



Photo by Robert Jordan



THE VIRTUAL CLASSROOM

Digital avatars
allow Ole Miss students
to gain hands-on teaching experience

By Andrew Abernathy

While there is no substitute for firsthand field experience in teacher training, aspiring educators at the University of Mississippi now have the chance to learn by doing even before student teaching, thanks to the latest technology in teacher preparation. In two years, almost 1,000 UM students have gained hands-on experience by teaching five avatars — all with unique personalities — in a virtual classroom.

Since 2012, the Ole Miss School of Education has been one of a growing number of institutions around the country — and the only university in Mississippi — using TeachLivE, a classroom-simulation program designed by education and computer science faculty at the University of Central Florida (UCF). At least 40 universities are now participating in this venture funded by the Bill & Melinda Gates Foundation.

TeachLivE provides a virtual classroom experience very similar to real-life instruction but without the risk of disrupting class for real students. While not a replacement for traditional student teaching, the technology allows UM education majors to get a taste of leading their own classroom earlier in their training and fine-tune aspects of their craft.

One goal is that this digital teaching experience will allow UM teacher candidates to begin student teaching ahead of the curve.

“The virtual experience of TeachLivE is the closest you can get to teaching without placing real students at risk,” says School of Education Dean David Rock, who coordinated the university’s involvement in the program.

“As an educator, you’re going to make mistakes when you first start. This gives our students the chance to make some of those mistakes on the virtual students first and be better prepared to teach once they begin their field experiences.”



Photo by Nathan Lattil

Almost 1,000 UM students have gained hands-on experience by teaching five avatars named CJ, Ed, Kevin, Maria and Sean.

In the last year, the School of Education has expanded its facilities to include virtual classrooms not only in Oxford but at the university's DeSoto and Tupelo campuses as well.

"The program is especially beneficial to nontraditional students who may not have been in a public school classroom setting for many years," says Mark Ortwein, assistant professor of teacher education who teaches at the Tupelo and DeSoto campuses. "This offers a window into contemporary classrooms, which can be quite different than they were a decade ago."

Currently, every junior education major completes at least two supervised TeachLivE sessions during the academic year, a number that is likely to rise in the future as more courses utilize these digital classrooms as part of the curriculum.

"We're very fortunate to have TeachLivE as a teaching-learning resource for pre-service teachers," says Susan McClelland (MEd 88, PhD 96), chair of teacher education. "Our faculty [members] have found its use to be beneficial to the overall learning experience of their students, and our students value the learning opportunity and the feedback. We believe these experiences make our students better prepared to work with children in a P-12 environment. This technology has the potential to elevate teacher education at Ole Miss to a new level."

Avatars That Learn

Each of UM's virtual classrooms features an 80-inch monitor, floor-mounted motion sensors and a headset for the student teacher.

Once logged in and linked to the UCF facility, pre-service teachers can teach five middle school-aged avatars — named CJ, Ed, Kevin, Maria and Sean — each with his or her own personalities, interests, motives and sense of humor.

The floor sensors allow students to navigate the virtual classroom and actually walk up and even kneel down next to the avatars' desks.

Using a "hybrid intelligence model," operators at UCF use software and prerecorded behaviors to bring these digital students to life remotely from their facility in Orlando during sessions.

Based on certain variables set by Ole Miss instructors and the UCF operators, the digital students can present myriad classroom situations.

If a student teacher is organized and adept in his or her subject, the avatars can learn. If an education major is unprepared or lacks management skills, the avatars can lose interest, text in class, try to flirt with the teacher, fall asleep or even derail the lesson by challenging the teacher's authority.

"It feels like real life because you never know what the avatars are going to do," says Shannon Green (BAEd 14), who will begin her first year of teaching this fall at Luther Branson Elementary in Madison. "I appreciated how I was able to critique myself. I've improved little things like remembering how to slow down and explain lessons in a way that students will understand. CJ was the most difficult avatar. She always seemed to crave attention and not necessarily positive attention. I saw the same sort of behavior during my student teaching."

The personalities of the avatars have unexpectedly influenced the culture within the School of Education. Students and faculty

joke about CJ's attitude or Sean's over participation in class.

During graduation on May 10, graduates laughed when Dean Rock informed the new teachers that CJ wanted them all to know she said "Congratulations" before the big event.

