

GET IN THE GAME

Three Essential Design Elements for Creating Engaging ELearning Games

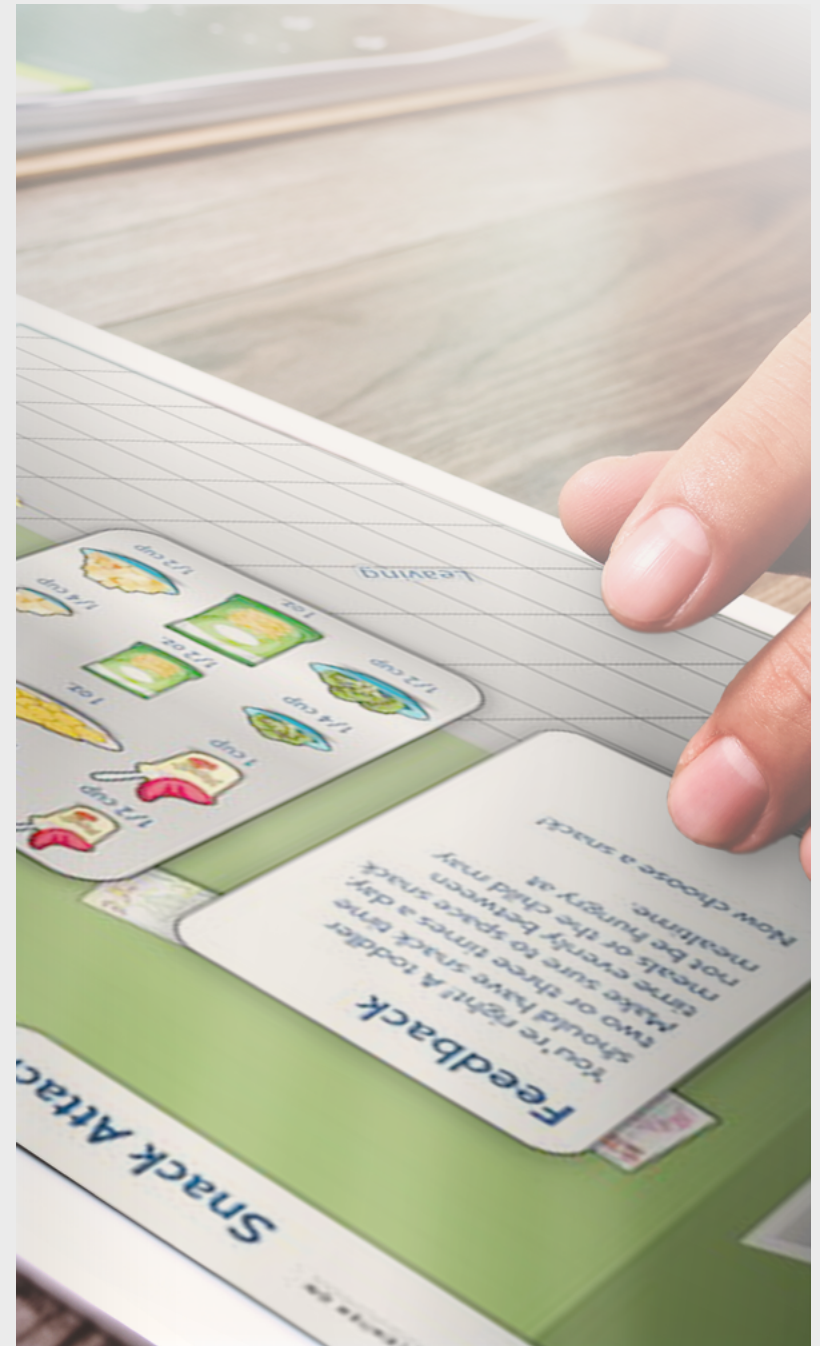
By Ethan Edwards, Chief Instructional Strategist



INTRO

When instructional designers seek to enhance the appeal of elearning, the desire to make a “game” is never far away. Online games seem to grab the players’ attention and engage them in a single-minded focus directed toward conquering the game’s challenge. Hours are spent without the players realizing it when they are immersed in the consumption of gaming. Of course, we would love for our learners to achieve that same focus when engaged in our elearning modules. We have the same technology, so it should be possible, right?

Sadly, it’s not so easy. So often, educational games fail to succeed in creating irresistible experiences in the way that recreational games do. Evidence is mixed regarding the degree to which games make a difference, and some of the widely-accepted design elements (points, avatar characters, etc.) don’t necessarily correlate with success or learner enjoyment. Perhaps because it is so difficult to attach specific outcomes to gaming approaches, some organizations are wary of the investment. And in some environments there still seems to lurk an unstated but deep-rooted prejudice that an enjoyable training environment is not sufficiently serious.



GAMIFICATION?

As instructional designers grapple with approaches to gaming and learning, it's easy to get caught up in some differentiation that may or may not be helpful. Buzzwords and "hot" technologies spring up and are too easily applied without adequate foundation. For some time now, "gamification" has been a goal for many organizations. For some, this has been replaced by "serious learning games" as a hoped-for target. Still others avoid this terminology and speak, rather, of a simpler hope to apply game design principles to learning. For those wishing to wade into that interesting debate, I'll point you to the insightful perspectives offered by Karl Kapp's *The Gamification of Learning and Instruction* and the final chapters of Michael Allen's *Guide to e-Learning* (Second Edition). (See the related readings at the end of this e-book.)

