THIRD EDITION

NUTRITION EDUCATION

Linking Research, Theory, and Practice

Isobel R. Contento
Mary Swartz Rose Professor of Nutrition and Education
Teachers College
Columbia University

JONES & BARTLETT
LEARNING

World Headquarters
Jones & Bartlett Learning
5 Wall Street
Burlington, MA 01803
978-443-5000
info@jblearning.com
www.jblearning.com

Jones & Bartlett Learning books and products are available through most bookstores and online booksellers. To contact Jones & Bartlett Learning directly, call 800-832-0034, fax 978-443-8000, or visit our website, www.jblearning.com.

Substantial discounts on bulk quantities of Jones & Bartlett Learning publications are available to corporations, professional associations, and other qualified organizations. For details and specific discount information, contact the special sales department at Jones & Bartlett Learning via the above contact information or send an email to specialsales@jblearning.com.

Copyright © 2016 by Jones & Bartlett Learning, LLC, an Ascend Learning Company

All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from the copyright owner.

The content, statements, views, and opinions herein are the sole expression of the respective authors and not that of Jones & Bartlett Learning, LLC. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not constitute or imply its endorsement or recommendation by Jones & Bartlett Learning, LLC and such reference shall not be used for advertising or product endorsement purposes. All trademarks displayed are the trademarks of the parties noted herein. *Nutrition Education: Linking Research, Theory, and Practice, Third Edition* is an independent publication and has not been authorized, sponsored, or otherwise approved by the owners of the trademarks or service marks referenced in this product.

There may be images in this book that feature models; these models do not necessarily endorse, represent, or participate in the activities represented in the images. Any screenshots in this product are for educational and instructive purposes only. Any individuals and scenarios featured in the case studies throughout this product may be real or fictitious, but are used for instructional purposes only.

08319-4

Production Credits

Chief Executive Officer: Ty Field
President: James Homer
Chief Product Officer: Eduardo Moura
VP, Executive Publisher: David D. Cella
Publisher: Cathy L. Esperti
Associate Acquisitions Editor: Sean Fabery
Production Editor: Leah Corrigan
Senior Marketing Manager: Andrea DeFronzo
VP, Manufacturing and Inventory Control: Therese Connell

Composition: CAE Solutions Corp.
Cover Design: Kristin E. Parker
Interior Design: Publishers' Design and Production Services, Inc.
Rights & Media Research Coordinator: Jamey O'Quinn
Media Development Editor: Shannon Sheehan
Cover Image: © ARENA Creative/Shutterstock
Printing and Binding: RR Donnelley
Cover Printing: RR Donnelley

Library of Congress Cataloging-in-Publication Data

Contento, Isobel R., author.
Nutrition education : linking research, theory, and practice / Isobel R. Contento. -- Third edition.
p. ; cm.
Includes bibliographical references and index.
ISBN 978-1-284-07800-8 (alk. paper)
I. Title.
[DNLM: 1. Dietetics--education. 2. Health Education--methods. 3. Food Habits. 4. Health Behavior. WB 18]
TX364
613.2--dc23
6048 2015020543

Printed in the United States of America
19 18 17 16 15 10 9 8 7 6 5 4 3 2 1

BRIEF CONTENTS

Preface xix

New to this Edition xxi

Acknowledgments xxv

PART I LINKING RESEARCH, THEORY, AND PRACTICE: THE FOUNDATIONS 1

1 Nutrition Education: Important, Exciting, and Necessary for Today's Complex World 3

2 Determinants of Food Choice and Dietary Change: Implications for Nutrition Education 30

3 An Overview of Nutrition Education: Facilitating Motivation, Ability, and Support for Behavior Change 59

4 Increasing Awareness and Enhancing Motivation and Empowerment for Behavior Change and Taking Action 96

5 Facilitating the Ability to Change Behavior and Take Action 135

6 Promoting Environmental Supports for Behavior Change 175

PART II USING RESEARCH AND THEORY IN PRACTICE: A STEPWISE PROCEDURE FOR DESIGNING THEORY-BASED NUTRITION EDUCATION 213

7 Step 1: Deciding Behavior Change Goals of the Intervention Based on Assessing Issues and Behaviors of Audience 215

8 Step 2: Exploring Determinants of Intervention Behavior Change Goals 248

9 Step 3: Selecting Theory and Clarifying Intervention Philosophy 265

10 Step 4: Indicating Objectives: Translating Behavioral Theory into Educational Objectives 287

11 Step 5: Generating Educational Plans: A Focus on Enhancing Motivation for Behavior Change and Taking Action 306

12 Step 5: Generating Educational Plans: A Focus on Facilitating the Ability to Change Behavior and Take Action 346

13 Step 6: Nail Down the Evaluation Plan 376

14 Using the DESIGN Procedure to Promote Environmental Supports for Behavior Change and Taking Action 429

PART III RESEARCH AND THEORY IN ACTION: DELIVERING NUTRITION EDUCATION IN PRACTICE 485

15 Delivering Nutrition Education Effectively in Group Settings 487

16 Media Supports and Other Channels for Nutrition Education 517

17 Working with Diverse Age, Cultural, and Literacy Population Groups 556

18 Nutrition Educators as Change Agents in the Environment 597

Glossary 613

Index 621

CONTENTS

Preface xix

New to this Edition xxi

Acknowledgments xxv

PART I LINKING RESEARCH, THEORY, AND PRACTICE: THE FOUNDATIONS 1

1 **Nutrition Education: Important, Exciting, and Necessary for Today's Complex World** 3

Overview 3

Chapter Outline 3

Learning Objectives 3

Introduction 4

Why Is Nutrition Education Needed? 4

The Ultimate Goal Is to Improve Health and Well-Being 4

Dietary and Physical Activity Patterns Are Not Optimal 5

Our Food Choices Are Not Always Good for the Planet 6

Complex Food Choice Environment 7

Complex Information Environment 7

Consumer Bewilderment and Concern 8

The Challenge of Educating People about Eating Well 8

Biological Influences: Do We Have Body Wisdom? 8

Cultural and Social Preferences 9

Family and Psychological Factors 10

Sense of Empowerment: Individual and Community 10

Material Resources and the Environmental Context 11

Marketing, Social Structures, and Policy 11

Viewpoints on the Aims of Nutrition Education 12

Information Communicated Solely to Inform 12

Information Communicated to Motivate and Facilitate Behaviors Conducive to Health and Well-Being 12

Communications to Influence Policymakers 12

A Contemporary Definition of Nutrition Education 13

Is "Nutrition Education" an Accurate Term? 15

Summary of a Contemporary Definition of Nutrition Education 16

Vision of Professional Associations 16

Nutrition Education Effectiveness 17

What Do Nutrition Educators Do? Settings, Audiences, and Scope for Nutrition Education 18

