Using Instructional Interactivity to Improve e-Learning Design

by Ethan Edwards, Chief Instructional Strategist

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LEARNING. FOR A CHANGE.

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Intro

The real benefit of e-learning is being able to create a design that improves learners' skills and behavior while simultaneously achieving the operational advantages that e-learning offers organizations. Yet much e-learning is composed of largely wasted opportunities for useful interactivity.

What most people fail to understand about e-learning is that the mere presence of technology in a learning environment does not change the essential aspects of how people learn. Learning does not occur passively. In live teaching, lecture formats with minimal activity on the part of the learner do not work very well. Yet some e-learning designers tend to create e-learning lessons that are little more than exercises in listening or reading. Learners need to be intellectually engaged for learning to happen. Lasting change requires meaningful and compelling mental engagement and interaction.

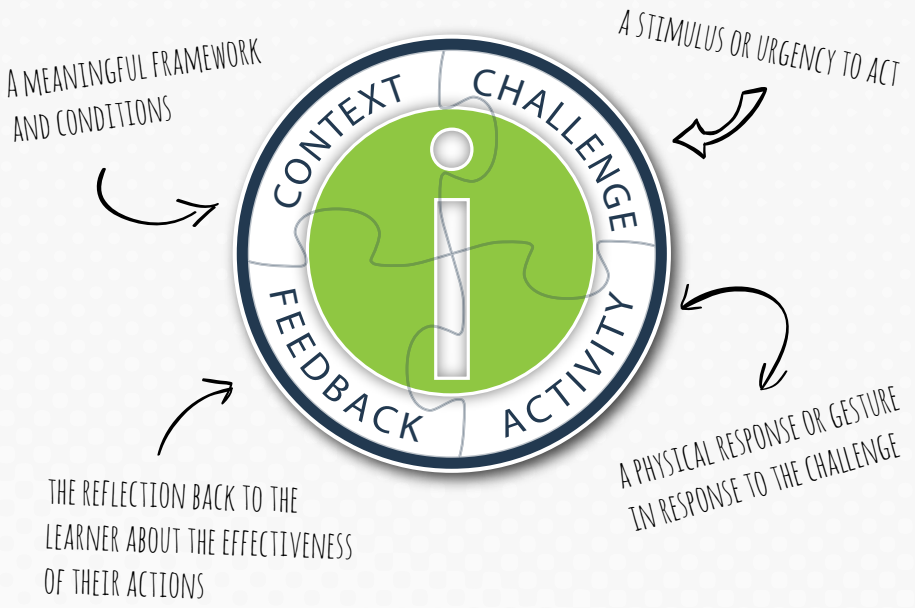
The real challenge as designers of e-learning is not so much how to best convey information (that part is relatively easy), but rather, it is to design experiences that engage learners in meaningful activities—activities in which the otherwise trivial actions of pointing mouse cursors and pressing keys take on a significance that represents consequential thinking. Read on to learn how Allen Interactions' Context, Challenge, Activity and Feedback (CCAF) Design Model achieves true instructional interactivity and leads to actual performance change.

Instructional Interactivity

The heart of effective learning—instructional interactivity (as opposed to just interactivity) — is an important design focus that capitalizes on the potential presented by e-learning technologies. Instructional interactivity is defined by Dr. Michael W. Allen, in *Michael Allen's Guide to e-Learning*, as "interactivity that actively engages the learner's mind to do those things that improve ability and readiness to perform effectively." While this definition is direct and complete, it may not be clear what it means to a designer. The interactivity designed for e-learning must require the learner to do something that is cognitively demanding, and that leads to improved performance. Most designs begin with content—what the learner needs to know. Instead, design needs to center around what the learner needs to do.

This is a significant but crucial paradigm shift. Designers are easily misled by subject matter expert (SME) colleagues to focus on getting the content right and complete. That is not enough. The learner needs an opportunity to apply the content to solve some problem or achieve some significant end.

Achieving instructional interactivity in a lesson requires a holistic view of the design. Rather than stringing standard questioning formats together in a logical sequence, the design must create a meaningful experience for the learner. That experience requires four integrated components known as CCAF.

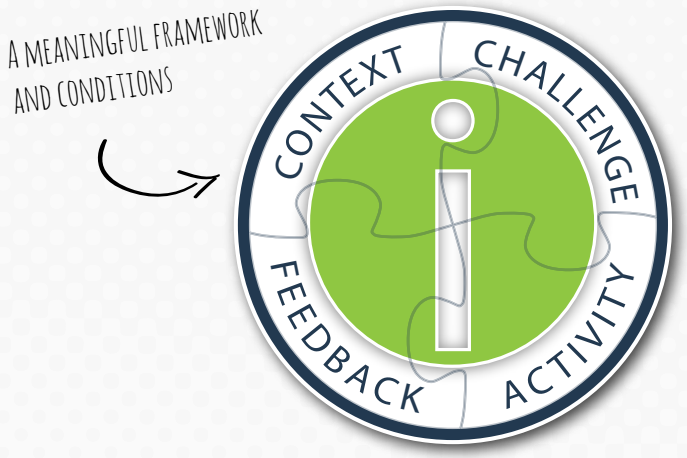


Context

Context is the first element a learner encounters that provides a meaningful framework and conditions. The context is conveyed in the first seconds of exposure and very quickly sets the learner's attitude for the learning that will proceed. At a very basic level, the learner decides if a lesson is going to be boring or interesting based on immediate impressions. The value of starting out with relevance, pleasure, or even suspense cannot be underestimated.