My hope here is to address design considerations regarding gaming and elearning in an approach that is compatible with what we

know about Gamification and Serious Learning Games, but that is immediately accessible to designers simply wishing to enhance the game-like aspects of their own instructional modules.

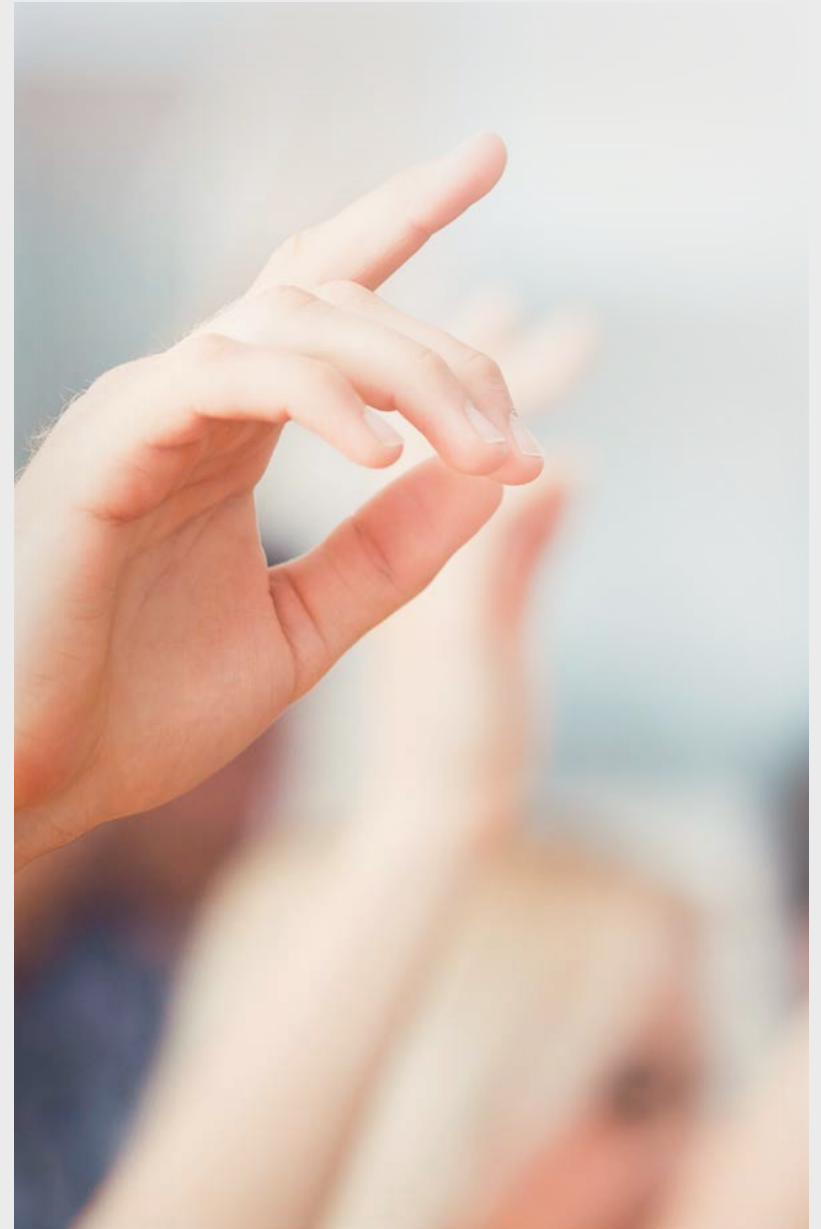
Often, initial efforts at designing learning games seem to strive to recapture the "fun" of an existing game. But "fun" is very difficult to manufacture, and what is fun to one person may often seem pointless to another. These "fun" games end up being rather unsatisfactory because the aspects that seem to contribute to the original game's appeal fail to transfer to individualized delivery. Two common game applications illustrate the weakness in this approach.

Jeopardy

Nearly every authoring platform provides a template to create easily a Jeopardy-style question and answer game. A “board” has about 30 cells, each concealing a question to which the learner must supply an answer. Oddly, most learning versions of Jeopardy I have seen fail to carry forward one of the key elements of the original, in that the board should present answers to which the learner must present a question.

But playing solitaire Jeopardy is really not very much fun at all. Something critical is lost in translation from a fast-paced competitive game to a rather tedious, thinly-disguised system for asking questions. The motivation (and source of fun) in the TV show is not simply to answer a question, but rather is to answer a question BEFORE ONE’S COMPETITOR DOES. It is actually the competitive aspect that provides all the urgency and appeal. Without a competitor, Jeopardy ceases to be a game.

It is important to note that computer-assisted jeopardy games played out in a classroom with multiple teams competing against each other can be amazingly useful, because competition is preserved.



The Game of Life

The Game of Life is one of the oldest standard board games; in it, players experience the ups and downs one might experience in life, from youth to retirement, going through college and work and family challenges, with the ultimate goal of ending up wealthy (and presumably happy). Success is generally a result of luck, and the fun in the board game is primarily the social interaction and friendly banter in which the players engage during play. That fun does not translate to individual work online.

