Contents

List of Figures x

List of Tables xi

Series Introduction xiii

PART 1 — Your English Language Learner *Tony Erben* 1

1.1 — Orientation 3

1.2 — The Process of English Language Learning and What to Expect 5
Principle 1: Give ELLs Many Opportunities to Read, to Write, to Listen to, and to Discuss Oral and Written English Texts Expressed in a Variety of Ways 6
Principle 2: Draw Attention to Patterns of English Language Structure 7
Principle 3: Give ELLs Classroom Time to Use their English Productively 8
Principle 4: Give ELLs Opportunities to Notice their Errors and to Correct their English 8
Principle 5: Construct Activities that Maximize Opportunities for ELLs to Interact with Others in English 10

1.3 — Deciding on the Best ESOL Program 13

1.4 — Teaching for English Language Development 18

1.5 — Not All ELLs are the Same 22
Stages of Cultural Adjustment 24
Cultural Practices at School 25

1.6 — Culturally Responsive Pedagogy 27

1.7 — Not All Parents are the Same: Home–School Communication 30
Ideas: On Fostering Access 31
Ideas: On Fostering Approachability 31
Ideas: On Achieving Good Follow-Through 32

1.8 — English Language Learners with Special Needs 33

PART 2 — What We Know From Research 37

2.1 — Principles of Science Teaching and Learning 39

2.2 — Science-Focused ESOL Research 42
Overview of Research on Science Instruction for ELLs from 1982–2005 42

2.3 — Supporting Communication in Content Instruction for ELLs 45

2.4 — Stages of Second Language Acquisition 47

2.5 — Adapting Direct Instruction, Inquiry-Based Learning, and Assessment 49
Sheltered Instruction Observation Protocol (SIOP) 49
Assessment and Accommodations for Teaching Academic Subjects to ELLs 52

2.6 — Supporting ELLs' Academic Language Development in Science 55

PART 3 — Teaching Science 57

3.1 — Teaching Science to ELLs at Secondary Grade Levels 61

3.2 — Pre-K–12 English Language Proficiency Standards for Science 70

3.3 — Culturally and Linguistically Congruent Instruction and Assessment 75

3.4 — Science and Culturally Relevant Teaching 77

3.5 — Classroom-Based Science Assessment at the Secondary Level 79

3.6 — Life Science 82

3.7 — Physical Science 90

3.8 — Earth and Space Science 99
Moon Phases: Language Intensive Instruction Compared to Hands-On, Minds-On Instruction 101

Moon Phase Lesson Plan—Language Intensive Instruction 101
Understanding the Seasons 106

3.9 — Science as Inquiry 111

3.10 — History and Nature of Science 117

3.11 — Personal and Social Perspectives in Science 121

3.12 — Science and Technology 124

3.13 — Unifying Concepts and Processes 127

PART 4 — Resources 131

4.1 — Internet Resources for Teachers 133
Lesson Plans and Activities 133
Scientific Issues 138
Museum Resources 139
Professional ESL Organizations 140

4.2 — Literature for Teachers 142
Online Articles and Texts that Focus on Teaching Science for ELLs 142
Research Articles 145
Classroom-Based Articles: Middle School Science 151
Classroom-Based Articles: High School Science 152
Content-Based ESL Articles 153
Books and Book Chapters 153
Journals 155

4.3 — Materials for Teachers 156
Teacher Professional Development 156
Videos and DVDs 157
Podcasts, Videocasts, and Webcasts (Science and Science Teaching) 159

4.4 — Resources for Students 162
Web Resources 162
Dictionaries 165

Glossary 167
Notes 172
References 174
Index 183