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SP - (16077) - NETLOGO "TOY" SIMULATIONS AS LABORATORIES TO IMAGINE THE FUTURES

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Short Abstract
In the era of data science and computation, simulations are used in many disciplinary fields alongside theories and experiments, and they have become the "third pillar of science". Simulations in the scientific practice have many different uses. One of them, which is very common when complex systems are addressed, is prediction, i.e. the elaboration of possible future scenarios for the target system basing on the behavior of the simulated one. Even if simulations have been used for teaching-learning purposes for decades at many levels, educational research rarely focused on the use of simulations to obtain future scenarios, but rather investigating their role in formulating explanations. In this paper we describe a "future-oriented" educational activity carried out with University Physics and Mathematics students based on NetLogo "toy" simulations. We show that, when barriers of hyper-realism are overcome, even such simple tools have the potential to become laboratories to imagine possible scenarios for real complex system.