Yet, nearly every time I have been involved in the design of process-focused training, such as teaching the performance review cycle, inevitably the idea of structuring the instruction around the Game of Life surfaces. At first, this may seem like a good idea; the performance management process has a fixed beginning and a fixed end with a path between which everyone must follow. Along the way, various opportunities or hazards might support or derail the user in achieving the end goal.

The online training version usually fails, again, because the challenge evaporates. In the training version of this game, with specific skills and content to be communicated, the individual experience cannot be left to chance. Learners must experience specific teaching points, and so what was an enjoyable random experience turns into a disguised page-turner hiding behind the graphic image of a game board.



ESSENTIAL ELEMENTS

As we see, fun is exceptionally hard to create out of thin air when attempting to design a successful learning game. Instead of “fun,” a better goal in applying game design principles to elearning may be to strive for “engagement.” If designed to maximize engagement, a learning module will very often end up being fun, even if that wasn’t the specific goal.

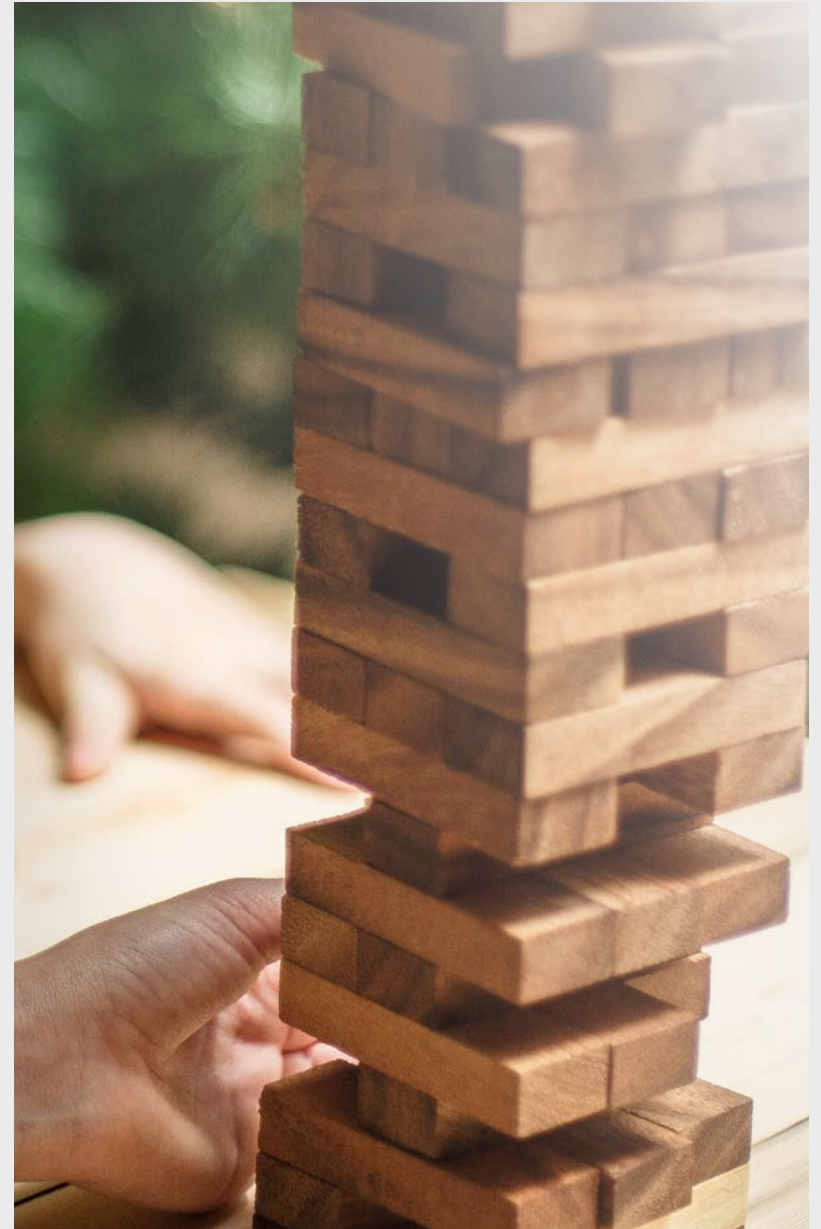
We need to examine the factors that enhance user engagement. There are, of course, many design aspects that contribute to engagement, but three seem absolutely essential: risk, meaningful actions, and a compelling framework.

Risk

It may seem odd to elevate risk as an essential ingredient in creating engagement because risk is a term that may at first seem negative. If the learner is at risk of something bad happening, won't the anxiety prevent learning?

On the contrary, experience has shown that, when there are no consequences to learner actions (no risk), learners remain disconnected from the learning activities, maintaining a largely passive observer role. Risk helps to define the concrete measures of success, heightening the learner's awareness of what is necessary to achieve a specific goal. Risk in gaming is integrated fully into the experience; the player is usually aware in advance of the consequences of poor performance. Actually, in most cases, the challenge is structured in a way that the player will experience failure almost immediately and then start modifying actions to avoid repetition of the consequences.

A second aspect of good gaming risk is that the level of challenge increases as the player's skill increases, through levels or reduced time limits or similar changes in risk. This is critical so that the learner continues to believe that success is possible (but not guaranteed) at whatever the current level of proficiency.



