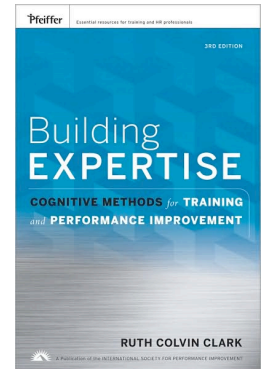


Building Expertise by Ruth Colvin Clark: A Book Summary by John Krigger and Chris Dorsi

This book offers one of the best summaries of human learning that we've read. It's based on educational research by prominent instructional researchers, referencing relevant experience from the classroom, training lab, and field. It addresses the most basic and unchangeable aspects of human cognition and learning, and offers specific advice for integrating this information into curriculum development and classroom management. We recommend this book highly for both curriculum developers and technical trainers in the field of home performance.



Guidelines for Introducing Lessons

1. **Make relevance obvious:** Make the application of new knowledge and skills obvious from the start.
2. **Activate relevant prior knowledge:** Use advance organizers, pre-questions, and previews to help bring relevant knowledge into working memory.
3. **Present learning objectives:** Provide a clear statement of expected outcomes from a lesson.

Guidelines for Presenting Content

1. **Optimize mental capacity:** Control the physical environment, minimize fatigue, and promote accountability for learning.
2. **Use pre-training to organize content:** Teach relevant general concepts prior to teaching process stages or task steps.
3. **Minimize note-taking:** Provide learners with notes because note-taking diverts attention and wastes valuable learning time.
4. **Build situational interest:** Write and speak with well organized, concrete, but conversational language that engages learners.
5. **Signal attention:** Call out the most important and relevant aspects of a lesson.
6. **Include worked examples:** Provide demonstrations to illustrate task performance.
7. **Include analogies:** Model features or functions of new content with illustrations of content from a different domain.

Guidelines for Managing Practice Exercises

1. **Support deliberate practice:** Assign tasks just beyond the performers current competence level, focusing on gaps in their knowledge and skills.
2. **Manage cognitive load:** Avoid physical activities that add extra cognitive load that interferes with productive mental processing and learning.
3. **Use problem-centered exercises:** Center learning around job-relevant problems.
4. **Distribute practice throughout:** Space exercises throughout a course rather than gathering exercises in a few places.
5. **Offer explanatory feedback:** Inform learners about the correctness of their responses and also reasons behind the correct or incorrect response.
6. **Build automaticity:** Use drill and practice when fast error-free performance is required.
7. **Use operational simulations:** Provide step-by-step simulations for near-transfer tasks that are impractical to practice on the job.
8. **Use conceptual simulations:** Provide simulations that model real-world systems or processes.
9. **Use discussion questions:** Ask learners to explain what they're doing during exercises.
10. **Provide a means of self-diagnostics:** Offer learners opportunities to evaluate their learning throughout the training event.

Guidelines for Developing Curricula

1. Illustrated slides perform about twice as effectively as animations.
2. Field training often overloads working memory with extraneous actions and content.
3. The combination of a graphic and text surrounding it pointing at various elements of the graphic is a highly effective teaching method.
4. Graphics plus narration is a highly effective teaching method.
5. Avoid using tangential graphics and stories because they distract and create unproductive cognitive load.
6. Use signaling to outline content, signal transitions, and highlight main ideas.
7. Break down complex tasks into smaller units for practice.
8. Remember that practice exercises are subject to diminishing returns.