Settings: Where Is Nutrition Education Provided? 18

Audiences for Nutrition Education 20
Scope of Nutrition Education 21
Nutrition Education, Public Health Nutrition, and Health Promotion: The Roles and Context of Nutrition Education 22
Purpose and Overview of this Book 23
Learning a New Vocabulary 24
Overview of the Book 24
Questions and Activities 25
References 25

2 Determinants of Food Choice and Dietary Change: Implications for Nutrition Education 30
Overview 30
Chapter Outline 30
Learning Objectives 30
Determinants of Food Choice and Diet-Related Behavior: An Overview 31
Food-Related Determinants: Biology and Experience 31
Biologically Determined Behavioral Predispositions 31
Experience with Food 33
Learning from Social-Affective Context: Social Conditioning 35
Summary of Our Experience with Food 37
Person-Related Determinants 38
Intrapersonal Determinants 38
Interpersonal Determinants 40
Social and Environmental Determinants 40
Physical/Built Environment 40
Economic Environment 43
Information Environment 44
What Does All This Mean for Nutrition Educators? 45
Knowledge or Nutrition Literacy Is Not Enough 46
Nutrition Education Addressing Food-Related Determinants 47
Nutrition Education Addressing Person-Related Determinants 48
Nutrition Education Addressing Environmental Determinants 48
Implications for Competencies and Skills Needed by Nutrition Educators 50
The Society for Nutrition Education and Behavior's Competencies for Nutrition Education Specialists 51
Academy of Nutrition and Dietetics Competencies 51
Summary 51
Biology and Personal Experience with Food 52
Person-Related Determinants 52
Social/Environmental Determinants 52
Knowledge and Skills Are Not Enough 52
Consequences for the Skills of Nutrition Educators 52
Questions and Activities 52
References 53

3 An Overview of Nutrition Education: Facilitating Motivation, Ability, and Support for Behavior Change 59
Overview 59
Chapter Outline 59
Learning Objectives 59
Introduction: Elements Contributing to Nutrition Education Success 60
Elements Contributing to Nutrition Education Success 60
Element of Success 1: Focusing on Behavior Change and Actions 61
Focusing on Specific Behaviors or Actions Is Crucial for Success 61
Element of Success 2: Addressing the Influences or Determinants of Behavior Change and Action 63
Knowledge Is a Problematic Term in Nutrition Education 64

Role of Knowledge as Determinant of Action or Behavior Change 64
Psychosocial Influences as Determinants of Action and Behavior Change 66
Behavioral Science Colleagues Help Us Understand Alicia and Ray 69
Interactions of Culture and Social Psychological Factors 71
The Influence of Cultural Context 72
Element of Success 3: Using Theory as the Guide or Tool for Nutrition Education 73
Social Psychological Approaches to Action and Behavioral Change 74
A Basic "Theory" 74
Theory as a Structured Guide or Tool 74
Making Theory Explicit Is Extremely Useful 76
Components of Theory: Clarifying Terms 76
Relationships among Research, Theory, and Practice 78
Many Theories from the Behavioral Sciences Can Be Helpful 78
What Social Psychological Theories Share in Common 78
Social Psychological Theory in Outline 80
Element of Success 4: Addressing Multiple Influences on Behavior Change with Sufficient Duration and Intensity—A Social-Ecological Approach 82
Changing Behaviors Through Gatekeepers 84
Element of Success 5: Designing Nutrition Education Using Theory- and Evidence-Based Strategies 85
Putting It All Together: Conceptual Framework for Conducting Nutrition Education 86
Behavior Change May Take Time 86
Putting It All Together 88
Summary 91
Element of Success 1: Focus on Behavior Change or Action 91
Element of Success 2: Address Determinants of Behavior Change or Action 91
Element of Success 3: Use Theory and Evidence 91
Elements of Success 4: Address Multiple Levels and Devote Sufficient Duration and Intensity 91
Element of Success 5: Design Appropriate Strategies and Activities 91
Questions and Activities 92
References 92

4 Increasing Awareness and Enhancing Motivation and Empowerment for Behavior Change and Taking Action 96
Overview 96
Chapter Outline 96
Learning Objectives 96
Nutrition Education for Enhancing Motivation and Empowerment: Focus on Why to Take Action 97
The Importance of Theories of Motivation for Nutrition Education Success 98
The Health Belief Model 98
Determinants of Action According to the Model 98
Perceived Risk: Overcoming Optimistic Bias 99
Evidence from Research 99
Take-Home Message about the Health Belief Model 102
Using the Health Belief Model in Nutrition Education to Enhance Motivation and Activate Audiences 102
Increase Awareness of Risk, Concern, or Need 102
Use Threat or Risk Effectively in Communications 102
Address Perceived Benefits and Barriers 103
Enhance Self-Efficacy 103

Provide Cues to Action 103
Examples of Interventions Using the Health Belief Model 103
The Case of Alicia: Using the Health Belief Model as a Tool 103
Theory of Planned Behavior: The Reasoned Action Approach 108
Behavior 109
Behavioral Intention 110
Attitudes 110
Conflicting Attitudes: Ambivalence 111
Perceived Norms (Social Pressure) 111
Perceived Behavioral Control 112
The Behavior Intention to Behavior Link 112
Extensions of the Theory of Planned Behavior/Reasoned Action Approach 113
Extensions of the Theory of Planned Behavior: A Focus on Additional Beliefs 113
Extensions of the Theory of Planned Behavior: A Focus on Feelings and Emotions 114
From "I Wish" To "I Will": The Importance of Implementation Intentions (Action Plans) 115
Habit 115
Understanding Jason and His Friends 115
Evidence for the Theory from Research and Intervention Studies 116
Other Motivators of Food Choice and Dietary Behavior Change 118
Personal Meanings Given to Food 118
Take-Home Message about Theory of Planned Behavior 119
Using the Theory of Planned Behavior in Nutrition Education to Motivate and Activate Audiences 119
Designing Messages to Address Attitudes and Beliefs about Taking Action 119
Enhancing Positive Attitudes and Feelings 120
Exploring Social Norms and Social Expectations 120
Identifying Personal and Moral Norms 121
Increasing Self-Efficacy and Control: Overcoming Barriers and Difficulties 121
Exploring Beliefs about the Self 121
Recognizing Habits, Routines, and Cultural Traditions 121
Making Decisions and Resolving Ambivalences 121
The Case of Maria: Nutrition Education Using the Theory of Planned Behavior 121
Self-Determination Theory 124
Components of the Theory 124
Research and Interventions Using Self-Determination Theory 126
Take-Home Message About Self-Determination Theory 127
Using Self-Determination Theory in Nutrition Education to Enhance Motivation and Activate Audiences 127
Summary 128
The Health Belief Model 128
The Theory of Planned Behavior/Reasoned Action Approach and Its Extensions 128
Self-Determination Theory 128
Overall 128
Questions and Activities 129
References 131
5 Facilitating the Ability to Change Behavior and Take Action 135
Overview 135
Chapter Outline 135
Learning Objectives 135
Nutrition Education to Facilitate the Ability to Change Behavior: Focus on How to Take Action 136
Bridging the Intention–Action Gap: Nutrition Educators as Coaches 136
Understanding the Determinants of Action and Behavior Change Strategies 136

