



## On the necessity of making geo-edu-ethics a central component throughout education

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In their convening abstract, Peppoloni et al remind us that “geoscientists are **aware** of their ethical responsibilities – towards themselves, colleagues, society and the environment”[1]. However, we must go well beyond awareness – we must go to **action**, specifically in **geo-edu-ethics**, a term coined to denote a nexus of Earth, education and ethics.

In this paper, we will present two views of such action. Seen from a high level vantage point, we must reach the objective of ensuring that **geo-edu-ethics** becomes a **central component** of most courses in schools and universities **round the world**. From a grassroots viewpoint, we will provide an example of a small, easy-to-implement **pedagogical activity** of the sort that can quickly be adapted to a wide range of **subject areas** and **educational levels**. *Geoscientists can promote a culture sensitive to the environment . . . . . geo-resources and geo-environment constitute a common heritage, to be considered as a cultural, educational and scientific value, as well as a social capital.*

The above quote brings in the notion of **education**. It was taken from an NSF course titled “Teaching GeoEthics Across the GeoScience Curriculum”[2]. Our thesis here is that geoethics should play a central role across **all** curricular areas, not just in geoscience courses.

The IAPG Cape Town statement[3] stipulates that Fundamental Values of Geoethics include *Promoting **geo-education** and **outreach for all**, to further sustainable economic development, geohazard prevention and mitigation, environmental protection, and increased societal resilience and well-being.*

This suggests, but does not explicitly state, that **geo-edu-ethics** should be a **universal part of all education**, just as is maths and science today.

Coming down to **grassroots** level, we will show that it is perfectly possible to facilitate the learning of geo-edu-ethics in all disciplinary areas at **all levels** of education and training. A wide variety of interesting and pedagogically sound methods is available to enable facilitators of learning (aka teachers) to include aspects of geoethics in their training (courses).

We will outline a discussion **framegame**[4] that can be loaded with content adapted to course topic and level, for example, to university sociology or high school biology.

When teachers in most subject areas, at all levels, across the globe, begin to **educate** their pupils and students in the **geoethical aspects of life on Earth**, then humanity will have some hope of making it through the looming climate, environmental and societal crises.

This geo-edu-ethic objective needs to be taken to the **highest levels**, such as UNESCO, other UN agencies, universities, ministries of education, accompanied by pedagogical materials to enable geoethical learning across the curriculum. What better organization to initiate and enable it than the IAPG.

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1. <https://meetingorganizer.copernicus.org/EGU2019/session/32818>. [Emphasis added.]
  2. Peppoloni, S. (2014). *Foundations of Geoethics*. PPT Presentation. <https://www.slideshare.net/sercuser/foundations-of-geoethics-36255381>. [Emphasis added.]
  3. <http://www.geoethics.org/ctsg>. [Emphasis added.]
  4. A framegame is a game format that can be ‘loaded’ with a variety of content. The one that we will present here was originally designed and used for a sustainable development workshop in Costa Rica.