

## 6 - Nature of Science: History, Philosophy and Sociology of Science | Empirical

### SP - (15803) - HOW DO SCIENCE TEACHERS FROM DIFFERENT CAREER STAGES PERCEIVE THE NATURE OF SCIENCE?

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#### Short Abstract

*The paper reports about a funded research project that examines science teachers' understanding of nature of science (NOS). It focuses on the effect of teachers' teaching experiences and education levels using the Family Resemblance Approach (FRA) to Nature of Science (NOS)" (Irzik & Nola, 2014; Erduran & Dagher, 2014). FRA has been described by Erduran and Dagher (2014) as a framework that outlines NOS as an epistemic-cognitive and social-institutional system. In order to distinguish its educational dimension from previous version of FRA framework, Kaya and Erduran (2016) used the term of "RFN" for "Reconceptualized Family Resemblance Approach (FRA) to Nature of Science (NOS)". In the current study, RFN consists of meta level categories about NOS which are aims and values, scientific practices, methods and methodological rules, scientific knowledge and social aspects of science. Collectively the categories emphasize the significance of holistic understanding of NOS. A total of 170 science teachers from different educational levels (undergraduate and graduate) and teaching experiences (0-5 years to 16 and above) participated in the study that aimed to trace their perceptions of RFN categories. Online version of RFN Questionnaire (Kaya, Erduran, Aksoz, & Akgun, 2019) including 70 items with 5 Likert type was used. Descriptive analysis showed that that science teachers have between moderate to high level understanding about RFN categories. The analysis of Kruskal-Wallis Test indicated that there is no significant difference in the medians of Total RFN scores with respect to teachers' educational levels. However, Mann-Whitney U test showed that there is a significant difference in the median of Total RFN scores with respect to teachers' teaching experiences. In terms of some sub-categories of RFN some significant results were found for each variable. The study has implications for science teacher education to support teachers' understanding of NOS.*