
Title	Problem-based collaboration in an online computer supported environment: A case study
Author(s)	Manu Kapur
Source	<i>The NIE Researcher</i> , 4(1), 9
Published by	National Institute of Education (Singapore)

This document may be used for private study or research purpose only. This document or any part of it may not be duplicated and/or distributed without permission of the copyright owner.

The Singapore Copyright Act applies to the use of this document.

Problem-based Collaboration in an Online Computer Supported Environment: A Case Study

Manu Kapur

Note: This is a short abstract of Mr Kapur's Master of Education dissertation under the supervision of Bavid HungWei Loong and Angela Wong Foong Lin. It received the Educational Research Association of Singapore Gold Medal for the outstanding Master of Education dissertation for 2003.

The central focus of this study concerned the nature of processes through which a group collaborated in an online computer-supported collaborative environment to solve an authentic real-life problem scenario. By analysing and understanding these processes I described the ways in which such an online computer-supported environment supported and facilitated the collaborative processes of problem solving. In addition, I derived implications for the pedagogical design consideration of activities for online computer-supported collaborative environments based on the findings. As such, the major contributions of this study are:

1. The micro-processes of online collaborative computer-supported problem solving, and
2. The CRAMSS (Constructive, Reflective, Authentic, Manipulative, Social, and Stable) Model: a set of guidelines for the design of activities for online computer-supported collaborative problem-solving environments.

The present study focussed on the problem solving efforts of three students from a junior college in Singapore who volunteered to participate in this project. With the specially designed online computer-supported collaborative environment as the only means of problem solving, the group engaged in solving an authentic real life problem.

Activity Theory was used as a broad framework for such a team engaged in an activity, together with Problem-Based Learning as a pedagogical strategy for small-group collaboration. Building on these frameworks, I mapped out the problem solving process in an online collaborative setting that departed from the sequential and simplistic view of the problem solving process offered by Problem-Based Learning in a face-to-face setting as reported in the literature, I described the various phases of online collaborative

problem solving and detailed the intricate relationship between them; a description that is instrumental in our understanding of the complexity resident in exactly 'how' an online collaborative problem solving process transpires. In doing so, I reaffirmed and validated Activity Theory as a broad framework for small group collaboration in an online computer-supported environment.

By drawing on the findings of our case study to:

- i. understand the ways in which an online computer-supported environment supported and facilitated the collaborative processes of problem solving;
- ii. derive implications for the pedagogical design considerations of online computer-supported collaborative environments.

I argued a case for an online computer-supported collaborative environment facilitating problem solving to subscribe to our CRAMSS model. CRAMSS, as is evident, is an acronym that lists the essential guidelines I believe that an online computer-supported collaborative environment facilitating authentic problem solving should follow.

As a result of this case study, I saw some preliminary evidence that students are able to collaborate via an online environment as the only means of communication to solve an authentic real life problem; the process of problem solving being very chaotic and complex. I was also able to sieve the ways in which such environments support the problem solving process. By deriving a set of guidelines for the pedagogical design considerations of activities for such environments, I hope to have taken the first steps towards addressing a pressing need for online computer-supported collaborative problem solving environments based on sound pedagogical principles and supported by research.