

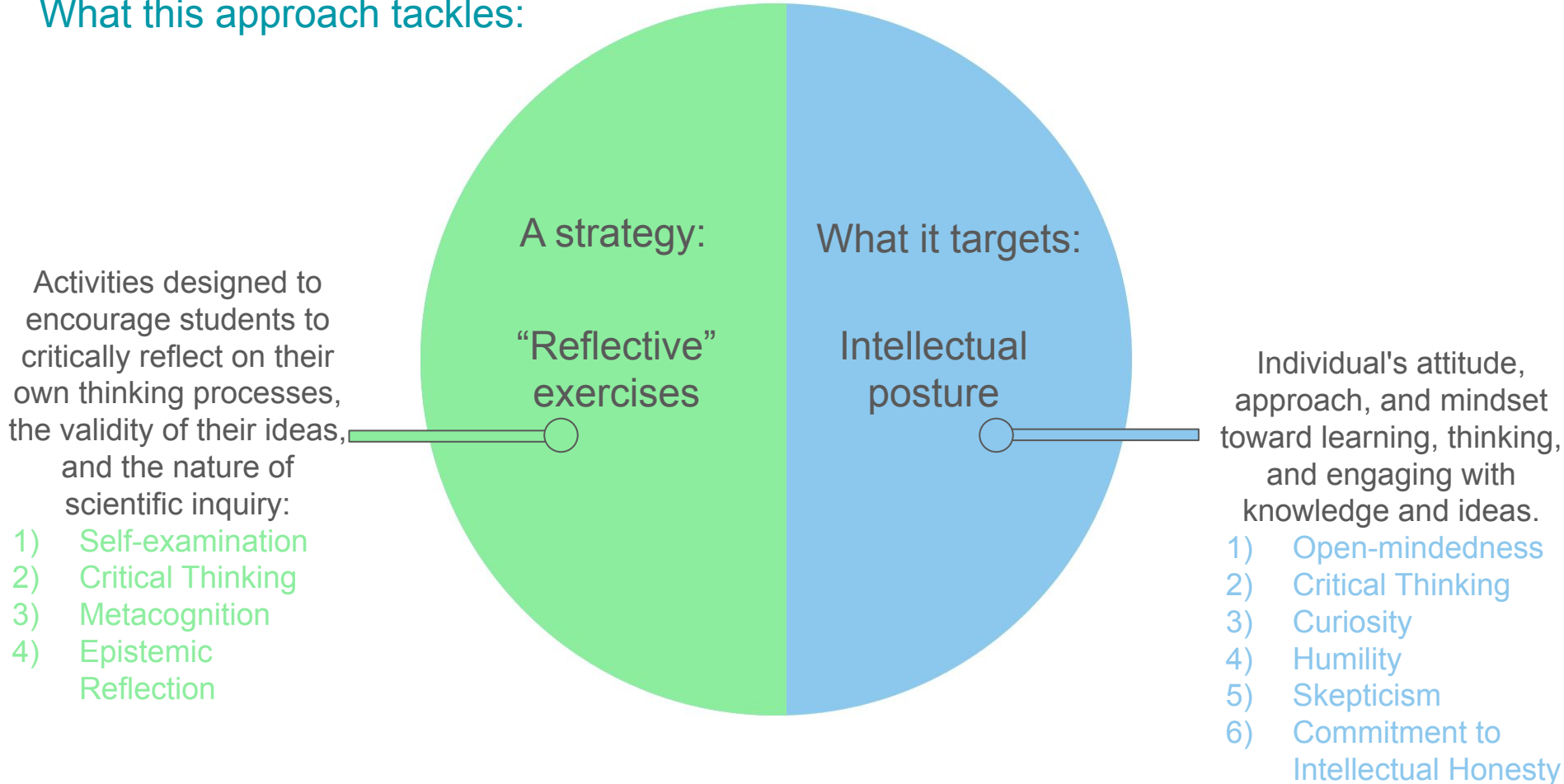
"How Do We Know This Is True?" Encouraging Critical Thinking in Scientific Inquiry

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What this approach tackles:



Inspiration



Dr. Harvey Siegel
(U. of Miami - US)



Dr. Lee McIntyre
(Boston U. - US)

