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UNESCO – United Nations Educational, Scientific & Cultural

Research Report

Topic 3: The question of incorporating the issue of climate change into public education



Emily Widjaja and Omar Majed

Introduction

Climate change has become an increasingly concerning issue in recent years with methods of decelerating climate change is a widely-debated topic. From limiting gas emissions to researching alternatives of producing energy, the debate has covered many attempts to reduce the effect of climate change. Education as a method of preventing climate change has more recently come into the spotlight as scientists and policy makers realise the need to increase awareness and knowledge of future generations. However, its incorporation into public education has been halted due to various obstacles, including a lack of resources, which is faced largely by developing countries, or the belief that climate change is non-existent.

Key Terms

Climate Change (CC) - As defined the United Nations Framework Convention on Climate Change, CC is “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.”¹

Enhanced Greenhouse Effect – The augmentation of the greenhouse effect caused by human activities such as burning fossil fuels.

Formal education – Education received in a classroom setting, typically provided by trained instructors.

Greenhouse gases – Gases that are attributed to cause the greenhouse effect, which is the heating up of the atmosphere due to a high quantity of infrared radiation absorbed and trapped by greenhouse gases, which include carbon dioxide, methane and water vapour.

Non-formal education – Education received outside the classroom, for example, in training workshops, museums, libraries or extracurricular activities.

Public Education – Formal or non-formal education provided by the state.

Background Information

Since the beginning of the Industrial Revolution, greenhouse gas emissions have risen drastically though in 1896, Svante Arrhenius, a Swedish Chemist, recommended the enhanced greenhouse effect, believing it had beneficial effects on future generations. By 1938, it had been discovered that a trend in increasing global temperatures correlated to an increase in carbon dioxide concentrations and in 1965, global warming was acknowledged as an issue.²

¹ Unknown. *UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE*. United Nations, 1992. Available at:

<https://unfccc.int/resource/docs/convkp/conveng.pdf>

² Black, R. *A brief history of climate change*. Published: 20/09/13. Accessed on: 04/01/18. <http://www.bbc.com/news/science-environment-15874560>

Climate change is recognised as a man-made phenomenon by 97%³ of scientists. The enhanced greenhouse effect, which leads to global warming and hence the changes in climate, is caused when radiation from the Sun is absorbed and re-radiated into the atmosphere, some of which is re-absorbed by greenhouse gases in the atmosphere, thus trapping thermal energy in the Earth's atmosphere and increasing global temperatures. While the presence of a certain percentage of greenhouse gases are due to natural causes, such as evaporation and oceans, the recent increase in the amount of greenhouse gases are attributed to human activities. The increase in average global temperatures is generally accepted as the cause of climate change. However, some global leaders question the existence of this phenomenon. In particular, US President Trump has been vocal in his denial of climate change, having reportedly tweeted about it 115 times⁴ as of June 2017. Despite this, most global leaders have enacted various methods to reduce climate change.

Although most measures of combatting climate change are meant for immediate effect, for example, through limitations of emissions and reduced reliance on fossil fuels, an emerging method of preventing the acceleration of global warming is education. Seeing that in the United States, 90.3% of all students were enrolled in state schools in 2013⁵, the integration of climate change education in formal public education will have profound effects on society in combatting climate change. However, there are issues with the incorporation of climate change into the public education system.

UNESCO Bangkok's report on educational sector responses to climate change outlines obstacles to the implementation of CCE in the educational sector by policy makers. A shortage of support and training as well as a significant lack of scientific knowledge and expertise in climate change makes it difficult to implement policies. Additionally, there is debate at the primary school level surrounding when to introduce climate change into the curriculum and at the secondary and tertiary level on how much time should be allocated towards climate change, seeing that most secondary and tertiary curricula are already overloaded, which may make policy makers hesitant to create specific policies.⁶

³ Bolton, D. *97% of scientists believe climate change is caused by humans, study finds*. The Independent. Published: 13/04/16. Accessed: 15/01/18. Available: <http://www.independent.co.uk/news/science/global-warming-climate-change-man-made-scientific-consensus-study-a6982401.html>

⁴ Matthews, D. *Donald Trump has tweeted climate change skepticism 115 times. Here's all of it*. Vox. Published: 01/06/17. Accessed: 15/01/18. Available: <https://www.vox.com/policy-and-politics/2017/6/1/15726472/trump-tweets-global-warming-paris-climate-agreement>

⁵ U.S. Department of Education, National Center for Education Statistics. (2016). *Digest of Education Statistics*, 2015 (NCES 2016-014), Chapter 2. Published: 2017. Accessed 04/01/18. Available at: <https://nces.ed.gov/fastfacts/display.asp?id=55>

⁶ Chaiyasook^[1], S. (2012) *Education Sector Responses to Climate Change*, UNESCO Bangkok. Available at: <http://unesdoc.unesco.org/images/0021/002153/215305e.pdf>

Major Countries and Organisations Involved

Intergovernmental Panel on Climate Change (IPCC) – an international organisation that provides policy makers with assessments of CC-related science, such as CC’s scientific basis, risks, future impact and solutions to adapt and mitigate the its effects.⁷

UNESCO (United Nations Educational, Scientific & Cultural) – UNESCO has passed multiple resolutions on the issue and produced some of its own means of education. For example, ‘*Climate Justice: Lessons from the Global South*’ is an online course published on the educational platform FutureLearn by UNESCO.⁸

Relevant UN Resolutions

[38 C/Resolution 21](#) – UNESCO Resolution entitled “*Contribution by UNESCO to combating climate change*” does not explicitly address climate change education but does confirm the commitment of member states to the adoption of the UNFCCC⁹, which, under this convention, obligates parties to cooperate in climate change education (see Previous Attempts to Solve the Issue, UNFCCC below)

