

TITLE OF PAPER: Computer-mediated argumentation in Higher Education:  
developing discussion skills through roles

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## Computer-mediated argumentation in Higher Education: developing discussion skills through roles

Rachel Pilkington & Aisha Walker

### Abstract

Constructivist theories of learning originally developed to explain conceptual development in children have more recently been applied to adult and expert knowledge construction through participation in social networks including online discourse communities (Ekeblad, 1998). Many authors advocate providing opportunity for interaction and discussion through collaborative learning with, through or around computers as a means of developing conceptual understanding, intellectual and discussion skills (Silverman, 1995; Crook, 1998). However, explanations for the success of these approaches have often failed to account for when and why some forms of collaborative interaction are successful and some not (Wegerif & Mercer, 1996). Current research in dialogue analysis is beginning to reveal effective types of interactions. Based on this research, at least three different kinds of role-taking seem to be needed.

These include:

- *community building roles* which evidence sending/receiving, and acknowledging skills and the application of "ground-rules" for developing trust (Johnson & Johnson, 1994; Robertson, Good & Pain, 1998; Wegerif & Mercer, 1996; Berzsenyi, 1999; Walker & Pilkington, 2001; Pilkington & Walker *in press*)
- *management roles* aimed at negotiating the task and the use of group resources (including time-management) to meet the discussion objectives (Johnson & Johnson, 1994; Robertson, Good & Pain, 1998; Kuminek & Pilkington, 2001);
- *argumentation roles* a broad range of dialogue moves thought to enhance reasoning and problem-solving through creative conflict and exploration of ideas (Burnett, 1993; Wegerif & Mercer, 1996; Veerman, Andriessen & Kanselaar, 2000; Kneser, Pilkington & Treasure-Jones, 2000).

Our hypothesis was that making students aware of the need for all three kinds of role may lead to wider adoption of these roles by individuals and, over time, a meta-cognitive (or conscious and strategic) adoption of such roles by students in future debates. Here we report on the first stage of research aimed at investigating this hypothesis. A teaching case study is described in which a "role play" activity was used with a group of postgraduate students undertaking a module on 'Learning and the New Technologies' which includes weekly synchronous Computer Mediated Communication. In the spirit of experiential learning (Kolb, 1984), the aim was to encourage students to reflect on the three kinds of discussion skills required for collaborative learning and participate in a debate in which they practised role-taking. Based on the students' own dialogue analysis of the outcome, together with further analysis by the researchers, results are presented concerning the students' perceptions of the quality of discussion, their participation in it and the value of adopting roles. In the sessions following the role-playing exercise students were **not** asked to adopt roles in the discussion - they were free to choose their own level and type of participation - as had been the case in sessions preceding the "role play". Computer transcripts of the subsequent sessions were analysed to determine the extent to which participants adopted the three kinds of role. On the basis of the results some recommendations are made with respect to the effectiveness of the "roles" approach for supporting the development of discussion skills.

