



# VIRTUAL SCHOOL, REAL EXPERIENCE

**SIMULATIONS REPLICATE THE WORLD OF PRACTICE FOR ASPIRING PRINCIPALS**

**By Dale Mann and Charol Shakeshaft**

**A** web-enabled computer simulation program developed by researchers at Virginia Commonwealth University offers a virtual twist on professional learning for aspiring principals.

Project ALL (Authentic Learning for Leaders) drops prospective administrators into the work of leading a virtual middle school over an academic year and then tracks their performance through hundreds of authentic tasks.

Participants work through a year in the life of a school principal and see more than 400 video encounters, emails, memos, voice mails, text messages, and other story elements that replicate the work of leading a middle school.

With a grant from the U.S. Department of Education, Charol Shakeshaft, professor of education leadership at Virginia Commonwealth University, and Dale Mann, managing director of Interactive Inc., began in 2008 to develop, test, and refine this new tool.

The simulation presents real-world opportunities, problems, and challenges that are not always covered in lectures, textbooks, or workshops. For example, using the simulation requires dealing — on-screen and in real time — with demanding parents, observing classrooms, completing personnel evaluations, coping with budget cuts, and enforcing curriculum decisions.

As the pattern of a participant's decisions emerges, those choices affect the trajectory of the school: Teacher morale goes up or down, student-related metrics change, the attitudes of the principal's central office supervisors become more or less favorable. As the decisions accumulate, algorithms calculate a profile of the participant's strengths and weaknesses.

### **IMMERSIVE AND INTERACTIVE**

Next-generation simulations are as different from conventional professional learning as board games are from video games. Project ALL's role-playing simulation uses

point-of-view camera work and full-motion video produced on location in an urban middle school. Next-generation simulations succeed where other learning media — especially print and lectures — do not because of three features:

- Simulations require first-person involvement that forces participation, and that learn-by-doing increases understanding and facilitates behavior change.
- Simulations can be made learner-specific and context-specific.
- Simulations couple consequences to decisions and make learning authentic and practical.

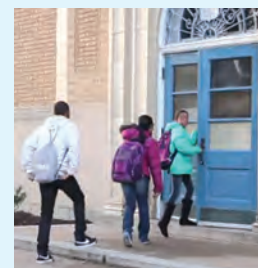
Project ALL's Charles Thompson Jones Middle School is a high-fidelity, full-motion video replication of a year in the life of a school that presents problems, requires decisions, and feeds back consequences in real time.

### **CREATING THE SIMULATION**

The simulation spans a year in the life of a person appointed interim acting principal at Charles Thompson Jones Middle School. The year begins in July, with the planning demands characteristic of the summer.

The sequence of events follows the school year: August includes master scheduling, hiring staff, and dealing with new parents. Budget issues first appear in November, and the spring is focused on high-stakes testing and school improvement planning with high-stakes testing demands. No problem is ever labeled, nor are they grouped by function as they might be in a conventional class. Rather, as in the real world, issues simply impose themselves on the participant.

For most problem/choice sequences, the moment an option is selected, the participant sees an immediate video consequence linked to that choice. As in reality, the conse-



### **WATCH THE DEMO**

For a demonstration of Project ALL's Charles Thompson Jones Middle School simulation, see [www.projectall.vcu.edu](http://www.projectall.vcu.edu).

quences of some decisions are delayed or cumulative or linked to other decisions. For example, a new teacher asks to talk with the virtual principal about her first-year problems. The principal can choose to meet or not, but if the principal declines or simply omits to schedule something, the disappointed teacher quits two (virtual) months later.

In the background, computer algorithms score and compile the participant's performance on all tasks and, at predetermined intervals, the participant gets feedback through the on-screen responses of characters in the simulation as well as a computer graphic profile of strengths and weaknesses across leadership proficiencies.

**Events are quick occurrences that pop up in the middle of the participant's work with the simulated school. The 74 events do not require choices, but they do provide context, third-party counsel (both good and bad), and distractions characteristic of school administration.**

Charles Thompson Jones Middle School was designed to replicate a school in need of reform: underperforming, underresourced, stressed, dysfunctional, and high needs. The school is populated with data derived and modified from a cooperating urban district and informed by research on urban school improvement.

To structure the virtual principal's tasks, project leaders established proficiencies in areas derived from Interstate School Leaders Licensure Consortium standards, Educational Leadership Constituent Council standards, and the Virginia Performance Standards for School Leaders. Focus groups of school practitioners and academics helped draft original scenarios that reflected their experiences.

What principals do counts — that is, their decisions influence teachers, students, and schools. Because some decisions are good and others are bad, the program attaches a numeric weight to choices. In order

to replicate the relationship between what the principal does and what happens to the school, each of the principal's decisions is assigned a score. These scores are value judgments about the functionality of any course of action in the virtual context of Charles Thompson Jones Middle School as a turnaround school.

Each of the more than 400 decision elements is scored, and each choice triggers a visual consequence. One outcome of this problem-to-choice-to-consequence sequence is immediate feedback on decisions. A second and more profound outcome is the changing trajectory of the school as a function of the decisions. And the third outcome is the cumulative creation and presentation of personal leadership profiles for each participant.

#### HOW CONTENT IS PRESENTED

Content is presented in one of three ways: vignettes, decision points, or events.

Vignettes are the most complicated and demanding. They begin with a filmed problem requiring a choice. The participant next sees video showing the consequences of his or her choice, and the simulation then branches (again and again) along a decision tree with the trajectory dictated by choices. The participant deals with 15 vignettes across the simulated school year.