Social Cognitive Theory 136
Personal Determinants: A Focus on Human Agency and Empowerment 137
Behavior-Related Determinants 141
Environmental Factors 143
Evidence from Research and Intervention Studies 144
Examples from New Media 147
Take-Home Message about Social Cognitive Theory 147
Using Social Cognitive Theory in Nutrition Education to Facilitate Behavior Change 149
Outcome Expectations 149
Behavioral Capability: Increasing Food- and Nutrition-Related Knowledge and Cognitive Skills 150
Building Behavioral Skills in Foods and Nutrition and Enhancing Self-Efficacy 151
Using New Media to Empower Our Audiences 151
Setting Action Goals 151
Maintaining Change 152
Environmental Supports for Change 152
The Case of Ray: Nutrition Education Using Social Cognitive Theory 153
Self-Regulation Models: Focus on Planning and Self-Efficacy 154
Related Constructs: Self-Regulation, Effortful Control, and Executive Function 157
Health Action Process Approach Model 157
Grounded Theory Approach: Personal Food Policies 160
Transtheoretical Model and the Stages of Change Construct 160
The Stages of Change Construct 161
Determinants of Change 163
The Processes of Change 163
Processes of Change at Different Stages 164
Research and Intervention Examples 165
Take-Home Message about the Transtheoretical Model 167
Using the Transtheoretical Model in Nutrition Education 167
Summary 167
Nutrition Education as Coaching 167
Social Cognitive Theory 167
Self-Regulation Models 168
Transtheoretical Model 168
Overall Focus for Nutrition Education to Facilitate Behavior Change and Action 169
Questions and Activities 169
References 170

6 Promoting Environmental Supports for Behavior Change 175
Overview 175
Chapter Outline 175
Learning Objectives 175
Environmental Support to Make Healthful Choices Easier 176
Defining Terms 176
A Social Ecological Approach 177
Using a Social Ecological Model to Assess and Design Intervention: The International Pro Children Project 179
Using Theory Within a Social Ecological Model to Design Intervention: Just for You Program for Post Partum Low-Income Women 180
Interpersonal-Level Social Environment Change: Family, Peers, and Social Networks 181
Families 181
Theory Base for Nutrition Education at the Family Level: The Example of Maria 183
Social Networks and Social Support 184
Useful Strategies for Addressing the Interpersonal Social Environment 185
Social Support in the Case Examples of Maria and Alicia 186
Environmental Settings: Strategies for Organizational-Level Change 186
Strategies for School Settings 186
Strategies for Workplaces 188

Environmental Settings: Community-Level Activities for Change 192
Building Partnerships and Collaborations 193
Community Capacity Building 194
Community-Level Interventions 196
The Built Environment: Neighborhood Supermarkets and Walkability 196
Sectors of Influence: Policy and Systems Change Activities 198
Relationship among Education, Environmental Change, Policy, and Systems 198
Policy Interventions: What Works? 199
Organizational-Level Policy and System Change Activities 199
Community- and City-Level Policy and System Change Activities 200
Public Policy 201
A Logic Model Approach for Planning Nutrition Education 202
Summary 203
Nutrition Education Strategies Directed at the Interpersonal-Level Social Environment 203
Nutrition Education Strategies Directed at Policy and System Changes in Environmental Settings 205
Making the Healthful Choice the Easy Choice 205
Questions and Activities 206
References 207

PART II USING RESEARCH AND THEORY IN PRACTICE: A STEPWISE PROCEDURE FOR DESIGNING THEORY-BASED NUTRITION EDUCATION 213

7 Step 1: Deciding Behavior Change Goals of the Intervention Based on Assessing Issues and Behaviors of Audience 215
Overview 215
Chapter Outline 215
Learning Objectives 215
The Importance of a Systematic Process for Designing Effective Nutrition Education 216
The Nutrition Education Design Procedure for Effective Nutrition Education 216
The Nutrition Education Design Procedure as Coaching 216
Overview of the Nutrition Education DESIGN Procedure for Planning Theory-Based Nutrition Education 217
Nutrition Care Process and Model 220
Defining Terms 220
Using the Nutrition Education DESIGN Procedure for Planning Educational Activities and Environmental Supports 220
Designing Direct and Indirect Educational Activities 221
Designing Environmental Support Activities 221
Designing Educational and Environmental Support Interventions 221
Worksheets and Workbook 221
A Case Study: How the Design Procedure Links Theory and Research to Practice at Every Step 222
The Design Procedure in More Detail 225
Step 1: Deciding the Behavior Change Goals for a Given Audience by Assessing Issues and Behaviors of Concern 225
"Topics" Versus a "Behavioral Focus" as the Basis of Nutrition Education 226
Why Conducting Assessments of Your Audience Is Crucial 227
Involving Program Participants Enhances Motivation, Empowerment, and Effectiveness 227

Who Is Your Audience? 227
What Can You Learn About the Issues and Behaviors of Your Audience from Available General Sources? 228
What Can You Learn about *Issues* of Concern for an Audience from Available General Sources? 228
What Can You Learn about *Behaviors* of Concern for an Audience from Available General Sources? 230
What Can You Learn About the Issues and Behaviors of Your Specific Audience? 231
What Can You Learn about Your Specific Audience in Terms of *Issues* of Concern? 231
Prioritize Issues of Concern 232
What Can You Learn about the *Behaviors* of Concern of Your Specific Audience? 232
Prioritizing the Behaviors or Practices: the Criteria 233
Decide the Behavior Change Goals of the Program for Your Audience 235
Worksheet for Prioritizing Behaviors, Actions, or Practice 236
Behavior Change Goals: How Specific Is Specific? 236
Behavior Change Goals Versus Behavioral Objectives 237
Behavior Change Goals Versus Educational Objectives 238
Behavior Change Goals Achievable in the Short Term and Long Term 238
Behavior Change Goals May Serve Larger Value Goals 238
Case Study: The DESIGN Procedure in Action 238
Students Will Adopt Behaviors to Achieve Energy Balance and Improve Health 239
Your Turn to Design Nutrition Education: Completing the Step 1 Decide Behavior Change Worksheet 240
Questions and Activities 240
References 241

