
Handbook of Applied Cognition

Edited by

Francis T. Durso

University of Oklahoma, USA

Associate Editors

Raymond S. Nickerson

Tufts University, USA

Roger W. Schvaneveldt

New Mexico State University, Las Cruces, USA

Susan T. Dumais

Microsoft Corporation, USA

D. Stephen Lindsay

University of Victoria, Canada

Micheline T.H. Chi

University of Pittsburgh, USA

Technische Universität Darmstadt
Fachbereich 3
Institut für Psychologie
Steubenplatz 12, 64293 Darmstadt

Inv. Nr. 9/100.805

JOHN WILEY & SONS

Chichester • New York • Weinheim • Brisbane • Singapore • Toronto

1.1.2
DUR
1

Contents

About the Editors		ix
Contributors		xi
Reviewers		xvii
Preface		xix
SECTION 1	OVERVIEWS	1
Chapter 1	Applying Cognitive Psychology: Bridging the Gulf Between Basic Research and Cognitive Artifacts <i>Douglas J. Gillan & Roger W. Schvaneveldt</i>	3
Chapter 2	Applications of Attention Research <i>Wendy A. Rogers, Gabriel K. Rousseau & Arthur D. Fisk</i>	33
Chapter 3	Knowledge and Expertise <i>Neil Charness & Richard S. Schultetus</i>	57
Chapter 4	Memory Applied <i>David G. Payne, Celia M. Klin, James M. Lampinen, Jeffrey S. Neuschatz & D. Stephen Lindsay</i>	83
Chapter 5	Context, Process, and Experience: Research on Applied Judgment and Decision Making <i>Clarence C. Rohrbaugh & James Shanteau</i>	115
Chapter 6	Perspectives on Human Error: Hindsight Biases and Local Rationality <i>David D. Woods & Richard I. Cook</i>	141
Chapter 7	Applications of Social Cognition: Attitudes as Cognitive Structures <i>Leandre R. Fabrigar, Steven M. Smith & Laura A. Brannon</i>	173

SECTION 2	BUSINESS AND INDUSTRY	207
Chapter 8	The Cognitive Psychology and Cognitive Engineering of Industrial Systems <i>Neville Moray</i>	209
Chapter 9	Cognitive Factors in Aviation <i>Christopher D. Wickens</i>	247
Chapter 10	Situation Awareness <i>Francis T. Durso & Scott D. Gronlund</i>	283
Chapter 11	Business Management <i>Stephen W. Gilliland & David V. Day</i>	315
Chapter 12	Applied Cognition in Consumer Research <i>Joseph W. Alba & J. Wesley Hutchinson</i>	343
SECTION 3	COMPUTERS AND TECHNOLOGY	375
Chapter 13	Devices that Remind <i>Douglas Herrmann, Brad Brubaker, Carol Yoder, Virgil Sheets & Adrian Tio</i>	377
Chapter 14	Computer Supported Cooperative Work <i>Judith S. Olson & Gary M. Olson</i>	409
Chapter 15	Cognitive Engineering Models and Cognitive Architectures in Human-Computer Interaction <i>Peter Pirolli</i>	443
Chapter 16	Knowledge Elicitation <i>Nancy J. Cooke</i>	479
SECTION 4	INFORMATION AND INSTRUCTION	511
Chapter 17	Statistical Graphs and Maps <i>Stephan Lewandowsky & John T. Behrens</i>	513
Chapter 18	Instructional Technology <i>Richard E. Mayer</i>	551
Chapter 19	Cognition and Instruction <i>Martin J. Dennis & Robert J. Sternberg</i>	571
Chapter 20	Design Principles for Instruction in Content Domains: Lessons from Research on Expertise and Learning <i>Susan R. Goldman, Anthony J. Petrosino & Cognition and Technology Group at Vanderbilt</i>	595
Chapter 21	Cognitive Psychology Applied to Testing <i>Susan E. Embretson</i>	629

SECTION 5	HEALTH AND LAW	661
Chapter 22	Medical Cognition <i>Vimla L. Patel, Jose F. Arocha & David R. Kaufman</i>	663
Chapter 23	Designing Healthcare Advice for the Public <i>Patricia Wright</i>	695
Chapter 24	Cognitive Contributions to Mental Illness and Mental Health <i>Catherine Panzarella, Lauren B. Alloy, Lyn Y. Abramson & Karen Klein</i>	725
Chapter 25	The Natural Environment: Dealing with the Threat of Detrimental Change <i>Raymond S. Nickerson</i>	757
Chapter 26	Eyewitness Testimony <i>Daniel B. Wright & Graham M. Davies</i>	789
Chapter 27	Perspectives on Jury Decision-making: Cases with Pretrial Publicity and Cases Based on Eyewitness Identifications <i>Jennifer L. Devenport, Christina A. Studebaker & Steven D. Penrod</i>	819
Author Index		847
Subject Index		870