TeachLivE^{TM} from New York: Developing Innovative Practices
in Immersive Teaching Technology
SUNY Innovative Instruction Technology Grant
Project Outcomes Report

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The goal of this project is to pilot the TLE TeachLivE™ virtual simulation classroom laboratory among interested departments at the college, local k-12 administrative personnel, and SUNY Institutes of Higher Education (IHEs). The project will explore opportunities for leveraging the power of SUNY to create an innovative academic program through which students and faculty across a range of disciplines and SUNY colleges collaborate to infuse in-vivo learning within the safety of the simulation lab to effectively prepare and enhance teacher preparation programs within the SUNY system. This project has five objectives:

Objective one: three separate missioned full day sessions will occur to assist stakeholders in the development and infusion of TeachLivE™ into curricula. The project will investigate design facility, and disseminate an innovative and replicable preparation model of seamlessly infusing pedagogy with evidence-based teaching techniques and classroom management strategies. A TeachLivE trainer will be present at all workshops; in person for the first session and virtually via skype for the following two.

Outcome: Workshop One took place on November 15, 2013. An announcement for the workshop was published via Buffalo State Daily Bulletin on at least three occasions prior to the workshop. Personal email invitations were also sent to everyone in the Schools of Education for Buffalo State College, SUNY Fredonia, and the University at Buffalo. Twenty seven participants

attended Workshop One, representing a variety of academic interests including Adult Education, Exceptional Education, Elementary Education, Educational Leadership, Creative Studies, Literacy, Art Education, Science Education, the Center for Development of Human Services, and the University at Buffalo Alberti Center for Bullying Prevention. Faculty from Fredonia University's Exceptional Education Department were also in attendance.

Small focus groups were held at the end of Workshop One. The following questions were proposed to the groups:

1. What are some of the possible uses of TeachLivE within your program of study/field?
2. What skills do you think could be honed by having your students/employees participate in the TeachLivE experience?
3. Besides novice teachers, who else might benefit from the TeachLivE experience?
4. What enhancements do you think would improve the experience of the TeachLivE?
5. What is your primary impression from today's TeachLivE experience?

Responses to the first question included the following:

- Behavior management/ behavior management training
- Working with students with behavior disorders
- Behavior management in adult learners
- Tracking behaviors/ practice in data collection
- Response to bullying/crisis response
- Working with families
- Talking with parents
- Increase experience with diverse learners
- Simulated lessons for edTPA
- Supervisor training
- Professional development
- Teaching materials to skeptical/unmotivated students
- Literacy intervention skills
- SLP intervention skills
- Mock IEPs

- Errorless learning/errorless teaching
- Incorporating BIE tech

The second question asked stakeholders to consider particular skills that could be honed or cultivated by having students and/or employees participate in a TeachLivE session. Responses included the following:

- Feedback skills
- Behavior management
- Responding to bullying
- Teacher supervision
- Maintaining classroom safety
- Keeping audience engaged/enhancing active engagement of lessons
- Honing teaching strategies when working with diverse learners (e.g., ELL strategies)
- Teaching skills with technology (e.g., white board)
- Response to student errors (e.g., error correction, redirects, positive student praise).

Question three asked participants to identify industry professionals (not including novice teachers) who might benefit from the TeachLivE experience. Responses centered largely around careers within the social sciences and included the following:

- Educator trainers
- Inservice teachers
- Administrators
- School and district leaders
- Professional Staff
- Residence Staff
- SLPs
- Psychologist
- Counselors in training
- Students with disabilities
- Students
- Professors

The next question asked workshop participants to provide feedback about the lab experience. Specifically, stakeholders were asked to comment on enhancements that they thought would improve the experience within simulation sessions. Themes that emerged from this question included developing environments that feature younger elementary avatars, students with more severe or profound disabilities, more diversity among avatars, and principal or teacher avatars. Participants also commented that they felt sessions could be improved if avatars were able to ambulate around the virtual setting (all avatars are seated at a desk or table), if the avatars were able to participate in more interactive groups, and if the classroom environment was less 'formal'.

