
The History of Science as a tool for teaching metascience: an assessment of changes in pre-service biology teachers' conceptions

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Abstract

The introduction of disciplines that include themes of History of Biology in undergraduate courses is quite recent in Brazil. This deployment motivates new fields of research that leads to the improvement of teaching units and strategies of learning. In this sense, our presentation will discuss the results of research conducted among students of an elective discipline offered to pre-service biology teachers of the University of São Paulo. After pointing out the historical components and metascientific objectives of the discipline, it will be presented the students' perceptions about some aspects of the nature of science. The survey instrument used was the questionnaire VNOS-A, developed by Lederman and O'Malley (1990) for this level of teaching. The questionnaire was administrated at the beginning and end of the semesters of 2010 and 2011, to 8 and 13 students, respectively. Qualitative analysis of data was performed, consisting of the construction of *a posteriori* categories. It will be discussed students' responses to questions 1, 3 and 7 of the questionnaire devoted to investigate their opinion about the mutability, or not, of scientific theories, the distinction between scientific laws and theories and the elements that can lead scientists to defend rival theories to explain the same phenomenon. The final results show little change in the opinions of students, while indicating greater precision and sophistication of the arguments that sustain their views. Based on the survey results, changes were introduced in the syllabus for enabling explicit broaden discussions about these and other aspects of nature of science.

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