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Autore	Clark Ruth Colvin
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Near Corresponding Graphics. Contiguity Principle 2: Synchronize Spoken Words with Corresponding Graphics. Psychological Reasons for the Contiguity Principle. Evidence for Presenting Printed Words Near Corresponding Graphics. Evidence for Presenting Spoken Words at the Same Time as Corresponding Graphics. What We Don't Know About Contiguity. 6. Applying the Modality Principle: Present Words as Audio Narration Rather Than On-Screen Text. Modality Principle: Present Words as Speech Rather Than On-Screen Text. Limitations to the Modality Principle. Psychological Reasons for the Modality Principle. Evidence for Using Spoken Rather Than Printed Text. When the Modality Principle Applies. What We Don't Know About Modality. 7. Applying the Redundancy Principle: Explain Visuals with Words in Audio OR Text: Not Both. Redundancy Principle 1: Do Not Add On-Screen Text to Narrated Graphics. Psychological Reasons for the Redundancy Principle. Evidence for Omitting Redundant On-Screen Text. Redundancy Principle 2: Consider Adding On-Screen Text to Narration in Special Situations. Psychological Reasons for Exceptions to the Redundancy Principle. Evidence for Including Redundant On-Screen Text. What We Don't Know About Redundancy. 8. Applying the Coherence Principle: Adding Material Can Hurt Learning. Coherence Principle 1: Avoid e-Lessons with Extraneous Audio. Psychological Reasons to Avoid Extraneous Audio in e-Learning. Evidence for Omitting Extraneous Audio. Coherence Principle 2: Avoid e-Lessons with Extraneous Graphics. Psychological Reasons to Avoid Extraneous Graphics in e-Learning. Evidence for Omitting Extraneous Graphics Added for Interest. Evidence for Using Simpler Visuals. Coherence Principle 3: Avoid e-Lessons with Extraneous Words. Psychological Reasons to Avoid Extraneous Words in e-Learning. Evidence for Omitting Extraneous Words Added for Interest. Evidence for Omitting Extraneous Words Added to Expand on Key Ideas. Evidence for Omitting Extraneous Words Added for Technical Depth. What We Don't Know About Coherence. 9. Applying the Personalization Principle: Use Conversational Style and Virtual Coaches. Personalization Principle 1: Use Conversational Rather Than Formal Style. Psychological Reasons for the Personalization Principle. Evidence for Using Conversational Style. Promote Personalization Through Voice Quality. Promote Personalization Through Polite Speech. Personalization Principle 2: Use Effective On-Screen Coaches to Promote Learning. Personalization Principle 3: Make the Author Visible to Promote Learning. Psychological Reasons for Using a Visible Author. Evidence for the Visible Author. What We Don't Know About Personalization. 10. Applying the Segmenting and Pretraining Principles: Managing Complexity by Breaking a Lesson into Parts. Segmenting Principle: Break a Continuous Lesson into Bite-Size Segments. Psychological Reasons for the Segmenting Principle. Evidence for Breaking a Continuous Lesson into Bite-Size Segments. Pretraining Principle: Ensure That Learners Know the Names and Characteristics of Key Concepts. Psychological Reasons for the Pretraining Principle. Evidence for Providing Pretraining in Key Concepts. What We Don't Know About Segmenting and Pretraining. 11. Leveraging Examples in e-Learning. What Are Worked Examples? The Psychology of Worked Examples. Evidence for the Benefits of Worked Examples. Worked Example Principle 1: Fade from Worked Examples to Problems. Worked Example Principle 2: Promote Self-Explanations. Worked Example Principle 3: Include Instructional Explanations of Worked Examples in Some Situations. Worked Example Principle 4: Apply the Multimedia Principles to Your Worked Examples. Worked Example Principle 5: Support Learning Transfer. Design Guidelines for Far Transfer Examples. What We Don't Know About Worked Examples. 12. Does Practice Make Perfect? What Is Practice in e-Learning? The Paradox of Practice. Practice

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## Sommario/riassunto

"Thoroughly revised and updated, this third edition of the best-selling book offers a comprehensive review of multimedia learning for both users and designers. The book contains design principles that are written to increase learning while debunking many popular theories about good design. The book also contains the most current research and includes new topics (e-learning for educators, new delivery technologies, social media, and more) and offers helpful guidelines. The book's many examples: create working multimedia that inform the research guidelines; have been update to include real-world screen captures; extend principles to illustrate their application to synchronous e-learning tools"--

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Sommario/riassunto	"An electronic journal dealing with the interactions between the lithosphere, atmosphere, and biosphere in the context of global issues or global change."