ACETS Exemplar 04

Anatomy for Forensic Anthropology: Thorax Module

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ACETS Exemplar 04: **Baseline**

1	Teacher/academic_s name	Fraser Pryde
2	Teacher/academic_s position	Teaching Fellow
3	Teacher/academic_s institution	University of Dundee
4	Range of subjects taught	Gross anatomy, basic osteology
5	Contact information	f.pryde@dundee.ac.uk
6	Principal interest	anatomy
7	ACETS Officer	rellaway
8	Date of survey	1/14/2004
9	Do you know how to make web pages?	a lot
10	Have you used the web in your teaching?	not at all
11	Do you use anything that you would consider a 'learning object' in your teaching?	a little
12	How would you rate your own computing skills against those of your colleagues?	good
13	How would you rate your own teaching skills against those of your colleagues?	average
14	How would you rate your own use of CAL against those of your colleagues?	average
15	How much relevant staff development and training is available?	none
16	How much relevant staff development have you actually made use of?	none
17	Do you have access to support in making electronic learning materials?	a lot
18	Is this available as a free service?	with restrictions
19	Have you made use of this support service before?	none
20	Would you expect that you would need to use this service to use learning objects in your teaching?	a little
21	Do you have a VLE (or equivalent) available to support your work?	yes
22	What is the system called (eg WebCT, or equivalent local system name)?	BlackBoard
23	Does it allow you to put teaching/learning materials online for your students	a little
24	If so, do you do this or is it done centrally for you?	done for me
25	How easy is it for you to get teaching materials online?	quite easy
26	Do you have your own computer at work	yes
27	Do you use a computer at home for work	yes
28	What level of computer access do you think your students have in the institution and at home	very good
29	How much of this is internet-enabled ?	a lot
30	How much teaching and learning materials are provided online for the students	a little
31	To what degree do you expect the use of learning objects to enhance your teaching	a little
32	To what degree do you expect the use of learning objects to enhance your students learning	a lot
33	To what degree do you expect the use of learning objects to make your work easier	a little
34	Extra notes	re expectations- use of RLOs might also make things easier

ACETS Exemplar 04: **Reflective Diary**

Stage one: resource discovery

17.02-04 The idea behind our project exemplifier is to produce an anatomy tutorial which links basic skeletal elements to basic muscle elements for Forensic Anthropology students (BSc). Today we looked at the QTVR Anatomical Resource site at http://www.anatomy.wright.edu found on the ACETS "links and resources web page. The site provides very good, anatomical images available at high resolutions. Some of these images are movie material which is very exciting and will in no doubt be considered for presenting in the tutorial.

Resumed resource discovery, initially limiting resources to ACETS links and resources repository. Once these are exhausted, other sources of information will be pursued. The Dental anatomy teaching website www.med.umich.edu/anatomy/plastinate/examples.html was considered for gathering images for the tutorial. These images however were not particularly exiting and were not particularly appropriate for use in the tutorial. The e-skeletons Project Website (www.eskeletons.org) that I had visited in the past is an interesting site. It is extremely useful for comparative anatomy, however this is not particularly relevant to forensic anthropology. Nonetheless, the osteology images on this site are of high quality and will be considered for use. The Anatomy website (www.anatome.ncl.ac.uk) is a tutorial produced for the university of Newcastle. Its format could be used as a rough guide to the format of our tutorial. The images were not particularly useful for our purposes. The Flesh and Bones website www.fleshandbones.com has an image bank which I thought could be useful. Although many of the images are good, the website insists on covering the images with "flesh and bones" probably for copyright purposes. Obviously this is not ideal, thus the images on this site will not be used for the tutorial. The Digital Anatomist project website www.sig.biostr.washington.edu/projects/da/ is an innovative look at anatomy using 3-D imaging. It consists of pictures and movies in which the specimen rotates and can also be labeled. This site would be useful for neurology, however it is not of significant relevance to our tutorial.

Today we sourced more images for the tutorial. The AMA atlas of the Body website (www.ama-assn.org/ama/pub/category/7140.html) will be useful. Although many of the images are of basic anatomical structure, the students who will be undertaking the tutorial will have little anatomical knowledge. Next we looked at the UK visible Human Project Mirror website (wwwihm.nlm.nih.gov/). This website was immediately bookmarked as it is a wonderful site. The site has a sources page where many of the images used as sourcing for the visible human project site are available. Here there are endless anatomical pictures which will have to be sifted through, however many of them are of extreme value. The Anatomy TV website (www.anatomy.tv/) was viewed, however the site requires subscription thus if it is to be of use we will either have to subscribe or find someone who has subscription. The site does offer a free trial which is impressive and could be of use not only for the tutorial but for subsequent teaching.

