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Another Milestone for the Future of Education – A Summary of a Half-Century

Davidson, N. (Ed.) (2021). Pioneering Perspectives in Cooperative Learning - Theory, Research, and Classroom Practice for Diverse Approach to CL. Routledge.

Pioneering Perspectives in Cooperative Learning offers the reader the theories and practice of leading pioneers of cooperative learning (CL). For the past five decades they have had a fundamental role in creating the basic science of the CL discourse. The number of research studies and the models of cooperative learning included in this book present a proven basis for this discourse. The volume consists of a foreword and eleven chapters.

Chapter 1: Introduction to Pioneering Perspectives in Cooperative Learning, by Neil Davidson. In the opening chapter the editor presents cooperative learning from a historical point of view. Also presented are descriptions of varied CL approaches, a set of their common elements, and distinctions between cooperative and collaborative learning.

Chapter 2: The Legacy of Morton Deutsch: Theories of Cooperation, Conflict, and Justice, by Laurie Stevahn. The opening chapter, which starts with a historical aspect of CL, is matched by the second chapter, which precisely and clearly presents Morton Deutsch's contribution to the cooperative discourse. Deutsch's work on constructive conflict resolution, social justice and peace psychology is of great importance. The chapter includes his fundamental theory and research of the effects of cooperation versus competition in groups, a cornerstone of cooperative learning.

Chapter 3. Learning Together and Alone: The History of Our Involvement in Cooperative Learning, by David W. Johnson and Roger T. Johnson. One of the most widely known branches of cooperative learning is the model of Learning Together, based on the theory of social interdependence, its five basic components, and the elaborated practice of academic controversy, as well as how to improve peacemaker competencies. This chapter includes results of meta-analyses, showing the positive effects of CL.

Chapter 4. Complex Instruction for Diverse and Equitable Classrooms: In Loving Memory of Elizabeth G. Cohen, by Rachel A. Lotan and Nicole I. Holthuis. Another approach stems from sociology and became known as Complex Instruction. This chapter presents the essential elements of this unique approach: competence expectations, the importance of considering the status/power relations even within heterogeneous classrooms or in heterogeneous micro-groups.

Chapter 5. The Structural Approach and Kagan Structures, by Spencer Kagan. This chapter presents the basic principles of Kagan's approach of learning structures independent of specific content applicable in any subject. It also clarifies which social, organizational, management, and cognitive competencies are crucial for cooperative learning ("Seven keys to success"). The chapter also presents the difference between non-cooperative practice, practice based on traditional group work, and cooperative learning structures in a step-by-step comparison.

Chapter 6. Student Team Learning and Success for All: A Personal History and Overview, by Robert E. Slavin and Nancy A. Madden. In this chapter, another branch of CL presents its models or cooperative structures for learning, such as STAD, CIRC, TAI, based on the recognition of the importance of group goals, individual accountability, and mutual interdependence, based on a broad meaning of "rewards." Another significant contribution, created by Slavin, Madden and colleagues, is the Success for All program and foundation, of which CL is an essential component.

Chapter 7. The Jigsaw Classroom: A Personal Odyssey into a Systemic National Problem, by Elliot Aronson. One paradigmatic example of the cooperative learning discourse derives from the Jigsaw Classroom model. It is based on the need to restructure the learning process by creating support and cognitive dissonance for learners of different backgrounds, based on the principle of mutual interdependence. Students learn portions of course material in "expert groups" and then present them to their "home groups." The chapter includes a dramatic account of the benefits of applying Jigsaw when "all hell broke loose" in a district facing school desegregation.

Chapter 8. Design for Change: A Teacher Education Project for Cooperative Learning and Group Investigation in Israel, by Yael Sharan and Shlomo Sharan. Another exciting CL approach of the past decades is through the aspects of teacher education. Group investigation has six basic steps for enhancing cooperation and conducting investigations in groups. These are applicable in classrooms and in teacher training programs.

Chapter 9. About Richard Schmuck's Contributions to the Study of Organization Development and Cooperation in Education, by Richard Arends, Neil Davidson, and Richard Schmuck. This chapter draws attention to an element that influenced the thinking and attitude of the scientific community that shaped CL: Richard Schmuck's Organization Development approach, which deals with the dynamics and development of the school as an organization and its relation to the implementation of CL. The chapter concludes with insightful personal reminiscences by Richard Schmuck about major pathways in his own development in his formative years.

Chapter 10. Cooperative Learning in Mathematics and Beyond, by Neil Davidson. In this chapter the author offers insight into the historical development of the concept and practice of the Small-group Discovery branch of cooperative learning, focusing on learning and teaching mathematics in a cooperatively structured way, by placing challenging issues as part of discussion and dialogue on mathematical matters. The second part of the chapter deals with the author's contributions in general to cooperative learning, including theoretical issues, several edited books, and multiple projects applying CL in various settings.

Chapter 11. Synthesis of CL Approaches and a Multifaceted Rationale for CL - Past, Present, and Future, by Neil Davidson. In the final chapter, the editor provides a synthesis, to enable the reader to easily comprehend the different branches of CL presented in this volume. Also presented are a multifaceted rationale for CL, research questions, and a discussion of the future of CL, including online cooperative learning by groups.

Four levels of understanding Cooperative Learning

The opening chapter of this volume presents the framework of the last fifty years of the CL discourse; the closing chapter offers a theoretical synthesis of the same discourse. The editorial opening and closing chapters framing the volume emphasize that the publication provides a wide-ranging insight into the essence of cooperative learning on four levels:
- the volume presents the essential and basic academic disciplines supporting CL, such as social psychology, philosophy, psychology, and educational science.

