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# **Social Interaction in Learning and Development**

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Studying social interaction in human mind and activities is highly relevant for different epistemological and theoretical approaches (e.g., individual constructivism, social constructivism, dialogical approach). Consequently, there is a growing number of social interaction studies in various contexts (family, educational, professional, clinical, institutional, social, political, and cultural settings) which are based on different theoretical perspectives and methodological approaches. This produces a multiplicity of findings which are highly relevant, both theoretically and practically - although weakly interrelated and seldom discussed together. The main aim of this book series is to create a space for continuous and systematic critical reflection of social interaction studies and their integration with a special focus on: (1) a detailed account of actors and processes involved in different types of situated social interaction, (2) situatedness of social interaction within sociocultural and sociomaterial contexts and how social interaction and contexts constitute and transform each other; (3) how properly designed social interactions can provide opportunities for learning and development (in formal, informal, non-formal education), and (4) how the individual person navigates within these social interactions.

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David Tzuriel

# Mediated Learning and Cognitive Modifiability

 Springer

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“Mediated learning experience produces in the organism a propensity to learn how to learn, by equipping the organism with the tools necessary for this facility.”



Reuven Feuerstein



“The heart murmurs (with desire) to innovate, to innovate incessantly, to splash and run on in a sprinkling and flowing way, for such is the nature of the soul: it constantly flows like the current of the brook. And what are the obstacles for innovation? Prejudices, fixed knowledge, plans, convictions. But these are mere incidentals which can in no way (permanently) impede the rushing current of the soul.”

Rabbi Avraham Yitzchak Ha'Cohen Kook

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*This book is dedicated to my late beloved wife Yona-Tova who was by my side for fifty happy years. Without her neither my work nor my life would be complete. Together we raised our six wonderful and sweet children. I thank God for giving me the talents and motivation to develop my clinical, mediational and scholarship skills.*

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## Series Editors' Note

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### **A Cognitive Approach to Mediated Learning and Development: A Comprehensive Portray**

The book series *Social Interaction in Learning and Development* is established as a new space for continuous and systematic critical reflection of theories and studies focusing on co-constructing learning and development throughout the process of interaction with others. Studying social interaction in learning and development as well as how it might constitute human mind and activities is highly relevant for different epistemological and theoretical approaches (e.g., individual constructivism, social constructivism, dialogical approaches). Consequently, during previous decades there is a growing number of social interaction studies in various contexts (family, educational, professional, clinical, institutional, social, political, and multicultural settings) which are based on different theoretical perspectives and methodological approaches. These studies have produced a multiplicity of perspectives and findings which are highly relevant for theoretical and practical reasons. This diversity of studies and findings makes a step further in the process of reflection and integration challenging; at the same time, it creates a good opportunity for a deeper understanding of how social interaction and individual learning and development are interwoven.

As editors of this book series, we believe that it might serve as a meeting point of various perspectives on studying social interaction in learning and development. One of our goals is to propose the book series as a platform to support dialogical reflection of controversies related to the theories, research methods, findings, and practical applications related to the studies on social interactions.

The present book “Mediated Learning and Cognitive Modifiability,” written by David Tzuriel—a prominent researcher in the field—provides an integration of theoretical and empirical work that the author conducted during his career. The volume opens the book series in paving new perspectives in terms of theoretical integration and practical application of knowledge that has been validated in recognized studies performed during previous decades.

The first part of the book focuses on the presentation of the Theory of Structural Cognitive Modifiability and Mediated Learning Experience (SCM-MLE). It provides an integrated theoretical view on mediated learning experience and how it might contribute to development of core cognitive structures.

The second part refers to the mediated learning experience within the practice of dynamic assessment and provides a review of various applications and research findings. In fact, the dynamic assessment practice has been proved as a key alternative for standardized individual testing due to its potential to provide a better and less biased insight into children competencies and even more in the children developmental potentials. This part summarizes findings from a big number of studies related to diverse groups of children and their different cognitive abilities. The third part focuses on mediated learning experience within the interaction between parents and children, siblings, and peers. It also discusses emotional, motivational, and personality aspects of the mediated learning experience that are important components of social interaction between closely related actors. Moreover, at the end of the part the author discusses the issue of cross-generational transmission of mediated learning experience. In the final part, David Tzuriel focuses on cognitive intervention programs, demonstrating a high potential of the Theory of Structural Cognitive Modifiability and Mediated Learning Experience (SCM-MLE) in terms of its application and support of cognitive development of various groups of children and of various cognitive capacities.

The richness of the volume (four parts and 18 chapters) will bring readers on an exciting adventure through theoretical, methodological, and empirical reflections, to understand how research-based knowledge can be theorized and applied in scaffolding children to develop their cognitive capacities through social interaction with others. The interesting portray of the relationship between Vygotsky's and Feuerstein's theories, as well as the precise references to the methodology of dynamic assessment underlying measurement of cognitive modifiability is a highly relevant merit of the author's work.

The volume also provides a solid starting point for the next generation of researchers, since it identifies key open issues in the field of inquiry. In this way, this book stands as symbolic shoulders of David Tzuriel for future improvements of the Theory of Structural Cognitive Modifiability and Mediated Learning Experience (SCM-MLE) and its practical application, in order to demonstrate that the developmental potential of each child depends essentially on the quality of mediated learning experiences, rather than on some imaginary fixed inborn abilities.

