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Schools Climate Change Initiative [2007-2009] Evaluation

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Evaluation - Executive Summary

Overview of the School Climate Change Initiative

The Schools Climate Change Initiative (SCCI), a middle years (Year 5-10) action learning and teaching resource development Project, was implemented by the NSW Department of Education and Training (NSW DET) and funded by the NSW Government through the NSW Greenhouse Office. The established Project goal was to assist in the implementation of the NSW Greenhouse Plan by developing teacher and student awareness, understanding and environmental citizenship in regard to the 'local to global' measures required to reduce greenhouse gas emissions and adapt to future climate changes in NSW.

The Initiative ran over a three year period, from 2007 to 2009, with the aims of the Initiative to be achieved by the production, trial and refinement of a series of teaching/learning tasks and an associated professional learning program addressing climate change and sustainable energy for students and teachers across the middle school years. The Key Learning Areas (KLAs) of Science, Technology and Human Society and its Environment (HSIE); and the actions of School Environment Management Plans (SEMPs) were to be integrated into the tasks.

The Project was coordinated by the NSW DET Curriculum K-12 Directorate, the NSW Department of Environment and Climate Change and 11 Climate Change Learning Communities. Each Climate Change Learning Community was comprised of one, sometimes two, NSW DET Environment Education Centres (EEC), at least one secondary school, two to three partner primary schools, their Local Council and in a few cases other associated agencies. Each community had a Learning Community Co-ordinator appointed from within their EEC and over the three year period of the Initiative, three consecutive overarching Project Co-ordinators (PC) were appointed within the Environmental Education Unit of the NSW DET.

The Schools Climate Change Initiative will contribute to future implementation of education for sustainability in NSW schools, with particular emphasis on sustainable energy use and community action to adapt to climate change.

Initiative Evaluation

The evaluation was designed to directly inform the guiding questions of the NSW DET Schools Climate Change Initiative.

Thus the research sought to explore factors contributing to successful:

- student understanding, engagement and action;
- teacher professional learning (PL);
- scoping and sequencing of climate change education from stage 3 to stage 5 (Year 5-10); and
- school environmental management planning processes, in the context of the Project's 11 established Climate Change Learning Communities (CCLC).

Methodology

In keeping with the broad, holistic aims of the Schools Climate Change Initiative, the methodology adopted for the evaluation was qualitative in approach, and sought to

develop a substantial and complex understanding of the achievements of the Project in each of the six chosen sites, aiming to develop an *in situ* understanding of the data collected (Eisner, 1998). As such, something of a forensic approach (Groundwater-Smith & Mockler, 2009) was taken by the researchers to the analysis of the evidence collected, wherein the researchers have iteratively developed bounded case study 'stories' for each of the participating Climate Change Learning Communities, prior to developing a cross-case analysis of the Project as a whole.

Processes

The following methods were employed:

- Telephone interviews with Learning Community Co-ordinators (LCC): These interviews informed the second stage of the research and enabled the selection of six Learning Communities for the in-depth field studies involved.
- Six field studies, each comprising:
 - One student focus group (SFG) interview;
 - Interviews with Learning Community 'Key Actors' (KA) (including teachers) identified by the Learning Community's Co-ordinator;
 - Consultation with school Principals;
 - Collection of student work and other relevant documentation

Appropriate ethics approval was gained at the outset of the Project. Once the report and findings were drafted, a participant check was conducted with Climate Change Learning Community Co-ordinators, whose feedback was then incorporated into the final report.

Findings

i. Cundall Climate Change Learning Community

Within the Cundall Climate Change Learning Community, the work emanating from the Schools Climate Change Initiative has been almost entirely embedded within the curriculum, with strong links into Quality Teaching and a focus on designing learning experiences which are differentiated, creative and student-directed. Despite the limitation that the Project was confined to a relatively small number of students and classes within each school, there is good evidence that the SCCI has provided a catalyst for some small-scale curricular change and improved student learning in relation to issues related to climate change and sustainability, which, with continued follow-up, could be scaled up further in time to come.

ii. Diesendorf Climate Change Learning Community

For schools in the Diesendorf Climate Change Learning Community it seems that the Project has been highly successful. To varying degrees, they have adopted climate change as a key curriculum organiser and catalyst for curricular and pedagogical innovation. The level of dispersion can be seen to vary between schools (impacted upon particularly by the issue of school size), and the withdrawal of one school within this community highlights the complexity of involvement in such a project over an extended period of time. For teachers and students involved in the remaining three schools, however, there is clear evidence of sustained and powerful learning as a consequence of the Schools Climate Change Initiative.

