Three Generations of Instructional and Course Design
Greg Younger

First Generation (1G) Design

TrainingOnline's first generation of courseware consisted of template-based, brief courses produced through a joint venture with a now-defunct content producer in order to quickly establish a catalog of Web-delivered environmental health, safety, and human resources training courses. Outside reviewers tended to find the courses text-heavy and not very interactive and felt that the assessments were inadequate. Two professional voiceover artists produced the narrations for the entire library of courses.

Technology:	HTML, with some Flash, Director, PDF, and iPIX inserts
Interactivity:	Very little; mostly quiz-type exercises, with a few simple drag-and-drops
Length:	25-35 screens (40-50 minutes)

Second Generation (2G) Design

The second-generation design period at TrainingOnline began in mid-2001. It was a time of heightened experimentation and creativity. Instructionally, we added Interactive Learning and Contextual Learning Frames to our courses to increase relevance to learners. The concept of course layers that allowed learners to "peel back" the surface of courses to explore additional information was emphasized. Knowledge Demonstrations (chapter quizzes) were enhanced both qualitatively and quantitatively to replace easy, common sense questions and those that did not directly assess stated learning objectives, and courses were lengthened to 60-70 screens. Graphically, the courses took on unique looks, with low-contrast photographic montage backgrounds and an abundance of animated text and graphical display effects. While the instructional quality was clearly superior to previous courses, slow download times became an increasing concern.

Technology:	Flash, with a few recycled Director exercises
Interactivity:	More innovative exercises, including rudimentary simulations. Greater use of interactive elements such as rollovers and pop-up windows allowed users to access optional, supplemental information.
Length:	60-70 screens (50-90 minutes)

Third Generation (3G) Design

The 3G design has come about as a result of several realizations.
- Colorful and intricate backgrounds interfere with readability and increase file size. We also reached a point where every slide was unique, and consistency of design suffered.
- Elaborately animated text effects can be distracting to learners and take away valuable creative energy and time from course designers who could be innovating in more significant, instructionally helpful ways.
- Overly lengthy screens cause frustration and boredom for learners as they endure prolonged downloads, followed by being forced to sit through endless narrations.
- Live links to external files complicate the development process, add to the maintenance burden, and compromise our highly valued LMS-neutrality
- "One-size-fits-no-one." A 70-screen course contains more detail than some learners need, yet a 20-screen course may not offer the depth of knowledge that others require.

Our team's 3G design began production in mid-2002. 3G design has a cleaner, simpler look and feel. Screens are less cluttered with text as we concentrate on instructional graphics and utilize User-controlled Narration (UCN) to make full text display optional instead of the default. Screen lengths have been shortened to no more than 80 words/30 seconds of narration per screen. This has allowed us to gain both practical and pedagogical benefits. Each content screen is smaller than 200K, improving download times dramatically, and information is much more tightly chunked and focused. Previously separate elements including glossary items are now integrated as in-screen features for ease of learner access and efficiency in development. Learners are assisted in gaining the fullest possible benefit from our courses through the eLearner Success Guide, an optional interactive tutorial introducing course features and conventions. To reach a wider audience, 3G design includes the development of both full-length courses and shorter Awareness-Level (AL) courses.

Technology:	100% Flash
Interactivity:	A new level of interactivity (Knowledge Laboratory) has been defined to differentiate our increasingly sophisticated simulations and games from simpler exercises.
Length:	Two options: Full-length and Awareness-level courses

3rd Generation design brings about an identifiable, distinctive TrainingOnline look and feel. Each slide bears the creative mark of its developer yet remains comfortably consistent with the preceding and succeeding slides. User-controlled narration (UCN) allows us to provide instruction for learners of diverse capabilities and learning styles. Auditory and visual learners are not put off by an overwhelming amount of text on the screen, while those who learn best by reading (or hearing-impaired learners, or those without sound cards) have access to the full text being read by the narrator. Each screen downloads quickly and plays seamlessly, offering the learner a range of control over its display.