

# ANNOTATED CONTENTS

VOLUME II

## *Designs for Change*

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### SECTION ONE

#### CREATING THE THOUGHTFUL CLASSROOM

INTRODUCTION .....	1
1 COGNITION IN PRACTICE <i>James Bellanca &amp; Robin Fogarty</i> .....	3
Cognitive instruction research includes several major areas: explicit skill instruction, cognitive organizers, metacognition, and transfer of learning. Criteria for explicit instruction in thinking skills are examined and specific programs are categorized. Next, the emergence of cognitive organizers as significant cognitive tools is briefly noted. A substantial section on metacognition as a superordinate kind of thinking is also included. A metacognitive framework for planning, monitoring, and evaluating learning is explained. Finally, current work in the area of transfer of learning is discussed as cognitive instruction moves in a new direction.	
2 THE ART OF STRATEGIC CONNECTIONS <i>Faye Brownlie</i> .....	23
Thinking is the bridge that links students' experiences with the curriculum. This bridge is activated by the use of teaching/learning strategies in the classroom. This chapter weaves the attributes of a thoughtful classroom with the attributes of a strategy, then moves on to discuss implementation issues: How do teachers begin to use strategies in their teaching? How do teachers monitor the strategies they teach? How can students be involved in monitoring the effectiveness of the strategies they are learning?	
3 CREATING THE THOUGHTFUL CLASSROOM <i>Jean Speer Cameron</i> .....	33
<i>Creating the Thoughtful Classroom</i> describes the change process and the staff development component used by a suburban K-12 school district to facilitate the use of instructional strategies that promote thinking. The article demonstrates that an entire district can move forward in an area of focus when careful attention is given to the change process.	
4 COGNITION AND COOPERATION: PARTNERS IN EXCELLENCE <i>Jacqueline Rhoades &amp; Margaret McCabe</i> .....	43
This chapter focuses on enhancing the development of higher-order thinking skills through the use of cooperative learning strategies. Content includes a definition of "higher-order thinking" skills; what thinking paths are and how they are developed;	

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- relationship between “frame of reference” and thinking paths; how cooperative learning inherently enhances thinking skills; and how specific cooperative techniques can be structured to purposefully enhance student thinking.
- 5 THE NINE BASICS OF TEACHING THINKING *David Perkins & Robert Swartz* . . . . . 53
- From research and experience, the authors synthesize nine basic principles for teaching thinking and expand on their implications. The nine principles are: thinking suffers from unfortunate default patterns; thinking with the help of explicit thinking organizers, verbal and graphic, can counter these; infusion of thinking-oriented instruction into content area instruction serves students best; skills, processes, and dispositions all need cultivation; better thinking needs to be addressed explicitly; metacognition requires careful attention; transfer requires careful attention; a serious time commitment to thinking as well as content is important; and continuing staff development is an imperative.
- 6 MIND TOOLS FOR MATTERS OF THE MIND *Jay McTighe & Frank T. Lyman* . . . . . 71
- The authors offer three classroom scenarios (elementary, middle, and high school) illustrating the applications of various theory-embedded tools. Characteristics of theory-embedded tools, tangible devices that assist thinking and learning; and cognitive cues that signal classroom actions and interactions are then discussed. These tools and their associated cues present a valid, concrete, relevant, and practical system for involving students from nursery school through graduate school in the active processing of ideas. The body of the chapter describes nine specific “cognitive tools” that have served as catalysts for creating responsive, thoughtful classrooms in which students are actively involved in constructing meaning.
- 7 MEANING IS THE METHOD: WHOLE LANGUAGE IN THE THOUGHTFUL CLASSROOM  
*Laura Lipton* . . . . . 91
- Whole language instruction is presented as a developmental, holistic, meaning-making methodology. Classroom climate, teacher behaviors, instructional activities, and curriculum are addressed from that perspective. The teaching/learning relationship, positive learning experiences in developing literacy, and reading as a problem-solving strategy provide the primary foci.
- 8 INTERACTIVE STRATEGIES FOR ENHANCING THINKING AND WRITING *Carol Booth Olson* . . . . 101
- This article presents a wide range of interactive strategies for thinking and writing about literature including clustering, dialectical journals, found poetry, guided imagery, showing, not telling, and more. The goal of these strategies is to provide tools for reflection so that, rather than relying on the teacher’s interpretation, students can make their own meaning from texts. When students experience a literary text in a variety of interactive ways, their emotional investment in the text is greater and their writing about the text is richer.
- 9 CONVERTING AT-RISK STUDENTS INTO REFLECTIVE LEARNERS *Stanley Pogrow* . . . . . 117
- This article describes the conditions under which at-risk students can be converted into successful, reflective, academic learners. Large scale experience with the higher-order thinking skills (HOTS) program has shown that most at-risk students have high levels of intellectual ability. However, they suffer from a debilitating learning deficit wherein they do not have a sense of what it means to understand symbolic ideas. The key to overcoming this understanding deficit is to first provide extensive general thinking activities, and then limited amounts of high-quality thinking in content. The latter requires an innovative curriculum taught by very good teachers who have been trained in Socratic techniques. A practical implementation plan is described, along with conditions of effectiveness.
- 10 MULTIPLE INTELLIGENCES THEORY: CREATING THE THOUGHTFUL CLASSROOM  
*Noel White, Tina Blythe, & Howard Gardner* . . . . . 127
- Gardner’s theory of multiple intelligences (MI Theory) maintains that intellectual development involves more than a single, genetically determined capacity. We all possess several distinct capacities for solving problems and creating products, including linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal intel-

