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WHAT VIEW OF SCIENCE DISCOVERY BEST FITS THE SCIENCE LEARNING GAME?

Abstract:

This paper presents a view of science discovery that has the potential to change the way we construct learning games in science. This view is based on the work of a nineteenth century philosopher and scientist whose work, supported by a new generation of historians of science, counters the traditional view of scientific discovery as induction--the notion that new ideas are built from the bottom up so to speak, from particular experience to general concept. The alternative to this view is one that insists that scientific discovery is an "ideas first" leap of creative understanding termed "abduction." It proceeds as follows: (1) A surprising fact, C, presents itself to an individual; (2) a big idea (H) is then suggested that, if true, would render C a matter of course; (3) this then leads the individual to conclude that there is reason to believe that H is true. This view of knowledge, we will argue, complements efforts to bolster the educative aspect of a game in a way that contributes to, rather than detracts from, the all important immersive aspect of that same game.

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