

# THE CBT CRAFTSMAN

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## On CBT And Creativity

Don't ever settle for what your development tools allow you to do, says the subject of this month's column, Paul Russell.

### Jesse M. Heines

I've highlighted the work of exceptional CBT developers in this column in the past. These have always been people with many years of experience under their belts and outstanding courseware to their credit, but this month I'd like to turn the focus of this column on a young man named Paul Russell. Paul is a young developer who has yet to turn out his first complete course, but I find the depth and clarity of his insight into the medium remarkably impressive. Paul is also a quadriplegic, and when you consider the extensive handicap that he works with, I think you'll agree with me that the only term to aptly describe his achievements is "inspiring."

*Scene: The back room of a suburban home in Kendall Park, New Jersey. The walls are plain, but windows line the en-*

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*tire top half of the far wall, making the room cheerful and bright. Personal items are scattered on top of half-height bookcases positioned below the windows. The right wall is completely obscured by full-height bookcases, which, like the smaller ones, are filled to capacity with volumes on theology, literature, and computer programming. A stuffed chair takes up considerable space in the small room, and it, too, is piled high with books and other reading materials. A remote control TV and VCR sit on shelves mounted on the near wall. A personal computer and its accouterments sit on a cart near the center of the room.*

*An adjustable, hospital-style bed is positioned against the left wall with its head under the windows. The bed fills almost one-third of the room. Paul Russell is seated in the bed. He is a vibrant man of about 30, with flashing eyes and a warm smile.*

*(Note: The dialogue that follows is not a transcript. It was reconstructed and paraphrased from notes that I took during the conversation.)*

—Jesse M. Heines.

**Paul Russell:** The problem, Jesse, is to convert what the subject matter experts—SMEs—want to teach into a program that presents that material effectively and efficiently. As I listen to these people describe what they want to get across, I visualize blocks and graphics and sequences of dynamic screens that will convey "the big picture" as well as the essential details. When I go to design the screens, however, I find myself settling for the presentation strategies offered by the authoring system rather than selecting the presentation strategies that I conceived in my design. It's a frustrating job when you don't have the right tools.

**Jesse Heines:** But you told me earlier that you're not a "programmer," and that you've been developing courseware for less than a year. Don't you find that your authoring system's ease of use makes up for any constraints it puts on your program design?

**PR:** Not completely, because you pay dearly for ease of use. I see that now more than ever. The authoring system takes away my power as an instructional designer. It limits my ability to do my job. It's the SME's message, but it's my instructional design, and that design is very personal. It's a concept in my mind. If I let the available

software and hardware "filler" that concept while I'm trying to develop it, it will be severely limited. An authoring system should provide the means by which creative instructional designs can be expressed, not a sieve through which such designs must be filtered.

**JH:** That would certainly be nice, but it sounds a bit beyond the current state of the authoring system art.

**PR:** Perhaps. As long as we non-programmers have to work with these tools, however, we can at least try to get every inch out of them. I'd like to show you a little bit of what I mean, but I'll need your help.

**JH:** Sure. What can I do?

**PR:** Wheel the machine over here and turn it on. Now place the keyboard here on the pillow in front of me and put that typing stylus in my mouth. I won't set any typing speed records with this setup, Jesse, but you'll get the idea.

**JH:** Did you use an authoring system to develop this courseware?

**PR:** Yes. The only real problem was that some of the authoring system functions require two keys to be pressed simultaneously, like 'Ctrl/B' to back up. I can't press two keys at the same time. Since I couldn't modify the system, I had the keyboard modified. The 'Ctrl' key on this keyboard "sticks," so that pressing 'Ctrl' and then a second key works as if the two were pressed simultaneously. Other than that, I just take my time!

*(Paul went on to demonstrate numerous screen layout and interaction strategies he had designed. His lesson was basically a hierarchy of menus from which users selected topics to be explained at successive levels of detail. Paul had designed menus in a wide variety of formats, from the traditional vertical list of topics to simple text-mode diagrams that functioned as icons. He employed techniques such as color and screen position to provide continuity from one screen to the next, yet he varied these creatively as the user moved from one major topic area to another.)*

*A stroll through Paul's work left me pensive about how he had used an extremely high degree of creativity to get the most out of a particularly restrictive authoring system. I regret that we can neither mention the authoring system he used nor reproduce any of Paul's screens here, but we*

*weren't able to obtain the requisite permissions.)*

**JH:** Paul, do you think it's possible for multiple developers to work on a single course and still allow the level of creativity that you've demonstrated?

**PR:** Yes, because creativity does not imply a lack of structure. Even the most artistic endeavors follow basic conventions; balance, color blends, and the use of light, for example. What we need are standards. Your book on screen design "flirts" with standards, Jesse—particularly the chapter on functional areas. But we need a stronger base line. People are still at the brink, wondering whether CBT is a legitimate field or a passing fancy. Industry standards and conventions would help establish CBT and promote better courseware.

**JH:** Do you mean that there should be one set of standards for everyone?

**PR:** No, I see different standards for different companies. The real problem is not in establishing whether the standard text color should be white or green or blue, but in establishing the learning theory on which the instruction should be based. You know, one of my biggest objections to the term "computer-based training" is that it emphasizes "training," which is the delivery of instruction. I much prefer the term used by the British, "computer-assisted learning," which emphasizes "learning," the result of instruction.

**JH:** How would you sum up your overall view of CBT?

**PR:** CBT is an art form with its own integrity as a form of expression. Designers must see beyond the limits of their current tools so that they can capture the essence of the message they want to convey through the computer medium. If I were to ask you the color of a bush, for example, you would probably say green. If you were to try to render an image of a bush on a computer screen, however, you would very likely use yellow and red as well as green to give the bush some body and depth.

While we don't want to box in the art of CBT with a strict set of rules, we must establish screen and lesson design standards that are based on relevant learning theories. Only after such standards have been established can we hope to see CBT move from being a stepchild of the training department to a full partner in the effort to help our students learn. □