ENSEMBLE

Semantic Technologies for the Enhancement of Case Based Learning

Archaeology and Anthropology

BACKGROUND

We have been working with Lecturers at the Faculty of Archaeology and Anthropology to identify different examples of the ways in which cases are used in teaching in this setting and to investigate the potential of the semantic web to support them. Observations have been made of 2nd and 3rd year undergraduate Ceramics Practicals, Practice of Archaeology Lectures and an MPhil Zooarchaeology practical.

This is the 2nd draft of the poster, taken along to the meeting with Matt and Phil.

THE LEARNING CONTEXT

Cambridge offers three-year undergraduate degree courses ('Tripos') in Archaeology and Anthropology. Over the course of their degree, students specialise in one of the three disciplines of the Faculty: Archaeology, Biological Anthropology or Social Anthropology. The ceramics practicals for 2nd year undergraduates aim to introduce students to ceramics in archaeology, beginning with the properties of ceramics; and moving on to how they are identified and recorded on excavation; analysed in the laboratory; and finally published.

THE ROLE OF CASES

Lecturers at the Faculty have led us to understand that case studies are used in this discipline to look at how sites, materials and artefacts are classified, and how scholars have examined, classified, recorded and published particular sets of excavated material. They believe that this case study based approach is most informative when the students are able to examine material from the collections by hand and are then able to see how that specific set of materials was classified, recorded and published.

WHAT WE HAVE LEARNT SO FAR

The way in which cases are used for teaching in this Faculty challenge the traditional notions of case-based learning as defined by cognitive science. Our observations have raised new questions about the variety of ways in which cases are used in teaching and the forms that a case could take e.g. paper/text, object, story, project, the field site, the archaeologist.

There is potential to expand our views of knowledge in this domain to include tactile and visual understandings. This was observed during expert interpretations of ceramic artefacts. There was also an open acknowledgement of the subjectivity of these interpretations and the cases represented by these accounts were highly personalised. Students were treated as potential future professional ceramicists and the course appeared to reflect a progression towards this new role.

The model of teaching used in the ceramics classes may be a reflection of changes in the nature of the discipline and the introduction of new methods for observing e.g. petrology, statistical sampling, ceramic fabric classifications. The classes included post-doctoral and PhD student involvement, which created an opportunity for sharing experience of multiple different research sites, methods and perspectives.

TOOLS FOR SUPPORT

Observations of teaching at the Faculty have inspired project researchers to discuss and contribute ideas towards the development of semantic web applications. This setting has highlighted the need to support a flexible form of case-based learning that integrates the potential for expert recommendations and scaffolding of the problem formulation and data representation stages of case exploration and building. Recommendations need to be easily updated and allow for multiple and potentially opposing inputs from experts.

T·L·R·P Technology Enhanced Learning

ESRC Economic & Social Research Council

EPSRC Engineering and Physical Sciences Research Council

The 'modality' of language (Latour 1986) used to describe interim findings much more 'certain' here than in the next version, where a lot more is left open for further inquiry. The potential for 'expanding views' and for new knowledge expressed more explicitly in the next version; subjectivity of interpretations dropped; introduction of 'new methods' changed to 'recent' at behest of the Archaeologists.

ENSEMBLE

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Archaeology

Title excludes 'Anthropology'

Only one illustration; more text

BACKGROUND

No changes.

We have been working with Lecturers at the Faculty of Archaeology and Anthropology to identify different examples of the ways in which cases are used in teaching in this setting and to investigate the potential of the semantic web to support them.

Observations have been made of 2nd and 3rd year undergraduate Ceramics Practicals, Practice of Archaeology Lectures and an MPhil Zooarchaeology practical.

The 3rd draft of the poster, amended after the meeting with Matt and Phil.

Museum as learning context added

THE LEARNING CONTEXT

Cambridge offers a three-year course ('Tripos') in Archaeology and Anthropology during which students specialise in one of the three disciplines of the Faculty: Archaeology, Biological Anthropology or Social Anthropology. Key features of the courses are their location in the Museum of Archaeology and Anthropology, ready access to a wide ranging teaching collection of objects and artefacts and a teaching staff with working knowledge of many sites, cultures and periods.

The ceramics practicals for 2nd year undergraduates aim to introduce students to ceramics in archaeology, beginning with the properties of ceramics; and moving on to how they are identified and recorded on excavation; analysed in the laboratory and published.

THE ROLE OF CASES

Lecturers at the Faculty have led us to understand that case studies are used in this discipline to look at how sites, materials and artefacts are classified, and how scholars have examined, classified, recorded and published particular sets of excavated material. They believe that this case study based approach is most informative when the students are able to examine material from the collections by hand and are then able to see how that specific set of materials was classified, recorded and published.

In ceramics practicals, emphasis was placed on case studies of the field experience of the lecturers and other researchers, so that the possibilities and the problems of research design and achievement could be appreciated. Pottery from the collection of the Museum of Archaeology was used to illustrate the practicals and these objects play a role as cases in themselves.

Paragraph added: more specific focus on ceramics practicals and on lecturers' personal experiences. Objects as 'illustrations' as well as 'cases in themselves' (both Tom and Ann's views)

WHAT WE HAVE LEARNT SO FAR

Our observations of teaching, especially of ceramics, have raised new questions about case-based methods that do not figure in the cognitive science literature.

We see the need to expand our understanding to include knowledge that is tactile and visual and to find ways of incorporating the concepts of actor-network theory to rethink the ways that the interactions of people, objects and sites and the notions of context, background and history as they are normally configured in cases.
We noted that students are often treated as potential future professionals and so we see the need also to account for the part played by subjectivity in interpretation and in 'becoming an archaeologist'.
We noted too, recent shifts in the methods of archaeology to incorporate techniques from other fields, including the application of petrology (from geology), statistical sampling and ceramic fabric classifications.

Object practicals also involve PhD students, post docs and visiting scholars, which creates opportunities for including multiple research sites, cultures, methods and perspectives.

Findings described more tentatively now; no mention of CBL, but of 'case methods'; less obvious opposition to cognitive science literature (see above).

TOOLS FOR SUPPORT

Teaching in the Faculty presents two key challenges to ENSEMBLE. How to support courses in which story-telling is a key part of the knowledge base and the preferred means of professional socialisation, and how to incorporate the semantics of touch and visual perception within cases that are complex, most often fragmentary and in which knowledge is layered and interpretations are developing and changing.

Digital representation is an existing feature of the field but it tends to be time and resource costly. There is a need for quick and accessible tools that incorporate visual and tactile knowledge and support data representation and problem formulation within cases. Such tools need to be easily updated and allow for multiple and potentially opposing inputs from specialists.

Paragraph changed; better formulated ideas for semantic tools: supporting 'story telling', incorporating visual and tactile knowledge; cases complex, fragmentary; specialist input.