– the volume presents the different approaches or models of each CL branch, its theory, research, and development.
– the volume provides insight into specific practical applications of each CL model.
– the volume also provides a unique historical perspective of the development of cooperative learning, as viewed by various pioneers.

Scientific underpinnings – cooperative learning as a transdisciplinary discourse

One of the essential virtues of this book is that it becomes apparent to readers, be they researchers or practitioners, that CL is also a scientific approach, not just a methodology, or a humanistic approach to learning. In other words, the theories behind the practice are justified in the light of measurable results. Thanks to the thorough editing, it is also clear to the reader that several disciplines have simultaneously justified the ideas, approaches, and practices of the cooperative discourse. Reading through this volume, we can conclude that CL involves several disciplines that together increase the effectiveness, efficiency, and equity of pedagogical practice, and of the structural conditions of cooperation. In sum, it creates a transdisciplinary discourse.

Chapters 1, 2, 9 and 11 represent the historical-theoretical underpinnings of CL. At the same time, all chapters provide insight into the history of the discourse and its theoretical underpinnings, making the transdisciplinary scientific foundations of CL tangible to the reader.

A fourth promising aspect of the volume is the pioneers' unique historical approach to the development of CL. Authors describe their own personal journey, and philosophy and motivation for developing CL, and who or what inspired them. Many personal anecdotes are provided, some quite moving, and some highly dramatic. The historical development of CL emerges in part through the authors' reflections and personal stories.

The following diagram (Figure 1) shows the connections between various CL approaches and schools of though and associated with them in psychology, sociology, or philosophy, as presented in this volume.
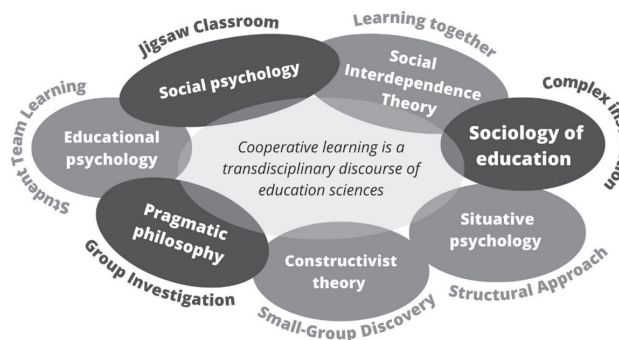

Figure 1: Cooperative learning as a transdisciplinary discourse

A discourse born at the same time as social psychology

Another asset of this volume is that it connects the scientific approaches, insights, and results of the various CL methods and approaches to their philosophical, psychological, sociological, and social psychological foundations, thus enabling interested researchers, developers, and practitioners to trace the specific scientific theories behind CL practice.

At the same time, it becomes clear to the reader how the birth of CL is directly related to the beginnings of social psychology. If we look at the example of Kurt Lewin's chain of disciples, from Morton Deutsch to David Johnson and Roger Johnson, through Leon Festinger to Elliot Aronson, the formation and birth of the two discourses are personally interconnected. This volume provides resources for a broad scientific exploration of the existing theoretical underpinnings and scientific results that support the threads of evidence of the CL discourse. The constructs included in the following diagram (Figure 2) were stated by the authors; they are classified into four categories, as shown below.
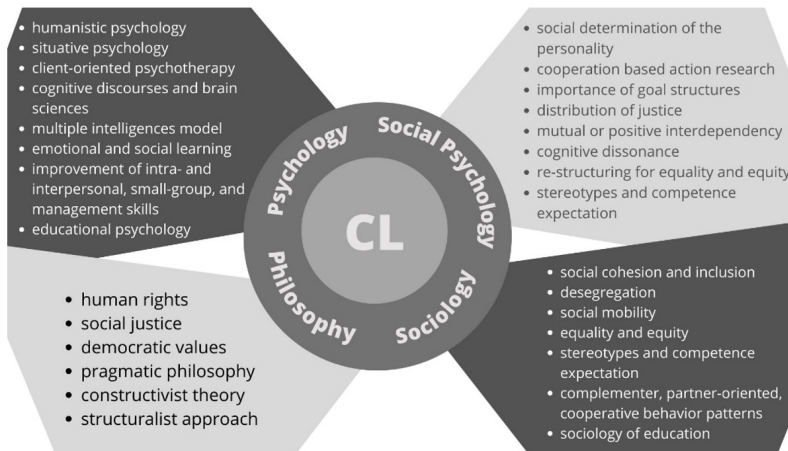

Figure 2: Theoretical Underpinnings and scientific discourses supporting CL

Theory and practice for realized equity – a structural guaranty for social justice

The third promised area of the volume provides an insight into the everyday practice of CL. A common goal guides the founders of CL: to justify and adapt theoretical approaches through practices that effectively promote equity in education. They found their way to this thanks to the basic principles of pragmatic philosophical and close-to-practice social psychological approaches, through collaborative goal structures, CL learning structures, and processes based on positive interdependence.

The editor's introductory and synthesizing chapters, the historical commentary throughout, and the presentation of each CL approach, cover the core components or basic principles that define CL. All authors illustrate these components by concrete examples, such as Aronson's Jigsaw Classroom structure. The chapters that present the different approaches to CL confirm their success with decades of research, adding personal memories that enhance the readers' complete understanding (e.g. Aronson's chapter).

The volume fully satisfies the curiosity of practice-oriented readers, whether reading the examples as a practitioner or as a research and development professional. All can get a detailed idea of the observable practice and the necessary behavioral elements of CL. Readers can also deepen their understanding by the rich references in all chapters, as well as the helpful index. In sum, *Pioneering Perspectives in Cooperative Learning...* offers readers an overview of the cooperative discourse in a single volume. Effective education of the future is unthinkable without considering the cooperative discourse and its scientific insights.