Preface

The notion that education should develop the cognitive abilities of students, that is, that students should be taught how to think, has been treated in a variety of ways by those involved in education. At one extreme, it has been a notion more honored in its breach than in its observance. In fact, many satirists have portrayed traditional schooling as an antidote to thinking, and thinking as a danger to institutionalized education.

In many countries, the dominant educational ideologies have recognized that to teach children to think would be incompatible with the maintenance of the status quo. In those situations, education does not create thinking students and autonomous learners.

Only relatively recently (in the past few decades) have practical tools become available that translate the rather pious resolution of "we must teach children how to think" into a practicable activity. Indeed, numerous thinking skills programs have resulted from the increasing emphasis that cognitive psychology has placed on the educability of intelligence. Feuerstein's theories of Mediated Learning Experience (MLE) and Structural Cognitive Modifiability have been essential in these developments.

This book aims to extend the practical application of various dimensions of Feuerstein's theory and belief system, especially in relation to Mediated Learning Experience, Deficient Cognitive Functions, and the Cognitive Map. The first edition of this book, *Mediated Learning In and Out of the Classroom,* arose out of the work of the Cognitive Research Program, which was established within the Division of Specialized Education at the University of Witwatersrand, South Africa, in 1990. The work is based on extensive research and implementation and adaptation of Feuerstein's Instrumental Enrichment Program of Thinking Skills in a variety of educational settings internationally. Feuerstein's theory and techniques have served as the cornerstone of and springboard for this publication. We are greatly indebted to him and to his team for their vision, their inspiration, and their training.

WHAT IS MEDIATED LEARNING?

"Because of . . ." statements are not uncommon to hear in the staffrooms and classrooms of most schools. These statements convey the same general message, although the specific details differ: "Because of his low IQ, he should be given a simplified curriculum"; "Because she is hearing-impaired, she will not be able to take rigorous academic courses"; "Because of her poor academic test scores, she should not plan to study beyond high school"; "Because of the alcohol abuse in the home, he will struggle in class."

The response to these "Because of . . ." statements is contained in the educational theory and research on which this book is based. This response is that education will

improve only when educators realize that rather than perpetuate the misguided emphasis on the predictive value of tests scores or genetic factors or environmental conditions, the school's task is, irrespective of these factors, to develop the student's underlying cognitive functions (i.e., the ability to learn and become an autonomous thinker) and intrinsic motivation (i.e., love of learning and extension of interests).

Rather than pessimistically predict future outcomes based on the student's current low level of functioning, the teacher should optimistically view this as the baseline for potential change in the student's ability to learn. This change should be seen as being dependent on the quality of teacher-student and parent-student interaction. It is through this interaction that the cognitive and motivational functions needed for learning will be modified. This approach is based on having a belief that change is possible, and then having the skills and strategies to bring about that change.

Our response to the "Because of. . . ." statements about IQ scores or genetic factors or environmental concerns is to change the "Because" to "Despite" and thereby change the focus from doing less to doing more. Rewording these statements would change our thinking from blaming the learner to empowering the teacher. A far more optimistic statement would be "Despite a low IQ or hearing impairment or autism or alcoholism, the right kind of mediated learning can offer the potential for cognitive change to achieve independence and autonomy." This approach would be in keeping with the theory and practice of Reuven Feuerstein—it is this theory of cognitive modifiability and mediated learning that will be explored in this book.

WHO IS REUVEN FEUERSTEIN?

Reuven Feuerstein is an internationally renowned Israeli professor of psychology who has been working in the field of child development for over 50 years. Through his work with low-functioning and disadvantaged individuals, he developed innovative methods of testing and teaching that have been applied worldwide. Along with other contemporary psychologists, he rejects the static belief that individuals are born with a certain intelligence that remains fixed throughout life. In contrast, he has shown that individuals have the potential to change and are modifiable if provided with the opportunities to engage in the right kind of interaction. This "potential to change" is described by Feuerstein as Structural Cognitive Modifiability, and the "right kind of interaction" as Mediated Learning Experience. Through mediated learning, learners can change the way they think (cognitive modifiability) and develop the efficient thinking skills that are necessary to become an autonomous and independent learner. In addition, Feuerstein has constructed a list of Cognitive Functions that are the prerequisites or building blocks of efficient thinking. These building blocks of efficient thinking can be taught by adapting the teaching task using a Cognitive Map. Together, Structural Cognitive Modifiability (as the belief in change), Mediated Learning Experience (as the method of change), and the Cognitive Functions and Cognitive Map (as the tools of change) can pave the way to effective learning.

WHAT IS THIS BOOK ALL ABOUT?

This book covers the principles and application of Feuerstein's theories of Structural Cognitive Modifiability (SCM), Mediated Learning Experience (MLE), the Cognitive Functions, and the Cognitive Map.

