

Going back again and again: Cognitive inconsistency in the elaboration of climate change representation

Annamaria Lammel¹

¹ University of Paris VIII, Paris, France

Introduction

How human mind can understand, interpret, judge and predict the highly complex phenomenon of climate change? Meanwhile a great number of studies intent to analyze local climatic knowledge (e.g. Leary et al, 2008; Vedwan, 2006) and lay people perception (e.g. Gowda, Fox & Magelky, 1997) only few researches explore cognitive mechanisms which underlie the understanding of a complex topic such as climate change. Our previous studies provide evidences that analytic way of thinking do not allow an internally consistent representations of systemic phenomena (Lammel, & Kozakai, 2005; Lammel, Dugas, Guillén, 2011; Lammel, Dugas, Guillén, Jamet, 2011).

Methods

The present focuses on cognitive elaboration of climate change representations in French, Parisian adults. Data was collected through semi-directive interviews and open ended questions to obtain information on the understanding, interpretation, judgment and prediction of causes, mechanisms and consequences of climate change at local and global levels. The participants were 50 young adults (M=23) and 50 adults (M=41). Data analyses consisted first in a qualitative thematic study with independent judges permitting to identify the basic themes in relation to causes, mechanisms and consequences of climate change. Secondly, a scale for the following cognitive mechanisms was elaborated: understanding, interpretation, judgment and prediction. Every theme was coded in relevant cognitive dimensions. Finally the internal consistency was analyzed.

Results

Results point out that most participants applied the strategy of “going back and back again”. In other words, to return to previously treated themes and modify them, even state the contrary. Multiple feed-backs can conduct to denying former judgments and make predictions which are inconsistent with interpretations or understanding. These findings raise the question why western analytic thinking produces cognitive inconsistency when treating systemic phenomena? Discussion will treat the cognitive obstacles in the process of construction of homogenous representation of climate change. Furthermore implications to develop holistic thinking for a better understanding of climate change in lay urban western population will be proposed.

Acknowledgements

This work forms part of a larger research project financed by the French National Agency of Research (ANR) on cognitive adaptation to climate change.

References

- Gowda; M., Fox J. & Magelky R.(1997). Students' understanding of climate change: Insights for scientists and educators. *Bulletin of the American Meteorological Society*, 78 (1) 2232-2240.
- Lammel, A. & Kozakai, T. (2005). Percepción y representación de los riesgos de la contaminación atmosférica según el pensamiento holístico y el pensamiento analítico, *Desacatos*, 19, 85-98.
- Lammel A, Guillen Ch, Dugas E & Jamet F, Cultural and environmental changes: Cognitive adaptation to global warming, (In press) *Proceeding of the XXth Congress of the International Association for Cross-Cultural Psychology*, (University of Melbourne), 2011.
- Leary et al. (Eds.), (2008). *Climate Change and Adaptation*. London: Earthscan.
- Vedwan, N. (2006). Culture, climate and the environment: Local knowledge and perception of climate change among apple growers in northwestern India, *Journal of Ecological Anthropology*, 10, 4-18.