It appears that many websites that have anatomical images, have sourced their images from most of the sites we have looked at, none the less we will continue to scour the net for some fresh images. The problem is that many anatomical images are complicated photographic images which are not ideal for the student group that will be undertaking the tutorial. We are looking for simple anatomical images and drawings. It may be that we will have to simplify some of the images that we use. Of more concern is how do we build a computer tutorial? It is one thing collecting images for it, but what format must it be in?, is there software to help build it? There appears to be little help on the Internet, we will need to meet with the IT support for guidance.

Human anatomy online (www.innerbody.com) provides a number of simple anatomical images. At first glance we were not too impressed with the images as many of them are in a simple diagrammatic form. However, on closer inspection, many of the images are at a suitable level for the tutorial. The images have _pickpoints_ where you can move the cursor to a point and a label appears, showing what the anatomical structure is. Moreover, in many regions a magnifying glass icon allows closer inspection of the anatomical structures. Some of these images must be considered for the tutorial. CRNA (www.crnasomeday.com/diagra/diagrams.htm) has a selected number of anatomical images (many unlabelled) to aid learning for nurses. We have seen the images before, we are not quite sure of the sources, however we were not very impressed with these images. Instant anatomy (www.instantanatomy.net/abdomen.html) is a site with diagrammatic anatomic images. These images are basic and hand drawn, however we feel they just aren't quite what we are looking for, they are too cartoon like. Web anatomy (www.gen.umn.edu/faculty_staff/jensen/1135/webanatomy/) is a site which lets students

test their anatomy. It is a possible format for our tutorial. The images are very 2-D but they are nonetheless useful. This site will be considered as a source for the project.

A meeting was arranged with our team to determine the sites that will be used for the project. At present we are not determining the images to be used, that will be subject to the written content of the tutorial. The number of site to be used as sources for the project has been narrowed down from 14 to 7. This seems a rather small number however, we are seeking high quality, informative images, many of the sites available do not meet this standard. The internet changes daily and so we will continue to scour the net for more images, however at least we have a resources base established which can be topped up should a useful site appear. The sites considered were as follows: http://www.anatomy.wright.edu/QTVR/index.html ****** www.eskeletons.org ** www.ama-assn.org/ama/pub/category/7140.html) ***** (Atlas of the body) www.innerbody.com ** (COPYWRITE Cut/Paste???) http://anatquest.nlm.nih.gov/ **** (good for cross sections) http://eduserv.hscer.washington.edu/hubio553/atlas/index.html ****** http://www.accessexcellence.org/RC/VL/xrays/ **** (good for x-rays) http://www.meddean.luc.edu/lumen/meded/grossanatomy/cross_section/ *** (cross sections MRI, CT) http://community.healthgate.com/AnatomyExplorer/AE_Hibandwidth.html ** (COPYWRITE Copy/Paste???) http://www.meddean.luc.edu/lumen/MedEd/GrossAnatomy/learnem/bones/main_bone.htm *** http://www.uchsc.edu/sm/chs/gallery/dissector/movies/flip.html * http://www.medtropolis.com/VBody.asp ** http://users.tpg.com.au/users/amcgann/body/ ** http://www.nlm.nih.gov/research/visible/animations.html * (extra resources) Some of these sites (indicated) had copyright protection whereby the copy and paste function is inactivated, thus these sites were not considered. Each of the sites have been given a star rating based on the requirements for our purposes. This does not mean that the sites we left out are useless to other parties. The sites selected are: http://www.anatomy.wright.edu/QTVR/index.html ****** www.ama-assn.org/ama/pub/category/7140.html) ***** (Atlas of the body) http://anatquest.nlm.nih.gov/ **** (good for cross sections) http://eduserv.hscer.washington.edu/hubio553/atlas/index.html ****** http://www.accessexcellence.org/RC/VL/xrays/ **** (good for x-rays) http://www.meddean.luc.edu/lumen/meded/grossanatomy/cross_section/ *** (cross sections MRI, CT) http://www.meddean.luc.edu/lumen/MedEd/GrossAnatomy/learnem/bones/main_bone.htm *** The next stage of our tutorial development will be to construct a framework of text which we will base our image selection from.

