Seven Steps to Improved e-Learning Challenges

by Ethan Edwards, Chief Instructional Strategist

allen interactions

LEARNING. FOR A CHANGE.

Intro

The Context, Challenge, Activity, and Feedback (CCAF) Instructional Design Model for instructional interactivity is a powerful tool to guide the design of engaging and effective online interactions. In a nutshell, it says that a good interaction has:

- a **meaningful context** that provides relevance to the learner
- a **compelling challenge** that motivates the learner to apply active and critical thinking to the task rather than guessing or answering thoughtlessly
- an **activity** that feels meaningful and concrete in responding to the challenge
- **content-rich feedback** that provides assistance for how the learner can do better

While I've found that instructional designers appreciate the power of these elements and are impressed when presented with finished interactions that exemplify these principles, when faced with designing an interaction from scratch they often find it difficult to break out of the traditional tedious multiple choice and true/false formats that are used so often. Partly it is due to the seeming magnitude of breaking away from the familiar, but also because the tools that many designers use seem to be limited in what can be implemented.

The task is not nearly as difficult as it appears; one just needs small successes and practice to start feeling comfortable designing CCAF interactions.

As far as the development tools go, it is true that they are in many ways optimized for creating bad interactions, but that doesn't mean it is impossible to use the capabilities in unexpected ways to create interactions of much greater interest and diversity.

To that end, this e-book is intended to provide a means to make some small steps in improving interactions while recognizing that capabilities with authoring software might be quite limited. I am sure, though, that if you begin applying these steps while you are designing questions, you will quickly open up a world of much more powerful design possibilities.

I am focusing on challenge exclusively in this article because that is one of the most fundamental ways that typical interactions fail—they simply do not provide any urgency in the learner's mind that encourages authentic, focused thinking.

