

## CHAT Perspective to Understand Teachers' Professional Identity

**Ozden Sengul**

Bogazici University, Mathematics and Science Education Department, Istanbul, Turkey

\*Corresponding author

### Abstract

Using cultural historical activity theory (CHAT), a qualitative case study is designed to understand the elements of a system -subject, tools, object, rules, resources, community and division of labor, and outcome- to make sense of physics teachers' professional identity in Turkey. Participants were 32 high school physics teachers, who were interviewed once and observed in their classrooms. Transcriptions of the interviews, fieldnotes from observations, lesson artifacts, and journal entries were analyzed through constant comparative method. The study examined teachers' experiences, practices, community relations, contextual factors, and outcomes of their professional identity. Elements of CHAT guided the analysis to understand physics teachers' contradictions and achievements. CHAT was utilized as a conceptual framework to understand experienced physics teachers' learning experiences and their interactions with colleagues, parents, and students while overcoming the challenges. The study suggests that physics teachers should be aware of the need for change in their beliefs and pedagogical practices to implement more authentic activities.

**Keywords:** identity, in-service teachers, physics education, teaching