

Use Detours to Drive Adaptive Learning



by John Cleave, Ph.D. Instructional Technologist at SweetRush

Suppose you're an L&D manager and you've hired a new employee. Let's call him Bob. You're sitting down with Bob on his first day and explaining the process your company follows to develop training. You explain that your department typically follows the waterfall method because it gives stakeholders time to review each of the deliverables before proceeding.

Bob then asks you, "What's the waterfall method?"

You stop and explain how the waterfall method works. Then you go on to describe how the different members of the team work together to create a finished training element. At one point you stop and ask Bob whether he's familiar with Bloom's taxonomy. Bob confesses he isn't, so you explain it.

Note that you easily adapted your training around Bob's understanding. We do this all the time in conversation and don't even think about it. One of the big advantages of a face-to-face conversation is that we can easily deviate whenever there's a need to explain something, in order to help a listener make sense of what we're saying.



Detours

Think of these deviations as “detours.” **A well-designed eLearning program should include many of them.** In eLearning, there are two types of detours, “pull detours” and “push detours” (to borrow terms commonly used in marketing):



PULL DETOURS

Pull detours enable learners to stop and ask questions throughout the eLearning to fill in the blanks of their understanding.

Wikipedia, with underlined links that lead to subtopics, is a great example. You’re reading about the French Revolution, and the name Robespierre is mentioned. If you don’t know who Robespierre is, you can click the name to learn more.

Including such links allows learners to ask for explanations of things they don’t understand or wish to know more about. If they know it, they won’t take the detour and therefore save time.



PUSH DETOURS

Push detours insert an assessment of learners’ understanding of the content and route them to supplementary content accordingly. This is based on the assumption that learners don’t always know what they don’t know and are often overconfident in their knowledge.

Imagine an eLearning program that teaches Bob about the production process at his company. It might stop and ask, “Which of the following is the primary purpose of a storyboard?” If Bob can answer correctly, the narrative continues. If he can’t, he’s taken on a detour that explains storyboards.

By including a series of pull and push detours, the eLearning adapts to each learner’s understanding.





The big win with detours is efficiency. People sit through only the training they need and don't waste time on topics they already know. Suppose a friend is telling you a story about how she joined a DevOps team and is having to stay up until 2 a.m. twice a week to talk to India. If she begins to explain what DevOps is and you already know, you will stop her to spare her the trouble. And if you understand time zones, she won't have to explain why she has to take a call at 2 a.m. On the other hand, if she tells the story to another friend who doesn't know what DevOps is or doesn't know Indian time zones, she might take the time to explain these things. We each adapt to the knowledge and understanding of our audience.

And by not telling learners things they already know, you **reduce boredom**, and learners are more likely to pay attention.

It can also **improve retention**: there's evidence that telling people things they already know works against teaching them things they don't know.



So why aren't detours used more often in eLearning?

Technologically, it's fairly easy to insert both types of detours.

- One reason could be because **detours are difficult to include in a classroom: it would be hard to execute if anyone in the class could stop at any time and ask the instructor to explain a subtopic.** Instead, an instructor aims at a lowest common denominator of understanding and develops a narrative that explains everything clearly and plainly. Instructional designers and subject-matter experts may carry that mindset over to eLearning. They become focused on what they want to tell people and spend their energy developing a linear narrative that treats each subtopic in turn. They may not realize that eLearning is closer to a one-on-one conversation than it is to the “one-to-many” model of a class.
- A second reason why detours aren't used more frequently in eLearning may stem from a **fear that, if learners have the option to skip sections, they will do so, even if they need the information.** In the Wikipedia example above, a reader may skip the link to Robespierre, even though it's important. The standard solution to this is to make all the content mandatory. There are two flaws in this line of thinking, however. The first is that someone forced to read through a slide or watch a video will absorb the information. In truth, people learn when they want to learn and can easily turn off their attention. Forcing them to view something doesn't mean they will learn anything. The second flaw is that learners will always skip a detour if given a chance. Give people more credit. If the content is interesting and relevant to their career, they will typically be eager to ask questions and learn more, just as Bob did in your conversation. And offering detours is a way of showing them respect.
- A third reason why detours aren't used could be **a belief that they involve more work for instructional designers and subject-matter experts—that they must craft not only the core content but also all of the deviations.** This argument is flawed as well. First, we aren't always creating more content; we're often simply making some of the content we would have created anyway optional. Second, detours can make the creation process easier because they minimize hard decisions on whether and how much to treat the various concepts involved in the training. When in doubt, include a detour. A Wikipedia article is easier to write than a novel.

And even if it takes a subject-matter expert or instructional designer more time to craft detours, what of it? Most eLearning programs are used by thousands of people. If you can save 1,000 people 10 minutes each, that's 10,000 minutes, or four man-weeks. Surely adding additional hours of time to an instructional designer's or subject-matter expert's workload is more than adequately paid back by four man-weeks of savings. Not to mention having people who are generally happier with the training.





The Challenge of Detours

As said, from a technological perspective, including detours in eLearning is not very hard. Pull detours can be as simple as embedding links in the text, adding a callout with optional links, or adding optional questions a learner can ask at the end of each module. Push detours can be included by adding screens with assessments and conditional branching to other screens dependent on learners' responses.

But conceptually, detours can be challenging.



Let's start with **pull detours**. The danger is that if a learner takes too many detours, he or she will lose the narrative—become immersed in the trees and lose sight of the forest. If you've ever had a conversation with a child who keeps asking "why," you know it doesn't take long for the conversation to become derailed. To avoid this, **an instructional designer has to be smart about who the audience is and what it knows and doesn't know, which helps determine where to place detours**. Not every concept in an eLearning presentation has to lead to a detour.

In the example at the beginning, you can assume Bob knows what "eLearning" is, as well as what a "deliverable" is (and if he doesn't, it's time to question your hiring process).

And a well-constructed detour should help learners get back on track, for example, by connecting the subtopic back to the narrative.

We may be able to address this danger via interface design as well. If the subtopic is presented in a pop-up pane over the main narrative, or in a callout (as is often done in magazines), learners can keep the main narrative in sight as they explore a detour. Wikipedia has experimented with this in a beta mobile app, and it works well: learners can explore subtopics without losing their place in the main narrative.

The primary challenge with **push detours** is coming up with a means to determine whether the learner knows enough about a subtopic to allow him or her to skip treatment of it. Is the ability to define a concept or identify its use sufficient? This is the challenge of all assessments, however, not just ones used for detours, and it is solved through effective instructional design. **One approach is to present a case study or situation and then to ask learners to apply the appropriate concept to it, figuring that if they succeed, they have sufficient mastery of the underlying idea**. For example, in our eLearning about a company's production process, we may ask Bob, "In which of the following situations would a storyboard not be necessary?" Chances are, if he answers correctly, he gets the purpose of a storyboard, and we won't have to treat it.






A Process for Devising Detours

Here are three processes for developing detours in eLearning.

- A** **An instructional designer develops all of the content that an eLearning module must deliver.** Then the instructional designer goes back through the content and identifies topics that are likely to be familiar to at least some of the audience: those can each be made into a push or pull detour.
- B** **An instructional designer sketches out a narrative suitable for someone who is experienced with the subject matter.** Then, the instructional designer goes back through the narrative and identifies concepts that a less proficient learner might ask about. For each of these, a detour can be developed.
- C** **An instructional designer builds on learning objectives.** An instructional designer creates eLearning content around terminal objectives and then builds in detours for each of the enabling objectives (definitions, overviews, facts, and so on).





If you want to make eLearning
more efficient, as well as more compelling,
include many pull and push detours.
Your audience will thank you for it.