8 Step 2: Exploring Determinants of Intervention Behavior Change Goals 248
Overview 248
Chapter Outline 248
Learning Objectives 248
Exploring Your Audience and Their Environments 249
Exploring the Social and Cultural Contexts of Your Audience 250
Exploring Relevant Individual and Community Strengths or Assets 250
Exploring Psychosocial Determinants of Behavior Change 251
Theory Provides Guidance 251
Exploring Potential Motivators of Behavior Change 252
Exploring Potential Facilitators of Behavior Change 254
Methods for Exploring Potential Psychosocial Determinants of Behavior Change 255
Case Study: The DESIGN Procedure in Action—Step 2 258
Your Turn to Design Nutrition Education: Completing the Step 2 Explore Determinants of Change Worksheet 259
Determinants of Change as the Bridge Between Theory and Nutrition Education Practice 260
Questions and Activities 260
References 261

9 Step 3: Selecting Theory and Clarifying Intervention Philosophy 265
Overview 265
Chapter Outline 265
Learning Objectives 265
Introduction: Preliminary Planning 266

Selecting a Theory or Creating an Appropriate Model 267
Theory in Sociocultural Context 267
Theories Especially Useful for Motivating our Audiences 267
Theories Especially Useful for Facilitating the Ability to Take Action 268
Theories Useful for Both Motivating Audiences and Building Skills for Action 268
Determinants in Common among Theories 269
Examples of Models Combining Determinants from Relevant Theories 270
Selecting or Constructing Your Intervention Theory Model 271
Overall Conceptual Framework for Linking Determinants and Theory to Nutrition Education Practice 272
Clarifying the Educational Philosophy of the Sessions or Intervention 274
Helping and Educating: Who Is Responsible for the Problem and Who the Solution? 274
Other Considerations 277
Articulating the Intervention's Perspectives on How Food and Nutrition Content Will Be Addressed 277
Clarifying the Intervention's Perspectives on Use of Educational Resources from a Variety of Sources 279
Thinking About Your Needs and Approach as a Nutrition Educator 279
Conclusions 280
Case Study: The DESIGN Procedure in Action 282
Your Turn to Design Nutrition Education: Completing the Step 3 Select Theory and Clarify Philosophy Worksheet 282
Questions and Activities 283
References 283

10 Step 4: Indicating Objectives: Translating Behavioral Theory into Educational Objectives 287
Overview 287
Chapter Outline 287
Learning Objectives 287
Translating Behavioral Theory into Nutrition Education Activities Through Objectives 288
Writing Educational Objectives for Determinants of Behavior Change Goals 289
Educational Objectives Are Based on Determinants from Theory 290
Considerations in Writing Educational Objectives 290
General Educational Objectives 290
Specific Educational Objectives 291
Ensuring Educational Objectives Engage Participant Thinking, Feeling, and Doing 293
Writing Educational Objectives That Reflect the Desired Complexity of Learning 294
Case Study: The DESIGN Procedure in Action 302
Your Turn to Design Nutrition Education: Completing the Step 4 Indicate General Objectives Worksheet 302
Questions and Activities 302
References 303

11 Step 5: Generating Educational Plans: A Focus on Enhancing Motivation for Behavior Change and Taking Action 306
Overview 306
Chapter Outline 306
Learning Objectives 306
Framework for Creating Theory-Based Nutrition Education Activities 307
Low-Income Audiences 308

Translating Behavioral Theory into Educational Practice: Determinants, Behavior Change Strategies, Educational Activities, and Educational Plans 310
Clarifying Terms 310
The Relationship of Behavior Change Strategies to Determinants and Behavior Change 311
Selecting Behavior Change Strategies 311
The Relationship of Behavior Change Strategies to Educational Activities 312
Gaining Audience Interest and Engagement 312
Information Versus Learning Experiences 313
Creating Opportunities for Active Participation and Learning 313
Using Behavior Change Strategies to Create Educational Activities to Enhance Motivation for Behavior Change 314
Summary Table of Behavior Change Strategies and Educational Activities 315
Behavior Change Strategies and Educational Activities for the Theory Determinant of Risk Perceptions 316
Behavior Change Strategies and Educational Activities for Theory Determinant of Positive Outcome Expectations or Perceived Benefits 319
Behavior Change Strategies and Practical Educational Activities for the Theory Determinants of Perceived Barriers and Self-Efficacy 322
Behavior Change Strategies and Practical Educational Activities for the Theory Determinant of Affective Attitudes/Emotions 323
Behavior Change Strategies and Practical Educational Activities for the Theory Determinant Food Preferences 324
Behavior Change Strategies and Practical Educational Activities for the Theory Determinants of Social Norms and Descriptive Norms 325
Behavior Change Strategies and Practical Educational Activities for the Theory Determinant of Beliefs about the Self 325
Behavior Change Strategies and Practical Educational Activities for the Theory Determinant of Habits and Routines 326
Behavior Change Strategies and Practical Educational Activities for the Theory Determinant of Behavioral Intentions 327
Using Determinants and Behavior Change Strategies to Guide Development of Practical Educational Activities: The Food, Health & Choices Curriculum 330
Organizing and Sequencing Educational Activities for Delivery with the 4 Es: The Educational or Lesson Plan 332
Sequencing Your Session or Other Communication Venue with the 4 Es 332
Sequencing by the Transtheoretical Model's Stages of Change 333
Exploring Other Audience Characteristics and Intervention Resource Considerations 334
Identifying Relevant Audience Characteristics 334
Practical and Intervention Resource Considerations 334
Generating the Educational Plan: The Nuts and Bolts 335
Start with the Planning Matrix Tool to Create an Outline for Each Session 335
Generate the Final Educational Plan(s): Teaching Format Ready for Delivering to Your Audience 336
Case Study: The DESIGN Procedure in Practice 336
Session Title, Behavior Change Goal, and General Educational Objectives 336
The Educational Plan: Using the Planning Matrix Tool to Outline the Session 337
The Educational Plan: Developing a Teaching Format for Delivering the Session 337

Your Turn to Design Nutrition Education: Completing the Step 5 Generate Educational Plans Worksheet 337
Session Title, Behavior Change Goal, and General Educational Objectives 337
Using the Planning Tool to Outline Each Education Plan 337
The Educational or Lesson Plan: Developing a Teaching Format for Delivering the Session 339
Pilot Testing the Educational Plan 339
Educational Plans in Practice 339
Questions and Activities 340
References 340