It is interesting to note that since the time that the focus groups were held, several enhancements to avatars and the virtual environments have been made. For example, a new avatar named Martin has been developed. Martin portrays a student with moderate autism. Martin can display several macro and micro-movements that mirror characteristics that a student with autism may make including finger flicking, lack of eye contact, rocking, echolalia, and difficulty with expressive communication. Avatars are also able to think-pair-share in both the elementary/middle school environment and high school environment now. The participant has the ability to walk around the virtual setting and 'check in' on avatar conversations while the think-pair-share is occurring to encourage avatar collaboration and ensure that conversations regarding the assigned task do not drift from the targeted topic. Since the time that the focus groups were held, Stacey Adkins-Lewis (the adult avatar) has been utilized to portray a parent in a parent-teacher conference, a teacher receiving Annual Professional Performance Review (APPR) results, and a parent who is in need of assistance from Child and Family Services (CFS).

The TeachLivE environment also has the capacity to assist participants in gaining practice when working with students who are in various stages of English language acquisition.

Focus groups ended by asking stakeholders their primary impressions from their workshop experience. Responses were strongly positive in nature. Participants indicated that they saw a value to the lab and its potential to be used in coursework. Individuals stated that they thought TeachLivE was a "great system" and were "very excited" to have the opportunity to utilize the platform.

Workshop Two was held on February 28, 2014. Sixteen participants were in attendance and represented a variety of educational disciplines including Exceptional Education, Elementary Education, Creative Studies, Adult Education, Science Education, the Center for Development of Human Services, and the University at Buffalo Alberti Center for Bullying Prevention, and Educational Leadership. An email survey was sent to registered participants that asked them to rank proposed session topics. The agenda for Workshop Two was developed in response to survey results. Three separate sessions were presented, each occurring for two hours. Participants had the option to attend one, two, or all sessions.

The first session of the workshop focused on the topic of behavior management and bullying prevention strategies. Participants were guided through several mini sessions that demonstrated how TeachLivE could be utilized to practice specific behavior management strategies (e.g., establishing rules of conduct, proximity control, praise around, token economy, verbal reinforcement, cueing). A scenario was also facilitated that guided participants through a classroom bullying scenario and included a class de-escalation exercise.

The second session of the workshop focused on best practices in teacher preparation

(e.g., asking higher order thinking questions, providing specific positive praise, fidelity of implementation of for the error correction cycle). Avatars exhibited a wide range of behaviors and included interruptions/call-outs, falling asleep, texting in class, distracting other students, inattention, and resistance to teacher requests. The session demonstrated facilitator coaching techniques, provided suggestions for effective after action reviews, and considerations for individual and whole class reflections in both the elementary and secondary environments.

The final session of the workshop centered on academic interventions for K-12 (e.g. read-alouds, science scenario, working with families). Facilitators in this session guided participants through a literacy comprehension activity, content delivery strategies for a science lesson within the elementary/middle school environment. The adult avatar was utilized to simulate a parent-teacher conference. In this scenario, Stacey Adkins-Lewis (the parent avatar) displayed oppositional behavior for the first half of the mini session. The facilitator paused the scenario, elicited feedback from the participant gallery, and successfully navigated through the remainder of the meeting with Ms. Adkins-Lewis.

Responses from the second workshop indicated that moving forward, participants had an interest in spending time in the TeachLivE lab in small groups or individually, rather than in a whole-group seminar. To accommodate for this, a change to the last workshop format was made and departments/participants made appointments for individualized sessions in the lab. In total, 12 instructors from four SUNY campuses (e.g., Buffalo State, University at Buffalo, Fredonia, and Empire State College) were assisted in developing session plans for use within the

TeachLivE lab. Fifteen unique session plans for activities were created for eleven different courses.

Objective two: undergraduate students in an exceptional education course will design and teach a class lesson within the TeachLivE lab setting. The PI will collect teacher candidate impact data via teaching rubric and survey instrument for evaluation.

Outcome: In spring 2014, students in Evaluation and Assessment in Special Education (EXE 365W) Curriculum for Children with Mild Disabilities (EXE 367) created individual lesson plans centered on bullying prevention and taught them within the elementary education environment. Sessions were scheduled to last ten minutes, with a five minute after-action coaching debrief. Students were evaluated on the implementation of surface-level behavior management within the lab (e.g., planned ignoring and proximity control). Although students did seem responsive to coaching, a common occurrence within sessions was that pacing was much slower than anticipated. As a result, many had to stop before reaching completion of the lesson. This also occurred in the students' classroom placements.

