




A CASE FOR THE USE OF VIRTUAL STUDENT TEACHING IN UNITED STATES UNDERGRADUATE TEACHER EDUCATION PROGRAMS

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Overview

- Current technology in music education
 - What is virtual student teaching?
 - Why virtual student teaching?
 - What would a virtual student teaching model “look like?”
 - Discussion of how virtual student teaching fits into the professional education curriculum
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Current Technology in Music Education: Partial Results of an Ongoing Survey

❖ Surveys sent to 100 recipients via Zoomerang

❖ Question 4: Virtual technology used in student teaching:

Blackboard	75%
Whiteboard	38%
Skype	62%
Podcast	57%
Asynchronous discussion	62%
Live classroom	12%
Virtual Student Teaching	12%

Survey

- ❖ Question 5: If virtual student teaching was checked, which best describes the environment used in your undergraduate music education program?

Remote Interaction	24%
Interactive Avatars	0%
Virtual Immersion	12%
Simulation	0%
Telepresence	24%
Not Applicable	66%

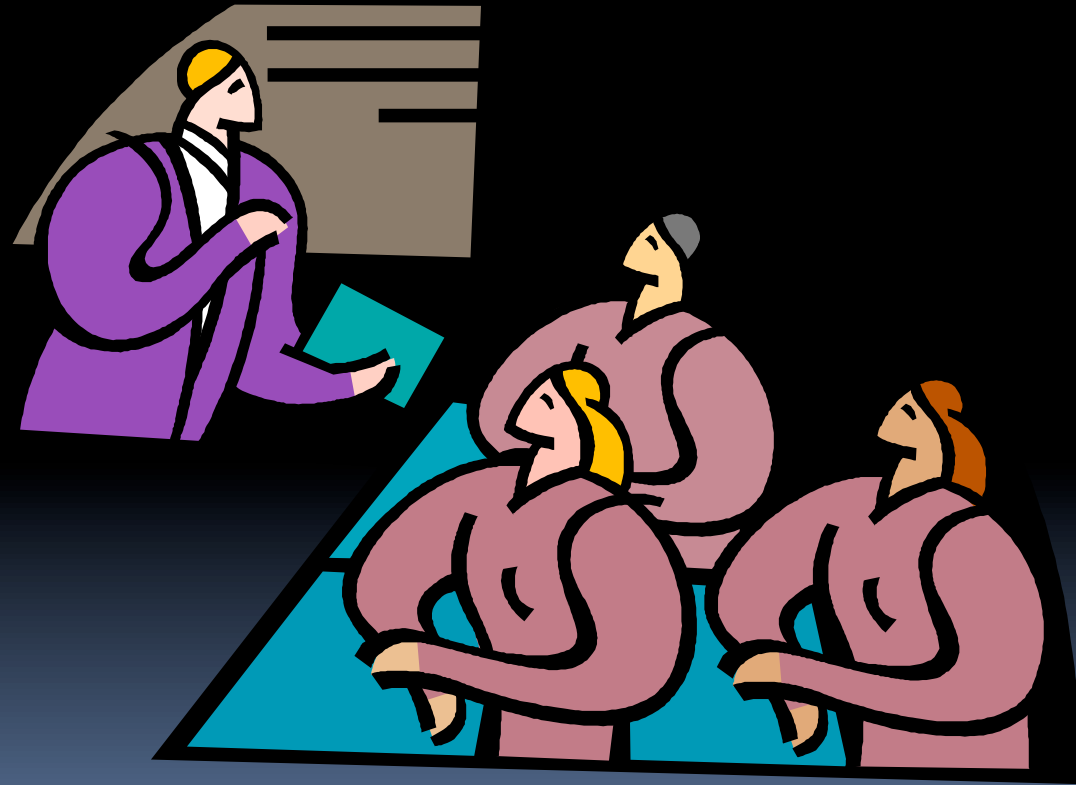


**And now, for something
completely different...**

What is Virtual Student Teaching?

- Implied definition from survey: A learning environment designed with computer software and encompassing mentor/intern input and feedback (Hiltz, 1995)
- Working definition for VST : A computer-created sensory setting in which the participant is scarcely able to distinguish a "virtual" experience from a real one, and employs computer graphics, sounds, and images to reproduce electronic versions of real-life situations (Franchi, 1995)

VST in the Third Millennium



Why Virtual Student Teaching?

- **Technology impacts nearly every aspect in cultures globally and that world is constantly changing and evolving (Jorgensen, 2003)**
- **The need to keep pace with current trends in teacher preparation Bauer, Reese, and McAllister (2003)**
- **Permits students to experience “role playing... creating simulations of physical or procedural processes not readily obtainable in traditional educational settings.” (Falloon, 2010)**
- **Three dimensional (3D) technologies have become a fundamental element of almost all modern computer games...and are also central to the new generation of immersive virtual worlds, such as Active Worlds and Second Life (SL). (Dalgarno & Lee, 2010)**

A Model for Virtual Student Teaching

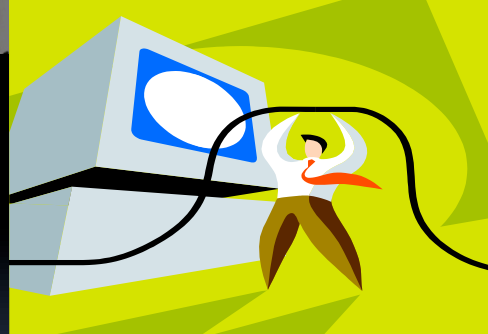


Virtual Student Teaching Components

- Characteristics of a flight simulator as well as certain video games
- 3-D Virtual Environments : **Manipulation of virtual objects** (Dalgarno & West, 2010) and Cooperative Object Manipulation and Immersion: **In such systems the users are physically located in the same space and are able to see each other using see through glasses. Virtual objects are superimposed on real-world objects.** (Pinho, Bowman & Freitas, 2002)
- Videogames such as *Jurassic Park* and *Quest Atlantis*
- Personalized Human Avatars: **Real-world people interact via digital avatars** (Ahmed, de Aguiar, Theobalt, Magnor & Sidel, 2005)
- Virtual Role-Playing (MARVIN Project): **Students are able to relate knowledge and understanding via the development of virtual information environments (story-telling tool)** (Falloon, 2010)

Student/Professor Interaction

Music Education Students



Professors



What Students and Professors See



Possible VST Models


- Two Person Interactive
 - ❑ Student on one control and professor on other
 - Similar to many existing videogames

- Multiple User Environments (MUEVS)
 - ❑ Students on multiple controls interacting within specific educational and behavioral parameters

- Immersive Virtual Reality
 - ❑ Multiple students in head mounted display helmets (HMD)

- Avatars... 'online manifestations of self in a virtual world... designed to enhance interaction in a virtual space' (Peterson, 2005)

- Virtual Human Interaction <http://vhil.stanford.edu/>



VST is NOT intended as a
replacement for current
teacher education curricula



Potential for VST in Music Education

- Implemented as part of the initial field experience (e.g. blended course)
- Prepare and assist future music educators to handle real-time classroom issues and procedures
- Develop strategies for improved teaching (i.e. theory to practice)
- Contribute to curriculum development for student teaching
- Peer Teaching and Seminars

Summary

- Technology is part of contemporary education.
- Foundation of VST: A computer-created sensory setting in which real experiences are nearly indistinguishable from "virtual" experiences (Franchi).
- Current virtual technology can be used to initiate a VST paradigm.
- VST can be adapted to a wide variety of learning environments and teaching/learning venues.

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