









KNUST RANKS NO.1 GLOBALLY FOR THE PROVISION OF QUALITY EDUCATION (SDG 4) 




THE PLACE OF INDIGENOUS KNOWLEDGE IN CLIMATE EDUCATION


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OUTLINE

- Climate
- Climate change and variability
- Education
- Climate education
- Indigenous Knowledge
- Solutions
- Importance of Indigenous knowledge



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CLIMATE

- Climate, sometimes understood as the "average weather," is defined as the measurement of the mean and variability of relevant quantities of certain variables (such as temperature, precipitation or wind) over a period of time, ranging from months to thousands or millions of years.
- The classical period is 30 years, as defined by the World Meteorological Organization (WMO, 2023).
- Climate in a wider sense is the state, including a statistical description, of the climate system.



CLIMATE

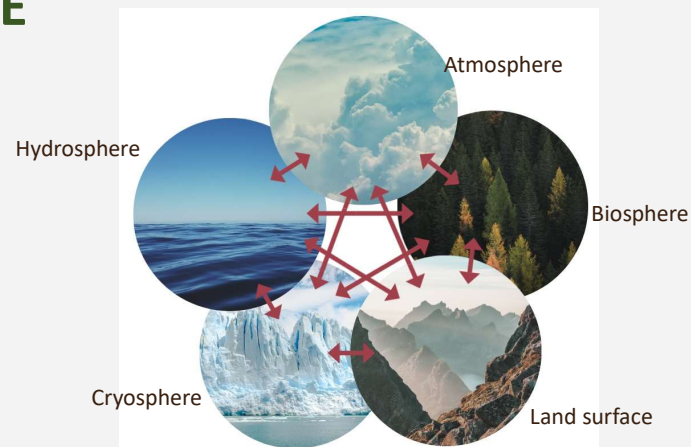


Figure 1: The climate system



CLIMATE CHANGE & CLIMATE VARIABILITY

- Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer).
- Climate Variability is defined as variations in the mean state and other statistics of the climate on all temporal and spatial scales, beyond individual weather events.
- climate variability looks at changes that occur within smaller timeframes, such as a month, a season or a year, and climate change considers changes that occur over a longer period of time, typically over decades or longer.



EDUCATION

- According to Lawrence Cremin “Education is the deliberate, systematic, and sustained effort to transmit, provoke or acquire knowledge, values, attitudes, skills or sensibilities as well as any learning that results from the effort” (Chazan, 2022).
- The purpose is to develop the abilities of the mind.



CLIMATE EDUCATION

- Integration of the fundamentals of the climate and climate change into our schools curricula.
- The main goals of climate education include building a sustainable future, inspiring action and practicing influencing skills at the social and personal levels.



Figure 2: The future is for the children (Source: borntosnore)



CLIMATE EDUCATION

Curricular content must include components focusing on mitigation and adaptation options at both the individual and systems levels to build capacity of using knowledge for changing environmentally unsustainable behaviours (Vaughter, 2016).

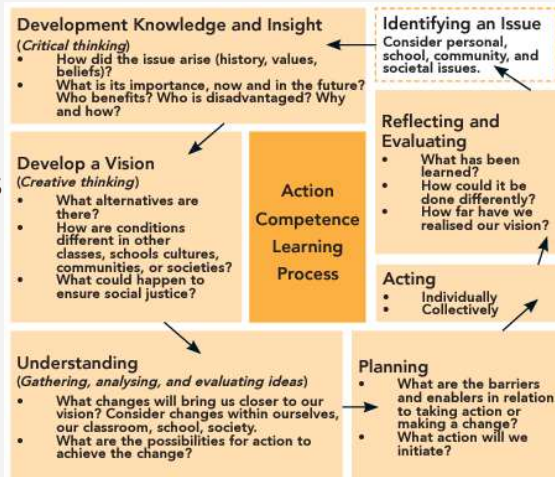


Figure 3: Action Competence Learning Process (Source: Vaughter, 2016)



INDIGENOUS KNOWLEDGE

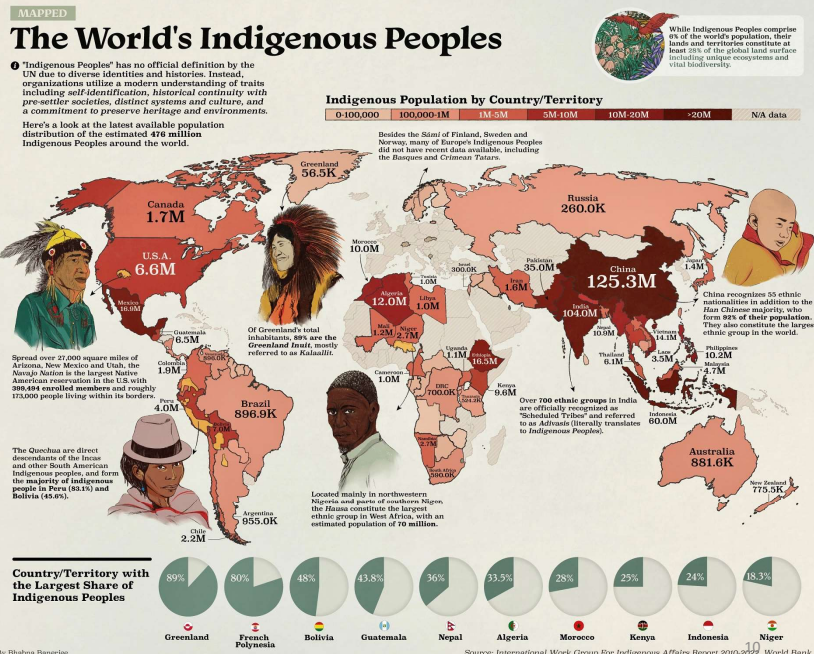
- According to UNESCO's programme on Local and Indigenous Knowledge Systems (LINKS) "Indigenous knowledge refers to understandings, skills, and philosophies developed by local communities with long histories and experiences of interaction with their natural surroundings" (Hiwasaki et al., 2014).
- Indigenous Knowledge is generally transmitted via oral and practiced traditions (Leal Filho et al. 2022).



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INDIGENOUS PEOPLE

Indigenous people are estimated to be about **476 million** globally, according to the 2022 Indigenous World Reprot (Banerjee, 2023).



CLIMATE CHANGE AND INDIGENOUS KNOWLEDGE

- Indigenous Knowledge has contributed substantively towards climate change adaptation.
 - Forecasting
 - Managing natural and human-induced hazards.
- Acceptability of knowledge.



CHALLENGES OF INDIGENOUS KNOWLEDGE

- Lack of proper knowledge transfer,
- Lack of proper documentation,
- Lack of proper dissemination,
- The influence of religion and education,
- lack of recognition of forecasters,
- Environmental degradation and
- Extinction of biological indicators.



SOLUTIONS.....

- Adoption of citizen science to
 - Create awareness
 - Gather the information
 - Analysis findings together
 - Document together
 - Take action together



THE IMPORTANCE OF INDIGENOUS KNOWLEDGE INTEGRATION FOR CLIMATE ACTION

- Proven climate change adaptation strategies and technologies.
- Inclusion
- Indigenous knowledge is the basis for local-level decision-making in many rural communities.
- Enhancing indigenous capacity is key to the empowerment of local communities and their effective participation in the development process.



LESSONS...

- Co-Producing Climate Services that Integrate Scientific and Indigenous Weather and Seasonal Climate Forecasts for Water Management and Food Production in Ghana.
- Co-production of integrated indigenous and scientific weather and seasonal climate forecast for climate change adaptation in the Pra River Basin of Ghana.



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