

Preparing the 21st Century Teacher: A Simulated Classroom Experience

*Olga N. DeJesus, Ed.D**

Abstract

This paper explores the use of the TeachLiveE simulated classroom environment lab established by the University of Central Florida (2012) as a pedagogical tool for preparing the 21st century teacher. How can we better prepare pre-service teachers for the virtual classroom prior to their clinical experience? This concept was presented during *International Week 2017* given at Pädagogische Hochschule Niederösterreich in Melk, Austria.

Keywords:

Virtual Classroom
Simulated Classroom
Mixed-Reality Teaching Environment
TeachLiveE
In-Service Teacher
Pre-Service Teacher

1 Introduction

TeachLive is an interactive computer- and human-facilitated simulation of a classroom with five avatars who behave as typical middle or high-school students. The goal is to help potential teachers learn how to improve their skills, and to better prepare them to teach real students in a real classroom (Quirk, 2014). The focus of the program, which was funded by the Bill & Melinda Gates Foundation, has been to train teaching candidates and to evaluate the effects of virtual classroom rehearsal on the performance of practicing teachers (UCF, 2012). In addition, TeachLiveE allows teaching candidates to interact with adults too. Through the program, teaching candidate can engage an adult avatar in virtual parent-teacher conferences.

Dr. Gregory Reed, associate dean for accreditation and technology in the School of Education, is leading a Howard research team that is examining the use of avatars and virtual classrooms in teacher training. Reed stated that *“The concept behind TeachLiveE suggests that there may be another level of preparing students before they complete their student teaching”* (Brown, 2015). The program isn’t meant to replace clinical experiences in real classrooms, says Craig Berg, professor of education at the University of Wisconsin-Milwaukee (Quirk, 2014), but to help students develop basic skills and techniques early in their education, in a controlled, less chaotic, less complex environment.

2 What Is TeachLiveE?

The TeachLiveE (TLE) Lab is a mixed-reality teaching environment supporting teacher practice in classroom management, pedagogy and content. The TLE Lab was developed at the University of Central Florida (2012). Dr. Lisa Dieker (College of Education), Dr. Charles E. Hughes (College of Engineering & Computer Science) and Dr. Michael Hynes (College of Education) were the leading research investigators in this innovative concept (UCF, 2012). It is currently being used at over 85 institutions in the United States and growing to include multiple school districts and international partners. Each partner utilizes the TLE Lab in a unique manner depending on the needs

* School of Education, Mercy College, 2651 Strang Blvd., Yorktown Heights NY 10598, USA.
Corresponding author. E-mail: ODejesus@mercy.edu

of their students, teachers, professors, and community stakeholders. The TLE Lab provides pre-service and in-service teachers the opportunity to learn new skills and to craft their practice without placing “real” students at risk during the learning process.



Illustration 1: TeachLiveE Simulated Classroom

2.1 About TeachLiveE

In the TeachLive Lab, pre-service and in-service teachers walk into a room where everything looks like a traditional middle or high-school classroom including props, whiteboards, and of course, students (UCF, 2012). However, unlike the brick and mortar setting, the lab is a virtual setting and the students in the classroom are avatars. The avatars give teaching candidates a chance to develop and refine their skills, adding to their actual classroom experiences with real students.

One key element of TeachLive is the ability to program the virtual students to act up in various ways and at various levels (Watry, 2016). You can customize the avatar students with specific behavioral characteristics and learning skills that will challenge the teaching candidate to expand on the pedagogical developing skills.

The virtual students may act like typically developing or not-typically developing students, depending on the objectives of the experience. Teaching candidates can interact with students and review previous work, present new content to students and provide scaffolding or guided practice in a variety of content areas, and monitor students while they work independently. In an environment like this, prospective teachers can learn the instruction and management skills needed to become effective teachers and practicing teachers can hone and refine their skills.

3 Areas of Concentration

There are various avatars and areas of concentration available to choose from: middle school classroom, high school classroom, kindergarten classroom (currently being developed), ELL middle school (limited availability), inclusive middle school classroom with Andre (avatar), inclusive high school classroom with Martin and Bailey, adult avatar - Stacy and adult avatar – James (UCF, 2012).

