

Editorial

With the first issue of 2016, we published five articles dealing with different perspective of science education.

The first article from Brazil; Valéria Campos SANTOS and Dr Agnaldo ARROIO made a comprehensive literature review on the representational levels (macroscopic, microscopic, and symbolic) that involve models of thinking in chemistry. They reported the outcomes of theoretical and empirical studies about the representative levels in chemistry, science, and teacher education.

The second article prepared by the researchers from İstanbul Aydın and Bogaziçi University, Deniz SARIBAS, Zerrin DOĞANÇA KÜÇÜK and Hamide ERTEPINAR. They investigated climate change exhibition embedded within an environmental education course affects pre-service elementary teachers' understandings about climate change. They found that the exhibition had a positive effect on their understanding of climate change and ways in which to ameliorate the problem.

The third article from Egypt; Mohamed Moustafa Ali made significant contribution about Translation Techniques in Cross-Culture Studies in Science Education. He reviewed many articles and found many issues on how to translate an instrument, which is validated in one culture, to be used in a different culture.

The fourth article prepared by the researchers from different universities of Turkey; Hacettepe, Aksaray and Gazi; Miraç YILMAZ, Perihan GÜNES, Hikmet TÜRK KATIRCIÖGLÜ. They try to determine academic self-efficacy of pre-service biology and science teachers in terms of different variables (academic self-efficacy, grade level and academic achievement).

The fifth article prepared by a group of researchers from Hacettepe; Sevim BEZEN, Işıl AYKUTLU, Celal BAYRAK. They try to determine pre-service physics teachers' conceptual comprehension of the first law of thermodynamics. They found that pre-service teachers represent energy mostly as object with potential energy, electric energy, and vibration energy; and it was seen that they think of the world as an insulated place and thus think that there is confined transformational energy within it.

In near future, we are preparing a special issue on STEM education. We have already received many articles on STEM education. In this special issue, we are looking for current research articles about the effect of STEM on the learning of science. Potential topics include, but are not limited to:

- Empirical research of STEM outcomes
- Research about measurement and assessment of STEM
- Research about pre-service and in-service education
- The impact of STEM guide materials on the learning of science
- Integration of STEM into science curriculum and/or teacher education.

With hope to meet you in the next volume...

Prof. Dr. Salih ÇEPNI

In the name of TUSED Editorial Board

Editor