Webinar Agenda

3:00 PM EDT

- Kick-off and introductions.

3:05 PM EDT

- Intro to the scope of the challenge in K-12 and why the better approach is called for, i.e., Simulation.

3:10 PM EDT

- **Rich Carr will speak about Neuroscience and how we learn and share insights.**

3:20 PM EDT

- Ken will follow up on aligning the modality of Sims with Neuroscience and why it has such potential power relative to how humans learn and process.

3:30 PM EDT

- Ken will introduce **Doug**, and he will have the opportunity to share his experience and expertise with the Discussion.

3:40 PM EDT

- Ken will introduce **Jennifer**, and she can share insights on her research and experience around Cognitive Load and Complexity and the role of Sims, as well as the anecdotal evidence from her focus groups with students and Discussion.

3:50 PM EDT

- Brief Discussion about Theory of Choice and distinguishing Sims and Role Plays and then Open up to Q&A from attendees.

4:00 PM EDT

- Ken will wrap up.

SchoolSims

EXPERIENCE IS THE BEST TEACHER

LIVE PANEL WEBINAR

THE NEUROSCIENCE OF Simulations

Improving Administrators and Teachers Decision-Making and Well-Being

Date: Thursday, November 9th

Time: 3:00 PM EDT | Noon PDT

Location: Zoom

Moderator
Ken Spero
President & Co-Founder
SchoolSims

Panelist
Doug Anthony, Ed.D.
Senior Fellow & Director
University of Maryland College Park

Panelist
Jennifer Bailey, Ed.D.
Assistant Professor
University of Texas at Tyler

Special Guest
Rich Carr, BcID
Learning Scientist & CEO
Brain-Centric

CLICK HERE TO REGISTER AND LEARN MORE

KEN SPERO

President & Co-Founder

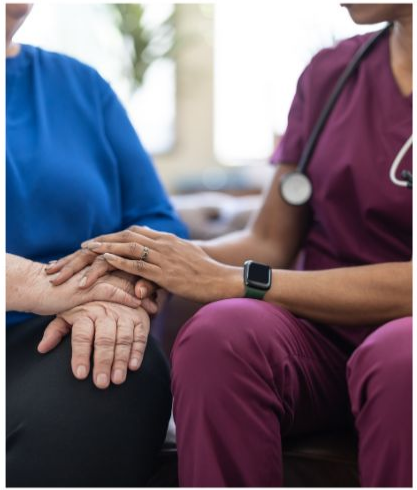
kspero@schoolsims.com

Ken is an avid believer in the adage that **Experience is the Best Teacher** and, for over 30 years, has been utilizing computer-based simulations to allow professionals to safely learn from decision-making mistakes around some of the most challenging Problems of Practice. For the past six years, Ken has been focused on the challenge of the "Silent Crisis of Leadership in K-12," working to enhance leadership capacity and improve critical thinking amongst school administrators.

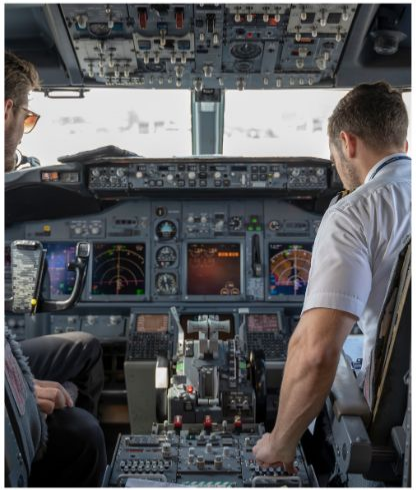
SchoolSims

EXPERIENCE IS THE BEST TEACHER

SIMULATIONS DEMONSTRATE REMARKABLE EFFECTIVENESS IN HIGH-STAKES INDUSTRIES



Healthcare



Aviation

Military

Why, despite their proven effectiveness in high-stakes industries, aren't educators embracing simulations for their preparation?