Context is best communicated implicitly. If the content is relevant to a retail situation, use visual imagery and story elements to put the learner there immediately, instead of using formal language to describe the complexity of a setting. Ideally, establishing the context should be inseparable from the content for which it is providing a framework of meaning.

One of my favorite writers, Charles Dickens, was a master of this. Similar to authors of e-learning, he had a strong intent to teach his readers. Dickens' learning objectives happened to be moral messages rather than skills. However, unlike e-learning authors, he knew enough to not expect his readers to be intrigued by statements like, "After reading this book, the reader will be able to act selflessly in human relationships." Instead, he wrote about a small boy encountering a mysterious, threatening, escaped convict in a cemetery, and created the context for *Great Expectations* that carries the reader through hundreds of pages of "content". In doing so, it makes the moral lesson at the heart of the work unforgettable. Instructional designers should strive for this kind of contextual integration.



Challenge

The great benefit of a powerful and meaningful context is that it creates an opportunity to engage the learner in a compelling and non-trivial challenge.

The challenge in the context of an e-learning course's instructional design is the part of the experience that creates in the learner some desire, urgency, and willingness to perform. The e-learning provides visual (and sometimes auditory) stimuli to which the learner must respond. Learners need to be engaged to carry out the most successful responses to the tasks presented. This is mainly a function of the sense of challenge embodied in the e-learning.

The common reaction that e-learning is boring is more about the lack of a challenge than some intrinsic boring quality of content. Learners need to know that there's something personal at stake in the training. They need to know that what they do actually matters. Designing meaningful challenges is a critical skill in creating instructional interactivity in e-learning. The challenge can be overt or implied, but the main thing is that the learner knows that success is possible, but not guaranteed without some exertion of mental effort and personal investment.

Activity

The activity of an e-learning course is a physical response or gesture in response to the challenge. Of course, most activities should be focused on demonstrating mastery rather than on navigation, but it is important to be mindful of what the learner is to master when devising activities. People tend to remember what they do more than what they read or hear—so it is important to have learners do those things that are most important. Most traditional activities direct the learner to remember content, when the focus should really be on using the information to successfully perform.

Too many instructional designs rely on a relatively small set of arbitrary activities as the core of their instruction without realizing how critical the specific activities the learner will perform are to the ultimate outcomes of a training piece. Creating activities that focus the learner on the content, mirror the real world, require the learner to engage in the expected outcomes, add a level of physical challenge matching the anticipated outcome, and require a level of thoughtful effort, will greatly enhance the engagement and long-term effectiveness of e-learning experiences.

Feedback

Feedback is what happens in response to any learner action. Feedback should be helpful and informative with the intention of providing everything the learner needs in order to improve performance.

Often feedback in e-learning is limited to judgment—that is, indicating whether the learner was right or wrong. While this is an important part of evaluation, by itself it is not particularly helpful for instruction. Learner-centered feedback focuses on providing content-rich, multi-faceted coaching and instruction specific to the particular errors made by each learner. Also, to build expertise, it is useful to fade out extrinsic feedback (explicit statements of judgment and direction) and, particularly in conceptual and problem solving arenas, transition to intrinsic feedback systems where the learner evaluates correctness through consequences embedded directly in the simulated environment. For those wishing to add gaming aspects to their e-learning, manipulating consequences and presenting intrinsic feedback are some of the most effective strategies.

THE REFLECTION BACK TO THE LEARNER ABOUT THE EFFECTIVENESS OF THEIR ACTIONS

A CCAF Design Example

This e-learning course provides instruction and practice in safe navigation of railroad crossings for school bus drivers. The performance goal is to build confidence in carrying out the safe rail crossing driving principles.

Context: The learner is immersed in a version of the real performance environment—driving down the road in the driver's seat of a school bus.

Challenge: Safely deliver the cargo of youngsters to the destination, being careful to avoid any traffic violations or accidents along the way that the learner encounters at a variety of rail crossings.

Activity: Use the controls and devices accessible on the bus dashboard to control the stopping and starting of the vehicle, status of doors and windows, warning lights and accessories, and even an intercom to monitor and communicate to the passengers.

Feedback: Tickets and newspaper articles communicate the consequences of bad decisions. A best practices checklist reinforces safe driving techniques.

Remember that the most important aspect of creating interactive e-learning is in creating meaningful, engaging and productive performance challenges supported by appropriate instructional resources and content. The CCAF Design Model for creating Instructional Interactivity is an effective tool for creating e-learning that makes a difference in learner performance and drives business change.

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Ethan Edwards draws on more than 30 years of industry experience as an e-learning 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 and memorable e-learning programs.

Edwards is the primary instructor for ATD's e-Learning Instructional Design Certificate Program. In addition, he is an internationally recognized speaker on e-learning instructional design. He is a primary blogger on Allen Interactions' e-Learning Leadership Blog and has published several white papers on creating effective e-learning. Ethan holds a master's degree and significant doctoral work in educational psychology from the University of Illinois – Urbana-Champaign.

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