After receiving feedback and exiting the lab setting, students voluntarily completed surveys on perceptions and presence and wrote a reflective journal on their individual experiences within the lab. Similar to results from the previous semester, average student responses to questions posed within the TeachLivE Perceptions and Presence Questionnaires were positive. Students wrote that they would like additional sessions within the lab and that they believed students would benefit from receiving exposure to the lab at the beginning of their academic careers. Several students noted in their journal entries that they felt rushed to complete the lesson and this contributed to an increased level of anxiety.

In the fall 2014 semester, students in EXE 365 and EXE 367 received a similar opportunity to work within the TLE lab. For this semester, one lesson plan was created for teacher candidates to deliver within the TLE setting and this lesson was provided for students' review one week prior to the lab session date. While teaching pedagogies being evaluated remained the same (implementation of surface-level behavior management strategies within the lab), topic area of the lesson was changed from bullying prevention to science (cell identification). The process of the after-action review and feedback remained the same. Outcomes from this series of sessions were positive. Teacher candidates were able to deliver the lesson at a much faster pace and demonstrated a basic ability to manage mild student misbehaviors. A majority of the students were able to deliver their entire lessons. It was planned that candidates would be formally observed in their field experience placements after their TLE experience, but became impossible to execute as school was cancelled on several occasions due to poor weather.

Slight revisions were made in the session plans in spring 2015 for EXE 366 and EXE 367 students. Content of the lesson being delivered by student teachers changed from cell identification to technology. This was done in an effort to increase participants' level of comfort within the lab, as some students' reflective journals indicated that they were concerned about memorizing cell structure before the lab session, and that this diminished from their ability to focus on the pedagogical aspects of the session. Students were provided with an abbreviated lesson plan on the benefits of technology one week before their session date. Four questions were provided as anchors for the session. Questions were provided to participants on a whiteboard easel, located to the left side of the flat screen. Student teachers were coached and evaluated on their ability to participate in higher-level questioning and affirmations of demonstration of

specific positive praise for correct student responses. Qualitative feedback from this session (journal reflections) is still being compiled and will be available for analysis by the end of the semester.

Student Perception Questionnaire data collected from EXE 365 and EXE 367 students over the past three semesters revels the following means (n=32):

Statement	Mean
I feel better prepared to teach after my TLE TeachLivE™ session.	74%
Teaching in the TLE TeachLivE™ Lab is an effective way to practice new classroom skills.	81%
My session seemed like a real classroom experience.	71%
The TLE TeachLivE™ students seemed like real middle school students.	73%
After my TLE TeachLivE™ sessions, I have more confidence that I can engage students in my content area.	80%
I was able to effectively manage the classroom during my TLE TeachLivE™ session.	74%
I felt my instruction was delivered effectively.	67%
I have more confidence after my session in my ability to manage undesired behaviors.	75%
I am better prepared to teach lessons from my content area after my TLE TeachLivE™ Lab session.	72%
I felt like I was in a real classroom within the first 2 minutes of the session.	67%
I was prepared with a lesson plan to teach the TLE TeachLivE™ students.	66%
I was prepared with appropriate educational aids (i.e. manipulatives, reading book, etc. to teach the TLE TeachLivE™ students).	64%

Overall, data reflect that students were in agreement that they felt better prepared to teach after their TeachlivE session and that teaching in the lab was an effective way to practice new classroom skills. Students also were in consensus in that they felt more confident in managing the classroom and engaging in instruction after their TeachLivE session.

Qualitative data from journal entries is still being collected for final analysis but entries from past reflections include comments such as "I feel that this experience was worth a very large dollar amount. I think it would be beneficial to all undergraduate Exceptional Education students to experience this program" and "once I said resume classroom I felt immersed. Two minutes into the lesson I feel like I forgot that I was talking to students on the computer screen because everything about the lesson and the students felt so real" Another student commented "the way that the students were acting were behaviors of students I have seen before". I could not get over how realistic this experience felt. I was amazed that the avatars needed discipline just like regular students". Students also commented on the lab's ability to track participant's motions to provide a sense of depth and dimension when navigating around the classroom "I loved the fact that you could walk around and it was like you were right there in front of each student".

