

Resources for 21st century users : Dialogue with students and teachers using the Science Learning Hub website

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1. Introduction

The Science Learning Hub (SLH) is a New Zealand website for teachers, funded through MoRST and launched in 2007. The website includes information, images and videos as well as animations. A number of science contexts are included on the website, e.g. Icy Ecosystems.
Website URL: www.sciencelearn.org.nz

2. Objectives

- ❑ This summer research project involved the collection and processing of data involving the probing of students' ideas and knowledge around the use of the SLH website and, in particular, their use of video clips featured on the website.
- ❑ A group of 26 primary school students and their teacher were observed while using the SLH website over a week in a computer suite and their feedback was elicited in order to gain user insight, as well as new ideas about their needs and preferences.

3. Methods

Data Collection:

- ❑ Interpretive methodology using qualitative data, collected during 2008.
- ❑ Instruments: Classroom observations (notes and videos of students at work, photographs), Document analysis (Lesson plans), Interviews (student interviews, video-stimulated recall dialogues (VSRD)), student concept maps, student reflection through student-generated PowerPoint Presentation (SCPP), teacher reflections and questionnaires.
- ❑ VSRD is a useful tool to develop students' understanding of learning in the classroom (Morgan, 2007), whilst student reflection through SCPP provides "children with the means to articulate their thinking and reflection about their experience" (Wang, Kedem & Herzog, 2004).

Data processing:

- ❑ Observational notes, interviews and VSRDs transcribed.
- ❑ Videos of classroom activities were analysed using the software programme *Studiocode*, which allows one to categorize activities in a video, e.g. students viewing an image, as well as instances to be logged and timed, for further analysis.



Figure 1. Students using the SLH website

4. Results

- ❑ Video analysis of two case stories. This included:
 - ❑ Visual timelines for each case story – see Figure 2 for an example.



Figure 2. Timeline for Day 1 – single student using SLH website

- ❑ In both cases, the viewing of video clips increased over time.
- ❑ Students found video clips to be useful and interesting.
- ❑ Teacher instructions/prompts influence how students access information, not necessarily what they access.
- ❑ Student web searches influenced by prior knowledge and interest.

5. Conclusions

In both cases we observed similar activity patterns in the video timelines. Students were generally prompted by the teacher to use media (images, animations and video clips), which also influenced web search.

References

- Morgan, A. (2007). Using video-stimulated recall to understand young children's perceptions of learning in classroom settings. *European Early Childhood Education Research Journal*, 15(2), 213-226.
- Wang, X. C., Kedem, Y., & Herzog, N. B. (2004). Scaffolding young children's reflections with student-created PowerPoint presentations. *Journal of Research in Childhood Education*, 19(2), 159-175.