Meaningful Choices

Once a sense of risk is identified in a game-based environment, the learner is going to try to avoid the negative consequences by making choices. The nature of those choices often is at the root of the success or failure of a game. The choices must be clear and accessible; when obscurity clouds a choice too much, the learner may decide to shortcut the process by guessing. This happens often with poorly or densely constructed text-based multiple choice questions; the wording is so obscure or irrelevant—and consequences so slight—that guessing seems the best strategy.

Many learning games are most successful when the game reproduces options for the learner that match choices likely in the real world. Simulations are an ideal mechanism to allow the learner to engage in the same choices available in the performance environment.



Compelling Frame

The frame is the set of rules or constructs that define how the game works. Everything in a game must coordinate to create a meaningful frame; it does not necessarily require that game elements coordinate with elements of the outside world. A complete frame can create focused attention that a learner can use to operate with a game's rules. It isn't that the player must believe in the reality of the game, but rather that the player accepts the prescribed rules and conditions for play as sufficient and compelling.



GAMING WORLDS

Many attempts at educational games, especially in corporate training environments, fail because they strive too hard to engineer a new, unique gaming context. Instead, games are often most successful when the actual performance context is made more compelling by controlling risk, building meaningful choices, and engaging the learner fully in a familiar context that creates meaning immediately. The end result shares many characteristics with simulations.

Clark Aldrich provides a useful hierarchy of simulation models that can create the foundation for game-like interactions, including

branching stories, interactive spreadsheets and diagrams, virtual products, laboratories, and spaces for practice and simulated performance. In all cases, the “game” starts with what is real in the desired performance environment and then is enhanced with game-like elements, rather than starting with the pre-conceived notion of a game and then trying to arbitrarily force content into a meaningless structure.

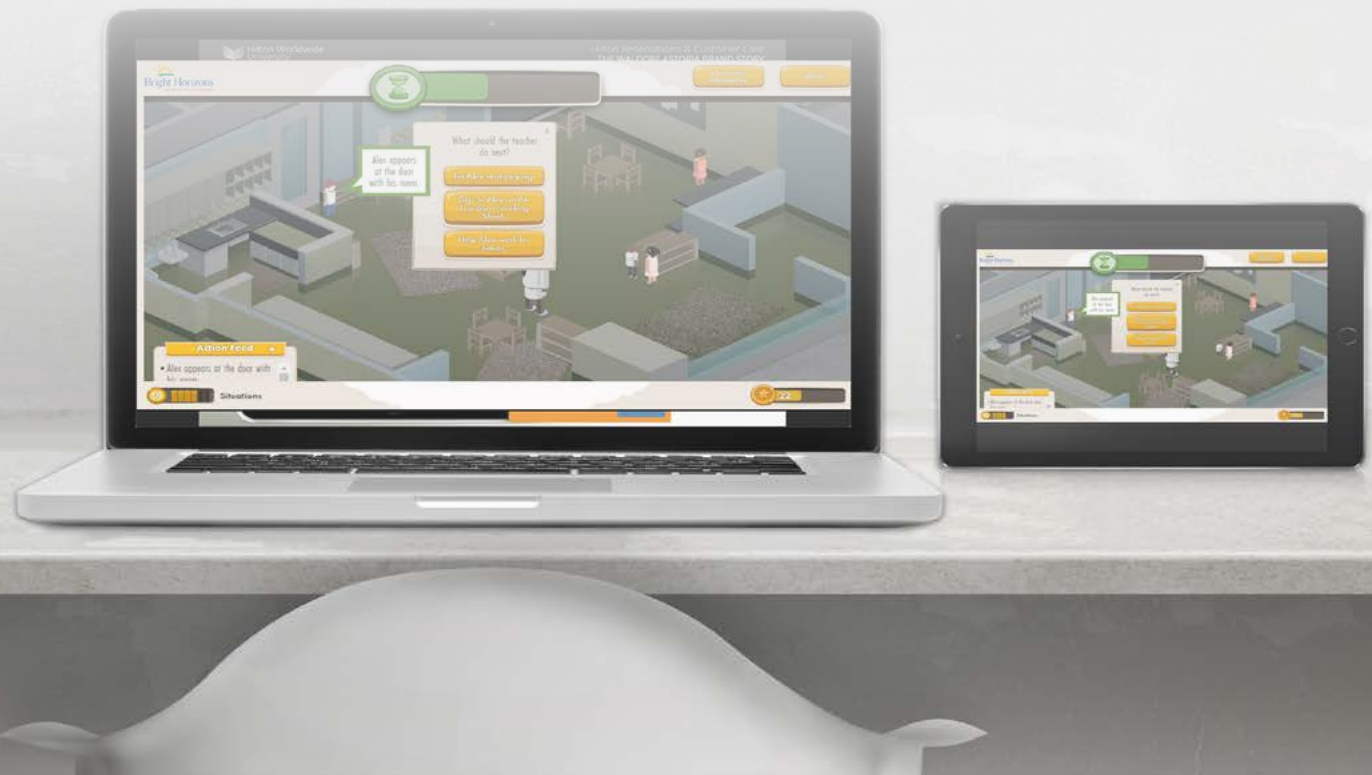
CASE STUDIES



Mobile Health & Safety ELearning Game

Supervising Children, Bright Horizons

Bright Horizons wanted to train new nursery workers on safety and childcare principles when supervising infants and toddlers in the learning centers. In these activities, the learner controls a screen character as infants move through typical activities. The learner chooses strategies for dealing with movement around the play area, napping, diapers, cleanliness, and other critical issues that arise.



