



ACCELERATING EXPERTISE with **SIMULATIONS**

By Cindy McCabe and Ann Garvey

CONVENTIONAL WISDOM IS THAT IT TAKES ABOUT 10,000 HOURS TO BECOME AN EXPERT. IF YOU DO THE MATH, THAT'S FIVE YEARS, WORKING FULL TIME.

Baby boomers, many of whom are experts in their domains, are turning 65 at a rate of 10,000 per day; millions will leave the workforce over the next five to 10 years. They will be replaced by Generation X and millennials – populations with tremendous potential, but lack the years of experience of those they're succeeding.

How do you quickly and effectively transition knowledge to these next

generations to realize their potential sooner? One answer is with simulations.

HOW DO SIMULATIONS CREATE EXPERTS?

Regardless of type – complex, immersive, serious game – simulations can be used to improve consulting skills via role-play conversations, model best practices for making complex business

decisions, and enhance capabilities such as customer service for retail sales, hospitality, and call center agents. In brief, simulations:

- » Provide an opportunity for learners to practice skill-building with relevant feedback and coaching.
- » Allow learners to think critically and see the consequences of their decisions in an environment of “safe failure.”
- » Present opportunities to make connections and elicit “a-ha!” moments during simulation engagement and through debrief, often within a collaborative, peer-based learning environment.

Simulations, done well, accelerate the learning curve. They collapse timelines, so decisions and consequences happen quickly and can be rehearsed over and over. They can help learners make connections in a short period of time rather than the years it takes to gain experience in the real world.

Creating a simulation can be labor intensive, requiring a talented development team and commitment from your subject matter experts (SMEs). However, when you need to enhance expertise, the return on investment often validates the effort. Fortunately, by using good design techniques and today’s development tools, and, if necessary, partnering with simulation experts, most companies can readily take advantage of simulations to build expertise in their learners.

HOW TO DESIGN SIMULATIONS THAT BUILD EXPERTISE

FORM YOUR TEAM

Simulations are a particular flavor of learning initiative requiring resources with specific expertise.

Learning professionals (often instructional designers) work closely with SMEs to frame the challenges, objectives and desired outcomes; elicit stories and scenarios that reflect real-world performance (good and bad); and, ultimately, create a working design for the simulation. There’s a learning curve for designing simulations that is not

insurmountable for a skilled instructional designer. However, a designer who has at least one simulation similar to your desired format (online, live or a blend) in her portfolio is preferable.

To enhance the storyline within the simulation, a writer is often a worthy addition to the team. Writers understand narrative — story arcs, plot and character development. Some instructional designers may have these skills, but not necessarily.

Simulations with a live component need a facilitator to answer questions and lead debriefs. SMEs are natural choices because they can speak to the topic, but they may not have facilitation skills. If not, develop a robust facilitator’s guide and offer facilitation skill-building to ensure SMEs use listening and probing techniques to help learners make connections.

WORK EFFECTIVELY WITH SMEs

Creating simulations that build expertise requires synthesizing an expert’s years of experience and repackaging it in a way that allows non-experts to acquire those skills and knowledge. To work effectively with SMEs, be intentional about the information you need and the data-gathering process.

Often, expert knowledge is tacit: what SMEs know in their heads may not be written down. Ask SMEs for stories to address your questions. Let SMEs explain what they did in a given situation and probe for the why. Look for the common threads in those stories, which you can use to create the plot, characters, conflict and consequences in your simulation.

Identify specific challenges and pain points. Do not look for the black-and-white situations; look for the ones that are shades of gray that required the expert to rely on years of experience. These typically come wrapped in a story or example, which helps to provide valuable context and insights. Compare and contrast how the SME would handle the situation with that of a less experienced person.

Managing SME expectations and keeping the process simple is essential to your success. Ensure SMEs understand the time commitment. They may be surprised by the work effort, which includes brainstorming and reviewing the plot, characters, and



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SIMULATION CASE STUDY

SIMULATION AUDIENCE

Tax managers at a large professional services organization who manage large, complex engagements.

KEY BUSINESS CHALLENGE

Managers' adoption of project management best practices was mixed. Their behavior did not indicate a change in practice.

SIMULATION FOCUS

Fictional engagement, where managers had to make complex decisions affecting budget, schedule, quality, and both team and client satisfaction.

SIMULATION DEPLOYMENT

Blended solution: Teams play on the computer, but in a classroom environment.

Branched programming can generate 24 different outcomes based on a team's decisions.

Multiple decisions accumulate and drive decision paths and carry throughout the simulation.

Simulation played in three rounds, with facilitator-led debriefs between rounds to discuss decision making and takeaways.

SIMULATION IMPACT

Originally deployed only at local offices on a selected basis, the simulation has been so well received that it was made part of the national curriculum for all new tax managers.

multiple decision paths and outcomes (often 10, 20 or more). Gain their support by explaining that their years of experience did not happen overnight, so extracting that knowledge will take time.

