Students' Questions in Higher Education Chemistry Classes According to Their Gender

Abstract:
Research on science education sustains the need for new emphasis on teaching and learning, particularly in higher education. Among the essential skills that every higher education student should achieve, we focus on what is described as the most significant indicator of the highest and most critical level of students reasoning - the questioning skill (Almeida et al, 2010; Pedrosa de Jesus et al, 2003; Zoller, 1987).
Hofstein et al (2005) support that a teaching practice oriented to the development of this skill favors a learner-centered teaching and learning and promotes higher cognitive level capacities, such as those of critical analysis and problem resolution.
Regarding gender studies, Wood (2009) states that although women perform better at every levels of education and earn more and higher degrees than males do, women still face biases and barriers in particular fields, namely math and sciences.
The present ongoing PhD research (2011-2014) focuses on the relevance of students' questioning habits in the teaching, learning and assessment processes.
Focusing on undergraduate Chemistry students, in particular the first years students, at the University of Aveiro, in Portugal, it is our intention to investigate and characterize feminine and masculine students' questioning profiles, in different situations, such as traditional classes and online interactions.

Keywords:
Questioning; Learning Environments; Gender studies; Higher Education; Chemistry.