Aleksandar Baucal  
Francesco Arcidiacono



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## Foreword

The main objectives of this book are: (a) To present the major theories of mediation and their role in development of cognitive plasticity or cognitive modifiability with a focus on Vygotsky's *Sociocultural* theory (Vygotsky, 1978) and Feuerstein's *Structural Cognitive Modifiability and Mediated Learning Experience* (SCM-MLE) theory (Feuerstein, et al, 2002; Tzuriel, 1998b, 1999, 2013, 2018), (b) to present the dynamic assessment approach which is one of the most important derivatives of the mediation theories, (c) To present research on the causal relation between *Mediated Learning Experience* (MLE) and *Cognitive Modifiability*, (d) To present major cognitive intervention programs that are based on the SCM-MLE theory.

The orientation of the book, beyond the theoretical aspects is empirical and practical. Special emphasis is given to integrate theory, research, and practice within each chapter. The book is divided into four parts.

**Part I** serves as an introduction to the intriguing topic of the effects of mediated *learning experience* (MLE) processes on cognitive modifiability. First, I discuss the impact of environmental experiences on cognitive modifiability, cognitive plasticity, and neural plasticity. The concept of *plasticity* has been used by many theoreticians and researchers not necessarily coming from the realm of mediated learning. Plasticity is an intrinsic property of the nervous system retained throughout a lifespan. It is not possible to understand cognitive development and normal psychological function without invoking the concept of brain plasticity. Following discussion of neural plasticity I present the two major theories that had an impact on the understanding of cognitive and emotional development: The sociocultural theory of Vygotsky and Feuerstein's SCM-MLE theory.

**Part II** focuses on the dynamic assessment approach (DA), especially Tzuriel's DA approach developed in the last four decades. Tzuriel's DA approach is intimately related to SCM-MLE theory and is focused mainly on young children, though it can be applied with older children and be used as well for intervention processes. This part portrays a broad spectrum of DA approaches other than Tzuriel's approach such as the pioneering approaches of Lev Vygotsky and Reuven Feuerstein, and of other researchers such as Jurgen Guthke, Carl Haywood, Ann Brown, Carol Lidz, Robert Sternberg, Wilma Resing, Joe Elliott, and many others. The main questions in chapters of this part are: (a) To what degree DA reflects better individual's learning potential than standardized tests?

This question is especially important in children with learning difficulties (i.e., culturally different, mentally handicapped, hearing impaired, ADHD), (b) In what ways the DA approach informs better intervention strategies than standardized testing, and (c) To what degree DA in a computerized environment contributes to a more accurate assessment than DA in non-computerized conditions.

**Part III** is the “heart” of this book. In this part Tzuriel’s studies are presented first to validate the SCM-MLE theory and second to further develop the theory. The main goal was to present developmental and educational studies demonstrating the effects of MLE interactions on cognitive modifiability. The studies presented are not limited to parent–child MLE interactions but expand to include siblings, grandparents, and teachers. The major questions asked across the diverse studies in this part are: (a) What conditions within and outside the child enhance the effects of mediation and bring about higher level of cognitive modifiability, (b) What variables explain better the quality of mediation processes? (c) What are the most effective MLE strategies for cognitive development? (d) What are the relative effects of distal and proximal factors (MLE) on cognitive modifiability? (e) Can mediation processes be taught systematically to young children? (f) In what way DA can improve our understanding of the effects of mediation on cognitive modifiability? (g) What is the extent of cross-generational transmission of mediation processes? (h) Can a mediation program facilitate cross-generational transmission of mediation processes? (i) What is the relation between mother’s mental health and, MLE strategies and children’s cognitive modifiability?

These questions and others were studied mostly with samples of typically developing young children and their parents, but also with samples of children with ADHD or learning disabilities.

**Part IV** is aimed at presenting cognitive education programs that are based on the SCM-MLE theory. The main questions asked in this part are: (a) Does cognitive education programs help in developing learning-how-to-learn skills? (b) What is the degree of generalizability of cognitive intervention programs? In other words, how effective are cognitive education programs based on mediation processes to transfer to other thinking and academic domains? (c) Which mediation agents (i.e., mothers versus peers) are more effective in developing children’s cognitive modifiability? In other words, can peer mediation programs compensate for the lack of qualitative parental mediation? (d) How training can improve executive functions and cognitive skills such as mental rotation skills considered by many researchers to be genetically determined?

The comprehensive spectrum of topics related to mediate learning experience and cognitive modifiability, backed by extensive research, is accompanied in each chapter by a brief summary and paves the way for future research.

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## About the Author



**David Tzuriel, Ph.D.** is Professor Emeritus at Bar-Ilan University. He is a clinical and educational Psychologist and an expert on dynamic assessment of learning potential and theory of *mediated learning experience (MLE)*. David Tzuriel has received his B.A. (1970) and M.A. (1973) degrees in Psychology and Education at Bar-Ilan University (Israel) and his Ph.D. (1977) from Peabody College of Vanderbilt University (USA). Currently he works as Head of the Research Unit at Feuerstein Institute in Jerusalem and Chairman of Graduate Program of Learning Disabilities Program at Talpiot College. David Tzuriel served as the President of the *International Association for Cognitive Education and Psychology* (1999–2001) and as *Editor-in-Chief* of the *Journal of Cognitive Education and Psychology* (JCEP; 2006–2011; 2016–2020). His scientific work is related to empirical validation, implementation, and modification of the theories of Feuerstein and Vygotsky, and his research is cited frequently in the literature. David Tzuriel supervised 95 M.A. and Ph.D. students, and published many studies and books in the field of dynamic assessment, cognitive modifiability, parent–child

mediated learning interactions, peers and siblings mediation, spatial abilities, executive functions, and effectiveness of cognitive education programs. David Tzuriel is known as a Leader and Developer of the dynamic assessment movement and taught more than 200 international workshops in dynamic assessment and cognitive education programs.