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Computer-Based Materials Design,  
Screen Design, Graphics

# A Common-Sense Checklist for CBT

BY HELENE JEIVEN

*This useful job aid presents guidelines for designing computer-based training that is standardized, yet powerful.*

Imagine that you have been asked to design a single computer-based training course that will be used as part of a training curriculum. Each course in the curriculum is designed by a different developer. And managers have complained for years that the courses look different.

"Every course designer receives strict guidelines for instructional design," they point out. "So why is there so much variety in the look and feel of the different courses?"

If yours is like many other organizations, the reason is a lack of written standards for screen design. Each developer is left to his or her own devices to create an attractive and effective presentation. And it can be difficult for instructional developers to find useful, hands-on guidelines for actually designing the screens for CBT programs.

The following common-sense job aid for designing CBT screens fills the gap. It presents useful guidelines in a simple but comprehensive format. They cover the elements that are essential to course organization, as well as standards for screen composition and suggestions for giving feedback to users.

## Course organization

Each course should include the following elements. Check off each

item on the list as you address it:

- course title screen
- welcoming screen
- course menu that uses numbers or letters
- directions on how to use the CBT system, how to sign off, and how to return
- course objectives
- course prerequisites
- the duration of the course
- references to supporting materials such as workbooks or user's guides
- an "escape" option to help the user exit from any screen or return to a screen
- completion status of each topic
- backward paging to give more control over the learning process
- an introductory screen containing the topic name, a brief description of the content, and a sentence or two of transition or orientation that links it to what has preceded it and what will follow it
- a list of objectives
- summary screens.

In addition, course developers should keep the following points in mind. Again, check off each item on the list as you make sure you have addressed it:

- No unit should be longer than 20 or 30 minutes. Consider using menus and submenus to divide long topics.
- Avoid timed displays, even those

that are timed to display for more than a few seconds. (The only exception is a timed display that builds a final image that remains on the screen until the student presses a key to move on.)

Timed displays are a problem for several reasons. For instance, students who turn away from the computer for even a few seconds may miss critical information; timed displays take control away from the learner. Also, they may distract slow readers by throwing new information onto the screen in different places. And they can frustrate faster readers who prefer to move at their own, speedier, rates.

## Screen composition

Each course should contain the following screen elements:

- unit or subunit identification—on the first screen of each unit or subunit
- a screen header and footer area, containing unit and screen numbers
- consistent fonts, type sizes, punctuation, and placement
- blank space at the top, bottom, and side margins to avoid clutter
- one main idea per screen
- bulleted lists of ideas
- paragraphs of no more than six to eight lines, if possible
- single spacing within paragraphs,

and double spacing between the paragraphs

- no indents for paragraphs, except with bullets
- boxes containing instructional information, of the same size and in a consistent location on the screen
- typing directions in the boxes
- all-capital letters used only for warnings or hints.

### Text placement and wording

Keep in mind the following guidelines for placing words on your screens:

- Focus attention on one idea at a time—even if you have to delete text that is not pertinent to the instruction.
- Position the instructional window at roughly the same place on each screen; keep the horizontal size of the window standard.

Begin the text one space in from the upper left side of the box.

Line up the decimal points of numbers on data-entry screens.

Left-justify data entries.

Always place navigational icons (for example, an icon for the “enter” key) in the same spot in each instructional window.

Keep sentence length short (a fourth- to sixth-grade reading level is most effective for a general audience). Use one- and two-syllable words.

Omit any words that do not clarify meaning, provide useful transition, or create interest.

Use the second person (you), and do not personify the computer with such statements as “Press ‘enter’ and I will begin.”

Be cautious with humor—less is better, because humor is easy to misunderstand.

Be consistent in your use of command syntax. For example, say you use “exit” in one place to mean a return to a main menu or a DOS prompt. Don’t then use “exit” on another screen to mean a return to a previous screen. The same holds true for function keys.

### Highlighting, graphics, and color

Check off the following items as you address each in the design of your CBT screens:

Use consistent colors to emphasize, for example, text to read, keys to press, or words to type.

Highlight the letter corresponding to a menu or an answer choice.

Do not highlight bullets. Highlighting them can draw attention away from the text.

Do not use blinking in text or graphics.

Tie graphics to content immediately; graphics should not be linked to a concept discussed five screens back.

Use graphics sparingly; too many graphics can distract learners.

Use color consistently throughout the course.