4 Sample Avatar Students



Figure1: Sean McGowan Age 14-18

Sean's Personality Profile

- Aggressive Dependent
- Looking for teacher approval
- Over participates
- Grade sensitive
- Storyteller
- Dramatic

Sean's Academic Profile

- Over achiever, but has to work extremely hard
- Average intellect/learner (A / B student with extra credit)
- Performance anxiety
- Testing anxiety
- Procedural learner

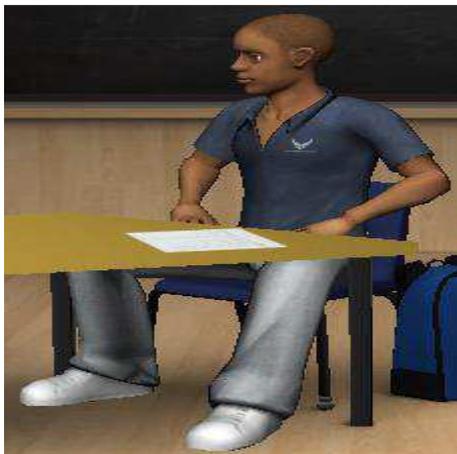


Figure 2: Ed Lewis Age 14 – 18

Ed's Personality Profile

- Passive Dependent
- Looking for Teacher approval
- Inattention/sleepy
- Guardian / protector personality type
- Peacemaker

Ed's Academic Profile

- Diligent and detail-oriented
- Excels at math and concrete logic
- Great memorization skills
- Struggles with literature, abstract thinking, and creative projects



Figure 3: Maria Gonzalez Age 14 -18

Maria's Personality Profile

- Passive Independent
- Introverted
- Reserved
- Skeptical

Maria's Academic Profile

- Highly gifted
- Excels in all subjects
- Favorite subjects are Math and Art
- She has several AP classes on her schedule
- In her senior year she is planning dual enrollment at the local college

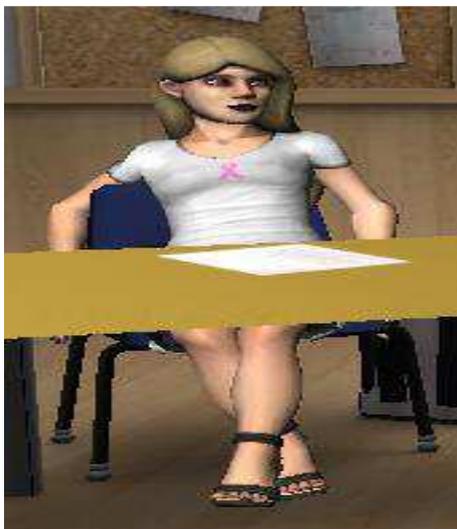


Figure 4: Cynthia Jean "CJ" Harper Age 14 – 18

CJ's Personality Profile

- Aggressive Independent
- Tends to dominate peers
- Looking to bait the teacher
- Looking for respect
- Likes to date

CJ's Academic Profile

- She struggles in most subjects.
- Has excellent oral argument and logic skills.
- Is doing poorly in most subjects and is in danger of dropping out.
- She is more likely to act out than to admit that she doesn't know something.

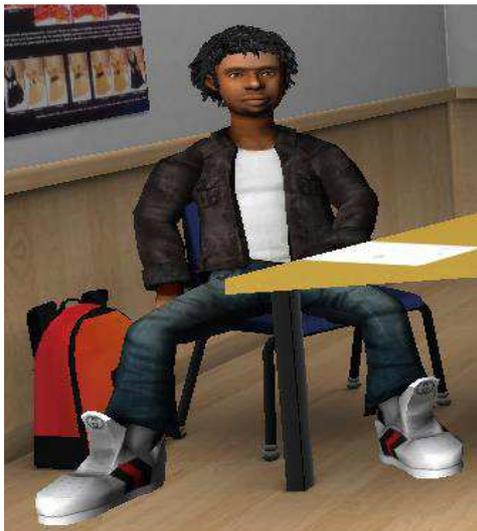


Figure 5: Kevin Jordan Age 14 – 18

Kevin's Personality Profile

- Aggressive Dependent
- Seeking peer approval
- Talkative
- Charming
- Not competitive
- Out-of-the-box thinker
- Artistic

Kevin's Academic Profile

- Low motivation for assigned school work.
- Lack of attention to detail and failure to read directions undermines academic work
- Enjoys assignments where he gets to choose his own topic or medium
- Would prefer to make a video

