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Can learning about History of Science and Nature of Science in a student-centred classroom change science students' conception of science?

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Learning about the Nature of Science (NOS) and the History of Science (HOS) has been shown to be highly beneficial to both the study and the practice of science. In particular, students' conception of science can be improved by including NOS and HOS in the curriculum. However, teaching of NOS and HOS is not always effective: simplistic or erroneous conceptions of science sometimes persist. Innovative, student-centered teaching methods may circumvent this problem. That is why a course focused on NOS and HOS taught using two innovative pedagogical methods is offered as part of a multidisciplinary minor in Science, at Concordia University. The present study aims to investigate the changes in conception of science experienced by students in this course. In-depth interviews with eight students and in-class observation were carried out throughout the semester, and written products of students' reflection on NOS and HOS was analyzed using a rubric from previous research. Results indicate that students react positively to this form of teaching NOS and HOS. In addition, all interviewed students report having developed a more elaborate and more nuanced conception of science.

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