ESSAYS IN EDUCATION
SPECIAL EDITION

SCIENCE AND SCIENCE EDUCATION IN TURKEY

During the last few years, many important changes have been taken place in the field of learning, teaching and assessment as parallel with driving developments in many disciplines. The student centered learning approaches, defining the learning as active process, the prominence of the counseling of the teachers and process based measurement and evaluation have become influential in the science curriculum all over the world. Many countries in Northern America, Europe and the Far East have changed their science education curriculum.

Being a developing country and having a large percent of the population being less than 18 years old, Turkey allocates important funds from the general budget towards education. This process is important for Turkey so as to integrate itself to the European Union. The importance of having knowledge, skills and attitudes which are required for students as citizens has been emphasized in many Government programs. As of 2003, all the curricula at the primary education level – including science and technology – have been renewed based on constructivist learning approach in. Additionally, in 2007, the physics, chemistry and biology curricula at the secondary level has been renewed. The changes and developments related to the science curriculum in Turkey have affected graduate work in Turkish universities. Many Turkish students have been sent abroad for advanced degrees. In the recent years, many MSc and PhD thesis have being prepared and several articles have being published in international science education journals originating from Turkey.

Of course, the studies in the special issue of "Science and Science Education in Turkey" are the only a snapshot of science and science education in Turkey. In this special issue, two articles entitled "**Trends in Turkish Science Education**" and "**Development and Current Status of Science Education Research in Turkey**" in which both MSc thesis's and international articles were examined, are provided to give clues about the science education in our country. In two additional articles entitled "**Turkish Prospective Teachers' Perspective of Different Types of Exams: Multiple Choice, Essay and Computerized-type Testing"** and **"Reflections of the Understanding of Assessment Adopted in the 4th and 5th Grade Science and Technology Curriculum in Textbooks,** the authors reveal the opinions of pre-service teachers about the different question types and the problems related with measurement and evaluation in the books prepared in conjunction with the newly developed science and technology curriculum in Turkey. Suchlike again puts forward that the developments in the curricula have to be considered together with many variables. The article entitled "**A Cross-Cultural Study: Middle School Students' Beliefs about Matter"** shows how the student understanding from different cultures regarding a science concept could be changed. The study entitled **"An Investigation of Some Factors Affecting Attitudes toward Chemistry in University Education"** shows how the attitudes toward science could be changed from the point of some variables using a chemistry example. The study entitled **"Perceptions of Primary School Teachers Regarding New Science and Technology Curriculum of Turkey in terms of Teaching and Assessment Methods"** comprises both the methods of teaching, and measurement and evaluation. It examines the opinions of the teachers regarding the different methods in the new science and technology curriculum, the factors affecting the applicability of the program, and the possible solutions. The article entitled **"Teaching of the Newton's Laws: The Force and Motion: The Effectiveness of Demonstrations"** is a typical example of giving a traditional and experimental study over physics concepts. Lastly, the study entitled **"The Effects of a Laboratory Approaches on the Development of**

University Students' Science Process Skills and Conceptual Achievement" is related to scientific process skills indicated in the new science and technology program. It is very important study that it puts forward the role of student centered learning for the acquirement of skills and enabling the conceptual development.

We thank to all people for their valuable contributions to this special issue.

Dr. Mehmet Bahar and Dr. Huseyin Bag
Special Edition Editors