The images we will use for the tutorial have sourced, obviously if we will continue to search the web as it is constantly updated. Instead of writing our own anatomy text we have decided to use Grays Atlas 20th Edition online found at http://www.bartleby.com/107/. Although this text is above and beyond what we expect our students to know, we will be able to delete sections which are inappropriate. Grays is one of the better Anatomy text books which has a lot of information, we will be quite selective with the information we will use. This is a good site, can't seem to find a later edition of Grays which would be more appealing.

Although we thought we could use the Grays Atlas effectively, it is proving rather a lot of work. We could write our own anatomy text however to be true to the project we want to use RLOs. The problem with this old edition of Grays is its terminology. Many of the anatomical terms are very dated meaning that much of the text has to be re written.

Stage two: preparation

At present the tutorial will probably be in an HTML format. We are holding talks with our education department as to the best way to produce the tutorial.

The problem we are experiencing is that we do not have enough good visceral and muscular images. Skeletal images are adequate and so we may have to orientate the project primarily around bone, and give a general overview of the viscera and muscles. There are some good images on the net but you have to pay for them, many other images are just not good enough. If we were to produce a tutorial again, we would definitely produce our own images.

Stage three: creation

The tutorial is now taking shape. We will present the tutorial via PowerPoint using hyperlinks. It is actually very effective and will easily transfer to the VLE for students to access it. Many of the images are much

easier to manipulate than we had first thought. We found a site (www.consultdrminas.com/eng/04_medinfo/topics/06humananatomy) which uses photographs from a well known anatomy text book. The photographs indicate structures by way of numbers, so we can add the relevant numbers to the text. The text is probably the hardest and most time consuming part. We have to constantly cut down the detail since it is irrelevant to our students at their point of study. The text from Grays gives us a framework which we can then cut down and add our own text where necessary.

Most of the tutorial we wanted to complete is nearing completion. The tutorial is presented in power point presentation burnt on a CD. On the CD are some of the quick time movies that enhance the presentation, without the CD the QuickTime movies won't work. The other option is to get the quick time movies placed on the hard drive of a few computers in the department for students to use as it is doubtful that they will be allowed on the VLE due to their size. A CD will suffice for now, and we will shortly proceed to test the tutorial on a few students to get some feedback. Putting the tutorial has been much easier than expected, the sourcing of images/text was the hardest part. It is very difficult to find quality images - Google Images has been a very useful search engine. However, putting the tutorial together has been very time consuming - once the text/pictures are edited and manipulated in Microsoft Paint and then imported into the PowerPoint presentation.

Stage four: use and evaluation

The tutorial has gone on trial using a few students in the anatomy department. We issued them a feedback questionnaire to allow an evaluation of the project. All those who undertook the tutorial thought that it was informative, the images were of a good standard, it was easy to use and that it would be of use to 2nd year science students about to embark on a 3rd year anatomy/forensic anthropology course. Moreover, the students were asked to rate the tutorial (1=poor, 10=excellent), overall the tutorial was rated at 8.3. The students were also asked to comment on what they liked best about the tutorial, these include: "Logical flow, easy to use, good diagrams and movies" "The images were excellent and together with the written parts the tutorial provides a great foundation for students beginning anatomy and would be very helpful for a level 2 student, well done!" "Ease of use, everything self explanatory, good use of QuickTime"

Stage five: reporting and closure

Overall, the project has been rewarding. Until we undertook this project little was known about the quantity and quality of anatomical images on the web and how RLOs can be used in teaching. Now it is known that there are substantially more anatomical images of good quality on the internet than was previously thought. Having said that, there are many that are not of good quality or some sites require subscription. Also, it was felt that images of some areas such as the interior of the heart and the root of the lungs were deficient. This in a way limited the detail of the text, since it is in the interest of the students to be provided with suitable images alongside text. Such images may be available on the net, it just depends on how much spare time one has to scour the net for RLOs. Searching the net was a very time consuming exercise, and on many occasions was fruitless. Having said that Google's image search was extremely useful. It just takes a bit of time to find which search engines and search words work best. RLOs are more available and are of better quality that previously thought. Thus, the use of RLOs in the future is likely. The only problem was sifting through images, seeking the appropriate anatomical features. It is frustrating when there is a lack of images in a particular anatomical area. Overall, it is thought that the best images available (to the best of our knowledge) were used for the purposes of this tutorial. Once the images are found they are easily manipulated and imported into the PowerPoint format. Advice to others: Be prepared to be disappointed in finding the right RLO for your project, however if you surf long enough there are many pleasant surprises to be found.