5 How Does It Work?

In real classrooms, students might get bored and become difficult to manage when an instruction or management routine is repeated. In the TeachLivE lab, instruction and management routines may be repeated with an individual teacher or across several teachers using the same instructional context until the routine is mastered (UCF, 2012). The instruction or management context may then be changed systematically to examine how teaching candidates respond to a changing classroom environment. If novice teachers perform poorly or if experienced teachers want to experiment with a new teaching idea, using TeachLivE poses no danger to the learning of any real student. Moreover, in real classrooms only one teacher can practice an instructional or management routine with a group of students in a traditional internship or practicum setting. In the TLE Lab, several teachers can instruct the virtual classroom over the course of one hour. Furthermore, if a teacher, novice or experienced, has had a demanding session, he or she can re-enter the virtual classroom and try again to teach the same students the same concept or skill, without having harmed any student in the virtual classroom (UCF, 2012).

6 Partnering Institutions

- ☞ [Alexandria City Public Schools](#)
- ☞ [Asbury University](#)
- ☞ [Buffalo State College](#)
- ☞ [California Polytechnic State University \(Cal Poly\)](#)
- ☞ [California State University at Northridge](#)
- ☞ [College of William & Mary](#)
- ☞ [Florida State University](#)

- ☞ [Houston Independent School District](#)
- ☞ [Howard University](#)
- ☞ [Illinois State University](#)
- ☞ [Indian River State College](#)
- ☞ [Kennedy-Krieger Institute](#)
- ☞ [Kennesaw State University](#)
- ☞ [Kent State University](#)

- ☞ [Knowledge Point Educational Consultant \(United Arab Emirates\)](#)
- ☞ [Lake County School District](#)
- ☞ [Miami University of Ohio](#)
- ☞ [MidAmerica Nazarene University](#)
- ☞ [Minnesota State University – Mankato](#)
- ☞ [Northwest Nazarene University](#)
- ☞ [Old Dominion University](#)
- ☞ [Pace University](#)
- ☞ [Rowan University](#)
- ☞ [School District of Osceola County](#)
- ☞ [Shippensburg University](#)
- ☞ [South Campus School, New Connections Academy](#)
- ☞ [Southeastern Louisiana University](#)
- ☞ [Southern Illinois University Edwardsville](#)
- ☞ [Southern Methodist University](#)
- ☞ [Southern University and A&M College](#)
- ☞ [St. John Fisher College](#)
- ☞ [St. Leo University](#)
- ☞ [State University of New York \(SUNY\) New Paltz](#)
- ☞ [Texas A&M International University](#)
- ☞ [Texas Woman’s University](#)
- ☞ [University of Central Florida](#)
- ☞ [University of Central Missouri](#)
- ☞ [University of Idaho](#)
- ☞ [University of Kansas](#)
- ☞ [University of Maryland](#)
- ☞ [University of Mississippi \(Ole Miss\)](#)
- ☞ [University of Toledo](#)
- ☞ [University of West Florida](#)
- ☞ [University of West Georgia](#)
- ☞ [University of Wisconsin – Milwaukee](#)
- ☞ [Utah State University](#)
- ☞ [Valley City State University](#)
- ☞ [West Virginia University](#)

7 Conclusion

Preparing the 21st century teacher with just a series or course work and one student teaching clinical experience may not be sufficient. Therefore, considering the TeachLive simulated classroom as an additional pedagogical tool for expanding on those developing teaching skills might be a good idea. A simulated classroom allows students to engage with avatars in a classroom setting to gain real world experience. This method can help teaching candidates to better understand the principles of learning and teaching. TeachLive is currently being used at over 85 campuses in the U.S. and now expanding internationally (UCF, 2012). I hope that it can continue to evolve and have the positive impact it has had in the United States in other institutions of education in other countries as well.

References

- Brown, B. (Spring 2015). Spotlight on Gregory Reed. *Howard Magazine*:Howard University. Washington, DC.
- Quirk, K. (2014). *Teaching with Avatars*. University of Wisconsin-Milwaukee. Retrieved from <https://uwm.edu/education/teaching-with-avatars/>
- University of Central Florida. <http://teachlive.org/about/about-teachlive/>
- Watry, G. (2016). A Simulation’s Teaching Moment. *R&D Magazine*. Retrieved from <https://www.rdmag.com/article/2016/04/simulation%E2%80%99s-teaching-moment>