Mobile Health & Safety ELearning Game



Supervising Children, Bright Horizons

Risk: Again, there are two levels of risk. Unstated is the overriding appeal to purpose reflected in the need to preserve a safe environment for every child under the learner's care. At a more operational level, completion is awarded only if the learner responds reasonably and in a timely fashion to incidents as they occur, reflected in a score revealed at the end of each session.

Meaningful Choices: The choices here are presented as descriptions of actions to take. While the learner is not doing the described activity, the choices described are easily envisioned as actions within the classroom, and are always specifically meaningful to what has just occurred.

Compelling Frame: The 2.5D perspective and the depiction of the infants, even though to some degree abstract, creates a feeling of being inserted into an active classroom. The ambient noise and the relatively relaxed pace heighten the learner's attention.

[Visit our Portfolio Examples Page for this course case study>](#)

Retail Sales ELearning Course

Stock Room, Journeys

This example of sales associate training was designed to capture the engagement of young adults needing to learn a specific order for arranging shoes in a stockroom. Shoe boxes labeled with stock numbers arrive on a conveyer belt. The learner must shelf each box correctly before it falls off the end of the belt.



Retail Sales ELearning Course



Stock Room, Journeys

Risk: The risk is created by the timing pressure of the moving conveyor belt. As the exercise proceeds, risk is elevated by decreased spacing between boxes on the belt and by the stock shelves gradually filling, requiring more strategy in the rearrangement of shoes before each arriving box can be placed correctly.

Meaningful Choices: Again, the “game” choices are highly similar to actual on-the-job choices. The learner can attempt to put any box anywhere in the shelving system. If it’s a wrong placement, the learner has to keep trying (that is, the game doesn’t allow the learner to create a shelf order that is random, because after that point, the choices would cease to be meaningful).

Compelling Frame: The virtual stockroom is simplified but maintains all the features necessary to serve as a complete context: a shelf system of manageable size, required information readily available, and direct manipulation of game elements. The pace and constancy of the moving conveyor belt creates a setting in which distractions are completely blocked out.

[Visit our Portfolio Examples Page for this course case study>](#)

Railroad Safety ELearning Course

Professional Bus Driver Safety, Operation Lifesaver

Operation Lifesaver seeks to reduce fatalities at railroad crossings. This module seeks to communicate safe driving methods and provide practice implementing these procedures for bus drivers. The learner is placed, literally, in the driver's seat and must successfully negotiate a series of rail crossings without getting a ticket or suffering an accident.



Railroad Safety ELearning Course



Professional Bus Driver Safety, Operation Lifesaver

Risk: The risk is two-fold. Each crossing has three possible outcomes: safe crossing with flawless execution of best practices; safe crossing even though some essential steps were missed, and unsuccessful crossing (crash or ticket). In addition, the risks escalate each round, with each crossing becoming more challenging than the last.

Meaningful Choices: The choices are entirely bound by the controls that would be available in a real bus driving experience. The learner is never asked to discuss the problem or operate in the abstract; each learner gesture is a concrete action.

Compelling Frame: Even with rather rudimentary graphics, the road, the passing landmarks, and even the intermittent distraction of the passengers clearly communicate the significance and difficulties that the learner is likely to encounter. The rules of engagement are not identical to a true driving simulator, but they create a virtual environment that provides a reliable universe in which to perform these tasks.

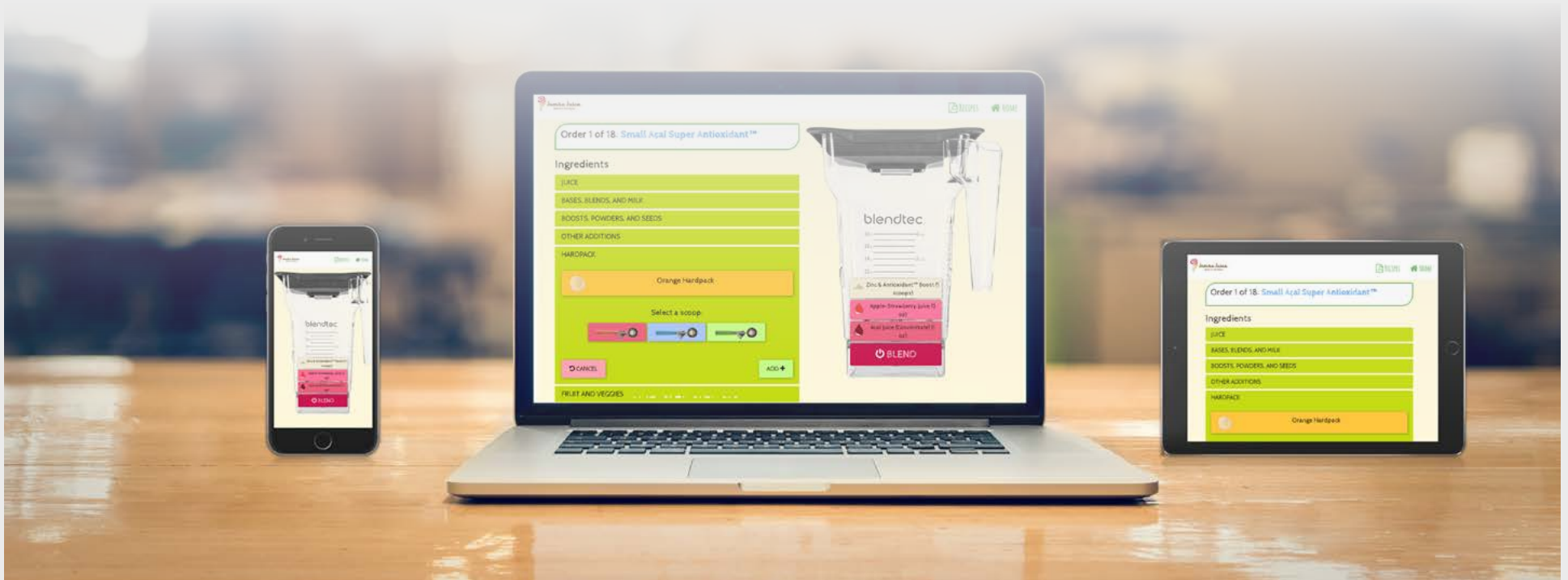
[Visit our Portfolio Examples Page for a related course case study>](#)

