

SYMPAB - (16065) - PERSONIFYING PLANTS CREATES INTEREST, BUT REINFORCES THE TELEOLOGICAL IDEA THAT EVOLUTION IS DRIVEN BY AIMS

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Short Abstract

This study investigates the effects of presenting plants as active agents in an evolutionary context. We investigated biology teacher trainees' affective and cognitive responses to a text on plant evolution rich in anthropomorphisms. Students' interest in plants increased by anthropomorphizing plants. Furthermore, biology teacher trainees showed positive affective and cognitive responses to the text as a whole as well as positive affective responses to the anthropomorphisms contained in the text. The biology teacher trainees considered the anthropomorphisms rather unscientific, whereas they considered the text as a whole scientific. However, when asked to respond to the specific anthropomorphism that plants are active agents which purposefully evolved to propagate, some trainees actively produced the teleological idea that evolution is driven by the aim to ensure survival. Anthropomorphizing plants as active agents, thus, reinforced the idea that evolution follows pre-determined aims and purposes (ontological teleology). As educational implications, we suggest anthropomorphizing plants as active agents in ecological contexts (rather than evolutionary contexts), to prevent students from confusing the correct idea that plants actively explore their environments, maximize their exposure to sunlight and respond to changing environmental conditions (etc.) with the incorrect idea that organisms evolved purposefully.

Keywords: Teleology, anthropomorphism, agency