Personal Inquiry: lessons learned

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Personal Inquiry: Designing for Evidence-based Inquiry Learning across Formal and Informal Settings

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Introduction – main objective

to design new educational methods of *scripted inquiry learning*,
implemented across devices
to evaluate their effectiveness in helping young people
to understand themselves and their world through a process of active scientific inquiry
across formal and informal settings.”
Partnerships

• Open University, UK
  – Oakgrove School

• University of Nottingham, UK
  – Hadden Park High School

• We have run 3 set of trials
  – themes: “myself” & “my community”,
  – for the last trials we’ll swap themes.
HEALTHY EATING: NOVEMBER 2008

Theme: my\textbf{self}

with Hadden Park High School

Research Question:

How does the PI toolkit scaffold and enable the \textit{Personal Inquiry learning approach}?
Personal Inquiry learning approach

Pupils to understand where they are in the inquiry process
November 2008: Healthy Eating

- 9 lessons in 3 weeks science curriculum
- 30 pupils, 14 years old
- Equipment taken home for the whole period

**Inquiry Questions:**
- What *nutrients* do I eat?
- Do I eat *enough nutrients* to be healthy?
Nov 2008: Technology

- Asus running the PI toolkit
- Camera to keep a food diary
Inquiry Process (part of)

Data collection
• To be able to reflect on data collected by their group on food observations

Data Analysis
• Compare their nutrients intake with the RNI,
• To make valid inferences
• To recognise a healthy and less healthy diet
Nov 2008: Data Collected

- **Video** capture of the 9 lessons with three cameras (2 groups and 1 overall),
- **Interviews**
  - 11 interviews with Teacher, 7 with pupils
  - during and post-intervention
- Researchers’ **observation notes** after each lesson
- 70 sets of **Questionnaires** (pre-post)
- **Log files** from 28 students coming from their use of the PI toolkit in class and the home (e.g. summaries, graphs, presentations)
Research Question re-visited:

- How does the PI toolkit scaffold and enable the PI learning approach?
- modified Critical incidents analysis (Flanagan, 1954; Carroll, 1993; Sharples, 1993)
  - Breakthroughs
  - Breakdowns
  - Routines
Themes from Critical Incidents

• **Co-ordination across contexts**
  - connect school with out-of school activities, e.g. carrying the equipment

• **Co-ordination within contexts**
  - technology-mediated activities within the school or home context, e.g. Usability of the PI toolkit

• **Revealing identity**
  - Activities need to be engaging and personally relevant but not too personally revealing
Lessons learnt: orchestration

• Students forgot computers
  • They didn’t have access to previous work
  • Need for centrally accessible data storage
• Lack of willingness to bring the equipment from home to school
  • Need to provide storage place at school
• Pupils not in the same inquiry phase
  • Maintain flexibility
  • Need for iteration of inquiry activities
Lesson learnt: orchestration

• Pupils’ support for
  – Access to a shared pool of data (group -class)
  – Activities to discuss and negotiate findings

• Teacher’s dashboard to monitor pupils’ activities
  – “Freeze” button to support class discussions
Lesson learnt: too personal

- Difficulties in finding the sweet spot between personal and non-personal inquiries
  - Participatory design techniques are essential

- Ownership data and results
  - Permissions for sharing own, group and class data

- Responsible for their actions
  - Aware of other pupils’ actions
Thank you

Any questions?

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