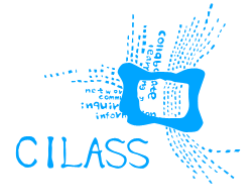


Inquiry-based Learning Design Overview

Human Evolution and the Hominid Fossil Record



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1. The students and the curriculum

Level: 3

Module: AAP315 Human evolution and the Hominid Fossil Record

Numbers: 15 (2006-07) and 9 (2007-08)

2. The teaching and learning aims

This module aims to provide students with a comprehensive overview of the hominid fossil record, and to demonstrate how the interpretation of hominid evolution is relevant to our understanding of human origins and diversity. Classes will cover the description and comparison of the hominid fossils themselves as a basis for further study, together with the required background for interpretation and synthesis of fossil materials.

At the end of the module, students should possess sufficient detailed knowledge and understanding to be able to describe and discuss the available hominid fossil record, summarise interpretations presented by scientists in this field of study, and critically assess the state of knowledge in palaeoanthropology. Students will understand the difference between simply describing fossils and using evidence from fossil specimens to make interpretations about function, taxonomy, evolution, etc. Students will also be able to critically evaluate information about human evolution that has been presented in popular media such as magazine articles, books, and TV programmes, with particular attention to its scientific rigour and content.

3. The inquiry/ inquiries

This module incorporated two major IBL projects:

- mid- and end-term individual reports of group work over successive weeks. Students had to submit mid and end of term assignments which included a “reflexive” element. The first assignment is an “IBL essay report” and the second is a report on the debate.

There were also a number of smaller-scale IBL activities, including:

- two formal practical sessions (1 hour each): students must circulate among a number of stations, examine and/or measure cast specimens and answer questions on a worksheet which is submitted for assessment at the end of the period;
- WebCT assignments comprising of a short (200 word) compulsory contribution: e.g. encouraging students to engage in independent inquiry such as web-browsing for palaeoanthropological topics;
- class discussions/seminars.

4. The assessment

All of the major components of the module were assessed:

- Mid term component: IBL essay report (30%) and MOLE responses weeks 1-5 (10%)
- End of term component: Debate report (40%) MOLE responses weeks 6-10 (10%) 2x practical exercises (10%)

5. *The 'process support'*

In terms of process support, the main success of the module has been in the incorporation of information literacy through the use of WebCT and web-based resources (and supporting students to discuss/assess their accuracy, value, objectivity, etc). The fact that the assessment of the major projects was the result of several weeks' work meant that the students were supported or guided through the process of creating the reports and of their assessment.

6. *The information resources and strategies*

There is a lot of material to be covered so lectures formed a major component of module information delivery. WebCT was also significant in delivering general information, course content and setting up tasks for students to find their own information. The WebCT site also hosts resource lists and course reading packs. These are efficient and useful in providing relevant core information to the students.

7. *The tutoring/facilitation approach*

The module was supported by a wide range of approaches: lectures, seminars, practical workshops and online interactions/ discussions. Lectures sometimes involved students in handling and examining fossils. The weekly WebCT component was underscored by continuous assessment and feedback, while the students were fully supported through the process of creating the major reports.

8. *The learning technology*

The use of WebCT/MOLE was instrumental in the success of this module; it could not be implemented without this (or a similar) interface for delivery of information and interaction between the instructor and students. The virtual learning environment is used to deliver content, to set tasks for the students to complete, and to facilitate discussion between students.

9. *The learning spaces*

Teaching spaces in the Archaeology department.

10. *What really worked*

The module itself. The first level of success for this project was the implementation itself – it represents a rather different mode of delivery for courses in the department and indeed, in my own experience, in teaching.

Student engagement. The extensive use that this module makes of IBL requires that students maintain a fairly high level of engagement. Based on the student feedback obtained at the end of the first year, students were more engaged with the subject matter, and were more motivated in general. Very few absentee-isms were recorded for the weekly classes. At this stage, the marks appear to be high and activities both in class and on WebCT suggest that the students are in fact very active in their own inquiries with regard to this module. Reflexive comment and formal feedback both indicate that students are positively challenged by the structure and content of this module.

IBL assignments. Perhaps the most successful aspects of the course are two major IBL assignments – the midterm Early Hominid Report, and the end-term Palaeoanthropology Debates. Though subjective, the project leader believes that the students definitely understood the issues better through the process of guided assessment in completion of these reports over several weeks. Reflexive comments from the students consistently reported that these exercises were some of the most challenging assignments they had ever completed, yet there were no complaints! All students felt that they learned more and achieved a deeper level of understanding as a result.

Information literacy development. In addition, student feedback indicates that use of WebCT encourages students to engage with a wider variety of information and to seek out interesting lines of inquiry independently – they spend a great deal of time online!

11. Things to build on and/or do differently next time around

Since a second iteration of the IBL innovations in this module has taken place recently, the following section reports on changes made in that iteration and how these might be modified in future.

Small weekly tasks have been reduced: students were overloaded with the required weekly responses, and the marking/admin load was also admittedly unpleasant.

Full-scale IBL delivery requires a lot of **effort** to maintain, and the schedule has to be implemented correctly week-to-week. The need for continuous assessment and feedback of the weekly WebCT component was draining from the perspective of the course instructor, who is not certain that it was all relevant to the more structured components of the course, or to their assessed work.

The schedule of **practical sessions** is likely to be modified. Two formal practical sessions are currently scheduled. The time available for each of these sessions needs to be increased from 1 hour to 2 hours (this will require redesigning the lecture schedule) so that the students can proceed at their own pace, free of pressure, and also have time to think and discuss the information with the group or instructor. In addition, both last year and this, students have commented that they would like additional practical sessions and more time to examine the fossils.

The project leader is considering changing the **course structure** – perhaps with one hour of lecture each week and an additional two-hour session in which group practical work, seminar/discussion and perhaps online work (in a CILASS collaboratory?) can be implemented. There are some challenges with this idea as well – the scope of the course does seem to lend itself to a lecture format for ‘basic information’.

The ‘**major assessments**’ are likely to be made more varied – even with IBL, the current major assessments boil down to two written reports. The weekly component/**assessment** also made the overall marking structure cumbersome, and worth relatively little with regard to the final mark. Thus, the weekly contribution has been reduced to only two submissions – one contributing to the mid-term mark, and one to the end-term component. In MOLE, the module leader continued to provide weekly news items and sites to review as a means of increasing exposure, and draw such sites and resources to the attention of students during commentary in lectures. There are still many other ways in which MOLE and/or the internet could be used to enhance student engagement, even if it was not formally part of the assessment and mark structure of the module.

Because such a major part of the module is taken up by lecture time it is difficult to enhance class **discussions**. There is a great deal of information to be covered, so this seems unavoidable, although it may be that adding in scheduled seminars on alternate weeks could replace some of the lectured material if structured appropriately – and could be structured as an additional IBL activity.

The module leader feels – and this is supported by informal feedback from students – that the **resource lists** and course **reading packs** are not being effectively utilized.

The project leader intends to explore the potential uses of CILASS **collaboratories** for IBL group exercises that could contribute significantly to the course marking structure.

12. Advice to others doing a similar project

13. Further comments

The project leader has begun to incorporate IBL teaching strategies into other areas of teaching (e.g. MSc Palaeoanthropology course; normally between 5-7 students per year), and believes it to be quite successful.

IBL and group work has also been used on Human Anatomy, Quantitative Methods, and Palaeoanthropology modules and in all cases, the students have really appeared to grab hold of the task and engage with the subject matter – a much different and more positive experience compared to a ‘lecture-and-listen’ delivery.