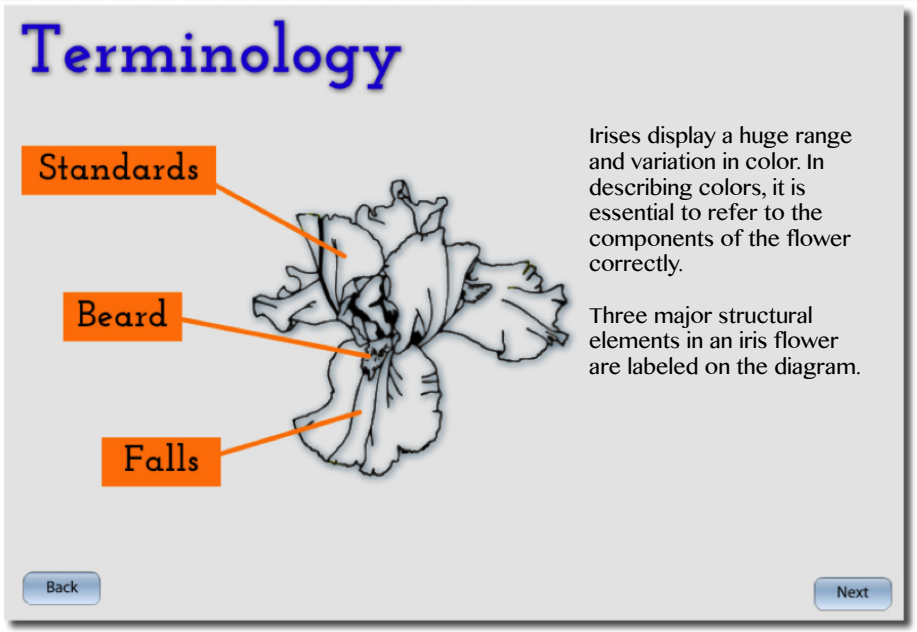
Caveats

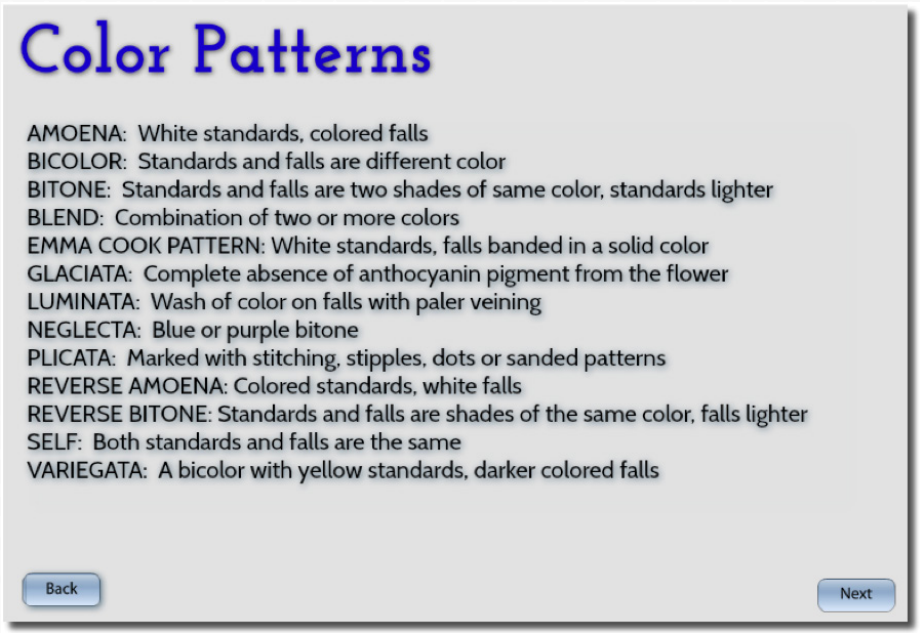
- We will be dealing with a single content knowledge question throughout. This is not necessarily an ideal question, but my hope is that by keeping things as simple as possible, the power of these principles will be obvious.
- Context, activity, and feedback are also very important elements to improve design, but for clarity, I am ignoring them so the focus can be on how the challenge alone can be a powerful mechanism.
- More complicated design choices are certainly possible, but these first steps were chosen because they should be easily achieved in even the most primitive of authoring tools.

Baseline

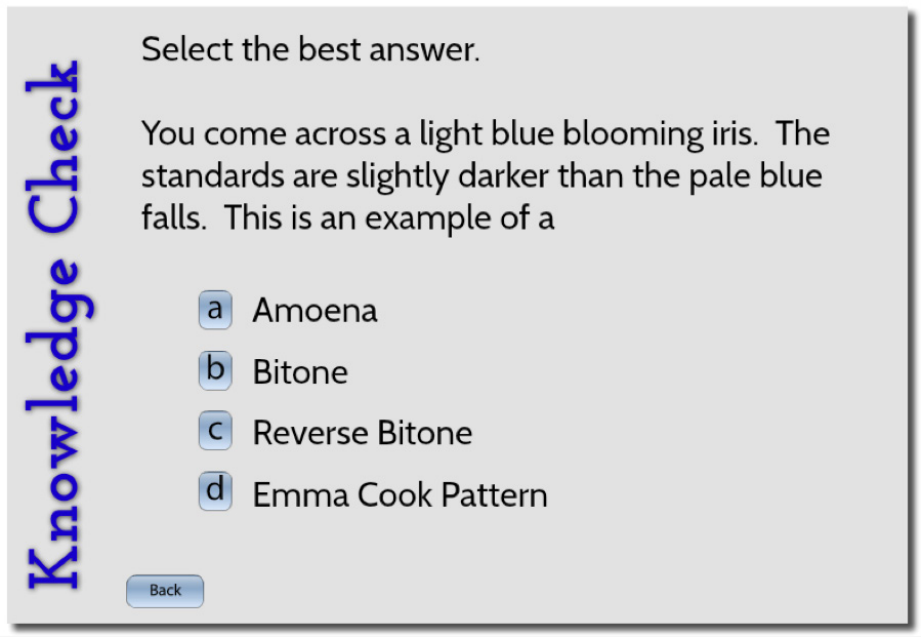
For this discussion, we're using a very narrow (and perhaps obscure) content area: terminology to label various patterns of coloration in iris flowers. By using this obscure content area, the hope is that you will be able to extract the principles and apply them to your own designs. A "typical," non-instructionally interactive treatment might be something like this:

SOME CONTENT:





FOLLOWED BY CHALLENGE-FREE MULTIPLE CHOICE QUESTIONS



This is hardly better (and perhaps worse) than just giving the learner an information sheet.

