



UCF INSTITUTE FOR
SIMULATION & TRAINING

Spring 2007



Review

***Virtual students' behavior poses big-time challenge
IST faculty lay foundations in experiential learning
IST team evaluates trauma center team training
UCF honors IST lab director as "Pegasus Professor"***

UNIVERSITY OF CENTRAL FLORIDA

Virtual students' behavior poses big-time challenge

They can't pass the Turing Test* , but students in this inner city classroom simulator still can give teachers a tough time.

Only the teacher is real; the classroom and students aren't,



**A test of a machine's capability to demonstrate thought, proposed by Alan Turing in his 1950 paper on artificial intelligence, Computing Machinery and Intelligence.*

although their behavior is based on typical student responses to classroom management techniques studied for four decades by the Haberman Foundation. According to Haberman studies, 50 percent of beginning teachers either fail or quit within the first three to five years. The foundation developed the Star Teacher Pre-Screener to help identify teachers who might beat these odds and be best suited to serve students at risk or in poverty.

Dr. Martin Haberman of the University of Wisconsin-Milwaukee originally developed The Star Teacher Selection Interview as a way to predict a teacher's success. The STAR Classroom Simulator applies computer simulation to bring this evaluation to the next level.

A partnership among Simiosys LLC, the Haberman Educational Foundation and IST's Media Convergence Lab, the STAR Classroom Simulator mixes computer technology and a human role-player. It's currently



MCL illustrator John Nadeau's concept of a mixed reality classroom where computer aided interaction enhances learning.

in trial and is expected to be commercially available within a year.

Here's how it works: The teacher faces a rear projection screen on which a roomful of virtual students fidget, look bored, or otherwise represent the possibility of a new teacher's worst nightmare.

Since researchers really haven't developed computerized agents that can respond as humans, students' movements and verbal responses are controlled by an out-of-sight actor based on a script of typical responses to teacher techniques. The result is a realistic interaction between students and instructor that can challenge even veterans of the classroom.

IST faculty lay theoretical foundations in experiential learning handbook chapter

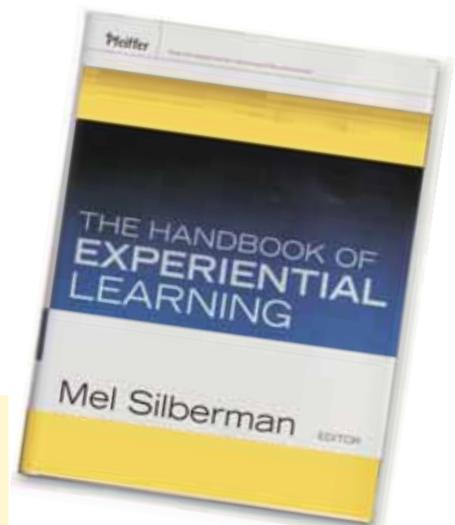
The Handbook of Experiential Learning, Mel Silberman, ed. (John Wiley & Sons, 2007) compiles recent thought on a variety of learning-through-experience applications. Assistant professor Stephen Fiore, Ph.D. and faculty researcher David Metcalf II, Ph.D. from IST and assistant professor of digital media

Rudy McDaniel, Ph.D. lay out in chapter two the theoretical foundations for this learning methodology.

The handbook's objective is to provide the tools for creating more

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See Chapter 2 to get to the very foundations of experiential learning theory.



IST team evaluates trauma center team training

from a story by Zenaida Gonzalez Kotala, UCF News

Psychology professor and IST research director Eduardo Salas is evaluating trauma training programs at the Ryder Trauma Center, Miami Jackson Memorial Hospital.

Salas and his team scheduled several visits to see how well the center encourages teamwork.

U.S. Army medical teams headed to Iraq and Afghanistan receive their final two weeks of training at the trauma center. Last year the center handled 3,800 cases. It is considered one of the best in the country for preparing medical professionals for high-stress situations.

Military and industry leaders often bring in Salas as a consultant because he's an expert in encouraging, nurturing and creating an environment of teamwork.