12 Step 5: Generating Educational Plans: A Focus on Facilitating the Ability to Change Behavior and Take Action 346
Overview 346
Chapter Outline 346
Learning Objectives 346
Facilitating the Ability to Change Behavior and Take Action: An Overview 347
Translating Behavioral Theory into Educational Practice: Determinants, Behavior Change Strategies, and Educational Activities 349
Building Food- and Nutrition-Related Knowledge and Skills: Enhancing Behavioral Capability 352
Behavior Change Strategies and Educational Activities for the Theory Determinant of Knowledge and Cognitive Skills 352
Behavior Change Strategies and Educational Activities for the Theory Determinant of Affective Skills 354
Behavior Change Strategies and Educational Activities for the Theory Determinant of Behavioral Skills 355
Strengthening Self-Regulation (Self-Directed Change) Processes and Personal Agency 357
Case Study: The DESIGN Procedure in Action—Step 5 368
Session Title, Behavior Change Goal, and General Educational Objectives 368
Educational Plan: The Planning Matrix for Designing the Session 368
The Educational Plan: Teaching Format for Delivering the Session 368
Your Turn to Design Nutrition Education: Completing the Step 5 Generate Educational Plans Worksheet, with a Focus on Taking Action 368
Session Title, Behavior Change Goal, and General Educational Objectives 368
Sequencing Activities Is Important: The 4 Es 369
The Educational Plan: Using the Matrix Tool to Outline Sessions 369
The Educational Plan: Developing a Teaching Format for Delivering the Session 369
Pilot Testing the Educational Plan 370
Educational Plans in Practice 370
Questions and Activities 371
References 371

13 Step 6: Nail Down the Evaluation Plan 376
Overview 376
Chapter Outline 376
Learning Objectives 376
Introduction: Why Evaluate? 377
What Should Be Evaluated? Types of Evaluation 378
Formative Evaluation or Pilot Testing 378
Outcome Evaluation: Outcomes in the Short, Medium, and Long Term 379
Process Evaluation 380
Linking the Evaluation Plan to Intervention Design 380
Planning the Outcome Evaluation 381
Clarifying the Outcomes That Will Be Evaluated 381

Specifying Data Collection Methods and Instruments or Tools for Outcomes 381
Evaluating Effects on Determinants of Change: Outcomes Achievable in the Short Term 382
Evaluating Effects on Intervention Behavior Change Goals: Medium-Term Outcomes 386
Behavioral Instrument Design: Making Them Cognitively Appropriate and Motivating 389
Evaluating Effects on Physiological Parameters: Long-Term Outcomes 390
Selecting or Creating Evaluation Tools for Your Intervention 390
Designing Behavioral Evaluation Tools for Low-Literacy Audiences 393
Constructing an Appropriate Evaluation Plan to Measure Outcomes and Impacts 394
Conducting Evaluations Ethically: Informed Consent 397
Planning the Process Evaluation 397
Process Evaluation to Understand How the Intervention was Implemented 398
Process Evaluation Data to Understand the Link Between Implementation and Outcomes 399
Use of the Process Data 400
Case Study: The DESIGN Procedure in Action—Step 6 401
Outcome Evaluation 401
Process Evaluation 401
Your Turn to Conduct Nutrition Education: Completing the Step 6 nail down evaluation plan Worksheet 401
Questions and Activities 402
References 402

14 Using the DESIGN Procedure to Promote Environmental Supports for Behavior Change and Taking Action 429
Overview 429
Chapter Outline 429
Learning Objectives 430
Introduction: Promoting Social, Policy, and Environmental Supports for Intervention Behavior Change Goals 430
Step 1: Deciding Program Behavior Change Goals for Audience by Assessing Issues and Behaviors of Concern 432
Who Is Your Audience? 433
What Can You Learn about the Issues and Behaviors of Your Audience from Available General Sources? 433
What Can You Learn about the Issues and Behaviors of Your Specific Audience? 433
Decide on the Behavior Change Goals of the Program for Your Audience 433
Step 2: Exploring Environmental Supports for Behavior Change 433
Interpersonal Social Environment 434
Environmental Settings: Institutional- and Community-Level Support 434
Sectors of Influence: Policy, Social Structures, and Systems 434
Methods for Conducting the Policy, Systems, and Environment Analyses 435
Step 3: Selecting Program Components and Appropriate Theory 436
Select How Many and Which Components 436
Select Appropriate Theories and Approaches for Promoting Social, Policy, Systems, and Environmental Supports for Action 438

Step 4: Indicating Environmental Support Objectives for the Behavior Change Goals of the Program 440
Writing General Environmental Support Objectives: The Case Study as Example 440
Writing Objectives Specific to Each Level or Sector 441
Step 5: Generating Plans to Increase Interpersonal Social Support 443
Making Existing Networks More Supportive 443
Developing New Social Networks That Are Supportive of Change 444
Creating Informational Supports for Program Behavioral Goals 445
Step 5: Generating Plans for Institutional- and Community-Level Policy, Systems and Food Environment Activities 446
Food Policy, Systems, and Environmental Activities in Schools 446
Policy, Systems, and Food Environment Activities in Workplaces 447
Policy, Systems, and Food Environment Activities in Communities 448
Designing Community-Level Activities 449
Step 5: Generating a Sequenced Plan for Implementation 451
Case Study As Example of Sequenced Plan 451
Step 6: Nailing Down the Evaluation Plan 452
Evaluating Interpersonal-Level Social Support 453
Evaluating Policy, Systems, and Environmental Supports at Multiple Levels 453
Summary 455
Case Study: The DESIGN Procedure in Practice 456
Your Turn: Completing the Six-Step DESIGN Worksheets—A Focus on Social, Policy, Systems, and Environmental Supports 459
Questions and Activities 459
References 460

PART III RESEARCH AND THEORY IN ACTION: DELIVERING NUTRITION EDUCATION IN PRACTICE 485

15 Delivering Nutrition Education Effectively in Group Settings 487
Overview 487
Chapter Outline 487
Learning Objectives 487
Delivering Nutrition Education Effectively: The Nuts and Bolts 488
Communicating with Your Audience: Basic Principles 488
Communication Source Characteristics 489
Message Characteristics 490
Receiver or Audience Characteristics 492
Communications in Social Context 493
Understanding and Applying Learning Theory: Learning Approaches and Learning Styles 494
Understanding Learning Theory 494
Implications for Learning Approaches: Active and Cooperative Learning 495
Understanding Learning Styles: Kolb's Model 496
Understanding and Applying Instructional Design Theory 497
Understanding Instructional Design Theory 497
Applying Instructional Design Theory: Teaching Around the Cycle 498

Creating Environments for Learning 500
Lewin on Group Dynamics 500
Creating Safe Learning Environments Conducive to Change 501
Understanding Group Dynamics in Nutrition Education Sessions 503
Methods of Instruction/Teaching: Practical Ways to Activate Learning and Enhance Behavior Change 505
Instructional Methods for Implementing Learning Experiences 505
Conducting the Group Sessions: From Sequencing Instruction to Nuts and Bolts of Delivery 508
The Opener 508
The Session 508
The Conclusion: Closure and Action Planning 510
Co-Leading Group Sessions 511
Case Example Illustrating Integration of Psychosocial Behavior Change Theory and Educational Learning and Instructional Design/Teaching Theories 511
Delivering Nutrition Education Workshops 511
Summary 514
Questions and Activities 514
References 515

