Evidence-Based Training

PINPOINT

Those of us in workforce learning are better positioned to embrace evidence-based practice than our colleagues in public education.

Ruth Colvin Clark

Workforce Learning

Outside of schools and colleges, there's been a lot of research on what works best in workforce learning.

Much of it is new to schools and colleges. All of it is relevant. It powerfully adds to the research on CPD in education.

Combat Fads

Myth 1: Learning Styles
Identifying and teaching to learning styles doesn't improve learning.

Myth 2: Media Panaceas
There are no technical solutions that ensure learning happens.

Myth 3: Liking It
Course evaluations are no indicators of learning.

Myth 4: Stories and Games
Fun and interest neither ensure nor indicate that learning occurs.

Work With Memory

The biggest barrier to learning is cognitive overload — having too much to take in. A major cause of this is called Split Attention where learners have to look at two separate pieces of information at the same time. A general strategy is to get students to process material in order to make sense of it.

Make It Personal

Learners working at their own, personal pace is a good solution to overload. Exploiting natural sociability through cooperative learning helps makes abstract ideas personal because they are explained in student language.

> *When learning something new, we are all visual learners.*
>
> Ruth Colvin Clark

> *Our lack of visual skills as well as time and resource constraints have left our learning landscapes devoid of graphics.*
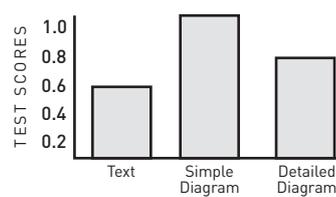>
> Ruth Colvin Clark

> *Be skeptical about claims for the universal effectiveness of any instructional technique.*
>
> Ruth Colvin Clark

Picture Superiority Effect

Butcher, K. R. (2006) Learning from text with diagrams: Promoting mental models development and inference generation. Journal of Educational Psychology 98 (1): 182-97

Simple v Complex Visuals
The simpler the better, as seen above in the chart.

Split Attention
Annotated visuals work best. But the text needs to be as close to the image as possible, or the viewer has to switch attention.

Perception of Difficulty
Numerous studies have shown that students perceive all-text material as being more difficult than material that includes images.

Decorative v Explanatory Visuals
Clip art that merely decorates can depress learning. However visuals that relate directly to the material elevates learning.

Still images v Video
Video, or animation, overloads the mind. Better to use still images with the background clutter cut out. Technically this is termed a better *Signal to Noise Ratio*: more messages, less distractions.

Text v Visuals

Allan Paivio's 1971 dual-coding theory has been validated by research. It says that memory exists either verbally or visually. Or both. Concrete concepts made visual are encoded in both verbal and visual memory systems. Abstract concepts are only recorded verbally.

Content Covered ≠ Learning

Content covered is not content learned.Presenting material to students does not in any way equate to their processing and learning it. Even if learners are asked if they have any questions and don't raise their hands, this too is no indication of understanding.

Too Much

Attempting to *jazz up* lessons with factoids, clip art or stories not only does not aid learning, it actually depress it. Music is just as bad —whatever learners may claim. As to teacher explanations, the leaner the better. Extra material simply overloads processing power.

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