by student and faculty designers. Using multiple projectors and the collage technology built into the media servers, designers were able to create full stage images with video and subtitles (Figure 1 and Figure 2).

Contact microphones were installed in the stage for a student-derived performance called *Ojen Kaleidoscope* (Jinks, 2006) in order to amplify an actor's foot stomps during a soliloquy in which he mimics the weapons firing around him. Simple electronic processing turned the stomps into room-shaking booms. As the play ends, a single chosen character climbs a ladder leading to an unknown place with hopes of finding a path for all the characters to escape the fighting. The sounds of climbing the ladder were transmitted through contact mics to a digital delay loop, allowing the footsteps to accumulate, underscoring how that character's journey represented the hope of everyone finding a path to safety.

In 2009, the Department of Performance Studies partnered with the Department of Computer Science and Engineering to produce *A Midsummer Night's Dream* (Shakespeare, c. 1590) incorporating robots as companions to the fairies portrayed by humans. This innovative work was featured by *Wired* (Squatriglia, 2009) and also lead to multiple publications for researchers from both departments (Guerin,

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