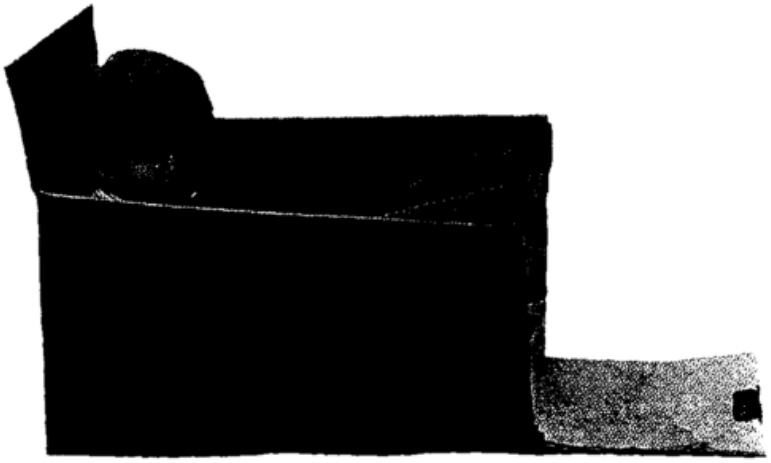
# Contents




**Foreword** vii

**Preface** viii

**Section A** **Aims and Methods of Educational Psychology** 1

**Unit 1** **How Educational Psychology Helps with the Problems of Teaching** 2

Overview 3
A First Analysis of Teaching 3
Use of Educational Psychology in Problem Solving 5
Focus of Educational Psychology 11
Summary 13

**Unit 2** **The Content and Method of Educational Psychology** 14

Overview 15
The Obviousness of Principles in Educational Psychology 15
Method for Relating Variables 27
Summary 32

**Section B** **Psychological Aspects of Educational Objectives** 35

**Unit 3** **How to Formulate Objectives** 36

Overview 37
Why State Objectives 37
Criteria for Formulating Objectives 39
The Behavior-Content Matrix 43
Basic Distinctions in Stating Objectives 44
Summary 47

**Unit 4** **Different Kinds of Objectives and How They Fit Together** 48

Overview 49
Three Domains of Objectives 49
A Taxonomy of Learning Tasks 58
Structure as an Aid to the Student 63
Summary 67

**Unit 5** **Being Reasonable About Behavioral Objectives** 68

Overview 69
The Major Arguments and the Replies 69
Concluding Statement 78
Summary 80

**Section C Learning Theory and Its Applications 83**

**Unit 6 The Definition and Varieties of Learning 84**

Overview 85
The Definition of Learning 86
Varieties of Learning 87
Summary 104

**Unit 7 Operant Conditioning: A Practical Theory 106**

Overview 107
Reinforcement and Punishment 107
Schedules of Reinforcement 111
Contingency Management 117
Stimulus Control in Operant Learning 121
The Elimination of Responses 123
Ethical Issues 129
Summary 132

**Unit 8 How Meaningful Verbal Material Is Learned 134**

Overview 135
The Information-Processing Approach 135
Short-Term Memory 140
Long-Term Storage 144
Summary 161

**Unit 9 Improving the Transfer of Learning 162**

Overview 163
Transfer of Learning 163
Transfer of Teaching 168
Summary 175

**Section D Individual Differences and the Special Case of Intelligence 177**

**Unit 10 The Study of Individual Differences 178**

Overview 179
Differential Psychology: A Matter of Degree 179
The Approach of Experimental Psychology 181
The Approach of Correlational Psychology 182
A Combined Approach: Aptitude-Treatment Interactions 183
Summary 188

**Unit 11 The Definition, Measurement, and Organization of Intelligence 190**

Overview 191
The Definition of Intelligence 191
The Measurement of Intelligence 195
The Stability and Reliability of Intelligence Test Scores 198
The Organization of Intelligence 199
Current Practice and Recent Doubts 200
Summary 202

**Unit 12 Heredity, Environment, and Group Differences in Intelligence 204**

Overview 205
Heredity and Environment 205
The Nature-Nurture Issue and Ideology 206
IQ Differences as a Function of Genetic and Environmental Differences 207
Racial Differences in Intelligence 216
Social-Class and Urban-Rural Differences 222
The Causes of Group Differences 228
The Distinction Between Intelligence and Achievement 230
The Challenge to Intelligence Testing in Schools 233
Summary 236

**Unit 13 How the Home and School Affect Intelligence and Achievement 238**

Overview 239
The General Problem 239
Variables in the Home Environment 241
Can Schooling Improve Intelligence? 247
Alternative Nursery School Approaches 256
Summary 270

**Section E Motivation 273**

**Unit 14 The Influence of Motivation on Learning 274**

Overview 275
The Nature and Importance of Motivation 275
Motivation and Achievement 282
Types of Motivation 284
Summary 287

**Unit 15 Personality Factors in Motivation 288**

Overview 289
Measuring Motive Strength 289
Relationships between Need for Achievement and Performance 292
Origins of Achievement Needs 298
Motivation Training 300

Affiliation, Power, and Approval Motives 307
Summary 311

**Unit 16** ***Environmental Factors in Motivation: Operant-Conditioning Approaches* 314**

Overview 315
Operant Conditioning and Motivation 315
Motivational Systems 322
Summary 332