Experience is the Best Teacher…

- But, it needs to be ‘sticky’
- Narrative driven Simulations harness power of Stories (fMRI pictures)
  - “Stories are 22 times more memorable than facts alone. Stories universally activate brain regions dealing with emotional processing and memory. ”

Study by Stanford Graduate School of Business

- Brain Research - linking **Emotional Engagement and LT Memory**

(Brain Rules - John Medina)

- Populate the **Experience Portfolio**

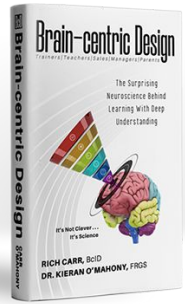
Engagement → Retention → Retrieval

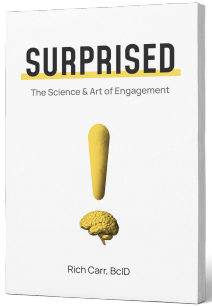
Experience is the Best Teacher…

“Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom.”

— Viktor E. Frankl

Rich Carr, BcID
Learning Scientist, CEO
Brain-Centric





BRAIN-CENTRIC

Rich Carr is a Learning Scientist and the CEO of Brain-centric, a company that provides 21st-century cognitive brain training for innovative professional Communicators, Coaches, and Educators. Carr is an honored Mass Media and Mass Communications graduate, an Army veteran, and a decorated Department of Defense Information and Electronic Journalism Schools graduate.

Carr is the author of **SURPRISED: The Science & Art of Engagement** and co-author of **Brain-centric Design: The Surprising Neuroscience Behind Learning with Deep Understanding**, using this knowledge to create clear, concise, engaging training, certifications, consultations, presentations, and curricula.

By aligning communications with how the brain processes information, Carr's profound understanding of cognitive learning neuroscience and applying that to communications within the workplace has yielded consistent and predictable jaw-dropping outcomes.

Carr's work has been featured in significant print and online publications, and he regularly speaks at conferences worldwide on Brain-centric communication.

Brain Chemicals and How Experience Is Enhanced in Simulations

Cortisol - By starting with Authentic stories, feelings of stress and tension cause cortisol release, which leads to engagement and enhanced focus on the activity and the Problem of Practice (PoP). Check out the work by Paul Zak on this and Oxytocin

Oxytocin - Engaging with the story provokes a release of oxytocin, promoting social bonding, trust, and empathy with the characters in the Sim, making it feel real and that they are part of the action. In addition, when doing them Synchronously, this fosters connection, camaraderie, and shared purpose, leading to positive social interactions that enhance belonging and engagement.

Dopamine - Dopamine release occurs when goals are met and is associated with reward and motivation. Simulations offer a structured environment where participants engage in decision making towards achieving success with the PoP, reinforcing a sense of accomplishment and satisfaction. This can happen along the decision path incrementally as well as completing the Sim. Additional releases can happen when reviewing the Feedback Report/Reflection and seeing how they can respond better on the job. This increases motivation and can lead to increased engagement, sustained focus, and a sense of progress.

Mirror Neurons - Engaging in Simulated activity engages these Neurons which translates to enhanced empathy and a sense of presence in the Sim, increasing immersion and bringing it to life. Further, the Mirror Neurons also work to align the experience of those similarly engaged increasing alignment and collaboration. Check out the work of Uri Hassen at Princeton University

Serotonin - Positive outcomes within the simulation, both decisions and also collaboration can activate serotonin-related pathways, enhancing the sense of being a valued team member. Serotonin plays a crucial role in mood regulation and the decision making practice can result in higher confidence and a positive mood.

Endorphins - Engagement in a dynamic simulation challenges participants to strive to overcome obstacles, releasing endorphins. These chemicals contribute to positive feeling, stress reduction, and heightened focus. The sense of accomplishment gained from completing simulated tasks further reinforces release of endorphins, creating positive feedback loop and continued engagement.