ACETS Exemplar 04: **Interview**

Exemplifier	Fraser Pryde and Sue Black
Exemplar description	An introduction to anatomy for forensic anthropology based around a tutorial using QuickTime movies and images from the Internet. Exemplifiers have completed module on thorax only.
Interviewer	Rachel Ellaway
Date and location of interview	13 August 2004, Wellcome Building, University of Dundee
Context of use	Year 2 (of 4), semester 2 of the undergraduate BSc (Hons) Forensic Anthropology course at the University of Dundee. For those that need anatomy as part of their course and as a guide to whether they will pursue anatomy further as a specialism within their degree.
How did you go about putting this together? Was it hard to design/conceptualise your exemplar?	F: It had been an idea that Sue and colleagues had originally had for a book; this was a simplified version of this - anatomy for anthropologists. It didn't quite work out that way; it's just become an introduction to anatomy. It wasn't particularly hard to conceptualise because you were just trying to communicate the ideas at a level two standard. S: we felt that because forensic anthropology had not been offered as a subject here in anatomy before, it was a good thing to target because we were looking at the subject anew anyway and were trying to relate it to what we already teach. We felt it was a good opportunity to turn our minds to what we could produce from this. We will be running a second-year module which is a basic introduction to human anatomy and bone biosciences which will be a course that will run for an entire semester and is practical and theoretically based so the package would form an addition to that allowing them to follow self-directed learning. It was new but fit in with a pattern that we already knew.
How did you approach this? How quickly were you able to come up with the activity design?	F: it was fairly straightforward: I have recently been through anatomy at Dundee and so I know the course and I just went through it in a regional manor that I was familiar with. S: but with a different slant on it.
Is this something the students were familiar with?	S: no they do have a VLE here [Dundee uses Blackboard], so they do have some experience of that. It is new for anatomy though, the staff we have have very vigorously shied away from using a VLE, so it's a way of us introducing this for the unit as well. It is new for anatomy but not the students.
What third-party materials did you use, and how did you find/identify them?	F: it was trial and error to begin with, just using some of the [ACETS jump page] links. And then some were useful and others weren't and it was just a case of finding which set of images were the best. S: we did that together. We went through and decided what we liked and what we didn't and why. We narrowed down what was a very long list down to a much narrower list as an option source. F: It ended up that we used just five sources. It doesn't sound much but they were the only images that Sue and I thought were acceptable. S: a lot of the images were really of not good quality and we thought that if you use a poor quality image or too simplistic then it is a reflection on the quality of the work you are trying to produce yourself. It was almost easier to weed out the ones that we definitely wouldn't use to narrow it down to those that we could use. F: the sources we used are all recorded in the reflective diary [see accompanying document] NOTE: the five sources were: http://www.anatomy.wright.edu/qtvr/pword.html (user name required - main source for QTVR movies) http://eduserv.hscer.washington.edu/hubio553/atlas/content.html (muscle/bone) http://www.ama-assn.org/ama/pub/category/7172.html (systems)