Objective three: conduct a mixed methods research study. This study will investigate stakeholder learning experiences and best practice patterns among the disciplines. Personnel will examine the utility of the TLE TeachLivE™ simulation lab as a primer to classroom instruction in a variety of related courses; and determine the impressions of feasibility in establishing a TeachLivE™ simulation lab within various participants' departments. Results will be

disseminated through campus-wide and SUNY-wide channels. Project co-principal investigators and personnel will also disseminate findings at state and national conferences, and outcomes will be submitted to relevant journals for publication.

Outcomes: A summative project manuscript is in process, with planned submission to a peer reviewed journal in fall 2015. Formative feedback from faculty that have attended TeachlivE workshops and facilitated sessions with their students in the lab setting has been overwhelmingly positive. All faculty who utilized the lab for the fall 2014 semester have booked sessions for the spring 2015 semester. Three faculty members have doubled their scheduled session times. A majority of session requests center around behavior management and pedagogy. This request spans across multiple disciplines (e.g., Science Education, Exceptional Education, Creative Studies, and Educational Leadership), and avatar environments (e.g., elementary/middle/ high school classrooms, crucial conversations among teachers, parents, administrators, and employees). Sessions that serve to facilitate feedback on participants' content delivery is requested on a much smaller scale.

Most students who experienced the lab were also supportive of its continued use and integration into coursework. Focus groups reveled that students found strong value in TeachLivE and commented that they would prefer to pay for time in TLE in lieu of buying a traditional textbook. Perceived monetary value of a 15 minute TeachLivE session ranged from $35.00-$150.00, with a majority of students agreeing that a reasonable price would be approximately $45 (or $3.00 per minute). A small number of students felt that prior exposure to the lab before their session would have assisted with a faster immersion into the session and may have increased their performance levels.

Objective four: artifacts and results of research study will be disseminated through campus and SUNY-wide channels, including SUNY Learning Commons. Artifacts may include but are not limited to agendas for workshops, power points from workshop sessions, sample curricula, sample activities, project templates, and activity guides.

Outcomes: A large number of artifacts have been created from this project. In order to facilitate an organized platform for dissemination, a website has been created. The SUNY Buffalo State College TeachLivE website is the current repository for all announcements, invitations, agendas, power points, session guides, photos, research manuscripts, and research presentations. A weblink to the Buffalo State TeachLivE site has been provided in the IITG Final Outcomes Report for this project. All project artifacts are currently posted on the Buffalo State TeachLivE website and are in process of being registered with a Creative Commons license. These artifacts will be uploaded to the Buffalo State Digital Commons and the Multimedia Online Educational Resource for Learning and Online Teaching (MERLOT).

Objective five: findings from this project will be presented at the SUNY CIT conference, as well as state and national level conferences. A manuscript on the research project will be developed and submitted to relevant peer reviewed journals for publication.

Outcomes: The principal investigator presented at the 2014 SUNY CIT conference in Ithaca, New York and has been accepted to present again at the 2015 SUNY CIT conference in Geneseo, New York. In addition, project outcomes have been presented at the 2014 and 2015 Buffalo State Fall Faculty Research Forum, the 2015 Council for Exceptional Children's Division for Autism and Developmental Disabilities conference in Clearwater, Florida, and the 2014 and 2015 TeachLivE National Conference in Orlando, Florida. Project dissemination also

occurred when guests visited the TeachLivE lab for various sessions. Guests from the International Professional Development Schools (IPDS) Chile program, the Germany for Educators program, New York State Student Council for Exceptional Children, Mayor Byron W. Brown, Buffalo Schools Superintendent Pamela C Brown, Project Officer Terry Jackson from the Office of Special Education Programs, and dignitaries of SUNY Chancellor's Education and Administration office experienced a TeachLivE session and were briefed on the current status of the IITG project.

Two research projects were conducted from sessions developed in conjunction with new curricula that integrated TeachLivE into coursework. A manuscript on project research for coursework development for Curriculum for Teaching Individuals with Moderate and Severe Disabilities (EXE 520; Buffalo State) has been accepted for publication by *Teacher Education and Special Education: The Journal of the Teacher Education of the Council for Exceptional Children.* A summative project manuscript is in process, with planned submission to a peer reviewed journal in fall 2015.