

Investigating Personal Inquiry: An Activity Theory Approach

Eileen Scanlon, Ann Jones, Trevor Collins, Grainne Conole, Mark Gaved, Lucinda Kerawalla, Karen Littleton, Paul Mulholland, Alison Twiner & Canan Tosunoglu Blake

Open University, Walton Hall, Milton Keynes, MK7 6AA, UK

e.scanlon@open.ac.uk, a.c.jones@open.ac.uk, t.d.collins@open.ac.uk, g.conole@open.ac.uk,
m.c.gaved@open.ac.uk, l.j.kerawalla@open.ac.uk, k.s.littleton@open.ac.uk,
p.mulholland@open.ac.uk, a.j.twiner@open.ac.uk, c.tosunoglu@open.ac.uk.

BACKGROUND

This paper concentrates on how the technological mediation of a GCSE Geography investigation using a location-based inquiry learning toolset, undertaken by students in a UK secondary school can be analysed using an Activity Theory approach. This investigation forms part of the Personal Inquiry (PI) project, one of whose aims is to help 11-14 year olds children to use personal and mobile technologies to make their science learning more accessible and more effective. The GCSE investigation consisted of a number of stages of inquiry into urban heat islands. For further details see Collins et al., 2008.

METHOD

Activity Theory (Engeström, 1999) can be used to analyse and conceptualise the use of personal technologies for inquiry learning. We use this framework to examine the interactions, contradictions and tensions between the multiple, developing activity systems that are constituted when pupils engage in inquiry learning using personal technologies in and out of school. This paper reports on the activity of target children over an extended period of two months. Engeström's extended activity framework is used to represent the main learning and teaching activities for analysing the data: in this one case study, the pupils' use and appropriation of the inquiry learning toolset. We take a multilevel focus on curriculum, group and individual issues to examine specific contradictions, breakthroughs and breakdowns. A previous related school activity on micro-climates which was not mediated by technology provides a helpful comparator from which to explore how the toolset changed the activity. The analysis will draw primarily on pupils' video and interview data together with videotaped observations, and the data, notes and products produced by the learners and teachers.

CONTRIBUTION

Previous work on analysing the technological mediation of problem solving, e.g. (Scanlon et al., 2005) illustrated how contextual factors together with technological affordances could shape activities. The original contribution here is the application of the Activity System Tool Appropriation Model (Waycott et al., 2005), to categorise and interpret data relating to tool mediation and appropriation, and to reveal contradictions in the activity systems of interest.

EVALUATION AND REFLECTION

Our preliminary analytic work on the observational data has identified some critical incidents. Whilst the technology supported the activity effectively through allowing data recording and organisation in situ and representation and easy access to comparative data, it also introduced a level of complexity and itself required practice and support for effective use.