Foreword

What do the sciences of nature have to offer for social sciences? This question has been answered by thousands of different theories throughout the study of the social interactions of the mankind. To create an order out of chaos has been the gist of history from an Orwellian perspective. Yet, the times of chaos and wars have usually resulted in long-lasting orders whether or not the chaotic environment is a consequence of an *Ordo Ab Chao* conspiracy. Chaotic situations and effects of them, of course, have not initiated with the Chaos and Complexity Theory. Coping with chaotic and complex circumstances and explaining them have been the leading endeavors fueling the scientific achievements. However, with the information age, the speed of dispersion of any chaotic and complex situation encountered at a given place of the world, has a plethora of repercussions, creating a network of dynamic interactions, often increasing the entropy of the global social processes. Therefore, understanding the humanities and the social relations, the communities and the societies and their complexities has become a Sisyphean challenge for a social scientist. While a deterministic approach could be the key to a theory, the social sciences had to learn to cope with unpredictability and the chaotic nature of endless human interactions. If we take the famous question of Edward Lorenz, “Does the Flap of a Butterfly’s Wings in Brazil set off a Tornado in Texas?” and ask with regard to, say, political sciences, “Does a protest clap of two hands in a country set off a Revolution in another country in far continent?” What would be the methodology to answer it. If we are not going to suffice to give a response through prejudicial theoretical explanations restricted to our cognitive ability based on our limited historical and social accumulation of knowledge on the conditions that interweaves the two phenomena, then, even to be able to find a trivial answer for this question, the amount of information necessary to be collected would only be calculated through demanding complexity computations.

Chaos and Complexity Theory, today, appear as a possible code that may help to unlock the mysteries of the nature of the social and political interactions of the mankind. ‘Chaos’ and Chaos Theory, a field of study in Mathematics and in other disciplines such as Physics, Engineering, Economics, Management, Education and
other fields may become the keyword to define the social and political sets of circumstances dependent on various set of parameters and determinants, and therefore started to be applied in social sciences recently.

Internationally prominent scholar, Şefika Şüle Erçetin, has edited an awe-inspiring book dealing with the roots and consequences of our dynamically transformed social, political, educational and economic life, bringing together a myriad of thought-provoking essays over very interesting themes. Her eminent contribution to academic world assures a valuable scholarship in the following chapter.

*Applied Chaos and Complexity Theory in Education* includes 16 chapters on Education.

*This book* opens new insights in education sciences. In the first chapter Mehmet Özbaş analyzes the nature of the problems in chaotic and complex situations in girls’ education and offers some solutions to the “social inequality of girls”. In second chapter Şefika Şüle Erçetin and Ssali Muhammadi Bisaso dwell on the influence of changing paradigms on educational management and school administration. Tuncer Fidan and Ali Balci help one understand principal proactivity genuinely in their insightful chapter. Erçetin, Eriçok and Eranıl’s paper is going to present the advantages of some leader capabilities in the management of the organizations in the context of chaos and complexity theories. Yusuf Abubakar and Abubakar Mansur Danjeka from Nigeria explain the university system as a mere organized conflict environment. Then, Halime Güngör investigates principals’ views on stigma tendency and consequences of the stigmatization process in her chapter. Sa’adu Isa Bashar and Zayyanu Sambo elaborates on key issues with regard to managing the chaos and complexities of informal organizations for the effectiveness of schools as formal organizations in the next chapter. Kenan İli and Mehmet Menteşe invite us to dwell deeply on education and leadership in Social Networks. Ssali Muhammadi Bisaso explains the methods to comprehend complexity of school leadership in the wake of teacher insularity. Mehmet Menteşe and Kenan İli find answers on how to manage or inspire your perception about social media and the perception management as a power struggle. Furthermore, Ogunlade Joseph Olurotimi makes a critical review of the complexities of breastfeeding and its attending effects on the health of the mother and child. Fathimath Saeed explores the complexity of classroom discipline and how the principles of chaos and complexity theory reflect on classroom discipline in her chapter Mukhtar Salihu Nawait attempts the definitions of the term corruption at initial and the concluding aspect will suggest the possible remedies on quality and quantity of education in Sokoto State, Nigeria. Ssali Muhammadi Bisaso and Shakira Bodio articulate complexity ramifications in terms of using high-stakes examinations as a measure of accountability in the education system and premised on the level of faith placed on these high-stakes examinations irrespective of educational value thereof. Farooq Miirro profoundly explains conflict management in
higher educational institutions with complexity perspective. **Muhamadi Kaweesi from Uganda** comprehends leadership skills in complex collegial adult groups and explains knowledge, skills, and procedures for developing productive instructional improvement groups in the complex school environment characterized by turbulence and chaos emanating from dysfunctional group members. **Muhamadi Kaweesi and Farooq Miirro** explore the concept of decision-making, factors that determine the decision-making processes, the effectiveness of decision-making and problem solving in higher education institutions which are deemed to be largely chaotic and complex. Last chapter of education section written by **Leyla Yılmaz Fındık** focuses of this study is to identify and describe the characteristics of principal’s leadership process in complex situation based on self-assessment.

The latest developments in technology and communication, existing industrial problems and new socio-economic expectations have led to the emergence of more chaotic and complex conditions globally. This collection of significant essays outlines the circumstances in various countries in different contexts and marks a key contribution to the application and understanding of chaos and complexity in social sciences. Being an original contribution to the conceptualization of politics, economics, organization and management, education and literature through different lenses, this unique work enhances the role of **Applied Chaos and Complexity Theory in Education**. Offering many novel ideas and reflections for the future, this volume aims to be inspirational for many scholars in their attempts to explore new tools and means for scientific thought.

I would like to sincerely express my gratitude to the contributors as well as the editor, Şefika Şule Erçetin for the compilation of such an extensive volume which, I presume, will be a reference book for the future of interdisciplinary studies on the education.

**Ege Erkoçak**
*Ministry for EU Affairs, Turkey*
*Ankara, January 2016*

**Ege Erkoçak** is the Director for Political Affairs of the Ministry for EU Affairs, Turkey. He holds an M.A degree with his thesis titled “An Ever Enlarging Europe: Enlargement of the EU, 1990s and Turkey." He held several seminars on “EU Enlargement and EU Negotiations” and “Judiciary and Fundamental Rights” and “Justice, Freedom and Security” issues delivered in Bilkent University, Middle East Technical University, Ankara University, Bosphorus University, Bahçeşehir University, Bilgi University. He has written articles on development of civil society, meta-governance and EU enlargement.