	http://www.esg.montana.edu/esg/kla/ta/respiratory.html (lungs) http://www.consultdrminas.com/eng/04_medinfo/topics/06humananatomy (McMinn & Hutchings images)
Did you use JISC sources?	No
Did you look at/use commercial sources?	F: the idea behind this was to produce a computer tutorial that was informative and useful, using all resources off the Internet, as an experiment to see what can be done using RLOs. And it was to be done for the least cost, getting 'freebies' where possible. Spending money was not an option. S: it was basically: what have we got, what can we use and how little can we do it for? I think that, if at the end of the day you can produce something usable, using those criteria, then you have got to have a good justification for the cost of these commercial packages. F: we could probably have done a lot more had we paid – we did look at Primal Pictures' Anatomy TV but we weren't awfully impressed. I think what we did was alright considering it cost nothing!
How much of what you produced came from third-party sources?	F: a lot. Even the text was sourced from Gray's Anatomy (20th edition – old now) from bartleby.com – anatomy hasn't changed too much so it was just a case of taking out the old words and putting in the new words. S: this was not a course for medics so we weren't having to relate the anatomy to the latest medical procedures, the latest developments. This was medicine for scientists who need a good basic understanding. An old Gray's is just as useful at that level as a new one. F: the text was not copied but reworked from the Gray's. 85% is my words but reworked from 100% Gray's. All the images and videos were third-party sourced.
Did you have to get clearance/permission to use the third party materials?	F: all the material says it can be used for teaching purposes or it doesn't say anything and there was no clearance required. Just as long as we don't put it to commercial use. S: again that was part of our design – can this be done with the minimum of fuss, red-tape and financial investment? If you can then what you have is a piece of educational technology that can be developed by anybody anywhere without the cost or red tape being a factor.
Are you looking to use the exemplar outside its immediate context?	S: not at the moment, no. It is designed specifically for our students on this course.
Did you contact the site owners?	F: no, we went on the small print on the sites themselves. For Anatomy Wright where most of the images came from I needed a login.
Was the exemplar easy to put together?	F: I wasn't sure what format it should be in to start off with. Once we had all the sources were sorted out it was a matter of 'how do we put them together?'. I spoke to a few people, for instance Physiology do some online tutorials, but they use a development tool and had used up all their licences for it. It was too expensive otherwise. I spoke to some people at IT but their suggestions seemed too complicated. The idea in doing it in PowerPoint was it could go straight into the VLE, upload it, no problem. The IT solution would mean the software would need to be on the whole system, which wasn't practical. So it ended up being PowerPoint – which sounds naff [laughs] but it works well with hyperlinks. You click on it in the VLE and it just starts up straight away. S: it was important that it integrated with the systems that we already had existing in the University.
What tools did you use?	F: PowerPoint and the Windows Paint program. Just because it was easy to use, simple and it's already on all of the systems I use. It was just a case of minor editing, cropping and pasting into PowerPoint. Still images were taken from the QTVR by screengrabs, but no QTVR editing.
Did you get any help?	F: no

Were you pushing your skills in doing this?	F: I was already familiar with PowerPoint. It was fairly simple – it just took time. Minor editing of images – checking lighting, contrast to make sure they were ok.
Did you use pre-existing services/tools?	F: students use Blackboard to access the program.
Did you engage with colleagues in your own working context regarding this?	F: with others in anatomy? Not really. They don't necessarily like anatomy being taught in that way. S: there is a resistance. F: we're not saying it should be taught this way but we wanted to experiment. S: we roped in two others to work through the program to get their input but they were relatively junior members of staff F: and we asked students for feedback too
Would that be the normal way you work?	S: we have a brainstorming session, then we go away and do some work and then we come back and refine it. It is the way we usually do things.
Did you engage with the ACETS project or X4L programme?	F: we didn't.
Did you engage with other external bodies?	S: no, it was pretty much all done in-house. We wanted to see what we could achieve with the minimum amount of interaction.
Was the exemplar easy to deliver/use?	F: the students that did use it were third years and have already covered the material but they generally rated it around 8 out of 10, saying it was logical to use, had great diagrams and movies, everything self-explanatory. They didn't raise any problems and they hadn't seen images as good as that before.
Did it give pedagogical benefit?	S: yes, I think it does, It gave another dimension to what already exists. So at the moment it would be what's in a textbook because the VLE in anatomy here really doesn't exist, and the dissecting room, which isn't always accessible. So it's given them another source that they can turn to that's not just two-dimensional. It allows them to have that form of access out of normal working hours. It's giving them an added dimension, literally, to what they could do in their own time. We no longer hire out skeletons to students for instance, so they don't have the ability to hold this thing as their looking at it and they don't have an intact thorax to move around in to figure out where things are. It has given them an additional dimension that does not currently exist. F: potentially it could be used before and after the lectures so it can benefit the students and lecturers. S: the benefits are additional – augmenting the process. We wouldn't say do this and we won't talk to you about this. Other than that it would have been basic textbooks.
Did it give economies of scale and efficiency?	S: it is time consuming. F: it was a lot of work and we didn't finish the whole body, Doing the thorax took long enough. S: it would be a big, big project if we undertook to do it. I'm not saying we wouldn't but it's the kind of thing you would attack on a piecemeal basis – 'this summer we'll do the pelvis' and so on. F: it's probably almost as long as writing a small book, if you were to do it properly. S: a lot of the early time was developing the idea and sifting the information. Now we have that, it should be quicker. F: we have a source now for all the images and we should be able to take it further. To do this more professionally we would probably use some of our own images but this was just to see what we could do.
Have you evaluated it? If so, what form	F: from third year student feedback. We gave it to a few students and they seemed to like it and they hadn't seen anything like that before. I just did a brief verbal