16 Media Supports and Other Channels for Nutrition Education 517
Overview 517
Chapter Outline 517
Learning Objectives 517
Introduction 518
Using Supporting Visuals in Group Sessions and Oral Presentations 518
Types of Supporting Visuals 519
Design Principles for Preparing Supporting Visuals 521
Guidelines for Using Supporting Visuals with an Audience 523
Developing and Using Written Materials 523
Planning the Printed Piece 524
Making Your Printed Materials Motivating and Effective 525
Educational Activities Using a Variety of Channels 528
Planning the Activity 528
Guidelines for Nutrition Education Through Various Channels 529
Mass Media and Social Marketing Activities 535
Nutrition Mass Media Communication Campaigns 535
Social Marketing 535
Designing Social Marketing Activities 539
Implementing Social Marketing Activities 541
Comparing Social Marketing and Nutrition Education 545
Using New Technologies 547
Devices 547
Tools For Devices 548
Individualized Messages 551
Advanced Technology with Youth 551
Summary 551
Questions and Activities 552
References 552

17 Working with Diverse Age, Cultural, and Literacy Population Groups 556
Overview 556
Chapter Outline 556
Learning Objectives 556
Introduction 557
Working with Children and Youth 557
The Preschool Child 557
Middle Childhood and Adolescence 561
Adolescents' Thinking, Concerns, and Behaviors with Respect to Food, Nutrition, and Health 563

Methods for Delivering Nutrition Education Appropriately to Children and Youth 566
The Adult Learner 569
Characteristics of Adult Learners 569
Stage of Life and Roles 570
Methods for Delivering Educational Strategies Appropriately to Adults: Making Learning Meaningful 571
Facilitated Group Dialogue as an Educational Tool 575
Working with Diverse Cultural Groups 577
Understanding Cultural Sensitivity and Cultural Competence of Nutrition Educators 578
Appropriate Design Principles and Delivery Methods for Nutrition Education for Culturally Diverse Audiences 579
Strategies for Developing and Delivering Culturally Sensitive Interventions for African American Audiences 581
Strategies for Developing and Delivering Culturally Sensitive Interventions for Hispanic/Latino Audiences 582
Low-Literacy Audiences 585
Appropriate Delivery Methods for Low-Literacy Audiences 586
Visuals For Low-Literacy Audiences: An Illustration Using Myplate 589
Groups that Differ by Food-Related Lifestyle Factors 590
Summary 590
Questions and Activities 591
References 592

Glossary 613

Index 621

18 Nutrition Educators as Change Agents in the Environment 597
Overview 597
Chapter Outline 597
Learning Objectives 597
Introduction 598
Keeping up with Nutrition Education Research and Best Practices 598
Helping to Shape the Profession 601
Who They Are 601
Getting to Know Them and Vice Versa 601
Ethics in Nutrition Education: Maintaining Credibility 602
Sponsorship of Nutrition Education Programs and Professional Activities 603
Conflicts of Interest 604
Participating in Community Coalitions 604
Food Policy Councils 604
Local Wellness Policy 605
Nutrition Education Networks 605
Community Coalitions 605
Advocating for Nutrition and Nutrition Education 605
Written Communications 606
Testimony, Hearings, and Forums 606
Helping to Shape Legislation 606
Educating Policymakers in Government 608
Why Educate Elected Government Officials? 608
Who Are Your Elected Officials? 608
Get to Know Them and Let Them Get to Know You 608
You Can't Do Everything, but You Can Do Something 610
Questions and Activities 611
References 611

PREFACE

With the rates of diet-related diseases and obesity continuing to rise worldwide—alongside malnutrition in some countries—nutrition education is needed now more than ever. Fortunately, the important role played by nutrition education in reducing the risk of these conditions is increasingly recognized for schools, worksites, and communities, and consequently food and nutrition-related policy initiatives in institutions and government have increased over the past few years. This means that nutrition educators have an opportunity to make a genuine difference in the world.

Approach of This Text

This text seeks to assist nutrition educators by focusing on how to design, deliver, and evaluate the types of educational interventions and programs that the vast majority of nutrition educators conduct on an ongoing basis in their places of work, such as community programs, clinics, food banks, family programs, or schools.

Nutrition education is defined in this text as any combination of educational strategies, accompanied by environmental supports, designed to facilitate the voluntary adoption of food choices and other food- and nutrition-related behaviors conducive to health and well-being. It is delivered through multiple venues and involves activities at the individual, institutional, community, and policy levels.

Nutrition educators are usually very expert at creating sessions with interesting activities for their audiences. Research evidence suggests that these sessions can be more effective if the activities are clearly designed to address specific behavior change goals, along with the motivators, facilitators, and supports for change for their audiences. Research in behavioral nutrition and nutrition education has also generated conceptual models or theories that can help us understand how people make food choices and what may motivate and facilitate change. Consequently, the text focuses on how to use the key theories or models as tools to help nutrition educators design interventions, programs, or sessions that indeed address the identified motivators, facilitators, and supports for diet-related behavioral change for their audiences.

This text has been designed for upper-level undergraduate and graduate nutrition students who are taking their first course in nutrition education, as well as for practitioners and managers already working in nutrition education who want a comprehensive resource for planning and delivering effective programs to their audiences.

Organization of This Text

This text is divided into three parts.

Part I describes the complexity of influences on food choices and the key elements of success for nutrition education. Later chapters in this part provide a clearly organized description of each of the major theories that can be used in nutrition education interventions to address potential motivators and facilitators of change, referred to here as determinants (or mediators) of action and behavior change as well as evidence for their usefulness. For each theory, a leader orients the student to the theory, and a take-home message summarizes it. Each theory is followed by a description of how to translate the theory into practical nutrition education activities, along with a case example of its use.

There is an increased appreciation that our food choices are influenced by social and environmental contexts. Nutrition education needs to address the numerous personal, environmental, and policy influences on food choices and dietary behaviors in order to assist individuals and communities in practicing healthy behaviors. A larger scope for nutrition education thus has evolved.

While group sessions remain primary, nutrition educators also work in collaboration with others on activities such as school and community gardens, cooking with children and adults, farm-to-school programs, school and community wellness policies, and initiatives to improve policy, systems, and environments. Consequently, Chapter 6 describes how to design environmental supports for action using a social ecological model.

Part II features the centerpiece of this text: A stepwise procedure intended to make it easier for students and practitioners to design effective nutrition education. This procedure, called DESIGN, shows how behavioral theory is translated into theory-based strategies and educational objectives, and then how these strategies and objectives can be practically implemented. These activities are then organized into educational plans for program components directed at groups. The DESIGN procedure integrates theory, research, and practice at every step, providing guidance on designing, implementing, and evaluating theory-based nutrition education. Part II also provides guidance on how to develop environmental support plans for changes in policy, social structures, and environments to increase opportunities for action. It also explores how to link evaluation to theory and intervention objectives. At the end of each chapter in Part II, the DESIGN procedure is illustrated by a case study. A set of blank worksheets are included at the end of Chapter 13.

