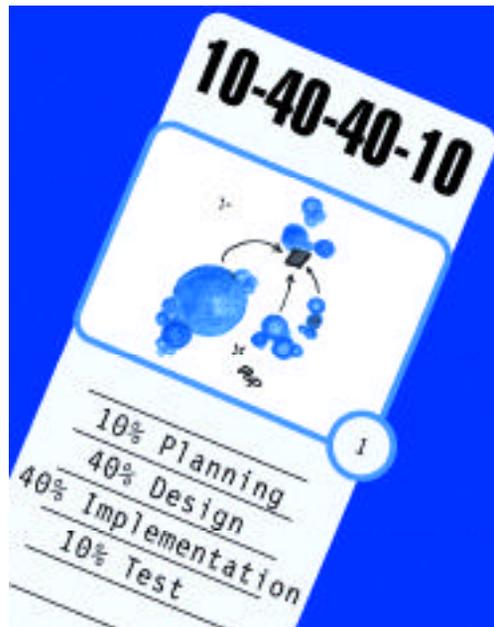


How do you explain difficult concepts to students? By drawing pictures? By drawing on analogies and metaphors? By acting out scenarios? These are all methods that enhance the student's classroom experience, but what about distance learning? Animation can combine these methods and help teach concepts that are difficult to describe in words and still images alone. And it can work well for students in a classroom or online.

Our team creates short animation pieces that visualize technical concepts. Education psychology research shows that students learn and retrieve information best when they can construct more than one pathway in their memory. Stimulating multiple senses when teaching new concepts helps the student create these pathways. Recall is enhanced when information is presented in both visual and verbal form. Animation combines visual symbols with an auditory narration. Students may also perceive animation as a motivator to learn challenging new concepts.

We follow a written process to work through an entire animation project. We call it the "10-40-40-10" process because its steps are 10 percent planning, 40 percent design, 40 percent implementation, and 10 percent test. First, we determine if a project is a good candidate for animation. Next, we plan the project by analyzing the audience, outlining the content, and identifying technology constraints. After the plan is approved, we write scripts and design the animation by drawing storyboards. With designs in hand, we implement the animation. We review the animation as we work on it, and make adjustments as necessary.

Finally, we deliver the animation to the audience, either on the Web, or as part of a CD-ROM multimedia presentation. Animation takes time to develop, but we have found it to be well worth the effort. People who have viewed our animations tell us they enjoy them and gain a better understanding of the concepts we are presenting. Multimedia tools are now more available and easier to use, making it possible for anyone to enhance students' learning with simple animation.



*IBM uses animation to illustrate concepts that are difficult to describe in words and still images. We follow the "10-40-40-10" process to plan, design, implement, and test animated presentations.*