

EXECUTIVE SUMMARY

The purposes of this study were: 1) explore Thai students' perception and conception of global warming and 2) examine whether/how process drama could promote scientific literacy and humanistic science education in the context of global warming. The research design is a case study. The study was divided into three phases; exploration, implementation and evaluation and extension. In the first phase, the first semester, academic year 2008, one hundred and six Grade 7 students from one secondary school in Bangkok completed an open-ended Scientific Literacy Test on Global Warming which focused on the perception, conceptual understanding of global warming and engagement in environmental action on the issue. Key findings were taken into consideration in the design of a 7-day process drama workshop that was implemented in the same school during a month break between semesters. There were thirty-one lower (24) and upper (7) secondary students attending. They actively engaged in doing a series of laboratory exercises, acting, making a story, and producing a drama. They created and performed the drama to the public. The participants were measured their level of scientific literacy before and after the workshop. A number of data gathering techniques were employed during the workshop including participant observation, drama script, and reflective journal. Qualitative data analysis was used. To disseminate the drama strategy to other teachers, the workshop was modified to be a 3-day intensive professional development workshop. It was held in Nakorn Prathom province in summer. The participants are 28 primary science teachers from five schools. Four implemented process drama in their school. The research findings are as follows;

1. In exploration phase, the majority of students had heard only the keywords of global warming splashed in mass media and their given definitions reflected alternative conceptions. The majority of students held partial understanding of the causes of global warming.

2. In implementation and evaluation phase, process drama could develop students' scientific perception of the keywords related to global warming and scientific conceptions of the causes, processes, and consequences of global warming. Students' views on the solution of global warming were integrated, creative and critical. It could raise awareness and pro-environmental actions. Process foster humanistic science education since it is motivating, , build confidence, self-esteem, and develop positive attitudes and values.

Keywords: Process drama, global warming, scientific literacy, humanistic science education