Part III describes the nuts and bolts of implementing nutrition education with diverse groups ranging from preschool children to older adults, as well as addressing low-literacy audiences and diverse cultural groups through a variety of venues, including group sessions, written and visual materials, new technologies, and social marketing.

Features and Benefits

Nutrition Education: Linking Research, Theory, and Practice, Third Edition, includes a variety of features to prepare students and others to provide effective nutrition education to specific groups and to foster environmental supports for action:

- At the beginning of each chapter, an *Overview* and *Chapter Outline* help students anticipate what will be covered. *Learning Objectives* improve retention of the material presented.
- *Nutrition Education in Action* features highlight concepts discussed in the chapter through examples of best practices and research culled from current education programs.
- *Boxes* draw out important information for the reader, particularly about specific theories in practice.
- A logic model approach is used in the DESIGN stepwise procedure, with the tasks and products of each step clearly stated.
- The *Worksheets* in Part II allow students and nutrition educators to develop their own programs using the DESIGN stepwise procedure.
- *Case examples* included throughout the text illustrate the use of each specific theory in practice. Furthermore, a case study introduced in Chapter 7 and followed throughout Part II illustrates each step of the DESIGN procedure for designing nutrition education.
- At the end of each chapter, *Questions and Activities* reinforce key concepts and references provide an opportunity for further study.

Instructor Resources

Qualified instructors can receive the full suite of Instructor Resources, including the following:

- Test Bank, containing more than 800 questions
- Slides in PowerPoint format, featuring more than 400 slides
- Instructor's Manual, providing Chapter Outlines and Teaching Suggestions
- Sample Syllabus, showing how a course can be structured around this text

The public needs and wants what nutrition education can offer. This text is designed to help students and nutrition educators gain the knowledge and skills needed to provide that nutrition education effectively.

Isobel R. Contento

NEW TO THIS EDITION

The basic structure of the text remains the same because it seems to work. However, just about every page has been extensively revised based on feedback from both faculty members and students who have used this text, as well as on ongoing research in the field. The chapters have been streamlined, shortened, and rewritten to make them easier to read and use. The addition of a full color presentation for this edition also enhances readability, clarifying both the illustrations and heading structure. Additional diagrams have been added. The *Nutrition Education in Action* examples have been updated throughout, as have all the references. Greater emphasis has been placed on the cultural context of nutrition education.

A key change in Part I is that the case examples have been greatly expanded to clarify how the theories are used in practice.

The chapters in Part II, meanwhile, have been rearranged to flow more logically. Chapters 7 through 13 lead the reader through the 6-step DESIGN Procedure for developing group sessions, cumulatively resulting in one or more educational plans (lesson plans) for use with groups, along with an evaluation plan. Chapter 14 leads the reader through the entire 6-step DESIGN procedure in one chapter, but this time resulting in an environmental support plan that includes an evaluation plan. In addition, the DESIGN Procedure worksheets have been completely reformatted and simplified to make them much easier for all to use.

Part III, focusing on how to effectively deliver nutrition education, has also been extensively edited to link it more closely to the design DESIGN activities in Part II.

Additional specific changes for each chapter are described in the following pages.

Chapter 1: Nutrition Education: Important, Exciting, and Necessary for Today's Complex World

- The chapter as a whole has been shortened, particularly the sections describing the effectiveness of nutrition education and viewpoints on its aims.
- A section has been added on the impact of our food choices on the planet.
- A table showing the conceptual framework for the text has been added to help orient the reader.
- The relationship between food and nutrition education *topics* and *behavior change* in nutrition education has been clarified.
- The behavior change approach has been clarified.

Chapter 2: Determinants of Food Choice and Dietary Change: Implications for Nutrition Education

- Box 2-1, "Assessing Our Audiences: A Checklist," has been added to provide guidance in determining whether nutrition education has been appropriately tailored to an audience.

Chapter 3: An Overview of Nutrition Education: Facilitating Motivation, Ability, and Support for Behavior Change

- Chapter 3 is key to understanding important concepts central to this text, and as a result it has been extensively rewritten to make these concepts easier to understand, particularly the terms *theory* and *beliefs* and their role in *behavior change*.

- In order to help the reader better understand psychosocial theory, a section has been added in which the experiences of case study subjects are examined through behavioral science. The words used by the subjects in the interviews are matched with the labels psychologists give to these very same words.
- In many other places in the chapter, a concept is first introduced in lay language terms and then the psychosocial term for it is given.
- The differences among *motivating knowledge*, *facilitating knowledge*, *nutrition literacy*, *and food literacy* have been clarified, along with their relationship to *beliefs* and *behavior change*.
- The overview of nutrition education has been reframed in terms of elements of success.

Chapter 4: Increasing Awareness and Enhancing Motivation and Empowerment for Behavior Change and Taking Action

- Two major additions have been made to the case studies of Alicia and Maria: (1) a diagram for each based on different theory models and (2) full educational plans based on their respective theory models.
- Blank diagrams for the health belief model, the theory of planned behavior, and self-determination theory have been added.
- The model of goal-directed behavior has been added.

Chapter 5: Facilitating the Ability to Change Behavior and Take Action

- Two major additions have been made to the case study centered on Ray: (1) a theory model diagram based on social cognitive theory and (2) full educational plans based on the theory model.
- A blank diagram for social cognitive theory has been added.

Chapter 6: Promoting Environmental Supports for Behavior Change

- This chapter has been extensively edited with new examples of the social ecological model, most notably the new Community Nutrition Education Logic Model used by the United States Department of Agriculture.

Chapter 7: Step 1: Deciding Behavior Change Goals of the Intervention Based on Assessing Issues and Behaviors of Audience

- This chapter introduces the new name for the stepwise procedure used to design nutrition education: DESIGN.
- The worksheets for all steps have been completely rewritten, reformatted, and simplified.
- The worksheet for the case study appears at the end of the chapter, while blank worksheets for all steps now appear at the end of Chapter 13.

Chapter 8: Step 2: Exploring Determinants of Intervention Behavior Change Goals

- This chapter has been edited to reflect the new arrangement of chapters so that only determinants of individual behavior change are assessed: motivational determinants and facilitators of change.

Chapter 9: Step 3: Selecting Theory and Clarifying Intervention Philosophy

- The description indicating how to choose various components for the intervention has been deleted and moved to Chapter 14.

Chapter 10: Step 4: Indicating Objectives: Translating Behavioral Theory into Educational Objectives

- All objectives described in this chapter are for group sessions only (and indirect nutrition education if used). All text describing objectives directed at an environmental support component has been deleted and moved to Chapter 14.
- For the cognitive domain, the more recent wording and arrangement of objective levels has been used: Remember, understand, apply, analyze, evaluate, and synthesize.
- An extensive example of objectives from a curriculum has been added to help the reader write appropriate nutrition education objectives.