Let's Make Smoothies Mobile Learning Game

Let's Make Smoothies! Jamba Juice

This example of retail procedural training was designed primarily as a drill and practice exercise, but it creates a compelling feel of a game because of some simple design choices. Learners work in three modes that operate almost like game levels:

1. **In practice mode**, learners have complete control of which smoothies to practice, with unimpeded access to the recipes.
2. **In challenge mode**, learners create a smoothie selected for them. A designated time limit makes it impractical to check recipes.
3. **Test mode** provides an extended set of 18 smoothies that must be created with an 80% success rate.



Let's Make Smoothies!



Let's Make Smoothies!, Jamba Juice

Risk: The activity modulates the risk at the various levels. There is essentially no risk in practice mode, which lets the learners explore the vast scope of content at will. Challenge mode elevates the pressure slightly by adding a time limit to create five drinks. Only test mode provides the additional pressure in which the learners can only make a limited number of bad choices.

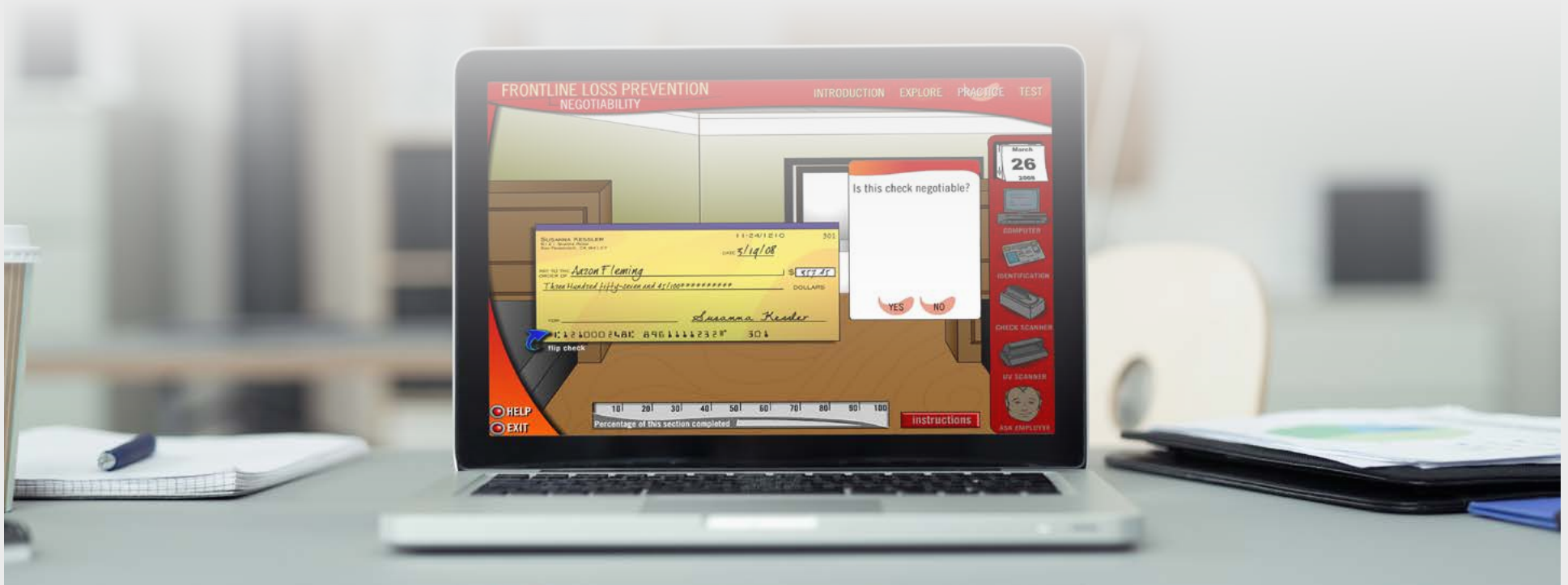
Meaningful Choices: The “game” choices are exactly the same choices the learners would make on the job. Learners choose ingredients and select quantities to reflect the same decisions that the learners would make when responding to a customer request.

