Contents

PREFACE ix

ACKNOWLEDGMENTS xi

1	THE SCIENTIFIC STUDY OF LANGUAGE 3					
	1.0 Introduction 3					
	1.1 Language 3					
	1.1.1 Language as Pattern 4					
	1.1.2 Language as an Open-Ended System 5					
	1.1.3 Language Design and Scientific Linguistics 6					
	1.2 Linguistic Structuralism 8					
	1.2.1 Paradigm and Syntagm: Two Basic Structural Concepts 8					
	1.2.2 Structural Phonology 9					
	1.2.3 Structural Morphology 13					
	1.2.4 Structural Syntax 15					
	1.2.5 Structural Semantics 17					
	1.2.6 The Structural Model of Language Design 18					
	1.3 Linguistic Transformationalism 19					
	1.3.1 Deep and Surface Structure: A Fundamental Dichotomy 20					
	1.3.2 The Base Component 21					
	1.3.3 The Transformational Component 23					
	1.3.4 The Phonological Component 25					
	1.3.5 Some Recent Developments 27					
	1.4 Language and Communication 28					
	1.4.1 The Sociology of Verbal Communication 29					

1.4.2 The Psychology of Verbal Communication 31

vi Contents

1.5	Linguistics	and La	nguage	Teaching	33
-----	-------------	--------	--------	----------	----

- 1.5.1 Applied Linguistics and Applied Psycholinguistics 34
- 1.6 A Pedagogical Summary 35
- 1.7 Signposts 35
- 1.8 Suggestions for Further Reading 36

2 THE LANGUAGE-LEARNING PROCESS 37

- 2.0 Introduction 37
- 2.1 Verbal Behavior 37
- 2.1.1 A Representational Model of Verbal Behavior 37
- 2.1.2 An Informational Model of Verbal Behavior 39
- 2.1.3 Linguistic Relativity 41
- 2.2 Neurological and Psychological Components of Language Learning 42
- 2.2.1 Language and the Brain 43
- 2.2.2 Language and Perception 46
- 2.2.3 Language, Memory, and Cognition 49
- 2.2.4 Language and Personality 50
- 2.3 Theories of Language Learning 52
- 2.3.1 Behavioristic Theories 52
- 2.3.2 Cognitive Theories 57
- 2.3.3 Humanistic Theories 59
- 2.4 A Pedagogical Summary 61
- 2.5 Signposts 62
- 2.6 Suggestions for Further Reading 63

3 FIRST-LANGUAGE ACQUISITION 64

- 3.0 Introduction 64
- 3.1 Patterns of First-Language Acquisition 64
- 3.1.1 Phonological Development 65
- 3.1.2 Grammatical Development 67
- 3.1.3 Lexical and Semantic Development 72
- 3.2 Factors Influencing Language Development 75
- 3.3 Theories of First-Language Acquisition 77
- 3.3.1 Behavioristic Theories 77
- 3.3.2 Cognitive Theories 79
- 3.4 A Pedagogical Summary 81
- 3.5 Signposts 81
- 3.6 Suggestions for Further Reading 82

4 SECOND-LANGUAGE LEARNING 83

- 4.0 Introduction 83
- 4.1 Neurological and Psychological Aspects of Second-Language Learning 84
- 4.1.1 Neurological Aspects 84
- 4.1.2 Psychological Aspects 86
- 4.2 Psychopedagogical Aspects of Second-Language Learning 90
- 4.2.1 The Learning of Structure and Function 90
- 4.2.2 Errors in Second-Language Learning 93
- 4.2.3 Translation and Second-Language Learning 98
- 4.3 Bilingualism and Multilingualism 100
- 4.4 A Pedagogical Summary 104
- 4.5 Signposts 105
- 4.6 Suggestions for Further Reading 105

5 THE LANGUAGE-TEACHING PROCESS 107

- 5.0 Introduction 107
- 5.1 Language-Teaching Methods 108
- 5.1.1 Inductive Methods 108
- 5.1.2 Deductive Methods 110
- 5.1.3 Functional Approaches 112
- 5.1.4 Affective-Based Methods 115
- 5.2 Language Teaching and Applied Psycholinguistics 118
- 5.3 Language-Teaching Models 123
- 5.4 A Pedagogical Summary 124
- 5.5 Signposts 126
- 5.6 Suggestions for Further Reading 126

6 MEASUREMENT, TESTING, AND RESEARCH 127

- 6.0 Introduction 127
- 6.1 Some Elementary Statistical Concepts 127
- 6.1.1 The Presentation and Organization of Data 128
- 6.1.2 Central Tendency and Dispersion 133
- 6.1.3 Statistical Significance and Inference 141
- 6.1.4 Correlation 148
- 6.2 Testing 154
- 6.2.1 Reliability and Validity 154
- 6.2.2 Types of Tests 155
- 6.3 Research 161
- 6.3.1 Controlled Experiments 162
- 6.3.2 Experimental Design 164

viii Contents

- 6.4 A Pedagogical Summary 165
- 6.5 Signposts 166
- 6.6 Suggestions for Further Reading 166

7 A GLOSSODYNAMIC MODEL OF LANGUAGE LEARNING AND LANGUAGE TEACHING 167

- 7.0 Introduction 167
- 7.1 The Glossodynamic Model of Language Learning 168
- 7.2 A Glossodynamic View of Language Teaching 172
- 7.3 A Concluding Pedagogical Summary 174
- 7.4 Suggestions for Further Reading 176

APPENDICES 177

A: The Major Symbols of the IPA 178

B: Lenneberg's Description of Language Development with Respect to Motor Development 179

C: Summary of the Biological and Maturational Factors in Language Acquisition 182

D: Values of t 184

E: Values of F at the p < 0.01 Confidence Level 185

F: Values of χ^2 186

G: Summary of Statistical Techniques 187

GLOSSARY 189

REFERENCES 197

INDEX 215