Chapter 11: Step 5: Generating Educational Plans: A Focus on Enhancing Motivation for Behavior Change and Taking Action

- This chapter is at the heart of writing educational or lesson plans for direct group nutrition education and has been streamlined for ease of reading.
- The relationships among determinants, educational objectives, behavioral change strategies, and practical educational activities have been clarified.
- The list of behavior change strategies for enhancing motivation has been revised to reflect new research.
- An extensive example from a curriculum has been added to help the reader clearly state strategies and educational objectives for determinants and guide the development of practical activities for strategies and objectives.
- The section on sequencing activities to generate educational plans has been re-written, and the sequence is now referred to as the 4 *E*s: excite, explain, expand, and exit.

Chapter 12: Step 5: Generating Educational Plans: A Focus on Facilitating the Ability to Change Behavior and Take Action

- The description of behavior change strategies for facilitating behavior change has been revised to reflect new research.
- More examples of goal setting are provided.

Chapter 13: Step 6: Nail Down the Evaluation Plan

- This chapter, which appeared in the previous edition as Chapter 14, has been completely rewritten to focus on designing the evaluation plan for group nutrition education sessions only (and indirect education if used). All references to evaluation of environmental supports has been deleted and moved to Chapter 14.
- Many more examples of evaluation instruments are included.
- Increased attention is given to design principles for measurement instruments that are appropriate for low-literacy clients.
- The discussion of process evaluation has been expanded, and a conceptual model is presented showing how process evaluation components are related to outcome evaluation components.
- Blank worksheets for steps 1 through 6 of the DESIGN procedure are now collected at the end of this chapter. They have been simplified and totally reformatted.

Chapter 14: Using the DESIGN Procedure to Promote Environmental Supports for Behavior Change and Taking Action

- This new chapter takes the reader through all six steps of the DESIGN procedure to design interpersonal and policy, system, and environment support (PSE) components based on a social ecological model that uses the categories of the *Dietary Guidelines for Americans, 2010*.
- Chapter 14 describes the types of theories or conceptual models that are appropriate for each level.
- This chapter provides more examples of social ecological approaches, including one that uses social cognitive theory to link activities at various levels.
- Worksheets for all six steps to promote environmental supports are placed together at the end of the chapter.

Chapter 15: Delivering Nutrition Education Effectively in Group Settings

- The chapter has been extensively rewritten to link the content conceptually to the DESIGN procedure.
- Sections on learning theory and instructional theory have been added.
- The section on communications has been expanded.
- A graphic organizer has been created to show the relationships among behavior change goals, determinants, behavior change strategies, instructional design theory, and communication principles.
- A lesson plan has been added to show how to integrate all the above considerations into one session.

Chapter 16: Media Supports and Other Channels for Nutrition Education

- The section on social marketing has been revised to include more recent views.
- The section on using new technologies has been totally rewritten and expanded.

Chapter 17: Working with Diverse Age, Cultural, and Literacy Population Groups

- The section on working with diverse cultural groups has been greatly expanded.
- A section on appropriate design principles and delivery methods for culturally sensitive nutrition education for culturally diverse audiences has been expanded.
- Sections on strategies for developing and delivering culturally sensitive interventions for African-American and Hispanic/Latino audiences have been added.
- The section on developing nutrition education materials and working with low-literacy audiences has been expanded considerably with more examples.
- A short section has been added about targeting subgroups that differ by food-related lifestyle factors based on differences in behaviors, attitudes, personal and social norms, values, and other factors.

Chapter 18: Nutrition Educators as Change Agents in the Environment

- Information on professional associations, public policy activities, and legislation has been updated.
- Sponsorship policies for professional societies have been updated.
- The text still ends with the challenge put out by Margaret Mead: Never doubt that a small group of thoughtful people can change the world. Indeed it is the only thing that ever has. And the quote from nutritionist Fern Estrow, "You can't do everything but you can do something."

ACKNOWLEDGMENTS

The field of nutrition education has grown rapidly over the past few years, and I have had the privilege of being a part of this exciting development. Many people have influenced my thinking and contributed to my understanding of the field, and I thank them all. They include colleagues across the country and the world, members of the Society for Nutrition Education and Behavior, behavioral nutrition and nutrition education researchers, presenters at professional meetings, members of committees I have been on, practitioners in community sites, and many others with whom I have worked.

In particular, I want to thank a few I have worked with more closely. Joan Gussow first introduced me to the field of nutrition education, and her insights and forward thinking have always challenged me to dig deeper. She encouraged me to write this book and has been supportive throughout. Pamela Koch, with whom I have worked for the past two decades, has been an important contributor to this effort. Additionally, she created the DESIGN acronym for the stepwise procedure and the 4 Es for this edition. Marissa Burgermaster, an experienced and thoughtful educator, contributed substantially to the Nutrition Education in Action feature of the text, the DESIGN worksheets, and the Instructor's Manual. Rachel Paul has provided valuable assistance with the ancillary materials for this edition.

The many reviewers of the manuscript across all editions provided extremely valuable feedback from their vantage points as faculty members who teach nutrition education or community nutrition courses in a wide variety of colleges and universities. This text has benefited from their insights. A special thank you to the following reviewers who either provided feedback as I planned this revision or provided comments about draft chapters:

- Jennifer O. Barr, MPH, RD, LDN, West Chester University
- Leslie D. Cunningham-Sabo, PhD, RDN, Colorado State University
- Erika Deshmukh, MS, RD, San Jose State University
- Grace Falciglia, EdD, MPH, RD, University of Cincinnati
- Mary Beth Gilboy, PhD, MPH, RD, West Chester University
- Deborah A. Hutcheon, MS, RD, LD, Bob Jones University
- Deborah Kennedy, PhD, University of New Haven
- Lisa A. Kessler, DrPH, RD, California State Polytechnic University, Pomona
- Linda Knol, PhD, RD, The University of Alabama
- Katie R. Miner, MS, RD, LD, University of Idaho
- Cynthia Warren, PhD, Texas Woman's University

Equally important are the numerous students who road-tested the many versions of this book in more than a decade of my nutrition education courses. Their reactions, feedback, and suggestions have provided reality checks on using this text in the classroom and in the field.

I also want to thank the people at Jones & Bartlett Learning for their support for this project: Sean Fabery, the associate acquisitions editor; Leah Corrigan, the production editor; Shannon Sheehan, the media development editor; Jamey O'Quinn, the rights and media research coordinator; and Rhonda Dearborn, who was involved in the early stages of this edition.

And last, but definitely not least, I thank my husband Robert Clark for his many years of unwavering support. Having worked in the textbook business himself, he understands the effort that writing a textbook requires.