Interactive whiteboards and collaborative pupil learning in primary science: Project RG49888

Research project duration	November 2007 – April 2009
School involvement	November 2007 - July 2008
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Summary

It seems that the potential of the IWB as a tool for supporting primary children's collaborative learning is not being exploited. Given current recognition of the value of collaborative activity and independent learning, as well as the investment costs that IWBs represent for schools, this seems unsatisfactory. For this situation to change, however, more needs to be known about the ways IWBs can usefully contribute to children's joint activity. The current project brings together technology and pedagogy, by investigating what happens when the IWB is used as a tool for children's learning in group contexts. In this project, we will examine Key Stage 2 children's semi-autonomous use of IWBs in collaborative group activities in science. The central research question is therefore: How do children use the IWB to assist in sharing ideas and building knowledge in the context of collaborative group work in science? This is an in-depth but relatively small-scale project, which will generate a set of twelve case-studies. Observational data will be gathered during one academic year. A series of collaborative activities related to the science curriculum will be agreed with the participating teachers; they will enable children to share ideas, consider options, plan activities and making joint decisions. These activities will exploit features of IWBs that are known from our previous research to offer distinctive support to pupils' learning, such as the easy and flexible reference to previous writing drafts and the combination of images, text and sound. Twelve teachers in six schools are involved, all based in schools in Cambridgeshire. Data will consist of (a) video recordings of children's joint activity at the IWB; (b) interviews with children about their perceptions and use of IWB facilities in the context of collaborative work; (c) assessments by teachers of the success of the IWB activities in terms of children's motivation, inclusion and learning outcomes. Analysis will focus on patterns of children's interaction during the activities and the ways in which they exploit the multimodal functionality of the IWB. Of particular interest will be whether interaction at the IWB enables the expression and sharing of differing ideas on scientific topics and investigations and whether the IWB is used to represent, investigate and reconcile such differences. The methods used will be based on those used successfully by the applicants in prior research, together with an emphasis on the contribution of non-verbal behaviour such as gaze and gesture to collective knowledge building. Outcomes will be disseminated to teacher and research audiences and should also interest IWB designers and software producers.

Faculty staff roles:

Neil Mercer and Paul Warwick are responsible for the overall direction and management of the project. They will also be involved in analysis, writing up and dissemination. Neil will liaise with the ESRC and university research services and has main responsibility for

the financial management of the project. With Paul, Ruth Kershner has taken particular responsibility for initial liaison with the local authority and schools. She will also be involved in analysis, writing up and dissemination. Paul and Judith Kleine Staarman will take prime responsibility for data collection and continuing liaison with teachers. Judith will also be primarily responsible for the management, development and presentation of the data set, including technical aspects. She will be responsible for the day-to-day running of the project and will also be involved in analysis, writing up and dissemination.