did the evaluation take?	questionnaire to four students and one member of staff. S: and I acted as an evaluator – if I could use then I felt that certainly students of today could use it. They're certainly a lot more in tune with these things than I am. I formed the most difficult part of convincing staff and it was from those that we did some fine-tuning and then showed it to the students. F: the only thing the students didn't like was going 'back' in PowerPoint – it's hard to do this in PowerPoint – I didn't know how to do that.
What was the result of the evaluation?	[in the reflective diary]
Has this enhanced your teaching? In what way?	S: I will use the images and videos in lectures
Has the use of learning objects made your work easier?	S: it's made us a lot more aware of what is out there – before doing this we didn't have a good idea of what there was. It came as a shock the extent of the quality – things that are exceptionally usable and good to things that really are appalling, that was quite a surprise. But now we know where to find them we can get them quite easily. This was something I didn't have before. It will have an impact on what I go on and do. F: summing up prepare to be disappointed in finding the right RLO but if you surf long enough you will have many pleasant surprises. If you have the time to surf … it's just the time it takes. It was Google image search that proved most fruitful in the end.
Would you do it again?	F: if this was to be used in teaching you would have to start again. You'd have to think about it more like a book. You'd need to plan what's going to be in the teaching, how is it going to be relevant. The problem we have is that this is a new course and it will probably change within the first couple of years as we iron out problems. Until that's done then maybe we'll think about it then. S: if I could devote a member of staff to educational development within the subject then 'yes' would be the answer. But we don't have the staff and for the amount of time it takes to do this it is easier to buy something of poorer quality because you can't invest the staff time to get what you really want and is tailor-made to what you need. I would have to employ somebody for a year doing this and nothing else to produce a fully usable course for one of our semesters. That is unrealistic for most universities. F: I think even a year would not be enough if you were doing a fairly comprehensive look at the human body. S: necessity drives you down the easier path, which means using everybody else's inadequacies. F: for instance looking at Primal there were some big mistakes, even on the first few pages. S: that worries me – being in this discipline, we want to produce something that is correct but we haven't got the luxury of the time to do it so we have to rely on people who are not within our discipline to supply us with the things we need for teaching and it's just not working.
Was it hard to adapt materials or teaching practices to do this?	F: it's anatomy – we don't have much problem with that. S: it's fairly clear-cut and we know what we want.
Was it cost effective?	S: no, unfortunately
Did you enjoy it?	F: yes and no [laughs]. Sourcing our images can drive you nuts. For instance the Visible Human Project had all these links – and I thought this will be gold, we'll just use these. But when you look at them, the images were bad, a lot of the links were missing, and in the end I didn't use any of them. I used to spend at least two afternoons a week just looking. You could do a whole afternoon and not find any sources that were good enough. Once you've got one good resource then you want them all to be of that quality and I don't think the Internet has that many. Although I could be wrong I think we've got the best images that are available at