The Miami trauma center provides training for the U.S. Army Trauma Training Center. More than 900 military medical personnel have been trained since 2001. What doctors face at the trauma center closely mimics what soldiers will see on the battlefield.

A \$4 million-plus grant from the Department of Defense and other entities keeps the program going.

Salas is evaluating the training the medical staff give the soldiers based on practices that best foster the teamwork and communication critical in battle conditions.

Other members of the trauma center team are looking at the medical training itself to determine the best way to use technology in those M.A.S.H. settings.

Jeffrey Augenstein, director of the trauma center and a professor of surgery at the University of Miami Miller School of Medicine, considers

Salas to be "the world's leading expert" in his field.

"We know we provide good medical training, but if the world's best surgeon can't work efficiently with his team, we're not going to have a good outcome," Augenstein said. "We want to make sure we're doing everything we can to guarantee these teams can work well together."

"We rely more and more on teams to get things done," Salas said. "With the layers of complexity in medicine, teamwork is not something that's so easy to foster or maintain. You have to work at it. What we do is provide people best practices, strategies for doing the training."

Salas spent 15 years with the Navy as a research psychologist and head of the Training Technology Development Branch in Orlando. While there, he worked on research and development projects that focused on teamwork, team training, advanced training, decision making under stress and performance assessment. He has authored more than 300 journal articles and books on the subject.

At UCF, Salas conducts research to figure out the best strategies to



Eduardo Salas

turn around work places where moral may be low due to poor management and create best practices that can be used from the board room to the operating room.

Salas has been called upon to help create team environments in the airline industry, but these days hospitals and medical schools are his most frequent callers.

"Patient safety is huge," Salas said. "The medical industry is going through what the airline industry went through. And it's the same with military medical teams. They need to work together well to save lives in some very trying conditions."

Foundations

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effective training experiences based on learning by doing—one of the primary motivators for simulation-for-training applications.

Fiore, whose degree is in cognitive psychology, investigates cognitive, social and organizational psychology in learning and individual and team performance. Metcalf's expertise includes innovations in mobile and blended learning, learning business strategy and performance measurement.

McDaniel draws on his research in narrative theory, video games, learning technologies, knowledge management frameworks and XML in designing creative story uses for simulation learning systems.

UCF honors IST lab director as 2007

'Pegasus Professor' *from a story by Tom Evelyn, UCF News*



Charles Hughes is director of the IST/DM Media Convergence Lab

Computer Science. He has joint appointments in the School of Film and Digital Media, the Institute for Simulation and Training and the Text and Technology Program in the English Department.

Hughes helped develop MeasureMe, an interactive exhibit at the Orlando Science Center that gathers data to demonstrate how each of us is different, unique and important.

He has received \$9

million in research grants from various industry partners and federal agencies such as the National Science Foundation and the Office of Naval Research.

Hughes has a talent, much favored by research sponsors, for putting together multidisciplinary teams with the capability to see a project from many angles.

Hughes has produced interactive exhibits for the Zora Neale Hurston Festival and developed a Web site for the Zora Neale Hurston National Museum of the Arts. He also worked with the Association to Preserve the Eatonville Community to build a digital archive for the Carol Mundy collection of African-American historical artifacts.

The Pegasus Professor Award is UCF's top honor for excellence in teaching, research and service. One of this year's three recipients is Dr. Charles Hughes, director and chief scientist of the Media Convergence Laboratory, located at IST.

Dr. Hughes studies emerging technologies in entertainment, education and training. His research has been applied to uses as broad as cognitive rehabilitation, military training, preschool vocabulary learning, museum displays and forest conservation.

Hughes joined UCF in 1980. He is a professor and graduate coordinator of Computer Science in the College of Engineering and



Charles Hughes checks the view using a headset with video camera eyes. The blue light bounces off retroreflective curtains directly back to the cameras. The computer substitutes digital images for the blue, providing the wearer a mixed reality view of the world.

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