One

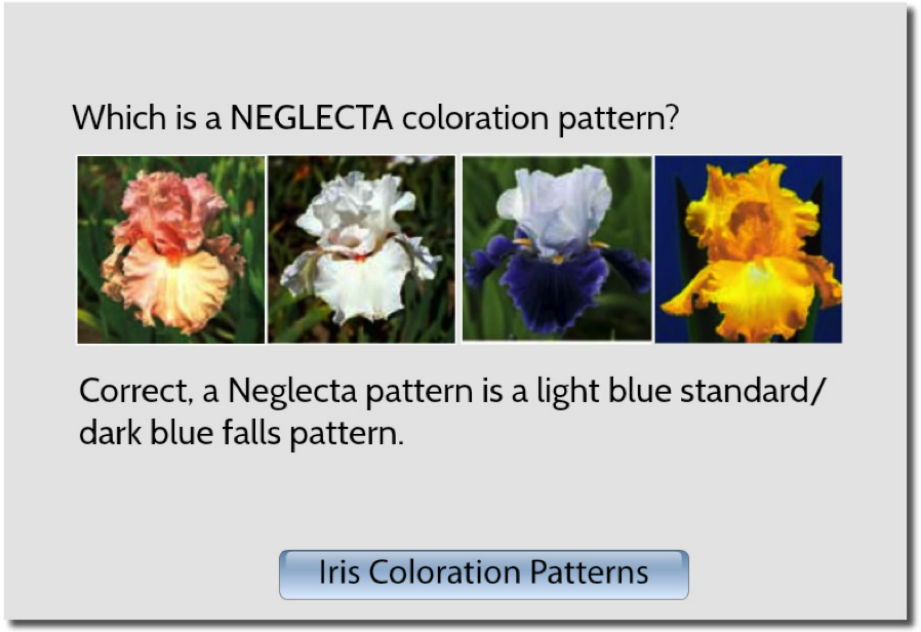
Make the Learner Seek Needed Information

One major element that eliminates any challenge is when the learner is told exactly what to pay attention to and then quizzed on precisely that thing. This removes any sort of investment from the learner in processing or evaluating anything that is presented. A very easy way to fix this is to simply not automatically tell the learner everything. Instead, make the learner **choose** to access the content.

Two

Make it Graphic; Eliminate Words if Possible

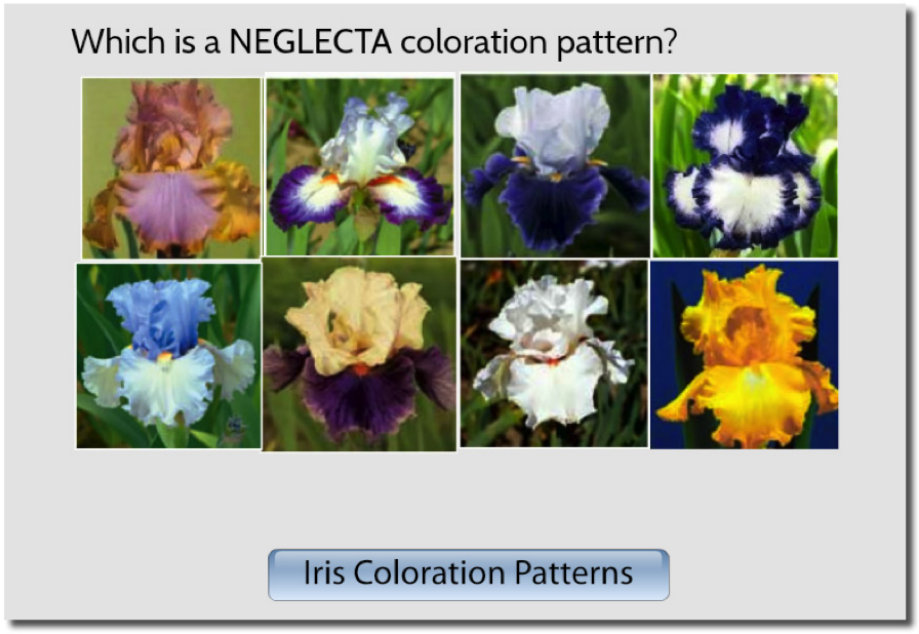
When presenting textual information followed by standard verbal questioning formats it is easy for the exercise to become more about pattern matching and superficial word recognition than actual comprehension. One easy way to derail this is to test comprehension with a different "language" that requires the learner to process **meaning** rather than just pattern. That is, it is more meaningful for a learner to identify an example of something rather than just repeat a definition.



Three

Require Careful Attention to Details

Sometimes the answer is just too obvious. As you craft the various options for the learner's response, make sure that one has to pay attention to significant details to get the correct answer. For example, in the previous question, it's possible to get the correct answer by mistakenly thinking any iris that has blue in it is a neglecta, because only one choice has blue in it. Adding more choices and choosing distractors with precision to represent the range of common misconceptions will reward the learner who pays careful attention to details.