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ligences. The particular context of schools favors certain abilities over others. The standard curriculum stresses language and logic; other capacities receive only cursory acknowledgment despite their importance in other contexts, especially later in life. MI Theory suggests educational practices that diverge considerably from the current push toward standardization of curriculum, pedagogy, and assessment. In particular, MI Theory calls for broadening the school curriculum, emphasizing the divergent paths that students can take toward understanding, and diversifying assessment.

11 SEVEN WAYS OF KNOWING *David Lazear* . . . . . 135

This chapter is concerned with practical implications of the theory of multiple intelligences for restructuring schools in three areas. The first is the curriculum (teaching FOR multiple intelligences). We need to be sure that the basic skills/capacities of the different ways of knowing are being taught in our schools. Second is instructional practices and methodologies (teaching WITH multiple intelligences). We need to be presenting academic material in a wide variety of ways to address and stimulate all intelligence areas. The third concern is reinventing the learning process itself (teaching ABOUT multiple intelligences). Here we are concerned not only with helping students learn about their multiple ways of knowing, but with such things as assessment of various intelligence strengths and weaknesses, as well as assessing academic progress using multiple intelligences.

12 THE MINDFUL MIDDLE SCHOOL: A SHIFTING PARADIGM *Elliot Y. Merenbloom*. . . . . 151

Unique opportunities exist in the middle school classroom for teaching thinking. Fundamental aspects of the middle school concept include a curriculum model that integrates content, skills, and personal development as well as team approaches to instruction. Within this milieu, strategies appropriate for teaching thinking include: clarifying purposes; providing motivation, readiness, and goal-setting; utilizing recall strategies; providing transitions; moving from concrete to abstract; using wait-time; facilitating student-to-student interaction; assigning team tasks; creating simulation and game techniques; and focusing on affective issues.

13 CLASSROOM 2001: EVOLUTION, NOT REVOLUTION *James Bellanca* . . . . . 161

What will classrooms look like in 2001? The author shows how the best instructional practices used by outstanding practitioners in today's classrooms could become the norm in the next century. He identifies the major blocks to this evolution and suggests a practical vision for the classroom in the year 2001.

## SECTION TWO

### CREATING COOPERATIVE LEARNERS

INTRODUCTION . . . . . 167

14 COOPERATIVE LEARNING: A THEORY BASE *David W. Johnson & Roger T. Johnson* . . . . . 169

The use of cooperative learning in schools is unique in its theoretical and research support. The comparison of cooperative, competitive, and individualistic efforts is the oldest research tradition in American social psychology. The impact of cooperative learning on a wide variety of educational outcomes has been studied. One set of outcomes involves effort to achieve. A second set of outcomes involves interpersonal attraction, desegregation, mainstreaming, and social support. A third set of outcomes involves psychological adjustment and health, social competencies, and self-esteem. The validity, breadth, and power of social interdependence theory make it a key aspect of schooling. The use of cooperative learning is part of changing schools from a competitive/individualistic to a high-performance cooperative-team organizational structure.

