Geoethics: How and why should geosciences serve society?
Geothics education: From theory to practice – a case study
By Promduangsri & Crookall

Plan

a) Background & principles:
   Necessity of geo-edu-ethics
   - At all levels of society
   - In all subject areas of education
   - Current failure of education
   - Geoethical imperative for ordinary citizens

b) Case study
   - Translation of principles into action
   - Méditerranée 2000
   - Example actions

Dimensions of geo-edu-ethics

1. Geo/Earth
2. Learning (education)
3. Ethics
12. Geo/Earth learning
123. Geo-edu-ethics
31. Geoethics
23. Learning ethics & ethical learning
Geoethics: A few elements

What is (in) geo-edu-ethics = learning geoethics, ethical learning about the Earth, …
  - ‘edu’ (learning) is sandwiched between ‘geo’ and ‘ethics’
  - We need education to bring together geosciences and ethics

Definitions of geoethics, esp applicable for geo-edu-ethics

- From IAPG
  - Appropriate behaviours and practices wherever human activities interact with the Earth system
  - Ethical, social and cultural implications of geoscience knowledge
  - Tool to influence the awareness of society regarding problems related to geo-resources and geo-environment
    http://www.geoethics.org/definition

- From Wikipedia
  - The branch of ethics which relates to the interaction of human activity with our physical world, and with the practice of the Earth sciences
    https://en.wikipedia.org/wiki/Geoethics

Necessity of geo-edu-ethics

- Geo-edu-ethics is not included in school programs = Current failure of most educational systems & ministries

- It must be at the heart of the learning society
  - Primary, elementary, secondary & tertiary education
  - Life-long & professional education & industry
  - In all subject areas (geography, history, maths, physics, etc.)

- Geoethical imperative
  - The most powerful way to mitigate climate change is to make geoethics the core of all learning and education
Geoethics throughout edu
From Climate Change and Simulation/Gaming: Learning for Survival
Published seven years ago, in 2013, in Simulation & Gaming

“… sustainability, climate change, and resilience must be included in one way or another in every single course, at all levels, primary to university, across the world”

“‘Sustainability, climate change, and resilience is so urgent and essential that it needs to take first place of all subjects … all curricula should be built around climate change.’”

“Climate change and resilience courses can be used to teach language, mathematics, history, chemistry, medicine, economics, computer science, finance, management, and most other subjects”

David Crookall
DOI: 10.1177/1046878113497781

Why geo-edu-ethics?

- The planet is in dire need of ethical behaviour, to combat:
  - Dangerous impact of human activities on life systems
  - CO2, CH4 and other GHG emissions → Global heating & CC
  - Pollution: Air, water and ground
  - Loss of biodiversity & species extinction
  - Resource depletion
  - Poverty, wealth gap, migration
  - …

- Most systems & ministries of education are failing their citizens
  - despite action by some organizations (UNEP, UNESCO, IPCC, NGOs, activist groups, associations, …)
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Ends & means of geo-edu-ethics

Difficulty of matching ends & means

Show us not the aim without the way.
For ends and means on earth are so entangled
That changing one, you change the other too;
Each different path brings other ends in view.

― Ferdinand Lassalle, quoted by Arthur Koestler in Darkness at Noon

Problems
- Global warming
- Climate change
- Sea-level rise
- Pollution
- Deforestation
- Ocean acidification
- Biodiversity loss
- Over exploitation of natural resources
- Failure of education systems

Unethical: Not to provide knowledge about & skills for the Earth, sustainability, climate change, etc

Geo-educational - Means
- Citizens learn to behave in a geoethical fashion
- Insertion of geo-edu-ethics in all sectors of learning & society
- Widespread use of participatory and active learning methods
- Massive training of educators, politicians & public servants
- Geo-edu-ethics committees for all decision-making bodies

Geo-educational - Ends
- Individual & collective behaviors contribute to a sustainable Earth:
  - Limit energy consumption
  - Avoid waste
  - Recycle
  - Eating vegetarian
  - Using fossil-free energy
  - Stop pollution
  - Geo-edu-ethics for all
  - Make the Geoethical Promise

Geoethical Promise: http://www.geoethics.org/geopromise
Méditerranée 2000, France – A case study

Med2k = Educational association for sustainability and ecology, Cannes, France

General missions

- To create relationship between citizens and nature
- To raise public awareness about the environment & environmental issues
- To promote ethical behaviour on the part of citizens

Principles of geo-edu-ethics ➔ translated into local actions

- Recycling, learning about raw materials, raising awareness about flooding & pollution, reducing one’s carbon footprint and energy use, etc
- Schools, local governments, industry

Med2k is a member of the IAPG: Helps us to improve our activities

Inf’Eau Mer ➔ Geo-edu-ethical campaign

Inf’Eau = play on phrase ‘info+eau’ (water/info)

Public awareness (geo-edu-ethical) campaign about:

- water pollution and
- the environment

Objectives:

- Educate general public about protecting the sea
- Develop tourism that is respectful of the environment
- Inform people about the ethical actions carried out by the municipality in favor of the environment
- Collect information on the perception of holidaymakers and residents regarding the environment
**Inf’Eau Mer ➔ Geo-edu-ethical campaign**

Means (methods)
Organize stands:
- about the marine environment
- on the beaches, in summer

With:
- Games
- Information booklets
- Exhibitions

**Les Ambassadeurs du Littoral ➔ Geo-edu-ethics**
Les Ambassadeurs du Littoral = Coastal Ambassadors

- Objectives (desired outcomes):
  - Introduce children to:
    - marine environment
    - impact of human activities on marine biodiversity
  - For preservation of seas and oceans
Les Ambassadeurs du Littoral ➔ Geo-edu-ethics

Means (methods): 4 sessions:

1. & 2. Learning in class

3. Visiting a water treatment station

4. Cleaning the beach & leaving messages in the sand

Scol’Air ➔ Geo-edu-ethics

Scol’Air = play on phrase ‘schoolarly’ and ‘air’

Objectives:

- Educate children about environmental health
- Teach about air, its properties and pollution
- Raise awareness of air pollution and discover geoethical actions to take
- Acquire a scientific approach
- Reinforce group work, cooperation, learning by the senses
Scol’Air ➔ Geo-edu-ethics

Means (methods):
2 sessions:

1. Learning about physical and chemical properties of air

2. Learning about air pollution, solutions and geoethical behavior

Geo-edu-ethical thoughts by great thinkers

Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has. - Margaret Mead

The more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction. Rachel Carson

You cannot get through a single day without having an impact on the world around you. What you do makes a difference and you have to decide what kind of a difference you want to make. - Jane Goodall

One of the first conditions of happiness is that the link between man and nature shall not be broken. - Leo Tolstoy

Progress is impossible without change, and those who cannot change their minds cannot change anything. - George Bernard Shaw

Note that change can be another word for learning
Conclusion

- Geo-edu-ethics = Needed in every walk of life and across the globe
- A small local association can have a big impact - Med2k
- Geo-edu-ethics activities & campaigns for all citizens:
  - Geothermal behaviour
  - Changing people’s behaviour
  - Pushing for a sustainable world
  - Respecting the environment
  - Making wise decisions regarding the planet
  - Keeping the **Geoethical Promise**
  - ...

**Geoethical Promise**: [http://www.geoethics.org/geopromise](http://www.geoethics.org/geopromise)

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2020

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Related references

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Many thanks to

Estelle Bellanger
• Director of the association Méditerranée 2000

Sivia Peppoloni
• Research geologist at the Istituto Nazionale di Geofisica e Vulcanologia (INGV), Secretary General of the IAPG

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