[201 EX/SR.10](#) – Resolution requesting member states to implement the UNESCO Strategy for Action on Climate Change.¹⁰

Previous Attempts to Solve the Issue

United Nations Framework Convention on Climate Change (UNFCCC) - The convention is an international treaty on the environment. Articles 4-1i and 6 obligates that parties to the treaty cooperate in “education, training and public awareness related to CC [...] including that of non-governmental organisations”.¹¹ The Kyoto Protocol, an extension to the UNFCC, builds upon the original convention by specifying particular areas to focus on for development of CCE, as stated by Article 10e of the

⁷ Unknown. (2013) *IPCC Factsheet: What is the IPCC?*. Intergovernmental Panel on Climate Change. Available at:

http://www.ipcc.ch/news_and_events/docs/factsheets/FS_what_ipcc.pdf

⁸ United Nations Educational, Scientific and Cultural Organisation. *Climate Justice - Online Course*. FutureLearn. Published: 2018. Accessed: 09/01/18. Available at:

<https://www.futurelearn.com/courses/climate-justice>

⁹ Unknown. (2015) *Records of the General Conference: Resolutions*, United Nations Educational, Scientific & Cultural Organisation. Pg 29. Available at:

<http://unesdoc.unesco.org/images/0024/002433/243325e.pdf>

¹⁰ Unknown. (2017). *Decisions adopted by the Executive Board at its 201st session*. United Nations Educational, Scientific & Cultural Organisation. Pg 4-5. Available at:

[http://unesdoc.unesco.org/images/0024/002489/248900e.pdf#xml=http://www.unesco.org/ulis/cgi-](http://unesdoc.unesco.org/images/0024/002489/248900e.pdf#xml=http://www.unesco.org/ulis/cgi-bin/ulis.pl?database=gcex&set=005A54D4C4_1_470&hits_rec=1&hits_lng=eng)

[bin/ulis.pl?database=gcex&set=005A54D4C4_1_470&hits_rec=1&hits_lng=eng](http://unesdoc.unesco.org/images/0024/002489/248900e.pdf#xml=http://www.unesco.org/ulis/cgi-bin/ulis.pl?database=gcex&set=005A54D4C4_1_470&hits_rec=1&hits_lng=eng)

¹¹ Unknown. *UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE*. United Nations, 1992. Available at:

<https://unfccc.int/resource/docs/convkp/conveng.pdf>

Protocol.¹² The Paris Climate Agreement further develops the original convention, by emphasising that measures of capacity building should be focussed on developing countries, especially least developed countries in Article 11-1 and the reminder for cooperation in Article 12.

UNESCO Climate Change Initiative - The brainchild of Director-General Irina Bokova, the UNESCO Initiative was launched in Copenhagen with education as one of its four main focuses. The educational focus is separated into modules, each specifically focussed on different aspects of climate change such as understanding climate change, natural disaster preparation as a result of climate change, and methods of preventing climate change through environmental and developmental sustainability. Methods of integration into existing curricular were also specified; UNESCO recommended that CCESD is integrated in a “transdisciplinary manner into existing subject areas”.¹³

UNESCO Strategy for Action on Climate Change (2018 – 2021) – This strategy cites the UNFCCC as the primary forum for debating responses to climate change but further specifies that action should be taken to combat climate change through “education, sciences, culture and information and communication”. As a further clarification from the previous attempts’ general obligation for “cooperation”, the strategy determines that it will complete its objective through policy advice, circulation of climate data and knowledge production in particular.¹⁴

Possible Solutions

The most prominent issue with incorporating the issue of climate change into public education is an actual agreement to incorporate it. The existing framework for educational has not been enacted by every member nation, though it is only 26 parties have not ratified the UNFCCC, and only the United States of America which is not party to the Paris Agreement. Solutions to this aspect would involve negotiation between delegates.

With regards to the question of the process of incorporation of climate change, solutions could include more specific guidelines and suggestions for policies that resolve the obstacles mentioned in UNESCO Bangkok’s report. The debate may revolve around how the guidelines are generated.

Increased international cooperation is another possible solution. UNESCO Bangkok’s report mentions examples of policies implemented by specific countries that successfully incorporated the issue of climate change into public education. International cooperation and sharing of knowledge can significantly accelerate

¹² Unknown. (1998) *KYOTO PROTOCOL TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE*. United Nations. <https://unfccc.int/resource/docs/convkp/kpeng.pdf>

¹³ Mermer, T. (2010) *The UNESCO Climate Change Initiative: Climate Change Education for Sustainable Development*, UNESCO. Available at: <http://unesdoc.unesco.org/images/0019/001901/190101E.pdf>

¹⁴ Unknown. (2017) *UNESCO STRATEGY FOR ACTION ON CLIMATE CHANGE*, UNESCO. Available at: <http://unesdoc.unesco.org/images/0025/002592/259255e.pdf>

integration and also provide better quality CCE, especially for developing countries. Cooperation does not need to be limited between governments; governmental cooperation with non-governmental organisations and other institutions on the issue may also increase resources available to improve provision of CCE and its quality. This solution already exists in previous resolutions but previous solutions mainly focus on governmental cooperation and do not always specify NGOs. Previous attempts could be built upon by specifying how countries should help each other.

Other possible solutions include the creation of indicators, which measure the effectiveness of the climate change educational curriculum. These would serve as future tools to further improve the quality of CCE, and determination of non-formal educative methods of CCE.

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