"I feel the program helped me gain confidence more than anything," says secondary education graduate Devin Hughes (BAEd 14), who will begin teaching at Strayhorn High School in DeSoto County next fall. "I would advise that anyone with no prior teaching experience use this before teaching a real class. The avatars are all equally difficult to teach because they all have such distinct personality types, which the professors did a great [job] of teaching us how to work with them."

Within the avatars' personalities are also telltale signs of important issues the future teachers will face once they enter a real classroom.

Avatars can display signs of some learning disabilities, mood swings or struggles in their personal lives such as abuse or neglect at home.

"The program gives our students a chance to understand what it will be like standing and speaking in front of real people for the first time," says Larry Christman (BSHPE 72, MEd 75), adjunct instructor in teacher education and a veteran school administrator who has come out of retirement to help implement TeachLivE at Ole Miss. "There are five distinct personalities on the screen, and these students are going to see these same types of personalities when they are in the real world. I think it will be very valuable to our programs."

Following each 30-minute session, faculty members critique the students' lessons, leadership style and provide feedback about how to better prepare for upcoming field experiences. Usually completed in groups of three or four, pre-service teachers also critique each other following lessons.

"It was a really safe environment where you can gain a lot of experience," says Andy Banahan (BALM 01, BAEd 14), who is beginning a new career teaching in Killeen, Texas, next fall. "I will probably never have a class with just five kids like these, but I'm sure I will have many classes with personalities similar to them. Future CJs will try and trick you into a back-and-forth power struggle. Future Kevins will try to be ladies' men and flirt with the female teachers. It was a valuable experience and really fun too."

Set for Growth

With UM's second-year expansion of TeachLivE at its regional campuses in Tupelo and DeSoto County completed, the School of Education has plans to further weave the technology into its curricula in the next academic year and beyond.

Currently, two introductory education courses use the program. In the fall, faculty members will use some of the latest updates in the TeachLivE program to help student teachers gain experience with students who do not speak English as their primary language, according to McClelland.

Professional development could also be a groundbreaking direction for using TeachLivE, according to Carrie Straub, director of research for TeachLivE at UCF.

Straub says UCF research shows that through practice with the program, working teachers are able to significantly improve



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Currently, two introductory education courses utilize the TeachLivE program.

their teaching methods in as little as four sessions. To make the technology more accessible, they've also created a mobile version of TeachLivE that can be powered by a Wi-Fi hotspot from a smart phone and only requires a laptop with webcam, headset and an Xbox Kinect motion-sensor device. The virtual classroom can even be displayed on many smart boards commonly used in classrooms.

"This really presents a new paradigm in the way teachers can do professional development," says Straub. "Their improvements can be extended directly to their classrooms. We've also found that teachers are energized by using this technology and actually enjoy their time with the avatars. Our vision is that eventually every single classroom should have its own TeachLivE."

Ole Miss is one of 10 research sites providing data for the TeachLivE research project. In 2012, mathematics education professor Renee' Hill-Cunningham compiled data for researchers at UCF by bringing four seventh-grade teachers from Lee County into UM's TeachLivE classroom in Oxford.

She found that after four 10-minute sessions followed by questioners, the teachers improved their efficiency in how they taught the lessons. Over time, they covered more material and spent less time talking at the avatars and more time asking higher order thinking questions. These results were very similar to those recorded at other research sites.

"The pace of how the teachers went through questions

became more brisk and vetted," explains Hill-Cunningham. "It rose to an almost electric level. By the end, you could see how they were asking deeper questions and drawing more insight from the avatars than in the beginning."

Other goals for the program, Straub says, include creating new software for working and aspiring teachers specializing in critical-needs subjects.

TeachLivE is developing new avatars with learning disabilities for training in special education, as well as in lower elementary classrooms. All studies completed by the research team at UCF use lessons and course work aligned with Common Core State Standards.

In addition, the five avatars are growing up! For the past two years, CJ, Kevin, Ed, Maria and Sean have been middle school-aged children. The program now offers a high school-aged version of the same avatar children to allow more specialized use for secondary-education training. An adult avatar is also available, which can be used to simulate parent-teacher conferences and more.

"TeachLivE is a learning opportunity that pushes our pre-service teachers to be better every time they use it," Rock says. "I hope we continue to find ways to prepare every future teacher for any classroom situation. If you come to Ole Miss to become a teacher, we want you to know that we're going to bring you every tool we can to help make you a quality teacher." *AR*