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- 15 BUILDING A RESEARCH SYNTHESIS *James Bellanca & Robin Fogarty* . . . . . 189  
Cooperative learning research presents a powerful portrait of a teaching-learning model. No other model has the quantity, the reliability, the consistency, the breadth, or the depth of research to support its effectiveness with learning across age levels and content areas. Within the “body of research,” a variety of cooperative learning “schools” highlight different approaches and strategies, debate values, and emphasize unique attributes. This article presents both the “big picture” and the characteristics of each model.
- 16 BUILDING A CARING, COOPERATIVE CLASSROOM *James Bellanca* . . . . . 201  
After identifying the reasons why many of today’s children have low-self-esteem and seem to be self-centered individualists, the author shows how primary teachers can teach the social skills of caring, responsibility, and cooperation *integrated* into a thoughtful curriculum. Early intervention and explicit attention to social skills instruction provides the basis for cooperative interactions throughout the school years and into life outside the classroom.
- 17 DEVELOPING RESPONSIBILITY THROUGH COOPERATION  
*Margaret McCabe & Jacqueline Rhoades* . . . . . 209  
If we expect our students to be responsible, we must provide the opportunity for them to learn and practice responsibility. Incorporating elements of Cooperative Meeting Management into the classroom provides that opportunity. Understanding the stages of group development, establishing clear standards, and providing a safe environment are the first steps. Introducing roles that encourage, and even require, the concept of distributed leadership, equal responsibility, and the importance of each member of the group lead to students developing a sense of responsibility in general, and responsibility for one’s own learning in particular.
- 18 THE POWER AND THE PROMISE OF COOPERATIVE LEARNING *Marie Meyer* . . . . . 221  
Education for the year 2000 and beyond cannot be passive. Learning must be active, creative, holistic, and collaborative. Cooperative learning has the power and the promise to transfer teaching and learning beyond the classroom walls to the family, to the community, to the voting booth, and to the workplace. It is more than just another method for instruction. The philosophy and conceptual model is preparation for a world characterized by interdependence, pluralism, conflict, and rapid change. In this chapter the success stories of high school teachers practicing the cooperative learning model represent the transformation that is taking place for both students and teachers.
- 19 COOPERATIVE LEARNING: A NATURAL WAY TO LEARN *David Schumaker* . . . . . 231  
A brief overview of the author’s detailed method of cooperative lesson design based on Dr. Costa’s “Input - Process - Output - Metacognition” model of thinking lessons. The author gives an example of the lesson design from an Earth Science lesson. Further details of his cooperative learning techniques are provided, including those for homework, reading assignments, classroom rules, as well as specific examples of cooperative lessons for various disciplines. A discussion of the misuse of cooperative learning concludes the chapter.
- 20 LESSONS LEARNED IN A COOPERATIVE COLLEGE CLASSROOM  
*Martha E. Crosby & Dara Lee Howard* . . . . . 243  
A college faculty team of two describe their initial experience with cooperative learning in an advanced computer class. The focus is on the lessons they learned: you don’t have to be perfect; adjustment time is needed; interaction tempers the classroom; cooperative rewards are needed; dark clouds have silver linings; you can structure for success; logistical nightmares do improve; and support is welcomed. The chapter concludes with benefits and barriers.
- 21 COOPERATIVE LEARNING WITH ADULT LEARNERS *Therese Bissen Bard* . . . . . 251  
This chapter traces the experiences of a faculty member who has experimented in cooperative learning with students in a graduate professional school, The School of Library and Information Studies, University of Hawaii at Manoa, for almost eighteen years.

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Emphasis is on: planning courses at the graduate level for cooperative learning; teaching methods; strategies and techniques; and problems involved with cooperative learning.

22 AN AGENDA FOR ALL SEASONS *James Bellanca* . . . . . 261

Cooperative learning provides unparalleled opportunities for a teacher to develop the cognitive model of student thoughtfulness and mastery of content in triple agenda lessons. Cooperative learning lessons that focus learners on completing drill and skill objectives fall short of the method's potential. Examples of primary, middle, and secondary lessons illustrate the differences between lessons with recall outcomes vs. those that have a dual agenda of cooperative and content outcomes as well as those with a triple agenda of content and cognitive and cooperative outcomes.

### SECTION THREE

## ASSESSING SIGNIFICANT OUTCOMES

INTRODUCTION . . . . . 273

23 REASSESSING ASSESSMENT *Arthur L. Costa & Bena Kallick* . . . . . 275

If we are teaching to enhance students' thinking, then we need to find ways to assess students' growth in multi-dimensional ways that match our instructional goals. This chapter looks at assessment issues we are really interested in: the reasoning behind a person's answer; how students behave when they don't know the answers to questions; and how students *produce* knowledge as much as how they reproduce knowledge. The authors suggest that teachers become researchers of student thinking—and become interested in the design of assessment instruments that measure highly complex processes.

24 FINDING OUT WHAT WE NEED TO KNOW *Sharon Jeroski* . . . . . 281

Evaluation is the most powerful way that teachers and students express their values and beliefs. This chapter looks at a learner-focused approach to assessment and evaluation, where the emphasis is on supporting learning and enhancing development. Vignettes and examples of students' work from primary, intermediate, and secondary classrooms focus on three topics: evaluating what we value; students and teachers working together; and using collections of student work to track change.

25 HOW TO GRADE (IF YOU MUST) *James Bellanca* . . . . . 297

Many practitioners see letter and number grades assigned to students' thinking and cooperating as incompatible. In this chapter, the author recommends that teachers not waste energy fighting over grades; rather, he advocates that teachers focus on substantive efforts to develop the thinking and cooperation of all students. To satisfy the grading pressures, the author shows how to attach grades to criteria and indicators of success for the products of student thinking and the behaviors of cooperation.

26 EVALUATION: A COLLABORATIVE PROCESS *Bena Kallick* . . . . . 313

Evaluation is not something that is "done to you"—a final judgment. Rather, evaluation is done with you—you are a collaborator in the process. This chapter deals with strategies to help students develop criteria regarding their work and learn how to converse with teachers about their work. In addition, other ways to encourage evaluation as a collaborative process are suggested: collaborations between students, teachers, departments, administrators, boards of education, and parents. The focus is on ways to increase participation in the evaluation process as a way to raise standards.

27 HOW DO WE KNOW WE'RE GETTING BETTER? *Sharon Jeroski & Faye Brownlie* . . . . . 321

Assessment practices should focus on authentic achievements. This chapter describes real accomplishments of active, responsive readers who are engaged with texts and activities that are meaningful to them. Sample strategies and student responses illustrate promising