Compelling Frame: The responsive design accommodates wildly varying delivery platforms (phone, tablet, laptop), yet maintains enough visual context (through the functioning blender, choice of scoops, etc.) to create a real sense of the environment and real-life challenge.

Bank Frontline Loss Prevention

Check Negotiability, Union Bank of California

This example of bank teller training was not designed as a game, but those who go through it often characterize it as such. Learners are presented a series of checks; for each check, they must decide if the customer checks are negotiable or not. In the first “round” (practice), learners choose which of six required elements are missing for non-negotiable items. There is no additional consequence. In the second round (test), the learner has the same task, but no longer has to identify the reason for the choice. Instead, the learner cannot make a single mistake or the round must be repeated.



Bank Frontline Loss Prevention



Check Negotiability, Union Bank of California

Risk: The only risk is that the learner must keep repeating the test until 100% is achieved. The uncertainty is that each version of the test contains a different set of checks (so rote memorization is not an option). The uncertainty is also defined completely by the range of possible errors laid out in the practice round.

Meaningful Choices: The “game” choices are exactly the same choices the learner would make on the job. The game makes them concrete in a way that might be overlooked in the real world.

Compelling Frame: The simple graphics recreate a “virtual” bank space in which the game takes place. The environment is limited to a set of simple tools sufficient for making all necessary decisions. The fast-paced sequence lends a sense of uninterrupted focus.

Employee Supervisor Effectiveness

Employee Security, Corning Inc.

This is another example that is not actually a game at all, but is perceived as one by most learners. Learners are presented with an office environment populated with employees, many of whom are expressing statements of varying levels of threat to workplace security. The learner must deal with the threats in decreasing level of seriousness. There is no additional consequence. In the second round (test), the learner has the same task, but no longer has to identify the reason for the choice. Instead, the learner cannot make a single mistake or the round must be repeated.



Employee Supervisor Effectiveness



Employee Security, Corning Inc.

Risk: In this scenario “perceived risk” is actually greater than any real risk built into the interaction. Because the content speaks of actual workplace danger, it seems appropriate that the corresponding risk in the lesson be tempered. The learning content itself inserts risk into the environment and so little more contrived risk is necessary. The risk here is mainly in holding the learner accountable for discovering the situational risks to achieve completion.

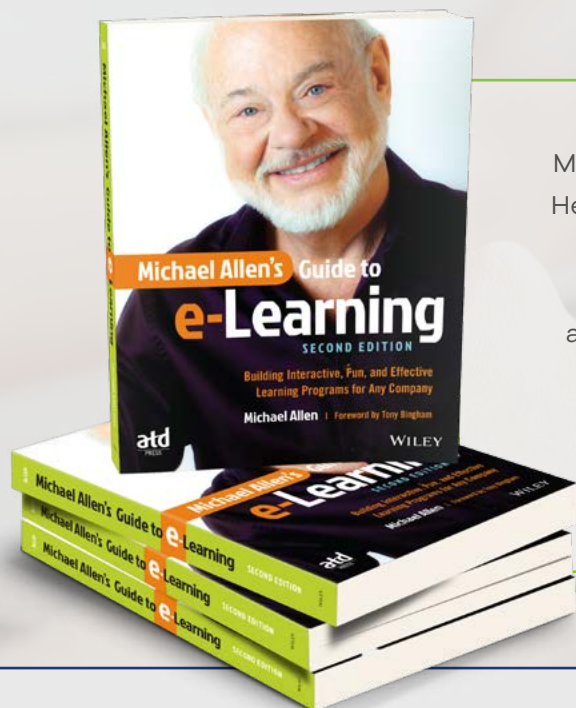
Meaningful Choices: Because the stress statements are so compellingly written, what would otherwise be meaningless corporate policy content takes on an urgency of significance and relevance to the learner that is hard to capture in a content-bound approach. The choices involve who and how to interact with to de-escalate the situational risk.

Compelling Frame: In this case, The bird’s-eye view of the workplace and the specific windows into the thoughts of the individuals occupying that world create an alternative context that is more concentrated and urgent in the simulation than in reality. Even though not explicitly called out, learners willingly continue through all five challenges without overt coercive navigation.

GAMING AND INTERACTIVITY

Readers familiar with our approach to designing interactivity might see some parallels between these essential game elements and the [CCAF Design Model components of Instructional Interactivity: Context, Challenge, Activity, and Feedback](#). Risk is just a specific way of describing Challenge. Meaningful Choices aligns with the Activity component within CCAF that requires meaningful behaviors or actions to support a learning interaction, and Compelling Frame shares intended significance with Context and Intrinsic Feedback features of CCAF.

If you take seriously the goals of CCAF Design, you will find that following that model is a fast track into producing elearning that your learners will perceive as games or game-like.



Michael Allen nails it. This rework of classic is itself, an instant classic. He reminds us that creating Meaningful, Memorable, and Motivational learning experiences is hard but critically important work. He presents tangible, accessible and highly impactful guidance for anyone designing instruction and crafts a stunning defense against those who want to create instruction by 'taking the easy way out.'