Apply colors to reflect accurately real-life symbols and systems. (For example, red might mean “error.”)

Limit colors to three or four per screen.

Don’t use color combinations that color-blind people can’t see. Such combinations include blue and

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## The You They See.

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green, as well as red and green.

Use no more than two or three colors in the instructional window, and six or seven colors if the screens are simulations.

Establish standards; for example, research shows that a black background with off-white lettering for instructional windows, and a blue background with off-white lettering for captured screens, are the most effective combinations.

Avoid color combinations that pair two light colors, or two colors with high intensities (such as blue and red).

### Feedback

The following guidelines address the feedback a CBT program provides to users as they make choices:

Use neutral, nonjudgmental words such as "That was incorrect."

Begin a hint with the word "HINT" in capital letters.

Highlight and vary the "That was correct" phrase, which begins feedback on correct answers.

Set the number of tries users are allowed on each question, to match the difficulty of the question.

Make the feedback format consistent in location, use of numbers or letters, upper- and lowercase letters, punctuation, and so forth.

Use praise sparingly.

After indicating that an answer is wrong, explain why and give the correct answer.

After indicating that an answer is correct, reinforce the idea by restating it in slightly different words.

### Slaying the dragon

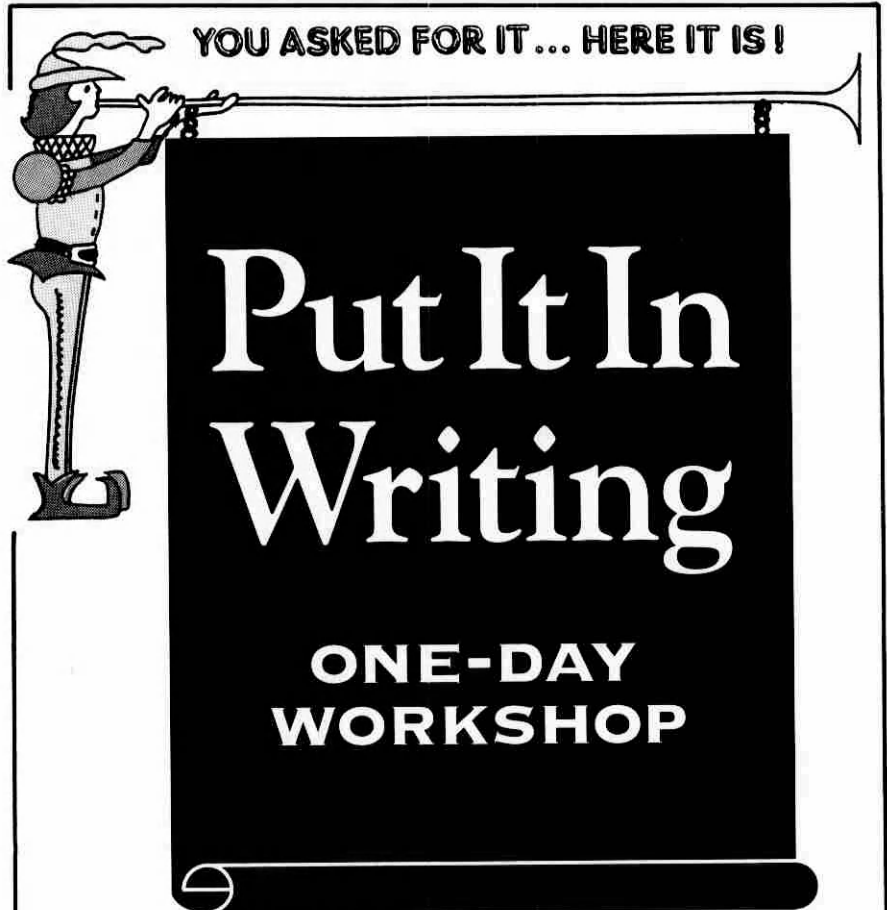
You can slay the dragon of hit-or-miss design for CBT screens. The common-sense checklist is one powerful weapon.

You may have heard all the above guidelines before at conferences and train-the-trainer forums. You might think it unnecessary to put such tried-and-true guidelines into a job-aid format. But trainers often create job aids to help other people perform work. Why shouldn't we design one to help ourselves create consistent CBT courses? With its quick, easy-to-use format, the checklist can help developers create courses that are standardized, yet powerful. And that's worth checking out. ■

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*The author welcomes readers to use the job aid presented in this article and then to contact her with information about how the checklist works for them.*

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