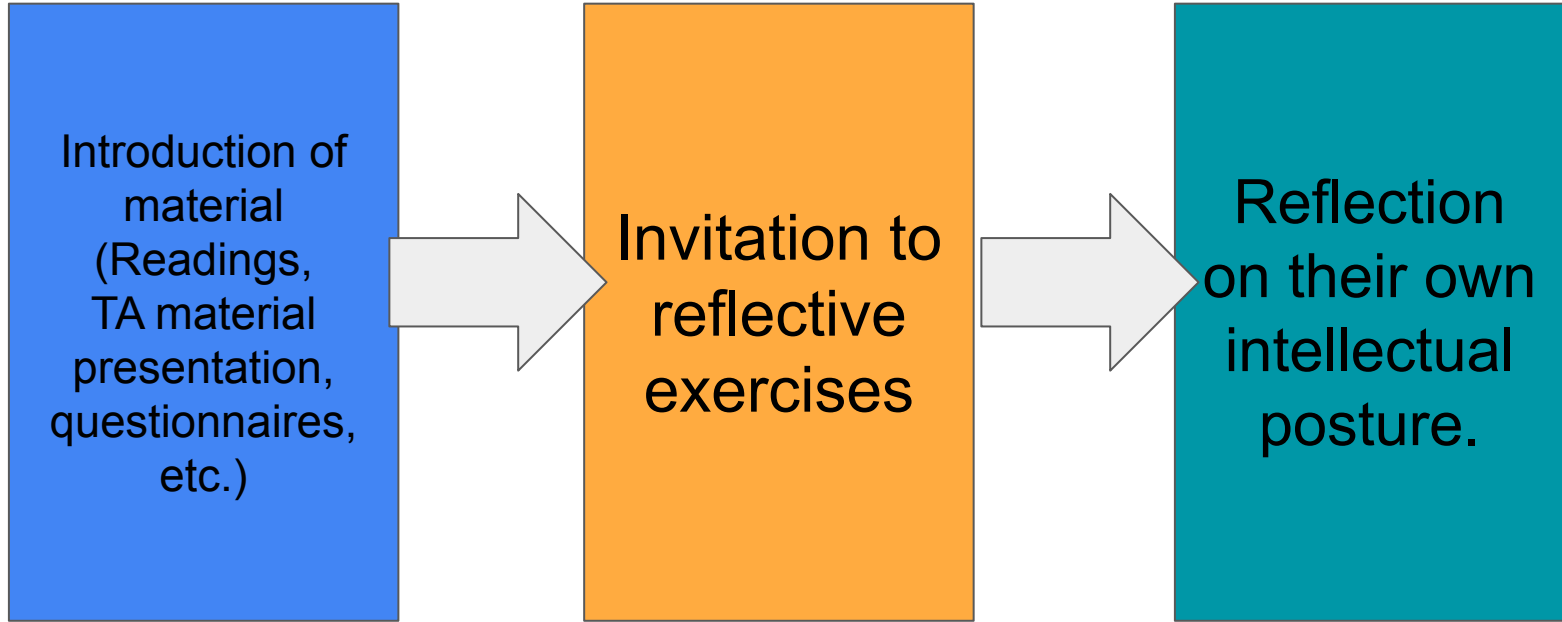


Dr. William Hare
(Mount Saint
Vincent U. -
Canada)



Dr. Guilherme
Guzzo
(UCS - Brazil)

The framework:



What are reflective exercises?

“What evidence points us to believing in the paper’s/author’s claims?”

“What kind of evidence could convince you that this idea is right? And wrong?”

“What should we do with this idea if evidence of type X (contrary to the idea) emerged?”

“Is the existing set of evidence for idea A sufficient to say that it is true?”

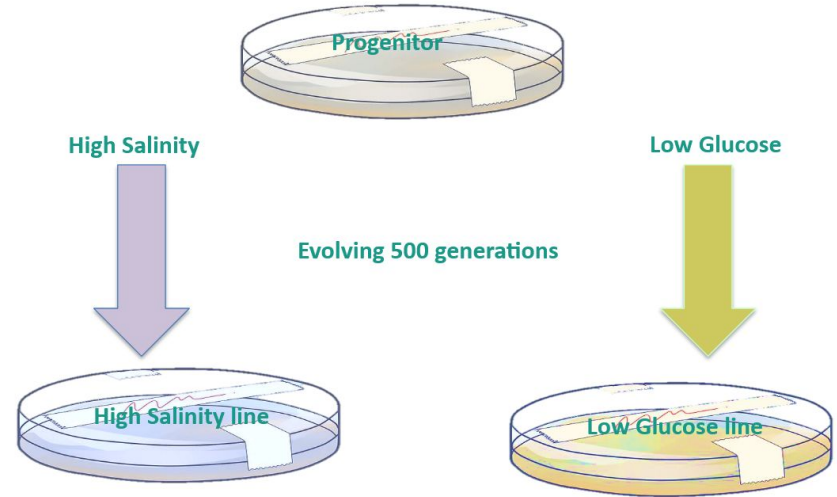
In the context of BIOL 336 Fundamentals Of Evolutionary Biology

LETTER

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Altitude adaptation in Tibetans caused by introgression of Denisovan-like DNA

Emilia Huerta-Sánchez^{1,2,3*}, Xin Jin^{1,4*}, Asan^{1,5,6*}, Zhuoma Bianba^{7*}, Benjamin M. Peter², Nicolas Vinckenbosch², Yu Liang^{1,5,6}, Xin Yi^{1,5,6}, Mingze He^{1,8}, Mehmet Somel⁹, Peixiang Ni¹, Bo Wang¹, Xiaohua Ou¹, Huasang¹, Jiangbai Luosang¹, Zha Xi Ping Cuo¹⁰, Kui Li¹¹, Guoyi Gao¹², Ye Yin¹, Wei Wang¹, Xiuqing Zhang^{1,13,14}, Xun Xu¹, Huanming Yang^{1,15,16}, Yingrui Li¹, Jian Wang^{1,16}, Jun Wang^{1,15,17,18,19} & Rasmus Nielsen^{1,2,20,21}



Why engage in reflective exercises?

They encourage students to think about the fallibility of their own ideas, open-mindedness, and the continuous revision in science.

"It is important to emphasize to students during science teaching that they are also agents in the process of evaluating ideas. Therefore, it is the educator's role to discuss a set of cognitive strategies that help them reflect on the epistemic status of ideas and beliefs."

- Dall'Alba, G., & Guzzo, G. B. (2022). A importância da comunicação qualificada de ideias no ensino de ciências. *Revista Interdisciplinar de Ciência Aplicada*, 6(10).

Thank you very much!

Reach out at

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