Contents

List of Figures \hspace{1cm} page ix
List of Tables \hspace{1cm} x
List of Contributors \hspace{1cm} xiii
Preface \hspace{1cm} xv

1. Introduction 
Michael J. Lawson & John R. Kirby

PART A DISPOSITIONS TOWARD QUALITY OF LEARNING

2. The Quality of Learning at University: Integrative Understanding and Distinctive Ways of Thinking
Noel Entwistle

3. Dispositions and the Quality of Learning
Augusto Riveros, Stephen P. Norris, Denyse V. Hayward, & Linda M. Phillips

4. Education for Rational Thought
Maggie E. Toplak, Richard F. West, & Keith E. Stanovich

5. Individual Differences That Affect the Quality of Learning in Doctoral Candidates
Robert H. Cantwell, Jill J. Scevak, Sid Bourke, & Allyson Holbrook

PART B INSTRUCTION THAT AFFECTS QUALITY OF LEARNING

6. Enhancing Learning through Constructive Alignment
John Biggs
Contents

7. Framing the Features of Good-Quality Knowledge for Teachers and Students
   Michael J. Lawson & Helen Askell-Williams
   137

8. Theory Building and the Pursuit of Understanding in History, Social Studies, and Literature
   Carl Bereiter & Marlene Scardamalia
   160

   Matthias Nückles, Sandra Hübner, & Alexander Renkl
   178

10. Promoting Learning Skills in Undergraduate Students
    Allyson Fiona Hadwin & Philip H. Winne
    201

11. Using Technology to Foster Meaningful Learning Environments
    Neil H. Schwartz & Richard F. Schmid
    228

PART C LEARNING PROCESSES AND MENTAL STRUCTURES THAT SUPPORT QUALITY OF LEARNING

12. Quality Learning from Texts We Read: What Does It take?
    Panayiota Kendeou & Gregory Trevors
    251

13. Learning with Multiple Documents: Component Skills and Their Acquisition
    M. Anne Britt & Jean-François Rouet
    276

14. Deeper Learning in Reading Comprehension
    John R. Kirby, Kate Cain, & Bozena White
    315

15. Knowledge Acquisition from Verbal and Pictorial Information
    Wolfgang Schnitz, Christiane Baadte, Amy Johnson, & Christoph Mengelkamp
    339

16. Future Directions
    John R. Kirby & Michael J. Lawson
    366

Author Index
    377

Subject Index
    392
## Figures

2.1. A teaching-learning environment in electronic engineering  

2.2. Interacting influences on ways of thinking and proactive, integrative understanding  

4.1. A framework for the assessment of rational thinking  

5.1. Within-candidate factors hypothesised to influence the quality of doctoral engagement  

5.2. Deviations from scale midpoints for whole cohort (all scales converted to 5-point metric)  

5.3. Mean scale scores for cluster groupings (standardised data)  

5.4. A model of epistemic metacognition  

7.1. Profile comparison using indicators of dimensions of knowledge quality  

7.2. Mean learning strategy use for the same students tracked across Years 7, 8, and 9  

9.1. Cyclical model of cognitive and metacognitive processes involved in self-regulated learning by writing  

9.2. Effects of informed prompting and presentation of a learning journal example on learning outcomes as measured by a comprehension test at the end of the transfer session  

10.1. Example strategy entry in Hadwin et al’s (2007) strategy library  

10.2. Planning and reflection note to prompt SRL cycles  

11.1. Subject acts on objects either directly or via mediating artifacts to produce outcomes  

13.1. Components of a documents model  

15.1. Integrative model of text and picture comprehension  

15.2. Example of a text-picture integration task referring to olive production in different European countries
Tables

4.1. Training, Education, Experience, and Knowledge Effects on the Components of Rational Thought  page 60
5.1. Examiner Ratings of Quality Indicators in Research Master’s and PhD Examination  96
5.2. Sample Scale Items from Instruments Used by Cantwell et al. (2012)  102
5.3. Factor Loadings for Principal Component Analysis of All Twenty Metacognitive Scales  106
6.1. Some Learning Verbs at Various SOLO Levels  127
6.2. Rubrics for the Verb ‘Explain’  130
7.1. Dimensions of Knowledge Quality  145
9.1. Experimental Design of the Study by Nückles et al. (2009)  185
9.2. Experimental Design of the Study by Hübner, Nückles, & Renkl (2010)  188
9.3. Extract of the Informed Prompting and Learning Journal Examples Introductions  189
9.4. Rationale of the Fading Procedure in Longitudinal Study 2  195
10.1. Sampling of Goal Quality and Percentage of Total Goals for Each Score  209
10.2. Examples of Goals Set by One Undergraduate Student Over a Thirteen-Week Academic Semester  210
10.3. Strategies Included in the Strategy Library Organized by Cognitive Purposes, Explanations of Why They Work, and Examples of Task Contexts When They Might Be Appropriate  215
11.1. National Educational Technology Standards for Students, Teachers, and Administrators  230
11.2. Specific Effect Sizes for Grade Levels Reported in the Different Meta-Analyses 240
11.3. Specific Effect Sizes for the Different Subject Matter Reported in the Different Meta-Analyses 241
13.1. Example Prompts (Controversies) Used for Student Reports in Multiple-Document Studies 277
13.2. Possible Document Node Features 286
13.3. Excerpts from Actual Science Museum Displays 288
13.4. Instructional Suggestions for Supports and Material Sets to Aid Students in Creating a Task Model and a Documents Model 296
14.1. Correlations between Detail, Main Idea, and Theme Composites and Other Variables 330
14.2. Summary of Hierarchical Regression Analyses Predicting Reading Comprehension Composites from Control Variables and Approaches to Learning 331