

Cambridge Elements

Elements of Paleontology

CONFRONTING PRIOR CONCEPTIONS IN PALEONTOLOGY COURSES

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Abstract: People hold a variety of prior conceptions that impact their learning. Prior conceptions that include erroneous or incomplete understandings represent a significant barrier to durable learning, as they are often difficult to change. While researchers have documented students' prior conceptions in many areas of geoscience, little is known about prior conceptions involving paleontology. Here, data on student prior conceptions from two introductory undergraduate paleontology courses are presented. In addition to more general misunderstandings about the nature of science, many students held incorrect ideas about methods of historical geology, Earth history, ancient life, and evolution. Of special note are student perceptions of the limits of paleontology as scientific inquiry. By intentionally eliciting students' prior conceptions and implementing the pedagogical strategies described in other Elements in this series, we can shape instruction to challenge this negative view of paleontology and improve student learning.

Keywords: Pedagogy, STEM Education, Paleontology, Nature of Science, Evolution, Undergraduate

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