	present. S: if you have good images then a company will exploit that and will want you to pay for it. Quite understandably so – that's why you get a high number of low quality images – they're the ones that don't make it into the commercial packages. F: if you were to do this properly … S: I think you're selling yourself short – you did do this properly F: ok then maybe on a more commercial basis – you couldn't use those images and you'd probably want to use your own dissections and resources and the QTVR is expensive to do. But if you had the money and time then you would make a lot of money out of it, if it was comprehensive and reliable. S: there is a need for good quality anatomy education because there are so few experienced anatomy teachers now their knowledge is getting dissipated. What I've seen from the commercial products there doesn't seem to be the attention to the quantity and quality of detail we need. There isn't the flexibility in it either. No two courses are the same and when you're constructing something for yourself you can make it fit in absolutely where you want. The commercial packages don't fit what you do and you end up adapting your teaching to what's available rather than adapting what's available to your teaching. F: I don't mind diagrams and photographs and even movies, but I do mind virtual reality. It tends to look crass and the technology still isn't quite right. The Primal stuff for instance was very disappointing. Some of it was good and the principle was good but the quality was poor in general.
Are you going to write this up or in any way disseminate this to your peers – within and outwith the institution?	S: we hadn't planned to. We just wanted to try it out first. If the outcome is sufficiently excellent or sufficiently horrendous then we might look at it. We're not confident enough at this stage to know just how it's going to go down.
Any other points or comments?	F: it's there as an example to you and our department using the Internet. If it used in the next decade then it can stand as an example how you might do this. If you got good resources, good images and good tutorial software then go for it! S: part of our drive is that a lot of our forensic work is overseas and when you go into war crimes it's usually in fairly poor parts of the world. If at the end of the day this can be done for minimal or no cost then what you've got is the potential for other countries that are looking at medical education but don't have the funds to invest in commercial packages, it's at least a hope that you can do something with very little. It doesn't mean the education in a poorer country has to be of a poorer quality. It's that you still can meet the current standards of computerised education but not pay vast amounts of money for it. That was really the aim of it more than anything. S: it has been an education, there's no doubting that. It has focused us on a number of things but it's an awful lot of work. F: overall it's been slightly disappointing seeing what's available both commercially and for free. As I say there were some surprises. Our expectations were not met. S: although what we have produced is surprisingly good quality in terms of what we thought we would be able to produce after we had done the first trawl. We thought there was going to be nothing out, there it was awful. We have got a good sense of achievement.

ACETS Exemplar 04: **Semi-structured Learning Design**

Learning Design Name:	Anatomy for Forensic Anthropology: Thorax Module
Learning Designer(s):	Fraser Pryde and Sue Black
Institution(s):	University of Dundee
Course Context(s):	BSc (Hons) Forensic Anthropology
ACETS exemplar ID:	04
LD period:	Semester 2 (of year 2) 2005
LD duration:	First part of the semester (first 8-10 weeks then for revision)

In order to attain the following learning objective(s):	Minimal: they are the same as for the semester course as a whole. In short students will have an awareness of the basic topography of the human body and the systems within the body, so that there is both a topographical and a body systems awareness. Within that there is also to have an understanding of some aspects of the cellular components of the human body and the development of the human body. There is particular focus on musculoskeletal system in particular and the physiology and biochemistry of bone development.		
With prerequisite(s):	Students will need to have completed first year of the Dundee Forensic Anthropology degree which has equivalent entrance requirements to medicine.		
Trigger(s):	Student enters the second semester of level 2. Students are directed to use a variety of resources in support of a progression through regions, systems and specialist areas of anatomy.		
The following persons/roles:	Name	Type (staff, student)	Description
	Tutor	Staff	Basic role
	Student	Student	Basic role
Perform:	Which roles?	Do what?	
Learning activity(s):	Tutor	When starting new activity, tutor directs students to **LO resource** and textbook to look at and prepare for the topic tutorial	
	Student	Reads textbook and works through relevant sections of the **LO resource** in support of the topic tutorial. Exact form of use not specified – student decides, developing own study and learning patterns.	
	Tutor and student	Discuss topic in face to face tutorial session	
	NOTE: this pattern is repeated many times throughout the topology and systems components of the course.		
Support activity(s):	None		
Using environment(s) or scenario(s):	Tutor and student	Face to face tutorials and practicals. Tutorial rooms and anatomy laboratories. **LO resource** accessible from any of these venues.	
	Student	Online **LO resource** in Blackboard accessed from computer labs and from home.	
Using:	Which roles?	Do what?	
Tool object(s):	Tutor	Sets up **LO resource** using PowerPoint and other basic Windows tools.	
	Tutor	Places **LO resource** in VLE	
Knowledge object(s):	Student	Accesses **LO resource** via VLE	
Test object(s):	Tutor	Sets general in-course and end of term summative assessment	
	Student	Goes through general in-course and end of term summative assessment processes	
Search service(s):	Student	Non-specific: general use of academic resources to enhance knowledge	
Communicate service(s):	None		

Announce service(s):	Tutor and student	Contacts and instructions via Blackboard announce services and face to face
Other elements or notes:	None	

Completion Survey

Recorder:	Rachel Ellaway
Date:	13 August 2004
Other meta-metadata:	Completed at University of Dundee with Fraser Pryde and Sue Black