**Unit 17** **Environmental Factors in Motivation: Manipulating Classroom Variables 334**

Overview 335
Motivational Techniques in Teaching 335
Social Influences on Motivation 351
Summary 355

**Section F** **Development and Personality 357**

**Unit 18** **The Development of Cognitive Functions 358**

Overview 359
Piaget's Stages 360
The Developmental Process 372
Bruner's Theory of Cognitive Growth 373
Implications of Piaget's and Bruner's Work for Teaching 375
Summary 378

**Unit 19** **The Development of Personality 380**

Overview 381
The Growth of Personality: A General Theory 382
The Growth of Personality: Less Global Theories 389
Personality and Traits 396
The Teacher and Trait Theory 417
Summary 417

**Unit 20** **The Development of Sex Differences 420**

Overview 421
Sex Differences in Intellectual Functioning 421
Sex Differences in Personality 425
The Relationship between Personality and Intellectual Achievement 429
Sex Role Development at Home and School 430
Summary 439

**Section G** **Teaching Methods 441**

**Unit 21** **The Bases of Teaching Methods in Theories of Learning 442**

Overview 443
Teaching Methods 443
How Learning Theory Explains Learning under Various Teaching Methods 450
Lessons for the Teacher 457
Summary 458

**Unit 22** ***Objectives of Various Teaching Methods* 460**

Overview 461
Objectives of the Lecture Method 461
Objectives of the Discussion Method 470
Objectives of Individual Instruction 475
Objectives of Humanistic Approaches 477
Objectives of Classroom Teaching 482
The Objectives-Methods Matrix 487
Summary 489

**Unit 23** **Lecturing and Explaining 490**

Overview 491
Preparation 492
The Introduction to the Lecture 494
The Body of the Lecture 500
The Conclusion of the Lecture 523
Cautions about the Lecture Method 525
Summary 526

**Unit 24** **Teaching by the Discussion Method 528**

Overview 529
Before You Meet 529
During the Meeting 534
After the Meeting 544
Intellectual Pitfalls 547
Social-Emotional Pitfalls 551
Summary 560

**Unit 25** **Individual Instruction: Focus on the Classroom 562**

Overview 563
Homework and Study Habits 564
Independent and Self-Directed Study 570
The Keller Plan and Its Variations 574
Mastery Learning 578
Contracting in Elementary Grades 580
Open Education 583

Tutoring 588
Summary 594

**Unit 26 Individual Instruction: Focus on the School 596**

Overview 597
Programmed Instruction 597
Computer-Assisted Instruction 607
Evaluating Large Curriculum Projects 625
Summary 626

**Unit 27 Humanistic Approaches to Teaching 628**

Overview 629
Principles of Humanistic Education 629
Characteristics of the Humanistic Teacher 637
Teaching Functions and Methods 642
Teaching Methods Associated with Humanistic Education 645
The Present Status of Humanistic Education 653
Summary 655

**Unit 28 Classroom Teaching: I. The Preinteractive Phases 656**

Overview 657
Classroom Teaching as the Orchestration of Methods 657
Noninteractive and Interactive Phases of Teaching 658
How Teachers Plan Their Courses 660
A Hierarchy of Planning Needs 661
Planning for Classroom Discipline and Management 662
Planning and the Teacher's Knowledge of the Subject 670
Does Lesson Planning Help? 671
Planning for Control of Bias 674
Planning for Variety and Flexibility 676
Summary 684

**Unit 29 Classroom Teaching: II. The Interactive Phases 686**

Overview 687
Why Not Abandon Classroom Teaching? 687
Recent Major Reviews 689
Teacher Structuring Behaviors 690
Teacher Soliciting Behaviors 695
Teacher Reacting Behaviors 702
The Importance of the Melody 711
Summary 712

**Unit 30 How to Improve One's Teaching 714**

Overview 715
The Importance of Practice 715
Preperformance Factors 717
During-Performance Factors 722
Postperformance Factors 725
Minicourses 733
Summary 736

**Section H Measurement and Evaluation 739**

**Unit 31 Basic Concepts in Measurement and Evaluation 740**

Overview 741
Measurement 741
Reliability 748
Validity 759
Evaluation 763
Accountability: Measurement and Evaluation Working Together 766
Summary 768

**Unit 32 The Teacher and Standardized Tests 770**

Overview 771
The Advantages and Special Uses of Standardized Tests 771
Selecting Standardized Tests 776
Administering Standardized Tests 783
Interpreting Standardized Tests 784
Summary 789

**Unit 33 Teacher-Made Tests 790**

Overview 791
Determining What Kinds of Achievement Are Important 792
Choosing among Types of Test Questions 796
Writing Test Questions 801
After Testing, What? 809
Summary 813

**Unit 34 Grading and Marking 814**

Overview 815
Sources of Evidence 820
Referencing a Reporting System 827
Types of Reporting Systems 829
Sensibility and Humaneness 836
Summary 837

**A Final Word to Students 839**

**Photo Credits 840**

**Author-Reference Index 841**

**Subject Index 862**