Decision points follow the same problem-choice-consequence dynamic but are self-contained and deal with a single issue. There are 159 decision points in the simulation.

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As in real practice, some of the randomly occurring events accurately display school circumstances, others are rumors, and others are distortions or are simply untrue. Expecting the participant to discern the reality and utility of the events is part of the intentional pedagogy of the simulation. The participant is challenged to construct his or her own theory of action. For some, seeing the immediate and longer-term consequences encourages reflection.

Participants can access the simulation from different places and at different times. They can log off and return to running the school at the point that they were interrupted, but they cannot change earlier decisions, despite what they may learn from the cumulating consequences of vignettes.

And participants can choose to ignore some problems, although, if they do, the computer program loops that temporarily ignored problem into the virtual future, where it returns to confront the participant again.

The simulation can aggregate all reports by descriptive characteristics of participants, such as experience, gender, race, ethnicity, and socioeconomic status. Having all participants running the same school builds in the potential for authentic, valid, and reliable comparisons among users.

#### OUTCOMES

The first group to participate in Project ALL included nine teachers from Richmond (Va.) Public Schools who indicated an interest in being school administrators. The group completed the simulation as a companion to conventional graduate preparation curriculum. During 2011-12, every participant completed every simulation assignment, often at home and on weekends.

Participants spent an average of 4.5 hours running the school over the simulated academic year with the simulation in an average of 82 sessions. Their administrative skills increased from the first to second semester. The average correct score (that is, decisions that would promote the improvement of the school) earned in the first semester was 53% (range 44% to 64%) of correct responses vs. 63% (range 54% to 71%) in

the second semester (Shakeshaft, Becker, Mann, Reardon, & Robinson, 2013).

The Project ALL simulation presents a chronically low-performing school with a vivid array of dysfunctions. Still, not all the participants recognized those continuously displayed features of the school, and even fewer were willing to commit to the kind of actions necessary to turn the school around.

Members of the first group were all classroom teachers who thought they wanted to be administrators but had never actually run schools. As project leaders listened to participants talk about the simulation, a majority of the participants said they felt the simulation gave them real-world opportunities to make decisions and receive feedback.

One student said she felt “like a real administrator. ... It was unique to be afforded the opportunity to make decisions, just like a real principal. However, [she] didn’t have to worry about the consequences, so it was a safe environment ... to practice and apply what [she] learned.”

Another participant said the simulation was an eye-opener. “It made me realize that you always have to do what’s best for the students and instruction, and sometimes you do not think about all of the factors when you make a decision.”

To test the authenticity of the tasks presented in the simulation, program leaders recruited 22 principals who were identified by peers and supervisors as exceptionally effective. These practitioners spent a day with the simulation, rating the situations on realism, importance, and comprehensiveness. The principals also analyzed the distribution of the content, the scoring, and the point distributions.

There was a moderate correlation among the principals on the decisions they scored as most preferable. Of the 63 sequences examined, 53 (84%) had higher than 52% agreement on the best course of action. The mean agreement among the exemplary practitioner group across all items was 67%.

These principals thought the simulation was demanding and thought-provoking. They liked the realism and agreed that the content was not otherwise available in conventional training or internships. As one principal said, “This is much more effective than the inbox exercises I did when I was getting my administrative endorsement.”

#### COST AND EFFICIENCY BENEFITS

The goal of Project ALL’s simulation is to deliver professional learning with more authentic replication of the requirements of school leadership, more message fidelity (less decay across repetitions, less variation among trainers), lower cost, and less time than conventional professional learning while also maximizing the anywhere, anytime, any learner equitable benefits of web-accessed material.

The initial cost to develop professional learning delivered by face-to-face instruction is lower, but the cost multiplies with every replication. Professional learning that uses digital plat-

forms is initially more expensive to create, but replications are virtually cost-free.

By using simulations, schools and districts do not have to pay for the cost of substitutes, travel, or lodging. Instead of paying consultants for each presentation, the simulation can be reused and revised at a fraction of the cost of conventional professional learning.

#### THE FUTURE

Simulations that replicate the world of practice and that connect consequences to behavior are a next step in professional learning. They are particularly helpful if:

- Audiences are dispersed, such as in rural and remote settings;
- The same message must be repeated to different audiences over time;
- The message content is lost as one trainer trains another and another, and that happens over time and across audiences;
- The audiences are skeptical or resistant to messages that they believe aren’t relevant or realistic; and
- The costs of conventional delivery are high (i.e. consultant fees, released time, time away from work).

The simulation has been piloted in three universities in addition to Virginia Commonwealth University as well as with two school districts for use in their leadership development programs, and is expected to be available to others by June 2014.

One participant, summarizing his experience, said the simulation helped make him aware of the types of issues that can arise in running a middle school and how to stay focused and on track. “I definitely felt like a real administrator because the decisions that I was making were relevant decisions,” he said. “I’ve seen some of those issues that we covered in the simulations and ... I can see the issues were relevant issues.”

#### REFERENCE

Shakeshaft, C., Becker, J., Mann, D., Reardon, M., & Robinson, K. (2013). Toward fidelity: Simulation-based learning for school principal preparation and professional development. *Planning and Changing*, 44(1/2).

• Dale Mann (dmann@interactiveinc.org) is managing director of Interactive Inc., professor emeritus at Columbia University, and an adjunct professor at Virginia Commonwealth University. Charol Shakeshaft (cshakeshaft@vcu.edu) is a professor in the Virginia Commonwealth University Department of Educational Leadership. ■

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