Simulations and Experience

1. **Development versus Assessment**
2. **Development - How does it work?**

Narrative Flow – Power of Storytelling - Oxytocin, Cortisol

Choice Options – Encourage Critical Thinking - Cortisol, Dopamine

Consequences – Make It Memorable - Dopamine, Cortisol, Serotonin

Narrative & Scorecard Feedback – Reflection - Endorphins, Dopamine

Group Debriefings and Opportunities to Share / Expand the Experience / Consequences - Serotonin

Doug Anthony, Ed.D.
Senior Fellow & Director
University of Maryland College Park

How are you using or have used simulations in your work?

I have employed simulations in both educational settings, namely at Prince George's County Public Schools and the University of Maryland, to address diverse challenges and enhance learning experiences. In the school system, simulations were used to cater to adult learning (Andragogy) and prepare educational leaders for unique situational challenges, ensuring continuity and calibration across learners. At the university, simulations fostered system-level thinking, aligned with Improvement Science, and tackled real-world problems to drive course innovation and student engagement. Simulations offered advantages such as explicit decision-making processes, immediate feedback, inclusivity, and a focus on evidence and research. Their effectiveness in enhancing learning outcomes was underscored by factors like repetition, retrieval practice, and providing proper learner feedback, which can collectively make learning interventions highly effective.

PGCPS

Prince George's County Public Schools

Simulations created opportunities that helped us address:

- Andragogy- how adults learn (Knowles et al.)
- Leader preparation (Wallace, Grissom et al.)
- Unique context and situational challenges
- Continuity and calibration across learners

Malcolm S Knowles, Elwood F Holton III, & Richard A Swanson. (2005). *The Adult Learner: Vol. 6th edition*. Routledge.

Grissom, Jason A., Anna J. Egalite, and Constance A. Lindsay. 2021. "How Principals Affect Students and Schools: A Systematic Synthesis of Two Decades of Research." New York: The Wallace Foundation. Available at http://www.wallacefoundation.org/principalsynthesis.

University of Maryland

Simulations created opportunities that helped us address:

- System Level Thinkers
- Improvement Science (Bryk)
  - Problem of Practice
- Course Innovation
  - Student Engagement

Anthony Bryk (2020). Improvement in Action: Advancing Quality in America's Schools. Harvard Education Press

Observations and Advantages:

- Thinking and decision making are explicit
- Immediate feedback
- Build inclusivity
- You need evidence, data, research etc.

Results in Learning Science *(Research)*

Simulations incorporate factors, that when utilized appropriately: “learning interventions are likely to be more effective than 95% (quick and dirty estimate) of all workplace learning interventions…” (Will Thalheimer)

1. Repetitions of key learning points can increase learning by 100%
2. Retrieval practice is better than simple repetitions by up to 100% and Aligning Retrieval Context can improve results by up to 50%
3. Giving Learner Feedback properly can improve learning results easily by 50% and more.

The Decisive Dozen: Research Background Abridged
Will Thalheimer - A Work-Learning Research, Inc.

Jennifer Bailey, Ed.D.
Assistant Professor
University of Texas at Tyler

How are you using or have used simulations in your work?

My research centers around school leadership learning to improve leadership attrition and advance school improvement outcomes.

Cognitive Load: Simulation provides active practice without the accountability of real-time pressures principals face, which could contribute to the development of germane load (Cognitive Load Theory) for aspiring and practicing leaders. We can reimagine professional development for aspiring and practicing leaders by creating a metacognitive playbook through intentional practice.

Bailey et al. (2022). The intersection of preparation and practice: School leadership learning through simulation. *NASSP Bulletin, 106*(3), 209-231. https://doi.org/10.1177/01926365221117487

Studies (previous and ongoing)

- Intrinsic load: high (sims were challenging)
- Extraneous load: appropriate (sims were designed well)
- Germane load: high (value added through engagement in the sims)
    - Additional areas of focus: self-efficacy; synchronous versus asynchronous engagement

Pedagogically: Move from theory to practice, promotes opportunity for equity and access for pre-service leaders, foundation to engage in reflective and reflexive practice: John Dewey, “We do not learn from experience . . . we learn from reflecting on experience.”

