



D40 SOBER: A Virtual Collaboratorium for Synchronous Online Biomedical Education and Research

Summer J. Decker, MA*, Department of Pathology & Cell Biology, University of South Florida College of Medicine, 12901 Bruce B. Downs Boulevard, MDC 11, Tampa, FL 33612; Stephanie L. Davy-Jow, PhD*, School of Biological and Earth Sciences, Liverpool John Moores University, James Parsons Building, Byrom Street, Liverpool, L3 3AF, UNITED KINGDOM; Jonathan M. Ford, BA, BA, and Don R. Hilbelink, PhD, Department of Pathology & Cell Biology, University of South Florida College of Medicine, 12901 Bruce B. Downs Boulevard, MDC 11, Tampa, FL 33612; Amy J. Hilbelink, PhD, School of Nursing, Kaplan University, 605 Crystal Grove Boulevard, Lutz, FL 33548; and Eric J. Hoegstrom, MSBE, Department of Chemical & Biomedical Engineering, University of South Florida College of Engineering, Tampa, FL 33612

The goal of this presentation is to demonstrate new technologies that have successfully enabled interactive real-time collaboration and teaching between researchers, experts, trainees, and forensic agencies in a virtual environment, as well as provided a forum for forensic experts from around the world to meet and collaborate without requiring close physical proximity.

This presentation will impact the forensic community by gaining scientific knowledge of new technologies and methods, ultimately improving access to resources and opportunities for research normally impeded by geographic location. Advantages include the ability for law enforcement to choose experts based on suitability rather than propinquity, and for students to access a wide range of teaching collections and experience housed in multiple institutions.

Current telecommunication technologies have provided a means for forensic researchers and professionals to conduct research and provide

educational training beyond actual physical contact.[1] Collaborators at the Universities of South Florida and Liverpool John Moores University have instituted a pilot program, the SOBER (Synchronous Online Biomedical Education and Research) Collaboratorium, that has been enhancing teaching and learning through virtual classroom and laboratory environments. This technology has also been used to conduct research collaborations through synchronous sessions with international experts via the internet.

Remote technologies have been explored in the medical field for clinical, research and military purposes. Over the course of a year, an international team of researchers were able to collaborate on forensic research and casework, while testing different methods of online remote telecommunication tools. A software package, that is an online, educational and collaborative program that allows for real time communication for multiple users ranging from simple one on one interactions to mass communications consisting of groups of 200 or more. One of the strengths of the software is that it is not bound to any

specific computer platform, level or internet connection speed.[1] Synchronous sessions have also provided opportunities for remote use of high end sophisticated imaging software packages utilized by the collaboratorium for three-dimensional modeling, visualization, and analysis.

In the virtual classroom, the researchers have been able to create virtual anatomy and anthropology laboratories using reliable virtual

models created by the lab[2] and then share that content between universities. Lectures and practicals can be conducted simultaneously in both countries and teaching expertise shared using the academic software. This online academic software can be used alongside any online training courses to create a multimedia, interactive environment for the trainees. Students have live access to the instructors no matter where they are located.

In an era of budgetary concerns, it is becoming less feasible for local forensic agencies to obtain access to leading experts from around the country and the world. Virtual collaboration tools will provide the ability for these agencies or institutes to collaborate without having to bring the expert physically to the agency. In this study, data was securely transferred and analyzed on proprietary software by the researchers via remote computer access. Online voice and video conferencing served as brainstorming and feedback sessions for the virtual laboratory.

As the world gets smaller via new communication technologies, researchers will have new opportunities to expand their networking capabilities beyond their local agency, institute, or university. Access and the ability to share these high end resources will prove to be invaluable tools in the progression of scientific research, training and collaborations.

References:

1. Schullo S, Hilbelink A, Venable M, Barron A. Selecting a Virtual Classroom System: Elluminate Live vs. Macromedia Breeze (Adobe Acrobat Connect Professional). *Journal of Online Learning and Teaching*, Dec. 2007; Vol. 3(4)331.
2. Decker SJ, Hilbelink DR, Hoegstrom EJ. Virtual skull anatomy: three-dimensional computer modeling and measurement of human cranial anatomy. Proceedings for the 60th Annual AAFS Meeting, Washington, DC 18-23 Feb. 2008; (14)312.

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