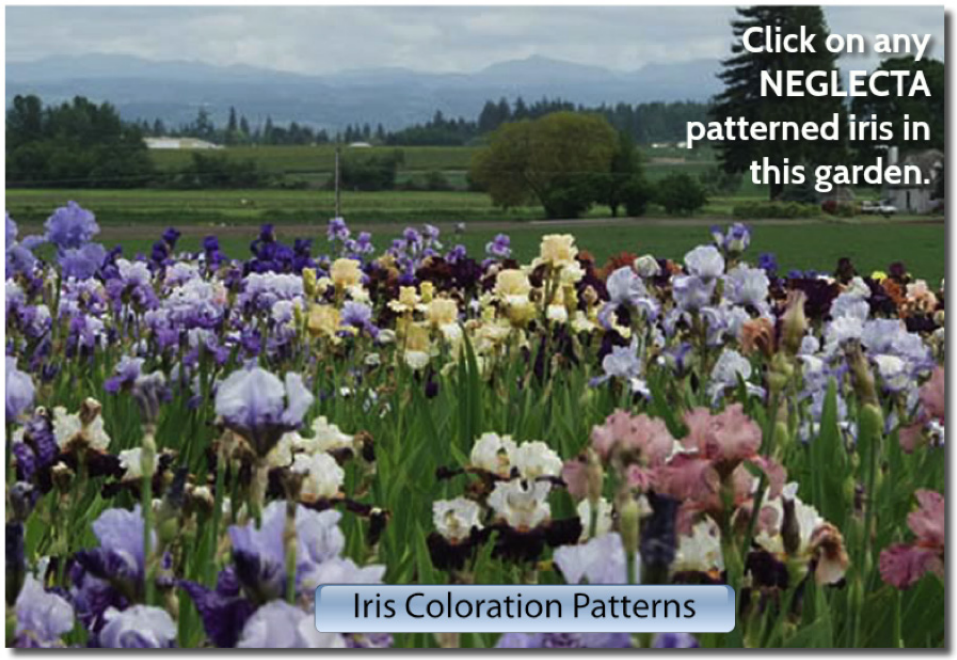


Four

Put the Question in a Context that Adds Meaning

The pictures of the iris flowers are "academic" in their presentation. A naïve learner may not think about how he might encounter this information in the real world. By embedding the challenge with contextual elements, it provides a richer and less cued treatment of the content.

Five



Diversify Your Question Examples

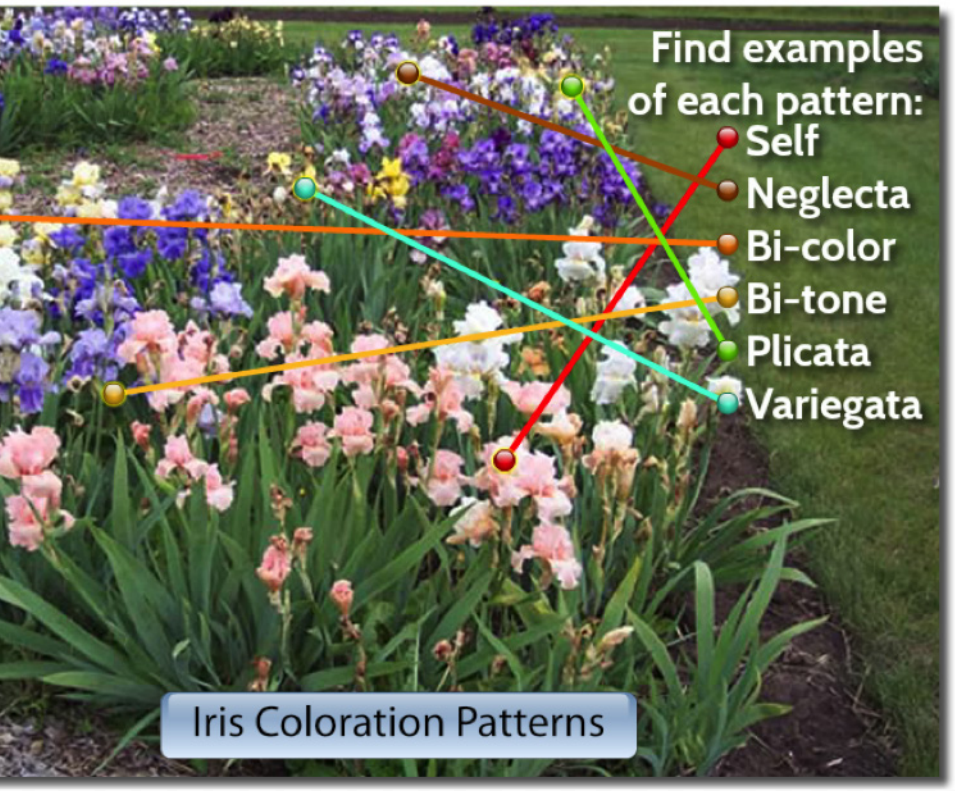
Most e-learning is deficient in that learners usually have only one interactions with any bit of content, making even moderate-term retention unlikely. But then when a designer chooses to ask multiple questions or to retest later in the lesson, the same examples are used. This encourages the learner to remember the non-essential, but sometimes more salient aspects of the question (e.g., "the answer was the flowers in front"). When you have multiple exposures to the same content, change up the variable parts of the question—change the illustration, write a different scenario, or change the examples.