Part I. Metalearning: Structural Cognitive Modifiability

This part explains Feuerstein's theory of modifiability and belief in change. It outlines the difference between passively accepting a learner's low level of functioning (passive acceptance) and attempting to actively modify and bring about change in learning (active modification). This part invites reflection on a case study used to illustrate the different belief systems in learning and teaching. This part on SCM is headed Metalearning, as it focuses our thinking on learning.

Part II. Metateaching: Mediated Learning Experience

This part explains Feuerstein's theory of interaction, Mediated Learning Experience, and how using MLE can bring about changes in cognition. Feuerstein has 12 key criteria of MLE and each one of these provides a different approach of interacting with the learner. Examples and ideas for using MLE in teaching, parenting, and counseling are provided. This part on MLE is headed Metateaching, as it focuses our thinking on teaching.

Part III. Metacognition: Cognitive Functions and Dysfunctions

This part explains Feuerstein's list of thinking skills—the cognitive functions. It shows the relationship between the input, elaboration, and output phases of thinking and demonstrates how a teacher might identify a student who is experiencing cognitive difficulties in the classroom. Strategies are provided for the teacher to overcome cognitive difficulties that are linked to the criteria of mediation. This part on Cognitive Functions and Dysfunctions is headed Metacognition, as it focuses our thinking on thinking.
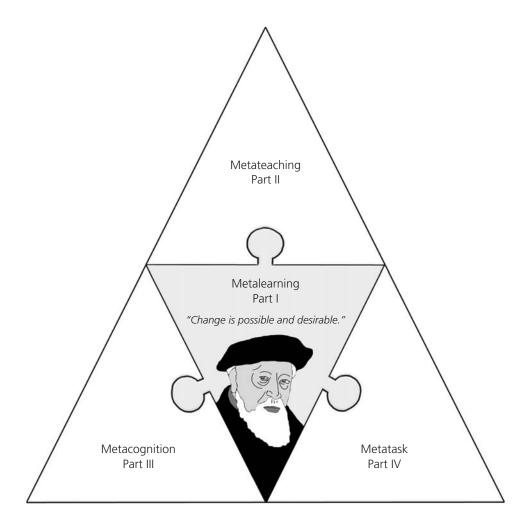
Part IV. Metatask: The Cognitive Map

This part explains Feuerstein's tool to analyze a task. It shows how a teacher might vary or change a learning task or experience to identify how and where a learner is experiencing cognitive difficulties. Examples are provided of how the Cognitive Map can be used as a tool for analyzing and manipulating a teaching experience to identify cognitive dysfunctions and improve thinking. This part on the Cognitive Map is headed Metatask, as it focuses our thinking on the teaching and learning task.

The ideas and applications presented in this book can be used by anyone concerned with the learning potential of students—educators, community workers, school counselors, psychologists, parents, and caregivers—to

- Encourage autonomous learning
- Unlock a student's potential
- Promote the use of effective thinking skills
- Develop a positive belief in the propensity to change
- Improve parenting
- Remediate cognitive dysfunctions
- Analyze a student's cognitive strengths and weaknesses
- Modify a teaching task to promote learning

HOW TO USE THIS BOOK

As indicated in the diagram, Feuerstein's theory and approach is represented in this book as consisting of a central core theory in the middle of the triangle and three operational techniques at the three corners of the triangle. Each of these points of the triangle focuses on the triad of the learning process: the learner, the teacher, and the task.

This can be illustrated as follows:

- At the core of the triangle is Feuerstein's theory of Structural Cognitive Modifiability—the belief that all individuals have the potential to change and learn.

This is the subject of Part I: Metalearning and poses the following question for reflection:

- What do you believe about learning—do you passively accept the status quo or attempt to actively modify and bring about cognitive change in the learner?

At the first point of the triangle, the focus is on the teacher/parent/caregiver—and the tool or technique is the "right kind of interaction" called the Mediated Learning Experience. This is the subject of Part II: Metateaching and poses the following question for educators:

- What kind of interaction or mediation is needed to bring about cognitive change in the learner?

At the second point of the triangle, the focus is on the learner—and the technique offered is a checklist of thinking skills—the Cognitive Functions and Dysfunctions. This is the subject of Part III: Metacognition and poses the following question:

- What cognitive dysfunctions are evident and how can the educator change these and develop efficient thinking skills?

At the third point of the triangle, the focus is on the task—and the technique offered is a map to analyze the teaching experience—the Cognitive Map. This is the subject of Part IV: Metatask and poses the following question:

- How can the learning task be analyzed to identify and develop efficient thinking skills?

The triangle helps to illustrate how the four concepts of Feuerstein's approach are linked. At the heart of the triangle is the theory or belief in modifiability. Once an educator believes that change is possible, the skills or techniques to bring about change are needed, and the three corners of the triangle are these techniques: for the teacher—Mediated Learning; for the learner—the Cognitive Functions; and for the task—the Cognitive Map.

It is the questions relating to these four elements of Feuerstein's theory and practice that will be answered throughout this book.