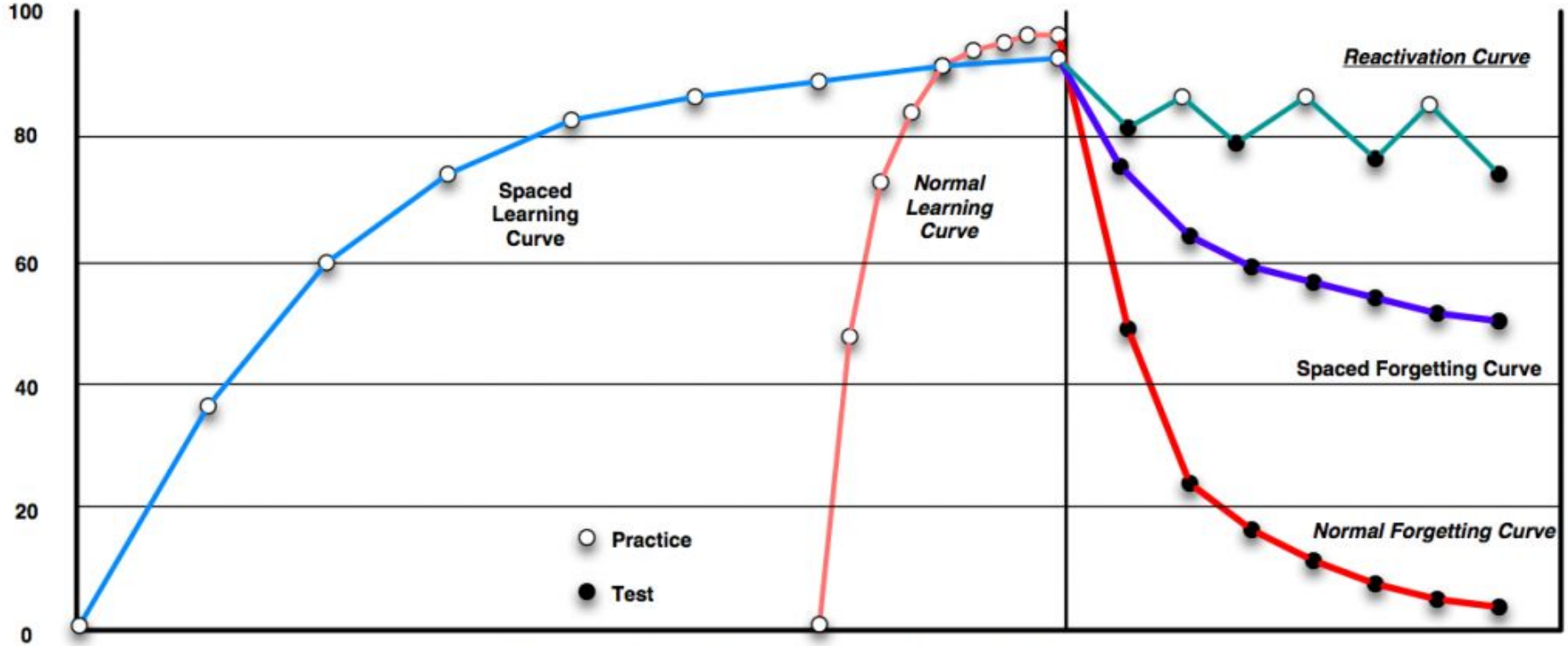
- Student reflections

The Intersection of Preparation and Practice

Three-Dimensional Framework

1. **Situational awareness:** *So, in doing simulation, I've had exposure to thinking through and I've kind of walked through that. I've done a few of those steps. So, then when I am in the real world on the job, I can think back to that and say okay, what would I do, you know, differently, to change the outcome in a more positive way.*
2. **Spatial awareness:** *I think that as teachers, you can sort of see those situations but not necessarily in the same perspective. But you are aware of those types of things, and those are things that you have some context or schema.* ***In the simulation you could see all of the people that it was affecting and kind of their response to your decision, whereas in real life you may not see them face to face. They may not be immediately right there, but yet your decision still has an impact on them. So I think it kind of made me have more of a universal kind of view to my decision making.***
3. **Identity awareness:** *Someone mentioned earlier about being nervous going through the simulation, or at your responses, you know, we're making things red or whatever. And people were not happy with you, I think, every time you go through something it just builds your ability to handle the next situation to a higher level of quality. And so hopefully, you know, that's the goal that we're always just getting better and better . . . You have one under your belt, and you can use that knowledge to move forward.*

Simulations and Spacing Learning Events Over Time: Insights from Research



Adapted from Thalheimer, W. (2006). *Spacing Learning Events Over Time: What the Research Says.* Work-Learning Research, Inc.

The Relationship Between Simulations and Role Plays

- Not competitive - different learning opportunities
- Importance of populating the Experience Portfolio - Combining Modalities
- Flow of time
- Scalability
- Choice options - The Power of Constraints:

“Ever since the 1990’s, social psychologists have known a surprising truth: If you want to maximize someone’s satisfaction with a choice, don’t give them unlimited options. Instead…you should give them some choice but with clear constraints. This added structure is crucial for picking…with confidence.
…Brainstorming is useful when you have all the necessary information to make a decision. But it is not so helpful when information is missing. As a result, brainstorm sessions usually produce fewer, lower-quality ideas that don’t solve big problems.”
Prof. Sheena Iyengar -Columbia University