Six

Hold Learners Accountable

If the learner figures out that the answer is given after two tries and they can proceed unhindered whether the question was ever answered correctly or not, the challenge becomes "how fast can I click random choices." If you have a meaningful context where the choices seem "real" rather than burdensome, you can usually just let the learner keep trying until the correct choice is selected. Now the fastest way out is to actually apply critical thinking and memory.

Seven



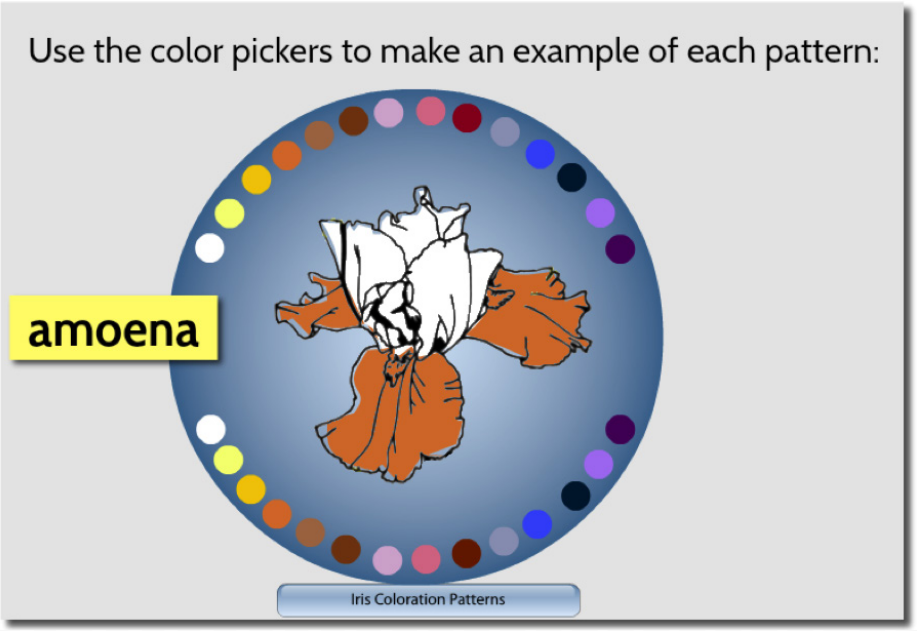
Create Multi-Step Challenges; Test Items Simultaneously

Simple, single-step questions with immediate judgment allow little opportunity for learners to synthesize new content into a unified body of knowledge and expertise. Creating interactions that engage the learner in multiple challenges at once, spurs more critical thinking about one's own knowledge and often results in a very useful "self-assessment" of choices before the collective feedback is provided.

The Big Jump

Build Constructed Responses

The only reason this isn't Step 8 is that I suggested that each of these steps should be easily accomplished in the most primitive of authoring systems. This final step, is not that radical of a design leap, but it does require an authoring tool with considerable flexibility and customization (like ZebraZapps). This example illustrates where this sort of step-wise improvement can eventually lead the learner. This example asks the learner to first visualize and then create the appropriate response rather than just recognize it.



Conclusion

Certainly this is just a start, but each step adds an additional improvement to the nature of the challenge. With improved challenges, it is more likely that you are observing genuine performance rather than "lesson-taking behavior" of which e-learning students are very quickly masters. Once this thinking becomes more natural to your design sensibility, you will find you are able to begin brainstorming with Steps 1-7 already assumed. Then you can begin to design enhanced context, activities, and feedback systems to create more fully engaging and instructionally significant interactions.

Ethan Edwards

chief instructional strategist

@ethanaedwards

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.

allen interactions

LEARNING. FOR A CHANGE.

Improving Performance One Interaction at a Time.

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 White Papers, Webinars & Kits ▸

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 learning solutions.

Learn More ▸

Services

- Custom E-Learning
- Blended Learning
- E-Learning Games & Simulations
- Learning Strategy Consulting
- Mobile Learning
- Training Services & Outreach
- Rapid Development

E-Learning Leadership Blog

info.alleninteractions.com ▸

allen interactions

LEARNING. FOR A CHANGE.