

Climate Change and Ozone Depletion

Page Index

[Description](#)
[Participants](#)
[Findings](#)
[Outcomes](#)
[Impact](#)
[Related Documents](#)

Quick Links

[Download Infosheet](#)
[Download Report](#)
[Visit Website](#)

Project Title	Gaining Knowledge and Understanding of Year 10 Students with Regard to Climate Change and Ozone Depletion
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Period	August 07 –December 07
Funding Agency	SiMERR
Organisational Base	SiMERR Queensland

Description

[↑ Top](#)

Despite the recent and ongoing media attention, little work has been conducted recently to explore current student knowledge of climate change and ozone depletion. The drive for scientific literacy and a context based delivery of the science curriculum make this project an important one to pursue in order to inform policy and pedagogical issues relating to the teaching of science. Moreover, the need to possess a functional scientific literacy for students leaving school is iterated and re-iterated on a regular basis.

In England there is a drive to redesign secondary science curriculum development to engage student interest in science, with courses attempting to identify the content, and the ideas about science, needed for a citizens' functional literacy. The general decline in science interest and engagement and the concomitant decline in students' pursuit of a science-based career is an issue of great concern both to educators and politicians. One way to kindle interest in science and increase engagement and future career paths in science areas is considered to be through context based, relevant and applied science teaching. Two such contexts are the greenhouse effect and ozone depletion.

The purpose of the research was to investigate the knowledge and understanding of Year 10 students with regard to these issues and to compare and contrast the results with a previous survey on these issues conducted in 1991 with similar school cohorts. A report of findings will be provided to participating schools with suggestions for curriculum development.

Students were surveyed to explore their knowledge and understanding of global warming and ozone depletion. The perceived level of importance for these issues was also ascertained.

Participants

[↑ Top](#)

560 secondary students from nine school (three urban schools: Brisbane; three regional schools: Townsville and three remote schools), and 62 pre-service teachers.

Findings

[↑ Top](#)

The understanding and knowledge of the greenhouse effect, ozone depletion and climate change was explored in secondary students in regional Australia and compared to data collected from a parallel group in the UK in 1991. Statistical analyses of student responses indicate knowledge and understanding of these important phenomena remains low, or is lower than in the 1991 group, despite an intervening period of 16 years. The effects of climate change were somewhat better reported by the 2007 group but there was also a higher level of scepticism in this group than in the 1991 cohort. Socio-cultural influences will be examined and further findings will be forthcoming.

Outcomes

[↑ Top](#)

A paper has been written and is under review with Australian Educational Researcher. The results of the survey have been requested by a Federal government section for review of policy.

Impact

[↑ Top](#)

It is hoped that the publication of the results (journal articles) will have significant impact upon science educators and curriculum.

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 [Top](#)

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 [Top](#)