Dr. Karl M. Kapp

Professor of Instructional Technology, Bloomsburg University
Author of *The Gamification of Learning and Instruction*

[Learn More & Get a Free Chapter >](#)

RELATED READINGS

Aldrich, Clark, [*Because You Can't Learn to Ride a Bicycle from a Book*](#), Training + Development 63 (12), 24-26. Salen, Katie and Eric Zimmerman. Rules of Play. Cambridge: The MIT Press, 2004.

Allen, Michael W, [*Michael Allen's Guide to e-Learning, Second Edition*](#). Hoboken: John Wiley & Sons, 2016.

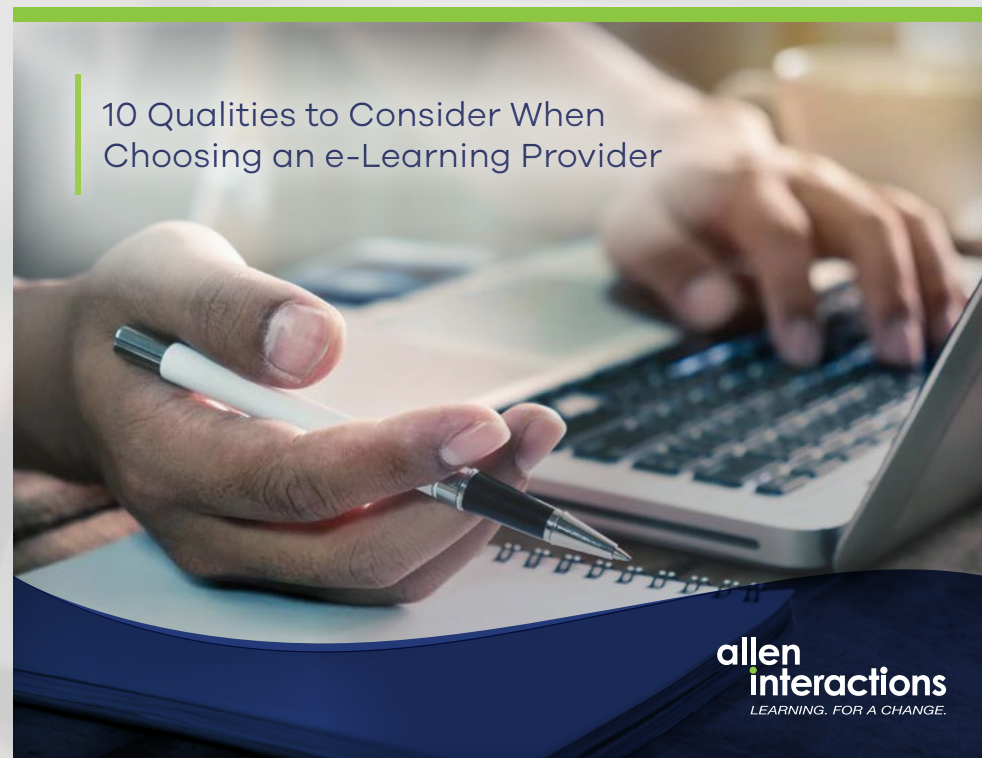
Kapp, Karl M., [*The Gamification of Learning and Instruction*](#), San Francisco: Pfeiffer, 2012.

ADDITIONAL EBOOKS

10 Qualities to Consider When Choosing an ELearning Provider

- Contains 10 Important Considerations Before Selecting an ELearning Company
- Over 25 Questions to Ask Potential Partners in the Search Process

[Access this ebook here >](#)



ETHAN EDWARDS

Chief Instructional Strategist

[@ethanaedwards](#)



Ethan Edwards draws on more than 30 years of industry experience as an elearning instructional designer and developer. He is responsible for the delivery of the internal and external training and communications that reflect Allen Interactions' unique perspective on designing and developing Meaningful, Memorable, and Motivational learning programs.

Ethan is the primary instructor for [ATD's ELearning Instructional Design Certificate Program](#). In addition, he is an internationally recognized speaker on elearning instructional design, is a primary blogger on [Allen Interactions' ELearning Leadership Blog](#) and has [published ebooks](#) on creating effective elearning. Ethan holds a master's degree and significant doctoral work in educational psychology from the University of Illinois at Urbana-Champaign.

Modern Learning Solutions. For a Change.

Empower Your Employees. Meet Performance Goals.

[View Our Portfolio](#)

Looking for more great resources to transform your learning?

Beyond Training

Learning that brings performance change.

[View Our Demos](#)

Be a Superstar

Create learning your employees love.

[View Our Learning Library of Free Downloads](#)

Learning Services

- Custom ELearning
- Blended Learning
- ELearning Games & Simulations
- Microlearning
- Mobile Learning
- Tools & Technologies

[Learn More About Our Services](#)

ELearning Leadership Blog of 14,000 + Subscribers!

info.alleninteractions.com

About Allen Interactions

We understand that our clients' success in business depends on getting people to do the right things at the right time. This requires more than learning. It requires a change in performance, which is why we take a distinctive approach to developing custom learning solutions driven by the latest technologies and best instructional design.

[Visit alleninteractions.com](http://alleninteractions.com)

**allen
interactions**
LEARNING. FOR A CHANGE.