Instructional Quality: A Consumer Guide

By Scott Palmer

Good training is expensive. So is bad training. The difference is that good training results in greater employee productivity and job satisfaction, while bad training results in wasted time, reduced productivity, and frustration.

The only thing more expensive than training is to employ people who can't do their jobs because they lack the required skills. In today's business environment, ongoing employee training – particularly in vital computer skills – is a must. To stay competitive, companies must be able to evaluate the quality of training products and services, as well as that of the training providers.

This white paper provides a simple, step-by-step method to evaluate both training and the companies that provide it.

The instructional materials

The first step is to look at the training materials themselves. These are the materials that will help – or hinder – students in their acquisition of new knowledge and skills. If these materials are anything less than excellent, then little else matters.

Structure

In the last 30 years, learning researchers have tested and proven a set of principles for designing adult education materials. These principles constitute the field of instructional design. To be most effective, course materials should follow principles of instructional design[1]. Whether for instructor-led training, computer-based training, or Web-based training, the ideal course materials should:

- **State clear learning objectives.** Both the course as a whole and each lesson should state clear, measurable learning objectives. These enable students and instructors to determine if the promised learning has taken place. Objectives should list specific concepts students will be able to explain, operations they will be able to perform, and techniques they will be able to demonstrate. If learning objectives are not clear and measurable, the course materials might not be well designed. In addition, the lack of clear and measurable objectives makes it difficult to know if a course is intended to meet your organization's specific learning requirements.
- **Teach concepts separately from, and before, skills.** Research shows that students learn new skills most effectively when they understand what they are doing and why. Thus, each skills section of a course should be preceded by an explanation of the concepts and contexts that make the skills useful.

- **Include both general steps and hands-on practice.** Students learn new skills best when they (a) understand the general steps in each task they learn, (b) see how the task is applied to a specific example, and (c) perform physical actions to complete the task. Properly-designed course materials should include all of these elements.[2]
- **Review to confirm student understanding.** After initial task learning and hands-on practice, review sections can reinforce students' understanding of the material. Each lesson should include review of the lesson material. Within lessons, review should be provided after any particularly challenging sections.
- **Include learning assessments to measure student progress.** Measurement of student progress can identify areas where further work is needed. Review questions at the end of each lesson not only provide such measurement, but further reinforce each student's understanding of the lesson material. Each lesson should conclude with review questions and/or exercises that enable students and instructors to assess how well they have achieved the learning objectives. Weak spots can be identified for further review.
- **Include self-directed practice exercises.** Each lesson should end with practice exercises that students can do on their own. These give further reinforcement of skills and concepts in the lesson, and offer more challenging problems for advanced or highly motivated students.

Content

The more difficult a subject is, the more important it becomes for training materials to be clear and easy to follow. High-quality training materials should:

- **Be written in clear language.** Even the most technical concepts and skills can be explained in simple terms and easy-to-follow steps. To evaluate this aspect of training materials, simply read through samples from each training provider. Ask yourself: Do I understand what the text is saying? Is the course material organized in a logical sequence? Does it give simple examples and analogies to illustrate abstract concepts?
- **Make ample use of visuals.** People remember what they see more easily than what they read – and they remember *most* easily what they both see *and* read. Well-designed training materials enhance student understanding of concepts and processes with frequent diagrams and "screen shots."
- **Use consistent "signposts."** Signposts are design elements that indicate the presence of a specific kind of content. A signpost can be an icon that signals a tip, a box that signals extra information, or a heading that signals a hands-on practice exercise. Properly used, signposts make training materials easier to follow and are a tremendous aid to learning.
- **Be flexible enough to handle the needs of different students.** Different students often start the same course with widely different levels of skill. Training materials should either be structured so that students can skip parts they don't need, or they should be designed to be customized for each student.

The training provider

The next step is to look at the training provider. Good instructional materials don't help much if they can't be delivered in the format you require, or if the training provider is unresponsive to your concerns. A good training provider should:

- **Be established in the computer-training industry.** Brand-new, startup companies can often have good ideas, but have little industry experience and are sometimes undercapitalized. As a result, they can be erratic in the quality of the training they deliver.
- **Be responsive to customer needs.** A good training provider listens to its customers and helps solve their training problems. Do workbooks need to be delivered on a certain date? Does a course need to be changed or customized in a certain way for a special situation? Can a last-minute order be processed immediately? A good training company consistently satisfies these customer needs. When you talk to a training provider's customer references, ask about the provider's responsiveness to customer needs.
- **Use qualified instructional designers and content experts.** A good training provider works with instructional designers and content experts to create its training materials. Course designers should be familiar with the principles and practice of instructional design. Content experts should be experienced in their fields and should also be expert communicators.
- **Offer training in both instructor-led and Web-based formats.** Depending on the situation, an organization might prefer either instructor-led classroom training or cost-effective Web-based training. Instructor-led training is often a better alternative for teaching highly complex material in a short time, though studies have shown that in general, both methods work equally well. The U.S. Coast Guard, in one study, concluded that computer- or Web-based training "is equivalent in training effectiveness to the instructor-led resident version of the same course, delivered at the duty station."[3]

Following this step-by-step process to evaluate training materials and the companies that provide them will help you select the training you need for your organization.

Footnotes

1. See, for example, *Developing Technical Training* by Ruth Colvin Clark, Ph.D. Performance Technology Press, 1994; and *Evaluating Training Programs: The Four Levels* by Donald L. Kirkpatrick; Berrett-Koehler Publishers, 1998.
2. Learning researchers have found that the most effective training materials lead students in the three "learning domains:" cognitive (conceptual and intellectual understanding), affective (attitudes and emotions), and psychomotor (physical actions). For a discussion of learning domains, see *Taxonomy of Educational Objectives,* Vol. 1 (1956) and Vol. 2 (1964), published by Longman, Inc.
3. *Training Technologies Pilot Study: Nonresident Computer-Based Training Effectiveness Evaluation,* a study conducted by Paradigm Associates for the U.S. Coast

Guard Research & Development Center. National Technical Information Service, 1998.