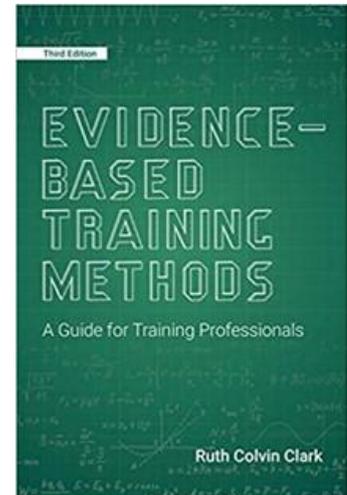


## “Evidence-based Training Methods”

***How best should you conduct training and e-learning? This review, one of a series on the Questionmark site by Questionmark founder, John Kleeman, looks at the book “Evidence-based training methods” by Ruth Colvin Clark.***

I've heard good things about this book, but before now, had not made time to read. With a new edition out in 2020 and some quiet time over the holiday period, I've had a chance to read it and here is my review. Heads up – it's a fantastic book and well worth reading and keeping at hand on your shelves!



### Challenges the book deals with

There is a famous quote suggesting “Half the money I spend on advertising is wasted; the trouble is I don't know which half.” Arguably a similar thing might apply to training. In the US, over \$80 billion is spent on training and worldwide much more.

But much training is put together based on how it's always been done or how much trainees like it or based on myths of why training works.

This book looks at the scientific research about what kinds of training are effective to get someone to improve skills or performance. It then gives guidance to apply that research for corporate trainers and other training stakeholders to improve practice. The aim of the book is to provide evidence for effective training techniques and to explain those techniques so that they are actionable for trainers.

### What the book covers

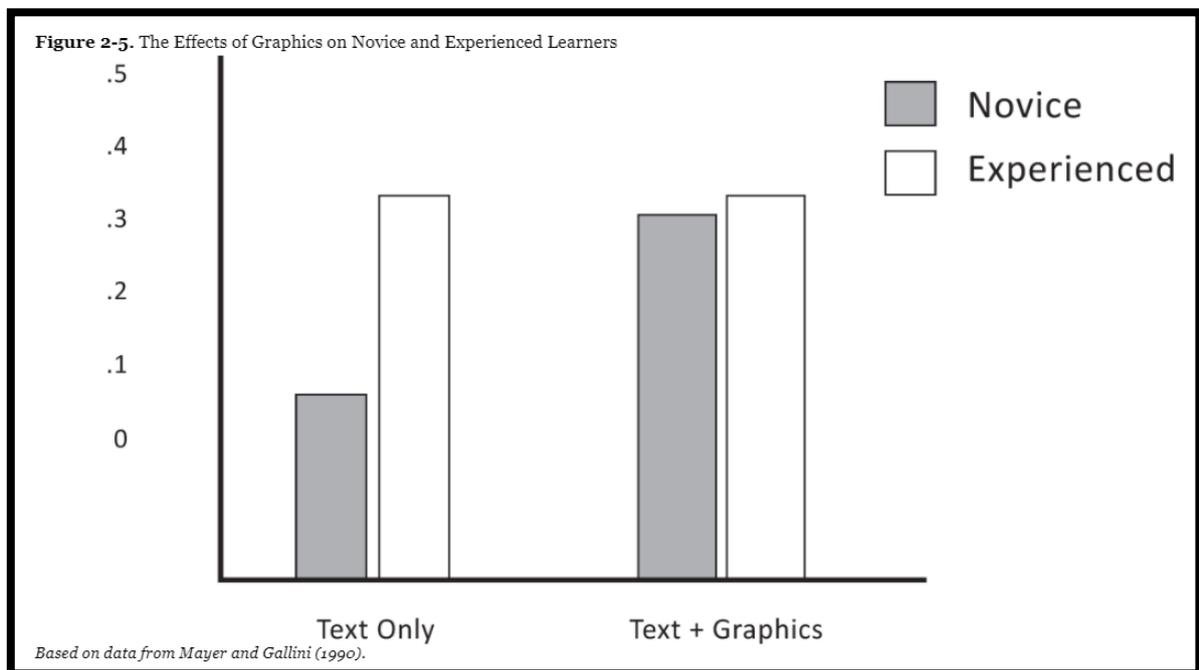
The first edition of the book was published in 2010, then a second edition in 2014 and this third edition in 2020. The latest edition takes account of the significant new research produced in the last few years.

The book is over 400 pages and covers subjects such as:

- How to reduce cognitive load in training
- When to use graphics, audio and text in training
- How to make effective animations
- When to use exercises and practice
- Whether digital games and virtual reality are effective in training
- How questions help in the learning process
- How to use social presence to improve learning
- Good practices for explanations
- What the best kind of feedback is

The general style is to present a concept, often with a question asking what you think the evidence will show, then to present the actual research evidence, some discussion and then a recommendation. It's all very readable and doesn't require maths or science knowledge, but at 400 pages, there is quite a lot of material – it's a powerful read, but not a light one. There are, however, lots of good graphics and other visual explanations.

Here, for example, is a chart from the book showing that experienced learners can learn about as well from text-only as text and graphics but that novice learners greatly benefit from graphics:



Here are three example pieces of guidance from the book:

1. If you are using a graphic to explain a concept, it's usually better to use a simple one. For example, use a line diagram not a real-world photograph. Complex visuals can add extra cognitive load which makes it harder for the learner to grasp the concept.
2. When presenting a subject that trainees might consider dull, it is tempting to include interesting stories which are related to the topic but don't directly fit the learning objective. However, research has shown this reduces learning. Trainees might enjoy such facts or stories, and think that the training is better because of them, but in actuality they reduce the effectiveness of the training.
3. Does practice make perfect? The book shows evidence that in many cases worked examples can be more effective than practice exercises. Learning is improved if learners read through and engage with worked examples rather than doing it themselves. This may be because there is less cognitive load in looking at an example, so one can learn better. However, it is key that learners engage with the worked examples, and questions or self-explanations can be useful to encourage this.

## How the book might help

This will be an extremely valuable book for anyone who is involved in training. It's not that you can read it and immediately become a better trainer, but that there are lots of evidence-based techniques and suggestions in here which if you follow will improve the effectiveness of your training.

I am not a trainer, but I do create and run occasional webinars which have a training aspect. I am going to keep this book at hand for the next time I design a webinar.

Learning science is still evolving, but this is an excellent primer for how to use it to create better training.

I have studied, learned and written about evidence-based learning over many years, but I still learned a great deal from reading this book.

When people ask me about evidence for learning, I usually point them to [Will Thalheimer's work](#) or the [Dunlosky psychology science paper](#). Ruth Colvin Clark's book is a third resource and can be powerfully useful reading for anyone in learning or training.