Knowledge is not something that you have: decolonizing images of knowledge in the higher education curriculum

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To educate for sustainability means to educate for problems without clear-cut solutions. Everything that our traditional educational system has never been prepared to do because of its learning model of 'banking education' (Freire, 1968), in which knowledge is considered sacred. As argued by authors such as P. Bourdieu and M.W. Apple, this curriculum knowledge is a selection that favors the values and interests of powerful groups. Only the knowledge that fits a positivist worldview is accepted as knowledge; in other words, knowledge with a "scientific" nature, universal, categorical, and objective. However, those are precisely the same features of colonizing discourses that maintain inequalities in higher education (Arnold, Badenhorst, & Hoben, 2021). This is valid for all types of knowledge, even knowledge about climate change, diversity and inclusion, sustainability, or circular economy. As soon as new knowledge enters the university, they are assimilated into a dominant epistemology. It means that new pedagogies trying to create student-centered environments will only serve to make the transmission of this knowledge a little lighter and will make the exclusion of students easier to justify. In this research lab, we would like to argue that to escape this, we need to see knowledge as part of a language system, in other words, as a selection of particular words and phrases and, therefore, of meanings that were before connected to actual practices. If we see knowledge as connected to practices through 'language games' and as only making sense against the world-pictures that created them (Wittgenstein, 1953), we can conclude that the selection of meanings is also a selection that removes practices and subjectivities. Based on an analysis of historical documents and one focus group, we defend that to decolonize the curriculum, it is necessary to give space for other subjectivities by not focusing on knowledge but on the very world pictures sustaining it. We chose the case of physics knowledge and analyzed the different meanings (different from those present in textbooks) that concepts can have in historical documents. We analyzed Isaac Newton's *Principia* (1976) and different works from who we call "marginalized physicists": *Julio Garavito Armero* (Colombian, 1865-1920), *André Koch Torres Assis* (Brazilian, 1962 -), and *Ernst Mach* (Austrian, 1838 – 1916), who also had a view of Newtonian mechanics and were able to include their cultures and subjectivities, and as such, to be creative, autonomous and critical, through having access to the Newtonian world-picture. We observed similar abilities and actions from participants in a focus group with teachers in training that was focused on the sharing of the Newtonian world-picture. Therefore, we defend that a curriculum focused on world-pictures, instead of knowledge, will support in an essential way the process of decolonization of curriculum. This is not the same as basing the curriculum on competencies or imitating scientific practices. For this process of decolonization, each discipline would have to study history from an educational perspective (historians cannot make this history). The participants of this research lab will be involved during the whole process by analyzing what is called physics knowledge in current examples of textbooks. They will participate in one language-game extracted from Newton's Principia involving the concept of 'gravity'. Some examples of research interventions on sustainability knowledge will be brought (and also asked to participants). We will try to apply the ideas of this lab to these examples by discussing what is considered knowledge and how to search for the world picture attached to it. This will be new for everybody as we do not have experience with sustainability knowledge. Still, we believe our findings can be generalized, and the participants will help discover if this is possible.

References

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