Explain the iterative nature of the process and encourage a collaborative attitude. For example, a straw man design gives SMEs a starting point to react to prior to a formal design. To avoid dismissal of a design that doesn't hit the mark outright, ask SMEs to look for elements that can be a foundation.

INCORPORATE STORYTELLING AND REALISTIC DECISION MAKING

Telling a good story and creating a believable experience are essential to keep learners' attention and transfer knowledge and skills. A simulation isn't reality; how far it strays from reality depends on the situation. If accuracy is core to the skills you're teaching and the consequences of failure are extreme (e.g., an airplane pilot's simulation), you need a high-fidelity simulation. For business decision making, a simulation that has a story with plausible choices is usually sufficient. Here are five tips:

- 1. Make learners play the central character** in the simulation to increase their buy-in. Use other characters to provide different perspectives learners need to consider. Introduce characters appropriately during the story, and develop backstories for characters that drive their behaviors.
- 2. Use good, better and best options**, and ensure they're all plausible options, so the learner really has to think. We all naturally want to win, so if the best answer is obvious or somewhat obvious, players will sacrifice their learning in order to choose the winning response.
- 3. Set up decision options** with foreseeable consequences. Consider the final outcomes, and "think backward" to write

the narrative that drives those results. Consider, "What would I know when I make this decision, and what would I not know?"

4. Make it clear to learners that the simulation provides a space where it's safe to practice new ideas or techniques and learn from their mistakes.

5. Consider the tension between short-term and long-term thinking and how that mimics the real world. Offer options that might look good and increase scores early on, but limit options to be successful in the long run.

A cautionary note: Simulations can be quite sophisticated with high production values, including videos, music, even paid actors. Always remember, the goal is to create a powerful learning tool. You may have to manage expectations if the desire for high entertainment value starts to overshadow the learning.

QUANTIFY THE OUTCOMES

Simulations need to produce fair and predictable results.

Determine a scoring mechanism that maps how learners are measured in the real world. Key performance indicators (KPIs) are a natural starting point, but explore how learners are evaluated on these KPIs and how management supports achieving them. A simulation alone is not the single magic bullet to impact KPIs; a holistic approach is needed.

Develop a point system in a spreadsheet to guide the simulation programming. Give each decision a point value, based on its impact on specific KPIs. For good, better and best options, quantify the difference in score for "best" versus "good." Run scenarios to ensure the right scores emerge for each decision path.

Visually depict scores, using stoplight indicators (green, yellow, red) for

ENGAGEMENT AND LEARNING SHOULD EXTEND BEYOND THE SIMULATION ITSELF.

example, so learners can quickly assess how they're doing.

HARNESS THE POWER OF REFLECTION

Simulation activities typically lead to a deliverable, presentation or score, yet engagement and learning should extend beyond the simulation itself. When the simulation includes a live component, incorporate time for peer discussion and debriefs. If the simulation is online, be sure to provide mechanisms for reflective learning and reinforcement of key concepts, such as posing open-ended questions and comparing learners' answers to experts'.

In the blended tax simulation (*see sidebar*), a few teams were surprised by their interim scores because they thought they had made the right choices. However, the post-round debriefs gave them a chance to reflect on their decisions, correct their course, and apply new thinking as they progressed.

To help reinforce key concepts:

- » Identify good opportunities for debriefs during the simulation, not just at the conclusion. Consider the call-to-action or completed task at the end of each round as a natural point to help learners make key connections.
- » Debriefs (and the corresponding facilitator guide) should be as well thought-out, efficient, insightful and structured as the simulation itself. Include a synopsis of what happened, a summary of expected results, questions facilitators should ask and the concepts they should reinforce through discussion.
- » A common mistake is cutting debriefs for lack of time. Plan

your seat time to allow for conversation. This can be where the real learning happens.

CONCLUSION

With the changing demographics of the workforce, organizations are under tremendous pressure to ensure the expertise cultivated by baby boomers stays within the organization and passes to their successors.

Well-crafted simulations hit a sweet spot: They build expertise, and they fulfill what Generation X and millennials want in training, which is relevance, coaching and feedback. Simply put, they engage.

You will know your simulation is a success when you see that engagement firsthand. You will see spirited debates during debriefs, or have learners stay after the event to discuss the merits of different approaches. Those firing synapses mean connections are being made, and experts are being created in a fraction of 10,000 hours. ☺

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WORKING WITH SMEs: BEST PRACTICES

Plan and pace out meetings with SMEs. Full-day sessions are exhausting; plan for two- to three-hour sessions over several days to allow SMEs to process.

Use repetition and recaps. As you begin each session, show SMEs where they are in the process and what's been decided on the story so far.

Help SMEs visualize the effort and understand how the story elements are interconnected. The following tools can save time and effort:

- » Low-fidelity prototyping in familiar tools, such as PowerPoint.
- » Wall-sized flowcharts for decision mapping, sticky notes, or, for the tech savvy, online collaborative flowcharting tools.
- » Hyperlinks in the storyboard to make decision paths easy to follow.

Show SMEs the fruits of their labor. Come up with a narrative that shows data, story and KPIs, even if it's rough.