iii. Flannery Climate Change Learning Community

As a result of the Schools Climate Change Initiative, a range of highly effective and engaging activities have taken place within the schools of the Flannery Climate Change Learning Community, which have resulted in an increased awareness, understanding and action on issues related to climate change and sustainability on the part of students and teachers. While some questions remain about the breadth of impact across entire school communities and the capacity to integrate this work into the curriculum more effectively and systematically, the SCCI has been a catalyst for learning and change within the Flannery Climate Change Learning Community.

iv. Wani Wingfield Climate Change Learning Community

The Wani Wingfield Climate Change Learning Community offers important lessons as a model for what is possible in climate change learning. This is something of a double-edged sword. While there is no doubt activities and learning of students in the Wani Wingfield CCLC are substantial it is also clear that the professional expertise, skill, resourcefulness, and resources required for this to occur also have been substantial. On the one hand, Wani Wingfield achieved a lot in the SCCI. On the other hand, the schools and teachers in Wani Wingfield were beginning from a very strong base, which meant that utilisation of additional resources was skilfully guided and organised and also substantial in its quality and quantity. Making this observation does not, in anyway, however, take away from the significant achievements of this Climate Change Learning Community.

v. Woodland Climate Change Learning Community

It is clear, from the first hand accounts of participants, that the SCCI enabled resourcing of Climate Change and sustainability education in the Woodland CCLC, and that this has resulted in a range of learning experiences, both within and beyond the classroom, that built and enhanced student understanding of issues related to climate change and commitment to action. This was especially evident in the school and student involvement in the broad Environmental Education community of the local region. It is also clear that unique leadership from within schools and the local EEC facilitated Woodland CCLC substantially. This work was also significantly promoted through the Local Council initiatives.

vi. Wright Climate Change Learning Community

It is clear that a substantial amount of co-curricular and mainstream curricular work was conducted in the Wright CCLC as a response to the SCCI, and teachers regard the Project as worthy and important. The degree to which this work may or may not be sustained has been hampered by: staff turn over, competing desires and interests, fragmented and multiple foci, limited time frames, and shifting organisation of students. Likewise, while, it is less clear how deep student understanding did develop as a result of the Project, it is clear that a substantial amount of student learning activity resulted from the Schools Climate Change Initiative.

Conclusion

The Schools Climate Change Initiative was conceived of as a project which would support student understanding, engagement and action and teacher professional learning in relation to climate change and pedagogies to support climate change learning; foster links between Stages 3, 4 and 5; and enhance links between student learning and School Environmental Management

Planning processes. It was also conceived of as a project that would be heavily shaped by the local context of each Learning Community: the Project did not aim to create a standardisation of practice and processes across each of the eleven Learning Communities, but rather aimed to create opportunities for local responses to emerge iteratively over the course of the Project.

Given this framing construct, the evolution of the Project occurred in different ways in each of the six Learning Communities that participated in the study. In each, there is evidence of movement toward all four aims, although the cross-case analysis indicated, to varying extents across the Learning Communities.

Overall, factors that appear to have supported success within each Learning Community include:

- The extent of existing expertise and interest among teachers and Environmental Education Centre (EEC) educators;
- A clearly articulated vision for the Project, collaboratively developed by members of the Learning Community;
- Direct support, encouragement and guidance from the SCCI facilitating team;
- Clear planning and regular Learning Community meetings to encourage team members to stay 'on track';
- Open lines of communication between Learning Community members;
- The support of executive staff members in participating schools;
- Professional learning support in relation to both the content of climate change learning and approaches to curriculum and pedagogy; and
- Strong leadership on the part of the Learning Community Co-ordinator.

Factors that appear to have hindered or limited success within Learning Communities include:

- Rapid staff turnover within the Learning Community;
- Difficulties experienced in developing and implementing an integrated curriculum within secondary school contexts;
- A lack of clear scaffolds for processes and products required within the Project;
- A lack of clear delineation between learning about climate change, more general education for sustainability and environmental education;
- A lack of understanding of how to best involve the Local Council and other external expertise in the Learning Community;
- Inefficient, or inconsistent, use of teachers' time.

Recommendations

Based on the Project findings, four recommendations were made with regard to the future development of projects:

1. That when student outcomes are the intended objective, inclusion of requisite evidence of that learning also be included in the initial project specifications;
2. That future initiatives establish executive support and long term commitment as a criteria for participation;
3. That accessing external expertise on both the content and on curriculum integration and pedagogical development be provided and/or required; and,
4. That direct advice and support be provided to schools to assist them in meeting competing (perceived or real) demands – such as in navigating syllabus requirements or meeting accountability pressures resulting from NAPLAN reporting mechanisms.