Simulation-Based Experiential Learning

PRACTICE CRITICAL DECISION-MAKING IN A SAFE ENVIRONMENT

SchoolSims offers a transformative learning experience for professional development in public, private, and independent schools, as well as for future educators in colleges and universities. Simulations are a series of linked scenarios in a choose-your-own-adventure format, where we use both live actors and artificial intelligence to allow learners to experience the consequences of their decisions while bridging the gap between theory and practice.

SchoolSims

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HOW CAN SCHOOLSIMS BE USED?

Synchronously

Asynchronously

In-Person

Video Conference

SchoolSims is a versatile educational tool that can be seamlessly integrated into various learning environments, offering educators and learners valuable experiences in decision-making and leadership skills development. Whether used synchronously in live classrooms, asynchronously for self-paced learning, in-person workshops, or via video conferences, SchoolSims adapts to meet educators' and students' unique needs and preferences, enhancing their ability to tackle real-world challenges in educational leadership effectively.

SIMULATION TOPICS & TITLES

LeaderSims

- Synergistic Leadership
- Uncovering Hidden Inequity
- Navigating the Politics of Equity-Based Budgeting
- Cultural Competency
- Middle School Turnaround (Implementing Change)
- Value-Based Leadership
- Emerging Challenges of Distributed Leadership
- Managing Diversity in a Growing Community
- Middle School Budget Challenge
- Administrator: First Week On The Job
- Disruptive Teacher
- New Teacher Evaluation
- Academic Goal Setting
- Difficult Conversation: Race

TeacherSims

- Building Inclusive Classrooms: Affirming Diverse Families
- Building Inclusive Classrooms: Positive Learning Environment
- Facilitating Alignment (IEP)
- Parent-Teacher Conference
- Special Education: Annual Case Review
- Classroom Challenge: Learning Loss
- Managing Classroom Disruptions
- Star Athlete

CounselorSims

- Comprehensive Role of School Counselors
- Virtually Leading a School Counseling Program
- Data Driven Counseling
- School Safety
- Planning for Student Achievement
- Student Support (Transgender)
- Student in Crisis

Including many more available in the SchoolSims Library of Simulations!

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SchoolSims

EXPERIENCE IS THE BEST TEACHER

REQUEST INFORMATION

Ready to learn more about the SchoolSims Library of Simulations?

https://content.schoolsims.com/live-demo

THANK YOU FOR ATTENDING!

STAY CONNECTED